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CAVALRY OPERATIONS

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PREFACE

FM 17-95 is the Army's doctrinal manual for cavalry operations. It is primarily designed to assist cavalry commanders, their staffs, and subordinate troop and company commanders in the conduct of combat operations. It also serves as a guide for corps, division, and brigade commanders, and their staffs. This manual discusses the organization, capabilities, and employment of cavalry units.

This manual applies to the armored cavalry regiment (ACR) and all division cavalry squadrons (armored, light, air). While the focus is on regiment and squadron, principles and fundamentals presented apply to all subordinate troops and companies and separate cavalry troops.

FM 17-95 sets forth doctrinal principles that guide the conduct of cavalry operations. It addresses specific tactics, techniques, or procedures as necessary to clarify or emphasize these doctrinal principles. Field manuals and mission training plans that support this manual contain more specifics on tactics, techniques, and procedures. Users must apply this doctrine within the capabilities and limitations of their units and develop standing operating procedures that address specific techniques and procedures.

This manual is fully compatible with Army doctrine as contained in FM 100-5 and is consistent with conventional (non-digitized) doctrine in FM 100-15 and FM 71-100. It assumes that the user has a fundamental understanding of FM 71-100, FM 100-5, FM 100-15, FM 101-5, and FM 101-5-1, and it does not repeat the concepts contained therein except as necessary to explain cavalry operations. It serves as a reference for personnel involved in the development of subordinate unit doctrine, combat development, materiel development, and the conduct of training.

This manual complies with the contents of NATO Standardization Agreement (STANAG)/Quadripartite Standardization Agreement (QSTAG) 2025.

The proponent of this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, US Army Armor Center, ATTN: ATZK-TDD-C, Fort Knox, Kentucky 4012-5000.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

Chapter 1

INTRODUCTION

"Altogether, cavalry operations are exceedingly difficult, knowledge of the country is absolutely necessary, and ability to comprehend the situation at a glance, and an audacious spirit, are everything."

Maurice de Saxe
Mes Reveries, 1732

This chapter defines the role, organizations, and missions of cavalry; describes the Threat and the battlefield cavalry units can expect; and outlines the seven battlefield operating systems commanders must coordinate and synchronize.

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Section I. The Role of Cavalry

FUNDAMENTAL ROLE

The fundamental purpose of cavalry is to perform reconnaissance and to provide security in close operations. In doing so, cavalry facilitates the corps or division commander's ability to maneuver divisions, brigades, and battalions and to concentrate superior combat power and apply it against the enemy at the decisive time and point. Cavalry clarifies, in part, the fog of battle.

Cavalry is, by its role, an economy of force. The flexible capabilities of cavalry allow the commander to conserve the combat power of divisions or brigades for

engagement where he desires. The combat power of cavalry units, in particular, makes them ideal for offensive and defensive missions as an economy of force.

Cavalry serves as a catalyst that transforms the concepts of maneuver warfare into a battlefield capability. Maneuver is the essence of US fighting doctrine. Maneuver, in the tactical sense, is the swift movement and positioning of combat forces to attack an enemy's vulnerability, such as flanks, rear, lines of communication, service support capability, or isolated elements. Maneuver is the means to seize or retain the initiative, and to create or exploit offensive opportunities. Maneuver is also the means to concentrate superior combat power against the enemy at the right time and place. For maneuver to be successful, the commander must have a high degree of situational awareness. He must reduce the enemy, terrain, and friendly unknowns of the battlefield to fight effectively and to operate within the enemy's decision cycle. The successful execution of maneuver warfare continues to be the product of thorough reconnaissance and continual security. As the "eyes and ears" of the commander, cavalry provides the commander with situational awareness and enhances his ability to maneuver successfully.

HISTORICAL ROLE

Cavalry has historically served as a flexible multipurpose force. Capitalizing upon a significant mobility advantage over infantry, cavalry performed long-range reconnaissance and security for commanders. These missions gave commanders the ability to maneuver and concentrate forces on a battlefield for decisive battle. Once on the chosen field, cavalry continued to play key roles such as—

- Close reconnaissance to detect enemy weaknesses.
- Close security to protect the flanks or rear of the infantry line.
- Countering enemy cavalry.
- Counterattacking enemy infantry attacks.
- Reserve.
- Administering the decisive blow to a faltering enemy.
- Covering retreat.
- Pursuing a retreating enemy.

To perform these varied operations, European armies developed a highly specialized cavalry. The US never developed specialization on this scale. Faced largely with frontier operations during the nineteenth century and an unconventional threat, the US Army developed cavalry similar to European light cavalry.

European light cavalry was largely equipped and armed with sabers, carbines, and pistols. It focused on wide-ranging reconnaissance and security tasks. The US cavalry differences were a reliance on pistols and carbines versus bladed weapons and dismounted fighting once in contact with the enemy.

As modern weapons increased in range, precision, and lethality, horse cavalry lost much of its ability to perform these traditional roles. Traditional capabilities were restored with mechanization, which placed modern weapons on armored platforms. The tank assumed some of these traditional cavalry roles, especially those associated with armored cavalry. Modern cavalry, with both air and ground assets, began to focus on reconnaissance, security, and the flexible employment capabilities of nineteenth century cavalry.

A historical example illustrates the value of a flexible cavalry force. The operations of the newly organized Cavalry Corps of the Army of the Potomac during the Gettysburg campaign were a substantial factor in the Union's success. For the first time, the Union Army was able to employ an effective cavalry force working directly for the commanding general of the Army.

In early June 1863, General Lee began moving the Army of Northern Virginia toward the Shenandoah Valley to invade the North. Fights ensued between the Confederate and Union cavalry. The Confederate cavalry attempted to secure the army's movement while the Union cavalry conducted reconnaissance to determine the Confederate's intent. These cavalry actions confirmed other intelligence on the movement of the Confederate Army, but did not reveal the intent of General Lee. Based on this information and orders from Washington, General Hooker began moving the Union Army north. After these fights, General Stuart took the bulk of the Confederate cavalry on a ride around the advancing Union Army and lost contact with General Lee.

Both General Hooker and his successor, General Meade, protected the approaches to Washington and Baltimore. Both commanders were forced to move in response to the Confederate Army. Recognizing the critical need for information, both commanders emphasized the need for the cavalry to provide "reliable information of the presence of the enemy, his forces, and his movements . . . ." At the same time, the cavalry was ordered to "guard the right and left flanks and the rear, and give the commanding general information of the movements . . . of the enemy in front."

On 30 June, the 1st Cavalry Division had a meeting engagement with a Confederate infantry brigade in Gettysburg. At the same time, the 3d Cavalry Division had a meeting engagement with General Stuart at Hanover, 12 miles to the east. General Stuart was repulsed and swung further north in his attempt to link up with the Confederate Army. General Lee felt the absence of his reliable cavalry reconnaissance and faced the Union forces of unknown size in the town. The Confederates conducted a reconnaissance in force with an infantry division the next day. General Buford, commanding the 1st Cavalry Division, recognized the decisive nature of Cemetery Ridge. He sensed from constant reconnaissance patrols in all directions the massing Confederate Army to his front. Thus, he determined the necessity to defend well forward, securing the decisive terrain for the approaching Union Army. His information and assessments were continuously reported to General Meade.

On 1 July, General Heth's infantry division attacked General Buford. The cavalry was armed with Sharps carbines, which were superior to the rifled musket. Fighting dismounted, he successfully defended against a much larger enemy until relieved by the infantry moving rapidly to his support.

On 3 July, during the preparation for General Pickett's charge, General Stuart attempted to envelop the right flank of the Union Army. He was met by General Gregg of the 2d Cavalry Division and repulsed.

Throughout this campaign, the Union cavalry was continuously conducting operations in support of the main body. They successfully covered the movement of the army, denied the Confederates information, maintained contact with the advancing Confederate Army, and continuously reported combat information. Once apparent that the armies were about to meet, General Buford transitioned into a defense, successfully securing the decisive terrain for the Union Army. Once the battle was joined, the cavalry continued to secure the positions of the army.

PRIMARY ROLES

The fundamental purpose of cavalry on the battlefield translates into roles that cavalry performs for the commander (see Figure 1-1). These roles are not necessarily missions themselves, but are translated into mission statements by the regimental commander or the squadron commander. These roles may represent the intent of the corps or division commander when he assigns a mission to the cavalry unit.

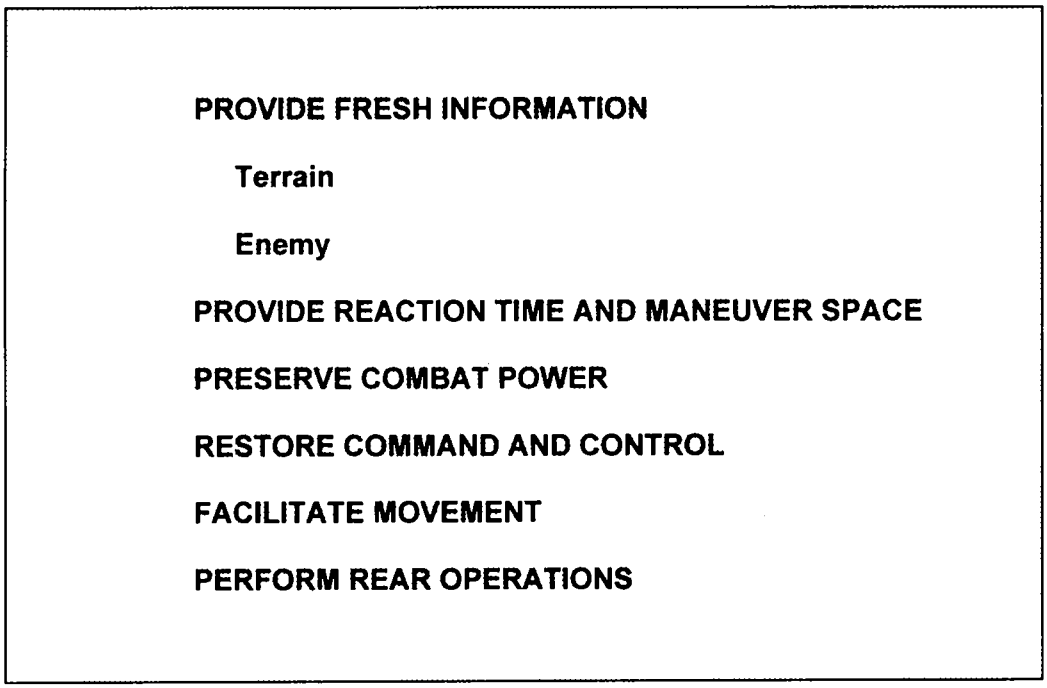


Figure 1-1. Primary roles.

Provide Fresh Information

The corps or division commander's ability to seize or retain the initiative and concentrate overwhelming combat power at the right time and place depends on having fresh information about the enemy, such as his current dispositions, size, composition, direction of movement, and rate of advance. The precise application of combat power and effective synchronization of maneuver and supporting fires require a fresh and accurate picture of the enemy's current dispositions and activity within the area of operations. Concentration of combat power, through maneuver, also depends on the ability of divisions and brigades to move swiftly and predictably. Consequently, the commander must know which routes and cross-country terrain are suitable to maneuver forces into decisive engagements with the enemy.

To piece the puzzle together, the commander has a wide variety of intelligence assets available to him, such as national intelligence sources, military intelligence units, long-range surveillance detachments, aviation, combat electronic warfare and intelligence platforms, cavalry units, and any unit in contact. These intelligence collection sources facilitate intelligence preparation of the battlefield (IPB), the target development process, and execution of ongoing operations. Many intelligence systems orient well forward of the forward line of own troops (FLOT) to identify enemy force concentrations and movements, as well as high-value targets whose loss may have a paralyzing effect on the enemy's ability to fight. The analytical control element at the division and regiment collates, analyzes, and disseminates this information to support planning of future operations and targeting for indirect-fire systems. This information serves as a basis for the commander to dispose and concentrate his forces for future combat operations. While this type of intelligence information is necessary, it is not entirely sufficient. Commanders need fresh, real-time information during the execution of current operations to be precise in the maneuver and application of combat power against the enemy. A major source of fresh information for the commander during battle is his cavalry.

Cavalry has decisive advantages over other intelligence resources because it—

- Works through and counters enemy deception efforts better than any sensor system.
- Provides the fastest, most reliable means of assessing terrain that the enemy is trying to configure to his advantage.
- Is not a passive source. Cavalry not only finds the enemy but can further develop the situation and force the enemy to reveal more information.
- Can more effectively disseminate information to commanders with an immediate need (eavesdrop, liaison officer).

Performing reconnaissance, cavalry provides the commander with combat information he needs to strike at the right place and time, such as the actual size and composition of the enemy, his exact dispositions, where he is strong, where he is weak, and where and when the precise application of superior combat power could have a decisive effect. Cavalry shows the commander where to move forces to

ensure their uninterrupted advance to objectives despite battlefield conditions, such as impassable routes, blown bridges, unfoldable streams, contaminated areas, refugee columns, converging friendly units, and enemy forces. At the decisive point, cavalry guides maneuver units into engagements with the enemy, assists in rapidly massing and dispersing maneuver units, controls routes and choke points, and monitors the movement of combat support and combat service support units.

Provide Reaction Time and Maneuver Space

A commander thinks and plans in terms of the time and space required to maneuver and concentrate subordinate units against enemy weaknesses. There are two ways to create sufficient time and space. First, he detects and comprehends enemy developments well forward of the FLOT in sufficient time to array forces. Second, he directs aggressive security actions that buy the time and space required for an effective response to enemy initiatives. Reconnoitering or performing security operations well forward or to the flanks of the main body, cavalry develops the situation and prevents the commander from fighting at a disadvantage-unwarned, poorly disposed, or not poised to fight. By virtue of where cavalry performs the mission, it provides time for the commander to assess the situation, determine a course of action, issue orders, and maneuver. Cavalry also provides space to maneuver divisions or brigades, creating flexibility for the commander to respond to unanticipated enemy initiatives. The amount of time and space provided may be determined by the commander's intent. It is defined by the assigned mission. Time and space are physically provided by where the cavalry unit operates relative to the main body and the amount of combat power available.

Preserve Combat Power

When fighting a bigger, echeloned enemy, sustainment and preservation of combat power are critical. Winning the current battle is only part of the fight. Performing security for the corps or division, cavalry protects and preserves combat power until the commander determines where to concentrate forces so they can be maneuvered into engagements with the enemy. During offensive operations, the cavalry prevents premature deployment and attrition of combat power before reaching the objective. In defensive or retrograde operations, cavalry provides early warning of enemy approach, destroys or repels enemy reconnaissance elements, and fights enemy lead elements as required. If required, the cavalry protects the main body from engagement under unfavorable conditions and prevents the commander from having to divert forces from his main effort.

Restore Command and Control

On a battlefield that is fluid and chaotic, with communications systems frequently destroyed or jammed, command and control within the corps and division is fragile. When communications are lost with subordinate units, or the commander

is unsure of their location and situation, cavalry is particularly suited to restore command and control. Performing reconnaissance, cavalry finds and reestablishes physical contact and communications with subordinate units, finds dead spaces not covered by any unit, or fills gaps between units that could be exploited by the enemy. Cavalry reports directly to the corps or division commander on the status of subordinate units. Serving as liaisons, cavalry carries the commander's request for information or instructions to a subordinate commander when communications are lost. General Patton effectively used a cavalry group for this task in the Third Army during World War II.

Facilitate Movement

The cluttered and confused battlefield requires firm control of unit movements. The history of mechanized warfare demonstrates that the most frequent task a division performs is movement:

- From port of debarkation to assembly area.
- From assembly area to attack positions or defensive sectors.
- During repositioning in the defense.
- When conducting a counterattack.
- When repositioning forces for the attack.

Cavalry units execute this task largely by performing reconnaissance. They monitor progress of subordinate elements for the commander. They man contact points and passage points, and coordinate with higher and adjacent units or headquarters.

Perform Rear Operations

The threat can attack throughout the depth of the battlefield. They do this simultaneously with an attack along the FLOT. Rear areas are not safe. FM 100-5 establishes the critical link between rear operations and the overall battle. When not employed in other missions, cavalry may perform rear operations tasks to supplement the capabilities of other rear area units/assets or to relieve combat units of contingency missions that may detract from their primary focus.

By performing continuous reconnaissance of rear areas, cavalry keeps its fingers on the pulse of rear operations. Cavalry identifies problems, performs area damage control after a major disruption, restores command and control, and facilitates movement of forces. Rear operations may also include serving as, or as part of, a tactical combat force.

Section II. The Threat

Cavalry units no longer face a single, monolithic, or well-defined threat. During the cold war, planning centered on confronting numerically superior armored opposing forces in Europe, the Far East, or Southwest Asia. Now cavalry units focus on conducting contingency operations as part of a force protection operation. Today's cavalry regiments and squadrons must be able to conduct these operations across the range of military operations (peace, conflict, and war) against threats ranging in size from major regional powers, lesser powers, and terrorist groups to insurgents.

Emerging regional threats are more diverse and less predictable than former cold war adversaries, but just as deadly. These threats reflect the more traditional threat concept such as armor, infantry, and artillery formations maneuvering on a battlefield with close air support and the possibility of using weapons of mass destruction. However, cavalry units may also be called upon to conduct operations in the midst of a nontraditional threat.

Cavalry regiments and squadrons may be among the first units to deploy into an area to conduct stability and support operations, or they could conduct these operations as part of the post-conflict phase of some other contingency operation.

With the diversity of the threat, the IPB process becomes even more important at the regimental and squadron level. No longer will the threat always fit into a neat time-distance scenario. Potential adversaries may use a variety of doctrine, tactics, and equipment. The staff supports the commander by conducting IPB throughout the entire operation.

Section III. The Battlefield

OPERATIONAL ENVIRONMENTS

The potential operational environments facing the corps and division are war, conflict, and peacetime. Commanders apply doctrine with the operational environment foremost in mind. They design operations to meet the threat being faced. The states of peacetime, conflict, and war can exist all at once in the theater commander's strategic environment, requiring cavalry units to respond to requirements across the range of military operations simultaneously. Military operations in the three environmental states are classified as war and stability and support operations. (See Figure 1-2.)

STATES OF THE ENVIRONMENT	GOAL	MILITARY OPERATIONS	EXAMPLES
WAR	Fight and Win	WAR (COMBAT)	• Large-scale combat operations.., • Attack • Defend
CONFLICT	Deter War and Resolve Conflict	OTHER THAN WAR (NONCOMBAT)	• Strikes and raids • Peacemaking • Support to insurgency • Antiterrorism • Peacekeeping • NEO
PEACETIME	Promote Peace	OTHER THAN WAR (NONCOMBAT)	• Counterdrug • Disaster relief • Civil Support • Peace building • Nation assistance
The states of peacetime, conflict, and war could all exist at once in the theater commander's strategic environment. He can respond to requirements with a wide range of military operations. Noncombat operations might occur during war, just as some stability and support operations require combat.			

Figure 1-2. Range of military operations in the theater commander's strategic environment.

War

Operations in this environment are characterized by mechanized, highly structured, weapons-and-firepower-intensive combat. This battlefield will be chaotic, intense, and destructive. The Army will not operate alone. In war, the Army will operate jointly with other services, agencies, and allies of the US government. Conventional doctrine and tactics as well as nonlinear, fluid, and even unconventional operations will be aspects of this battlefield framework. Distinguishing war from conflict may be a matter of scale. War will likely involve alliance warfare, full national mobilization, and national survival. Use of nuclear, biological, and chemical (NBC) weapons is possible.

Stability and Support Operations

Stability and support operations are divided into two states of environment: conflict and peacetime.

CONFLICT

Conflict involves alliance warfare, full national mobilization, and national survival. Use of NBC weapons is possible. Conflict may be regional with a conventionally or nonconventionally equipped opponent. The environmental state of conflict may pit Army forces against irregular or unconventional forces, enemy special operations forces, and terrorists. Joint, combined, and multinational operations may be involved. The level of national mobilization and risk to national survival will not be as great as in war. Military operations in a conflict environmental state may be characterized as combat or noncombat and, like war, may cover the full range of stability and support operations and war.

PEACETIME

The peacetime environment falls below the levels of war and conflict and is a diverse and varied environment. Military operations within the peacetime environment can range from counterdrug operations to disaster relief and national assistance. FM 100-23 provides guidance throughout the full range of peace operations, to include support to diplomacy (peacemaking, peace building, and preventive diplomacy), peacekeeping, and peace enforcement.

BATTLEFIELD FRAMEWORK

Joint task force, corps, and division commanders use the battlefield framework to help relate their forces to one another and to the enemy in time, space, resources, and purpose. The battlefield framework establishes an area of geographical and operational responsibility for the commander and provides a way to visualize how to array and employ forces against the enemy. The area of operations must be appropriate in size and design so the commander can accomplish his mission and protect the force. Corps and division commanders assign their area of operations into areas where they conduct deep, close, and rear operations. Commanders fight deep, close, and rear actions simultaneously in a manner that appears to the enemy as one continuous operation against him. They seek to attack the enemy simultaneously throughout the depth of the battlefield.

Additionally, commanders must maintain the capability to acquire and dominate the enemy within a given battlespace. Battlespace includes the commander's vision of how he will employ his assets and actions in order to dominate the enemy. The commander thinks in depth and visualizes how to engage the enemy simultaneously throughout the depth of the battlefield. Understanding and visualizing the effects of geography, terrain, and the appropriate use of all available assets, coupled with the visualization of the three-dimensional battlefield are critical aspects of battlespace. Battlespace can change as the commander's vision of the battlefield changes. Visualizing battlespace allows commanders to keep their options open, protect and sustain their forces, synchronize combat power, keep the enemy off balance, and set the conditions for a decisive victory.

The armored cavalry regiment (ACR) may execute close, deep, and rear operations. Squadrons generally execute close operations for the ACR commander, but could be tasked to participate in deep maneuver and rear operations as well. The close operations of each level of command include the close, deep, and rear operations of subordinate commands as illustrated in Figure 1-3.

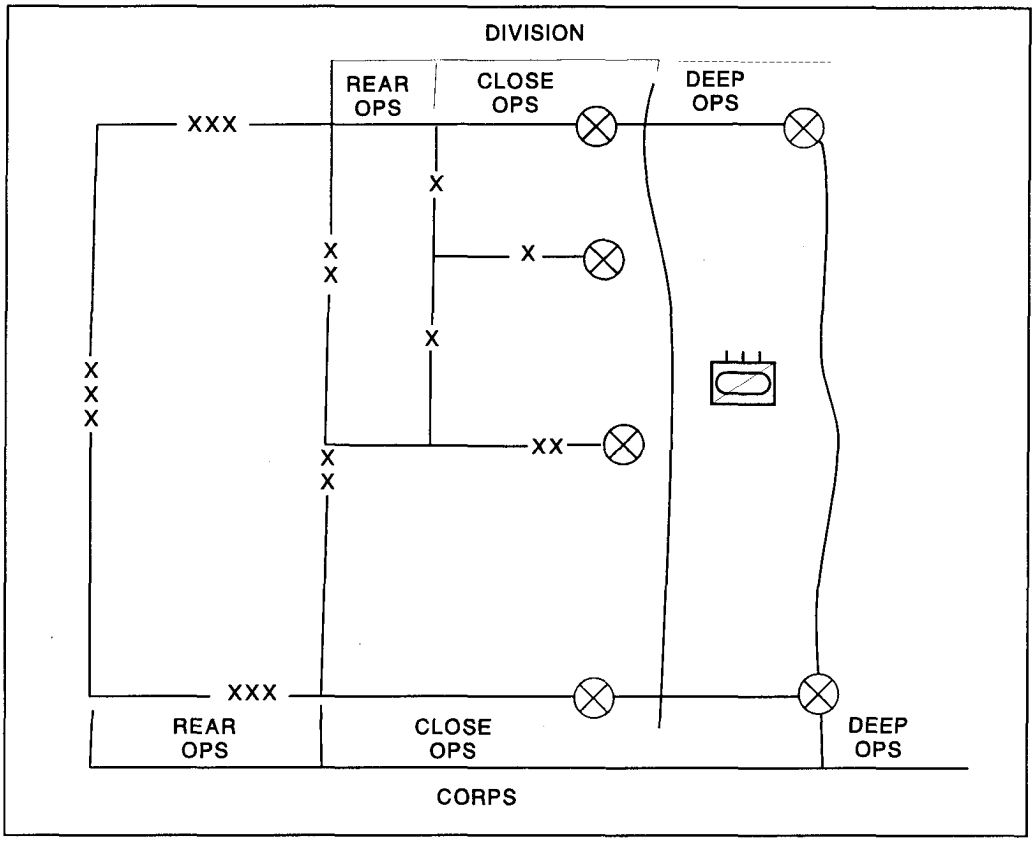


Figure 1-3. Battlefield structure.

Close Operations

Joint task force, corps, and division close operations are the current battles and engagements of their subordinate maneuver units, together with their combat support and combat service support activities. Security and reconnaissance operations are part of close operations.

The outcome of close operations ultimately determines the success or failure of the battle. Deep and rear operations focus on creating the conditions favorable to winning the close fight.

Deep Operations

Deep operations are those activities directed against enemy forces not currently engaged in close operations, but are capable of threatening the success of the close

operation. Deep operations typically focus on reserves and uncommitted forces. Objectives may include the following actions:

- Limiting the enemy's freedom of action.
- Altering the tempo of the battle in favor of US forces.
- Isolating the close operation on advantageous terms by reducing the enemy's closure rate and by attritting, delaying, disrupting, or destroying specific elements of his force.

Cavalry supports joint task force, division, or corps deep operations by providing reconnaissance and security for deep maneuver. The ACR may conduct its own deep operations using the aviation squadron, electronic warfare, air interdiction, indirect fires, or other additional assets task organized to the regiment, such as special operations, long range reconnaissance patrols, multiple launch rocket systems, and unmanned aerial vehicles (UAV) within the parameters of the joint task force or corps operation.

When the corps employs a security force forward of divisions, division responsibility for deep operations begins upon passage of the security force and battle handover. Corps deep operations continue regardless of the status of the security force (see Figure 1-3).

Rear Operations

Rear operations are those activities from the rear boundary of the unit to the rear boundaries of committed subordinate maneuver forces. Rear operations assure freedom of maneuver, continuity of sustainment operations, and continuity of command and control. During reconnaissance and security operations, the ACR may not have a defined rear area. During offensive and defensive operations as an economy of force, the ACR normally has a defined rear area in which rear operations are conducted. At squadron level, there is not a rear area. All squadron operations are part of close operations.

THE ACR IN SUPPORT OF CORPS OPERATIONS

The ACR normally operates as part of a joint task force or corps to which it is assigned. It is the corps commander's "eyes and ears."

Corps Offensive Operations

The offense is the decisive form of war. The corps conducts offensive operations to either defeat, destroy, or neutralize the enemy. It is normally expected

to defeat or destroy a designated formation of an enemy army's defense. Offensive operations gain freedom of action to allow swift transition from movement to contact to hasty attack, deliberate attack, exploitation, and pursuit. Additionally, offensive operations are undertaken to secure decisive resources, and to set up the conditions for future successful operations. A particular operation may begin or end at any point in this sequence. The ACR performs a number of missions for the commander that includes the following:

- Covering force during the movement to contact.
- Flank security along an exposed flank during movement to contact or deliberate attack.
- Area security operations, to include route and convoy, within the corps area of operations.
- Reserve during a deliberate attack to serve as an exploitation or pursuit force.
- Offensive or defensive operations.
- Special purpose operations, such as deception operations, rear area tactical combat force, reconnaissance in force, and raid.

Squadrons perform reconnaissance, security, offensive, and defensive operations as part of these regimental missions.

Corps Defensive Operations

The purpose of defensive operations is to defeat an attack and regain the initiative. The corps in the defense can be either force oriented or terrain oriented. The corps is expected to defeat threat formations ranging in size from an army to a multiple army front. The corps may be required to defeat each attacking army either sequentially or simultaneously. The ACR performs a number of missions for the commander that includes the following:

- Defensive covering force.
- Flank security along an exposed flank of the corps.
- Area, convoy, and route security within the corps area of operations.
- Defensive operations in an economy-of-force role.

- Reserve initially or after a defensive cover to serve as a counterattack force or one prepared to lead a transition to offensive operations with offensive cover.

- Special purpose operations, such as deception operations, rear area tactical combat force, spoiling attack, or raid.

Squadrons perform reconnaissance, security, offensive, and defensive operations as part of these regimental missions.

CAVALRY IN SUPPORT OF DIVISION OPERATIONS

The cavalry squadron normally operates as part of the division to which it is assigned. The squadron is the division commander's "eyes and ears."

Division Offensive Operations

The division undertakes offensive operations to destroy the enemy and his ability and will to resist. Within a division offensive scheme of maneuver, subordinate units conduct a variety of missions:

- Movement to contact.
- Hasty attack.
- Deliberate attack.
- Deception operations.
- Reconnaissance in force.
- Security (screen, flank/advance/rear guard, area, convoy, and route security).
- Defend.
- Special purpose operations.

As part of this offensive operation, the squadron may perform a series of missions. Should the division conduct movement prior to contact, the squadron may perform the following:

- Reconnaissance of movement routes,
- Movement control tasks.
- A variety of forms of reconnaissance and security operations as directed by the division commander.

As the division attack begins, the squadron may lead the main effort performing zone reconnaissance or advance guard. If the division commander elects not to use the squadron forward of the division, then it can screen or guard an exposed flank of the division to prevent surprise from enemy attack. Additionally, the squadron might screen the objective while the division reorganizes or consolidates. Depending on the squadron organization, guard missions may require augmenting the squadron with tanks.

Division Defensive Operations

The primary purpose of division defensive operations is the defeat of an enemy attack. Defense is a temporary state that creates the conditions for surviving the initial shock of the attack, stopping the enemy, and exploiting the initiative to go on the offensive. Within a typical division defensive scheme of maneuver, subordinate maneuver units perform a variety of missions. Some will defend in sector or delay. Others may counterattack or perform security missions. Some may defend in an economy-of-force role. A reserve prepares to execute counterattack contingencies or lead the transition to offensive operations. Deceptions, spoiling attacks, raids, and other special purpose missions are part of these operations.

Again, the squadron may perform a series of missions. Security missions will predominate. Initially, the squadron may screen or guard forward of the division. It may also serve as part of a covering force. Alternatively, the squadron may screen or guard an exposed flank. Subsequently, the squadron may operate out of the division rear area performing a variety of tasks.

Finally, the squadron may support commitment of the reserve. The squadron facilitates movement as a reserve repositions or moves. Upon commitment, the squadron may continue with the reserve performing reconnaissance or providing security.

JOINT TASK FORCE OPERATIONS

Cavalry units, during war or stability and support operations, may operate as part of a joint task force to conduct reconnaissance and security missions. The combined arms nature and command and control structure inherent to cavalry organizations make them ideally suited to force packaging in support of various types of operations ranging from nation assistance to peacekeeping and peace enforcement.

Section IV. Missions

The primary tasks of cavalry, within the context of joint task force, corps or division operations, are translated into missions. Mission profiles reflect the predominant operational requirements placed on the unit. These mission requirements represent force design and capability objectives. However, some

missions may require augmentation with additional combat or combat support assets. Mission profiles do not preclude the assignment of other missions required by a particular operational situation. (See Figure 1-4.)

												MISSIONS ASSOCIATED WITH ECONOMY-OF-FORCE ROLE				
	RECON				SECURITY											
	Route	Area	Zone	Recon in Force	Screen	Guard	Cover	Area	*Route	*Convoy	Hasty Attack	Attack	Movement to Contact	Defend Battle Position	Defend Sector	Retrograde (Delay)
ACR		X	X	X	X	X	X	X	X	X	X	X	X		X	X
-Squadron		X	X	X	X	X		X	X	X	X	X	X		X	X
-Troop	X	X	X		X			X		X	X	X	X	X	X	X
-Scout Platoon	X	X	X		X						O		O	O	O	O
-RAS		X	X	X	X			⊗	⊗	⊗	X	O	X			X
-ACT	X	X	X		X						X	O	X			X
ACR(L)		X	X	X	X	⊗	⊗	X	X	X	⊗	⊗	⊗		⊗	⊗
-Squadron		X	X	X	X	⊗		X		X	⊗	⊗	⊗		⊗	⊗
-Troop	X	X	X		X			X		X	⊗	⊗	⊗	⊗	⊗	⊗
-Scout Platoon	X	X	X		X			X			O		O	O	O	O
-RAS		X	X		X			⊗	⊗	⊗	X	O	X			X
-ACT	X	X	X		X						X	O	X			X
Armored Division Cavalry Squadron		X	X	X	X	X		X	X	X	X	X	X		X	X
-Troop	X	X	X		X			X		X	X	X	X	X	X	X
-Scout Platoon	X	X	X		X			X			O		O	O	O	O
-ACT	X	X	X		X						X	O	X			X
Light Division Cavalry Squadron		X	X		X			X	X		⊗	⊗	⊗		⊗	⊗
-Troop	X	X	X		X			X		X	⊗	⊗	⊗	⊗	⊗	⊗
-Scout Platoon	X	X	X		X			X			O		O	O	O	O
-ACT	X	X	X		X						X	O	X			X
Task Force Scout Platoon	X	X	X		X											

⊗ = METT-T dependent; may require reinforcement. Threat composition must be equal or less than unit in respect to firepower, survivability, and maneuverability.

x = Doctrinally capable. * Application of area security.

O = Nondoctrinal but capable, given METT-T.

Figure 1-4. Mission profiles.

These missions are grouped into general categories, but they are not mutually exclusive. Techniques and critical tasks of reconnaissance and security, for example, overlap. Offensive and defensive operations can occur as part of any other mission, especially cover, guard, and area and route security. Subsequent chapters will discuss each mission category.

No distinction exists in the mission profile between the armored and light cavalry. Cavalry units perform these missions in the conflict environment for which it was designed. When a light cavalry squadron is committed to a war or conflict environment, its capabilities need to match the increased requirements of these missions, given the factors of enemy and terrain.

The organization of the division cavalry squadron with air and ground troops produces a significant synergism in mission accomplishment. This benefit accrues when the squadron performs missions for the division. Missions may be performed sequentially during an operation. The squadron normally is not fragmented or assigned multiple simultaneous missions. Doing so produces squadron elements with reduced combat power and limited effectiveness. However, METT-T may dictate the need to attach or place a ground or air troop under operational control of a brigade to facilitate better command and control and the flow of information.

Section V. Organizations

Cavalry is organized in six basic designs:

- ACR (armored).
- ACR (light).
- Armored division cavalry squadron.
- Light division cavalry squadron.
- Air cavalry squadron.
- Separate cavalry troop.

These designs reflect the role of the cavalry unit and the organizational characteristics of the parent unit. Other field manuals supporting this manual discuss these organizational designs in detail. Table(s) of organization and equipment (TOE) structures are further modified by major commands to meet operational, equipment, and personnel considerations. Each squadron applies doctrine within the modification table of organization and equipment (MTOE) capabilities it possesses.

ARMORED CAVALRY REGIMENT (ARMORED)

The ACR is a self-contained combined arms organization composed of armored cavalry squadrons (ACS), an aviation squadron, a support squadron, and separate combat support companies and batteries. The ACR is a separate unit that supports the corps or a joint task force. It is often reinforced by corps combat support units and divisional maneuver battalions. The ACR operates independently over a wide area and at extended distances from other units. The ACR is a highly mobile, armored force capable of fighting the fully mechanized threat in the environmental states of war or conflict. The ACR may be rapidly deployed to a theater of operations by sealift. When supporting a light corps, limitations may exist in corps support capabilities, strategic mobility, and terrain restrictions.

The regimental ACS is a highly mobile, armor-protected force. It consists of armored cavalry troops, a tank company, and a self-propelled artillery battery. The squadron usually functions as part of the regiment, but may operate separately for a short period of time, or as part of a joint task force or another unit. It is often reinforced by combat support units organic to or reinforcing the regiment.

The regimental aviation squadron (RAS) provides the regiment with combat aviation assets. It is organized with air cavalry/reconnaissance troops, attack helicopter troops, and an assault helicopter troop. The squadron adds a very responsive, terrain-independent combat capability to the regiment. The maneuverability and flexibility of the RAS enhance the combat flexibility of the regiment. The RAS may operate independently of or in close coordination with the ACS, or it may provide troops to the ACS.

ARMORED CAVALRY REGIMENT (LIGHT)

The ACR(L) is a self-contained combined arms organization capable of being packaged and rapidly deployed by air or sealift as part of a force projection Army responding rapidly to world-wide contingencies. The role of the ACR(L) may be traditional, initial entry, or follow-on. The traditional role would support a US corps or task force through a reconnaissance, security, and economy-of-force capability. As an initial entry force, the ACR(L) would support Army or joint task force operations with credible force as a demonstration of US resolve. In the follow-on role, the ACR(L) will follow an opposed entry force (division ready brigade type) to expand the point of entry, to provide reconnaissance and security, and to serve as the initial combat-capable maneuver force.

Because of the command and control structure and support base within the regiment, it is a very modular organization capable of rapidly integrating armored forces into its task organization. This factor supports the army with a force package that can be tailored for the situation and expanded once it is deployed to a theater if the situation dictates the need for armored forces.

The ACR(L) is composed of armored cavalry squadrons, an aviation squadron, a support squadron, and separate combat support companies and batteries. The ACR(L) is a separate unit that supports the contingency corps. It is often reinforced by corps combat support units and divisional maneuver battalions. The ACR(L) operates independently over a wide area and at extended distances from other units. The ACR(L) is a highly mobile force capable of executing the full range of doctrinal cavalry missions against a comparable threat in the environmental states of war or conflict. It is also capable of stability and support operations in the environmental state of peacetime. When supporting a light corps, limitations may exist in corps support capabilities, strategic mobility, and terrain restrictions.

The organizational structure for the ACR(L) is similar to the ACR (armored) with some significant exceptions. These differences require modification of the tactics, techniques, and procedures prescribed for the ACR throughout the manual, and in some cases, deny capabilities ordinarily associated with the ACR. The following assets or capabilities are not organic to the ACR(L):

- Neither the ACR(L) nor the ACS(L) is authorized a TAC CP.
- The chemical company of the ACR(L) is not organized with a smoke platoon.
- The engineer company of the ACR(L) is not organized with bridging assets. Organic assets do not include digital terrain database development.
- The MI company of the ACR(L) is not organized with ground surveillance radar.
- The aviation squadron of the ACR(L) is not organized with attack helicopter troops.

Limited ballistic protection offered by the high mobility multipurpose wheeled vehicle (HMMWV) and lack of organic tank assets require judicious application of standard cavalry doctrine. The ACR(L) is ideally suited for force packaging and employment by the contingency corps against a comparably equipped threat, but must be reinforced in accordance with the mission profiles in Figure 1-4 to defeat a modern mechanized or armored force.

The regimental light armored cavalry squadron (ACS[L]) is a highly mobile force. It consists of armored cavalry troops equipped with HMMWVs armed with a caliber .50 machine gun, an MK 19 grenade launcher, and a TOW missile launcher; a HMMWV-mounted TOW company; and a towed artillery battery. The squadron usually functions as part of the regiment, but may operate separately for a short time or as part of either a joint task force or another unit. It is often reinforced by combat support units organic to or reinforcing the regiment.

The RAS provides the regiment with combat aviation assets. It is organized with air cavalry troops equipped with eight OH-58D (Kiowa Warrior) helicopters and a UH-60-equipped assault helicopter troop. The squadron adds a very responsive, terrain-independent movement capability to the regiment. The

maneuverability, firepower, and flexibility of the RAS enhance the combat flexibility of the regiment. The RAS may operate independently of or in close coordination with the ACS, or it may provide troops to the ACS.

ARMORED DIVISION CAVALRY SQUADRON

The armored division cavalry squadron is a highly mobile, armor-protected force organized as part of the armored and mechanized infantry divisions. The squadron operates primarily in the environmental states of war and conflict. It may deploy into a theater by FAST (Freight Automated System for Traffic Management) sealift as part of a division, brigade, or joint task force. It consists of three M3/M1-equipped ground troops and two air cavalry troops equipped with OH-58D's (Kiowa Warrior). The squadron can expect to perform reconnaissance and security operations in conditions characterized as follows:

- Fluid and continuous.
- Mobile.
- Wide ranging.
- Firepower intensive.

LIGHT/AIRBORNE DIVISION CAVALRY SQUADRON

The light/airborne division cavalry squadron is a highly mobile, lightly armed force organized as part of light infantry divisions. It consists of one HMMWV-equipped ground troop and two air cavalry troops equipped with OH-58D's (Kiowa Warrior). As part of the light infantry division, it may operate in any environmental state from peace to war. The squadron is deployable by air or sealift to a theater of operations as part of the division, or in support of a brigade or joint task force. This squadron possesses a significant tactical mobility advantage over the infantry battalions in the division.

AIR CAVALRY SQUADRON

The air cavalry squadron is a highly mobile, armed force organized as part of air assault divisions. It is also organic to those corps without an assigned ACR. It is equipped with air cavalry troops. The squadron is structured light to possess the same strategic mobility as the parent division. When deployed, the squadron possesses a significant mobility advantage over the infantry battalions of the division.

SEPARATE CAVALRY TROOP

The separate cavalry troop is organized as part of separate light and armored brigades. The organization is based on the division cavalry troop TOE with a service support augmentation package. It is heavy or light depending on the organization of the brigade. It operates for the brigade commander in the operational environments for which the brigade is focused.

Section VI. Battlefield Operating Systems

Regimental commanders and squadron commanders must coordinate the seven operating systems and synchronize their activities in time, space, and purpose. The operating systems are listed below.

- Intelligence.
- Maneuver.
- Fire support.
- Mobility and survivability.
- Air defense.
- Combat service support.
- Command and control.

The regiment is the only cavalry organization with an organic capability in all operating systems. Additionally, it is frequently reinforced with other assets. The regimental commander and his staff coordinate organic and supporting assets in close, deep, and rear operations. The commander influences the battle by assigning missions and terrain to squadrons, task organizing squadrons, applying force multipliers at the right time and place, assigning and shifting priorities of combat support and combat service support, and constituting and committing the reserve.

Regimental and divisional squadrons fight the close battle. Squadron is the lowest level at which firepower, maneuver, intelligence, and support are combined under a single commander. The squadron commander, supported by his staff, integrates organic and reinforcing assets to accomplish the assigned mission. He influences the battle by assigning missions and terrain to troops, task organizing troops, applying force multipliers at the right time and place, assigning and shifting priorities of combat support and combat service support, and constituting and committing the reserve. Squadrons normally fight enemy forces they can see and engage with available direct and indirect fires.

Troop and company commanders fight their assigned portion of the close battle with organic and supporting assets. These commanders seldom control elements of all operating systems, although they do integrate maneuver, fire support, and combat service support on a continuous basis. Because they are a key player in all operating

systems, these commanders must understand the integration of the systems at squadron level, actively use the support available, and provide the information required by the squadron.

INTELLIGENCE

Cavalry units are a critical part of the higher commander's intelligence and electronic warfare (IEW) system in their reconnaissance and security roles. IEW is also important for the cavalry unit as well. The flow of intelligence down the chain of command is just as important as the flow of combat information up the chain of command. IPB is the centerpiece of intelligence operations. It plays a critical role in determining missions assigned to maneuver forces and focuses information-gathering assets, including cavalry.

Cavalry units operate in the front lines of the information war and are critical components of information operations. Ground and air scouts and ground-based and airborne sensor systems (EH-60 and UAV) are all players in gathering combat information within cavalry units. Commanders use this information for internal operations and pass it up the chain of command. Priority intelligence requirements (PIR) from the senior headquarters help to direct this effort.

The regiment has an organic military intelligence (MI) company possessing collection and jamming assets. The regimental commander uses these capabilities in close, deep, and rear operations. The regimental S2 integrates these assets with the capabilities of the squadrons.

Division cavalry does not possess organic IEW assets, but often receives IEW support from the division MI battalion. The squadron remains closely tied to the IEW system.

MANEUVER

Maneuver is the movement of forces, supported by fire, to achieve a position of advantage from which to destroy or threaten destruction of the enemy. The maneuver elements of the regiment are the ACS and the aviation squadron. The maneuver elements of regimental squadrons are the line troops and the companies. The maneuver elements of divisional squadrons are the ground and air cavalry troops. The maneuver elements of troops and companies are scout, tank, and attack helicopter platoons. These elements execute the scheme of maneuver in the commander's concept and are supported by the other operating systems.

Aviation possesses terrain-independent movement, free of the restrictions imposed on ground units by obstacles or the terrain itself. During combat operations, however, many of the same terrain-imposed maneuver constraints that affect ground units also affect aviation units. The requirements of nap-of-earth flight, terrain flight hazards, and friendly and enemy situations all constrain aviation maneuver.

Maneuver units work in close coordination with one another and with combat support and combat service support units. Ground maneuver units normally focus on close operations. The aviation squadron provides a deep maneuver capability for the regimental commander.

FIRE SUPPORT

Maneuver must employ overwhelming combat power to destroy or defeat the enemy on the battlefield. The fire support system provides a large portion of this combat power through employment of firepower from various fire support assets. The fire support systems available to cavalry operations consist of field artillery, troop mortars, close air support, army aviation, naval surface fire support, and in some cases, nonlethal electronic warfare.

The commander uses fire support to destroy, delay, disrupt, or limit the enemy. Fire support officers down to troop level assist the commander in planning and coordinating fire support. Fire support plans must be integrated and synchronized with the scheme of maneuver consistent with the commander's intent. To achieve this integration and synchronization, commanders, with the advice of their fire support officers, must think in terms of the total systems available.

The commander must allocate fire support to support his maneuver elements and to preserve his freedom of maneuver. Fire support is a key component of deep, close, and rear operations because of its range and flexibility in shifting and massing fires.

MOBILITY AND SURVIVABILITY

This system provides mobility to maneuver and supporting units, degrades the enemy's ability to maneuver, and provides fighting and protective positions to enhance personnel and equipment survivability. Commanders plan mobility, countermobility, and survivability operations as part of the concept to support the maneuver and fires of friendly units while degrading enemy effectiveness. Maneuver commanders ensure that these operations do not hinder the planned maneuver or fires of the unit. Every unit bears responsibility for aspects of this system. Survivability also includes the functions of deception, camouflage, operations security, and communications security that protect the force from enemy detection and attack.

Maneuver units can perform limited mobility, countermobility, and survivability tasks. Scouts in particular are trained to perform demolitions. Maneuver units also prepare to conduct combined arms breaching and fighting position construction.

Combat engineers provide expertise, trained personnel, and special equipment to perform these tasks. The regiment has an organic combat engineer company and

division cavalry receives support from the division engineer battalion or brigade. Engineer commanders and leaders advise and support the maneuver commander. Combat engineers provide terrain visualization which is an integral part of the IPB process and plays a key role in any military operation. Within the spectrum of conflict, terrain analysts build an extensive digital database of the environment for each potential area of operations. They provide terrain information for all operations. They coordinate their operations with the affected maneuver unit commanders and the unit S3.

Smoke-obscurants can be used throughout the battlefield to enhance mobility, survivability, and deception. Large area smoke screens conceal vulnerable fixed sites, support maneuver, blind and deceive the enemy, and disrupt and isolate enemy second-echelon forces.

NBC defense operations are not a battlefield operating system, but a constant condition of warfare. NBC defense is integrated into all operating systems. All units on the battlefield prepare to operate under NBC conditions. Survival (individual and unit) and mission accomplishment are the objectives of NBC defense. This requires that units apply and adhere to the NBC defense fundamentals: contamination avoidance, NBC protection, and NBC decontamination. Protective measures begin at the individual soldier level. All units train and organize NBC teams for detection and operational decontamination. At squadron level, decontamination equipment is available. The regiment has an organic NBC company providing reconnaissance, decontamination, and large area smoke support.

AIR DEFENSE

Air defense operations are all activities that nullify or degrade the effectiveness of enemy air attack on friendly units or facilities. It includes passive and active measures. Passive measures are taken by all units and facilities to avoid detection and attack. Active measures are taken to disrupt, attack, or destroy attacking aircraft. Active measures include self-defense by attacked units and facilities, indirect fires, counterair by air defense units and by Air Force and naval aviation. The air defense system is integrated at theater level with operational nodes at corps, division, and regiment.

The regiment has an organic air defense artillery (ADA) capability. The division cavalry squadron does not. It receives support from the division ADA battalion either directly or by operating under an established air defense umbrella. The division cavalry squadron must remain aware of the coverage provided and be prepared to take appropriate action when moving out from under the collateral protection.

Army airspace command and control (A2C2) is an integral part of the Army's command and control system. Air defense is key in this critical function. A2C2 provides controls that are designed to synchronize the efforts of all users of airspace: Air Force, Army aviation, indirect fires, and ADA. This allows the commander to

simultaneously apply the combat power of all systems. A2C2 is critical to the operations of cavalry regiments and squadrons. Dedicated staff officers serve to integrate the controls directed by higher headquarters with the operational requirements of the regiment or squadron. This is particularly critical when unit aircraft are flying out of the assigned zone or sector.

COMBAT SERVICE SUPPORT

Combat service support (CSS) operations enable the unit to perform assigned missions on a sustained basis during combat. The tactical CSS functions are manning, arming, fueling, fixing, moving, and sustaining soldiers and their systems. CSS planning is an integral part of all operations planning and may have a significant impact on proposed courses of action.

The regiment has a support squadron that provides the bulk of service support to the regiment. The support squadron is the focal point of support execution and coordination with external support agencies. Regimental squadrons coordinate closely with the support squadron. The division CSS system supports division cavalry.

The regimental or squadron XO ensures that CSS is integrated into planning and ongoing operations. The primary CSS planners at regiment and squadron are the adjutant (S1) and the supply officer (S4). CSS executors within the squadron are the S1, S4, headquarters and headquarters troop commander, maintenance officers, and service support platoon leaders.

At troop and company level, the XO ensures that CSS is integrated into planning and ongoing operations and the first sergeant supervises execution. Troops possess limited CSS assets and rely primarily on the squadron for support.

COMMAND AND CONTROL

The command and control system enables commanders to analyze information, make decisions, employ available assets, and sustain combat power. This system is the centerpiece of operations, integrating and synchronizing the other operating systems. It frees the commander to lead from a forward location where he can best see, hear, and influence the operation. The XO supports him as second in command, running the main command post and ensuring the integration of combat support and combat service support during the mission. The operations and training officer (S3) advises the commander on operational employment of the unit and translates decisions into orders. He also assists the commander in controlling the unit during the ongoing operation.

Commanders use standard military terms, symbols, orders, and reports to pass information and orders. SOPs ensure the information flow is concise, rapid, and clear. Face-to-face coordination is always done when possible. All subordinate

commanders and leaders understand the commander's intent and concept. Subordinates act on their own initiative when the situation demands action to achieve the commander's intent.

HUMAN DIMENSION

Though not an operating system, the critical component of cavalry operations is the soldier. Battles are fought by soldiers, not systems. Commanders maintain the cohesion of units at all levels to maximize the trust that soldiers have in their leaders and in their teams. Commanders must ensure that effective training develops competent leaders and soldiers. They must consider the capabilities of their subordinates to develop plans that use units and leaders in their best capacity. Commanders use SOPs, enforce sleep plans and safety discipline, and pay attention to noncombat details that support the well-being of the soldiers. Leaders take every action possible to enhance soldier morale, health, welfare, and overall readiness to fight.

Chapter 2

BATTLE COMMAND

"The test of control is the ability of the leader to obtain the desired reaction from his command."

Infantry in Battle, 1939

Battle command is the art and science of battlefield decision making and leading soldiers and units to successfully accomplish the mission. Battle command includes visualizing the current state and the future state, then formulating concepts of operations to get from one state to the other at least cost. In addition to visualizing and formulating concepts, battle command encompasses assigning missions; prioritizing and allocating resources; selecting the critical time and place to act; and knowing how and when to make adjustments in the fight. The battle command system at the regimental level enables commanders to lead, prioritize, and allocate assets required to employ and sustain combat power. Cavalry commanders must observe, orient, decide, and act on their decisions quickly. Information is the key to the battle command process; therefore, the commander must have accurate and timely information upon which to base his decisions.

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Battle command of cavalry units is typically decentralized due to the size of the area of operations, vagueness of the enemy situation, and lack of information about the terrain. This places the burden of sound, timely decision making at the lowest levels. Leaders must develop a keen sense of situational awareness and constantly track the actions of subordinate units as well as those to the front, flank, and rear.

Section I. Command and Control System

FM 100-5 states that to command is to direct. Command at all levels is the art of motivating and directing soldiers and organizations into actions to accomplish the mission. Battle command incorporates two vital components—the ability to lead and the ability to decide. Both components demand skill, wisdom, experience, and moral and physical courage. Command requires the commander—

- To envision a desired end state.
- To clearly and concisely translate that vision into a statement of intent, providing a single and unifying effort.
- To formulate concepts.
- To provide the force of will to concentrate overwhelming combat power at the decisive point.

Commanders use control to regulate forces and functions on the battlefield to execute the commander's intent. As such, control involves—

- Defining limits.
- Computing requirements.
- Allocating resources.
- Describing interfaces.
- Monitoring status.
- Describing variances.
- Correcting deviations.
- Acquiring and applying the means to accomplish the commander's intent.
- Developing instructions from guidance.
- Measuring, reporting, and analyzing performance.
- Projecting change.

Control also has two vital components. First, control conforms to the principle of unity of command in which commanders typically control one echelon down and manage forces two echelons down. Second, control accounts for the dynamics of the battlefield. This part requires a reporting system to assess the situation routinely and frequently, thus enabling the commander to take action as appropriate.

The combination of command and control is referred to as the command and control system. The term *system* does not apply simply to the arrangement of equipment or use of equipment. It is an organized assembly of resources to aid planning, directing, coordinating, and controlling the organization in support of the mission. This process encompasses the personnel, equipment, communications, facilities, and procedures necessary to gather and analyze information, plan, and supervise the execution of operations.

The purpose of the command and control system is to implement the commander's will in pursuit of the objective. The system must be reliable, secure, fast, and durable. It must collect, analyze, and present information rapidly. It must communicate orders, coordinate support, and provide direction to the force. It must function despite the friction of battle—extraordinary stress, obscure situations, compressed time, competing demands, enemy interference, destruction of command posts, or loss and replacement of leaders.

Army doctrine places great demands on the command and control system. It must be responsive and flexible enough to facilitate freedom to operate, allow delegation of authority, and allow leadership to operate from any critical point on the battlefield.

Cavalry organizations are often required to begin their missions and to operate very soon after (or even before) the receipt of an operation order (OPORD). A command and control system permitting such flexibility and freedom to operate independently emphasizes certain specific operational techniques and command practices. First, it optimizes the use of time by routine use of warning orders, situation updates, and parallel/anticipatory planning. Second, it stresses standardized training in operations and staff practices to assure mutual understanding between leaders and units. Third, command and control eases execution of orders using standard language, symbols, and SOPs. Fourth, the system allows the commander to position himself wherever the situation calls for his personal presence without depriving him of the ability to respond to opportunities or changing situations.

The cavalry commander cannot expect constant or close supervision by his higher commander. Cavalry operations occur across wide areas and commanders normally operate with significant freedom of action. Close command direction is seldom possible, even when desired. Each commander in turn must provide his subordinates freedom of action for the same reason. Unity of effort is ensured by the intent of the commander assigning the mission. Each subordinate commander must

understand the intent of the commander two levels above him and the concept of his immediate commander. They exercise initiative within the latitude permitted to achieve the intent as battlefield conditions develop.

The extent and variety of the tasks confronting a commander require the cooperative endeavors of many people, the integration of many complex equipment systems, and a sensible division of work. The battle command system accomplishes these tasks through three interrelated components:

- Command and control organization.
- Command and control process.
- Command and control facilities and communications.

Section II. Command and Staff Relationships

COMMAND

Command is the authority that a commander lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources. It includes planning the employment, organization, direction, coordination, and control of the cavalry unit to accomplish assigned missions. It also includes the responsibility for health, welfare, morale, training, and discipline of the soldiers.

The commander is responsible for all that his unit does or fails to do. He cannot delegate this responsibility. The final decision and responsibility remain with the commander. Success, however, requires a commander who delegates authority and fosters an organizational climate of mutual trust, cooperation, and teamwork. He must also promote an understanding of procedures and a common basis for action.

The commander discharges his responsibilities through an established chain of command. He holds each subordinate commander responsible for the actions of his unit. When the commander assigns a mission to a subordinate, he also delegates the necessary authority and provides him with the resources, guidance, and support needed to accomplish the mission. The commander must allow the subordinate commander freedom of action. Combat does not provide the luxury of supervising subordinates in detail. The commander remains free to address the unit as a whole and to anticipate future actions. Subordinate commanders and leaders adhere to this philosophy.

The exercise of command is a reflection of the leadership style of the commander. Leadership is the process by which the commander influences others to accomplish the mission. Leadership provides purpose, direction, and motivation in combat. In peacetime training, the commander demonstrates his capability through frequent and personal contact with his subordinates. Once in combat, the commander's presence will often be felt over the radio. His personal presence is felt at the most critical location on the battlefield. At this point, his leadership is reinforced by the manner in which he controls the execution of the unit. How the commander uses this staff and the command and control system is a reflection of his leadership style.

STAFF

The staff is an extension of the commander. The staff assists the commander in decision making by acquiring, analyzing, and coordinating information. More importantly, the staff screens the mass of information available and presents only what is essential to the commander with a recommendation so he can make the best decision. The commander specifically delegates authority to the staff or particular staff officers. The authority he delegates is a factor of the commander's leadership style, staff officer's personality, mission of the unit, immediacy of the operation, and the relationship of the staff officers' functional area to the unit's primary mission. The commander delegates authority to the staff to take final action on matters within the SOP. This authority does not imply command by staff officers over subordinate elements of the regiment or squadron.

The staff is organized specifically to be a single, cohesive unit. All staff members must know not only their own functions and roles, but also the functions of the other staff members. The staff establishes and maintains a high degree of coordination and cooperation internally and with staffs of higher, lower, and adjacent units. Staff efforts focus on supporting the commander in the exercise of command and on helping him support subordinate commanders in the execution of their mission.

Staff activities center on five common functions to assist the commander:

- Provide timely and accurate information.
- Anticipate requirements and prepare estimates.
- Determine courses of action and make recommendations.
- Prepare plans and orders.
- Supervise execution of decisions.

Section III. Command and Staff Responsibilities

This section discusses how the commander organizes his staff to accomplish the mission. It includes the role and relationship of the staff, the authority and responsibilities of the staff, and the functional group of staff sections.

REGIMENTAL AND SQUADRON COMMANDER

"The real reason why I succeeded in my own campaigns is because I was always on the spot."

Wellington

The commander analyzes and restates the mission, designs the concept of operations, organizes the forces, and provides support to subordinate units. He issues mission orders with sufficient details for his subordinate to plan and lead their units. He acknowledges the professional competence and expertise of his subordinate commanders and allows them flexibility to accomplish their mission. He relies on his staff and subordinate commanders for advice and assistance in planning and supervising operations. He must understand their capabilities and limitations. He must train them to achieve his intent during his absence, the failure of communications, or changes in the situation.

When not in battle, the commander operates from the vicinity of the tactical operations center (TOC). At the TOC, he conducts his planning, interfaces with the staff, and rests. He frequently departs the TOC to conduct reconnaissance, inspect, receive orders, brief subordinates, and visit soldiers.

During battle, the commander positions himself where he can best make decisions during critical points of the battle. He positions himself to follow and influence operations and maintains communications with higher, lower, and adjacent units. He reacts immediately to direction from the corps, division, or regimental commander. When his organization or mission changes, he reorganizes as needed. Teamwork, functional SOPs, and a clear understanding of the mission permit subordinates to quickly translate a mission order into action.

The commander must know the enemy; his organization, his weapon systems, and how he fights. He must know the terrain over which his unit will fight and the adjacent terrain the enemy may use to support or reinforce. The commander must be aware of the operational limitations of his unit. He ensures air and ground cavalry efforts are fully synchronized to accomplish the mission.

Once the operation starts, subsequent orders and quick responses are the norm. The orders must be simple and clear to enable swift execution upon receipt. The commander prepares to accept mission orders, and without further detailed

instructions, takes action to execute the order within the intent of his commander. He limits the number of subordinates with whom he routinely deals. His staff refines raw data by filtering the information so the commander can focus on the combat critical information. The regimental commander fights squadrons and tracks troops. Squadron commanders fight troops and track platoons.

SUBORDINATE COMMANDERS

Assigned troop and company commanders answer to the squadron commander for the discipline, combat readiness, and training of the unit as well as the maintenance of its equipment. They must be proficient in the tactical employment of their units and those combat support elements. They must know the capabilities and limitations of their personnel and equipment. They must be intimately familiar with the capabilities and limitations of both air and ground cavalry operations.

During combat, the troop and company commanders have the same command responsibilities as the squadron commander. They continuously coordinate with each other and integrate air and ground operations without constant direction from the squadron commander. They provide current combat information to the squadron commander and remain flexible to execute missions upon receipt to meet changing situations on the battlefield.

SQUADRON STAFF

"A commander must accustom his staff to a high tempo from the outset, and continuously keep them up to it."

Erwin Rommel

The staff consists of those officers and enlisted soldiers who assist the commander in planning and supervising tactical operations. The staff reduces the demands on the commander's time and assists him by providing information, making estimates and recommendations, preparing plans and orders, and supervising the execution of orders issued by the commander. The staff synchronizes combat support and combat service support operations to ensure total integration of support with the commander's concept. The staff also assists subordinate commanders by anticipating problems, providing informal staff responses when appropriate, and providing assistance in functional areas. The organization of a typical staff is depicted in Figure 2-1. SOP defines the responsibilities of key personnel to preclude overlaps and to make sure all functions are adequately supervised. Detailed discussions of staff officer and section responsibilities are in FM 101-5.

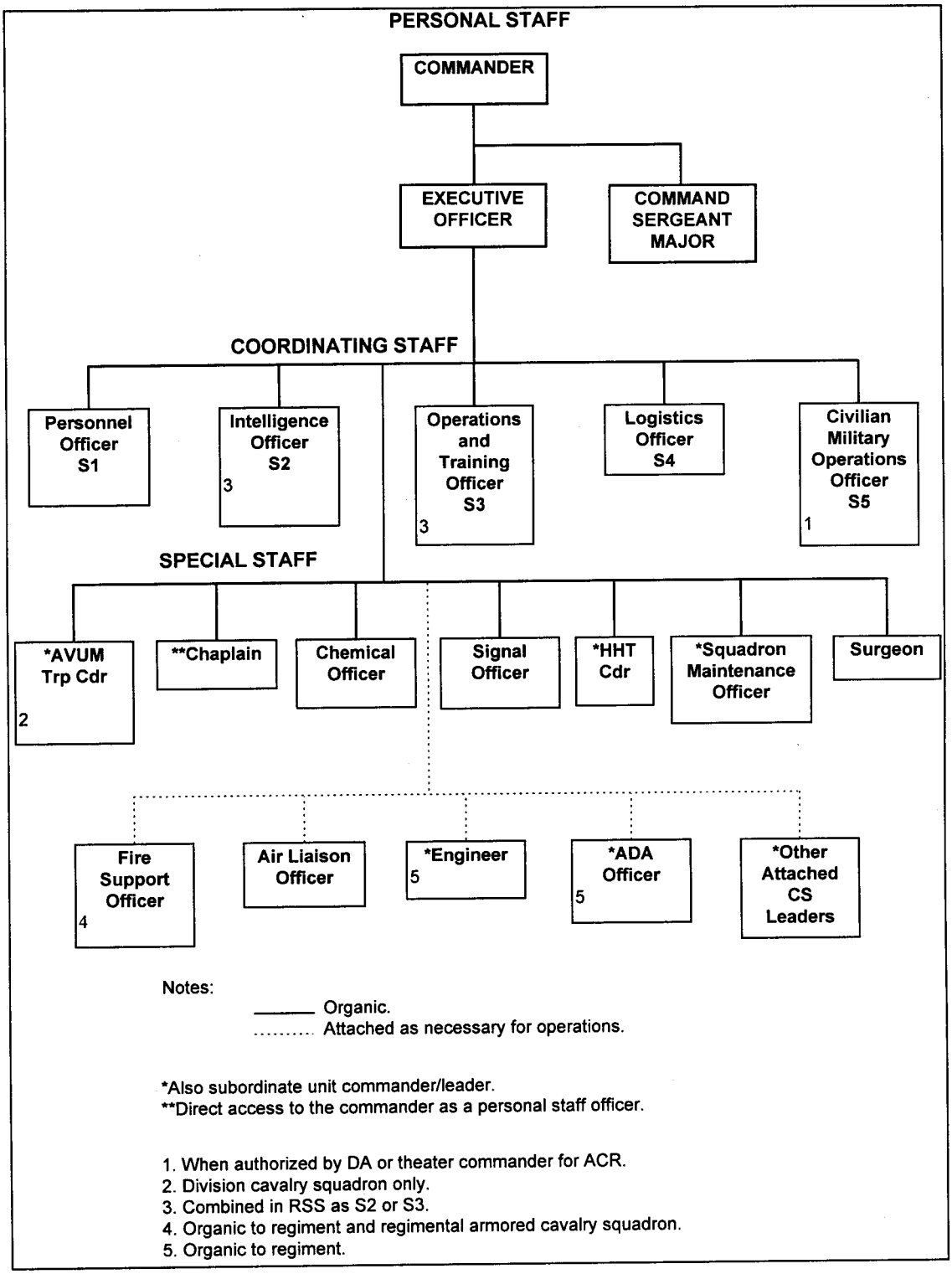


Figure 2-1. Typical staff.

Executive Officer (XO)

The XO is second in command and the principal assistant to the commander. He performs a variety of functions. He is responsible for assignment of tasks and the efficient, coordinated, and prompt response of the staff. He directs, supervises, and ensures coordination of staff work except in those specific areas reserved by the commander, thereby freeing the commander from routine details. During combat operations, the XO is positioned in the TOC where he is responsible for its operation. The XO directs and coordinates combat support in consonance with the commander's plan and ensures continuous combat service support. The XO, assisted by the operations sergeant, maintains routine reporting, coordinates the activities of the liaison personnel, and is always planning ahead. The chemical, signal, and flight operations officers work directly for the XO. During lulls in the battle, the XO may go to the trains and personally determine the status of combat service support operations. He remains current on the tactical situation and is prepared to assume command on a moment's notice. The commander trains the XO and allows him to command during training exercises to prepare him to assume command in combat.

Command Sergeant Major (CSM)

The CSM is the senior noncommissioned officer (NCO) in the regiment and the squadron. He acts in the name of the commander when dealing with the other NCOs in the unit and is the commander's primary advisor concerning the enlisted soldiers. He is not an administrator, but must understand the administrative/logistical and operational requirements of the squadron. He is the most experienced soldier in the squadron and keeps his finger on the pulse of the command. He focuses his attention on any function critical to the success of the operation. This requires that the CSM have mobility; he must be able to move where the commander needs him most. The commander establishes a close relationship with his CSM and defines his responsibilities and authority. The CSM assists the commander in the following ways:

- Training troop first sergeants.
- Monitoring NCO development, promotions, and assignments within the squadron.
- Being directly involved in planning and assessing soldier training tasks. He ensures soldier training tasks are identified and trained to support the performance of collective (unit) mission essential task list (METL) tasks.
- Monitoring the level of proficiency of training and morale of subordinate units.
- Providing recommendations and expediting the procurement and preparation of replacements for subordinate units.
- Monitoring food service and other logistical operations.

- Conducting informal investigations.
- Assisting in controlling squadron movement through a breach in a critical obstacle or at a river crossing.
- Making coordination for a squadron passage of lines.
- Leading the squadron advance/quartering party during a major movement.
- Assisting in the combat service support effort during the battle when the XO is in the TOC or forward.

Adjutant (S1)

The S1 has primary responsibility for all personnel matters. The S1 normally operates from the combat trains command post (CTCP) collocated with the S4. He moves as necessary to accomplish his mission. He shares supervisory responsibility for logistics with the S4. The S1 and S4 must cross-train to enable them to conduct continuous operations.

The regimental S1 is assisted by the HHT adjutant general (AG) platoon, which handles personnel services, postal services, morale support, and administrative services for the regiment. The AG platoon operates out of the regimental support area.

The squadron level personnel and administrative center (PAC) operates in the field trains under the supervision of the PAC supervisor. The PAC maintains contact with the S1 on the administrative/logistics net from the field trains command post. The S1 will take selected members of the section forward with him to assist in operating the CTCP.

Intelligence Officer (S2)

The S2 normally remains at the TOC where he has the communications assets to coordinate intelligence activities. He keeps the XO updated on the enemy situation and works closely with the fire support element and assistant S3 to ensure information is passed between the staff. The S2 is responsible for collecting and providing current information and analyzed intelligence of tactical value concerning terrain, weather, and enemy for all commanders and the remainder of the staff to facilitate planning and execution of combat operations. He is the expert on the enemy and understands in detail how he fights. He is closely involved in planning subsequent operations. The S2 converts the information requirements of the commander into priority intelligence requirements (PIR) and ensures they are provided in the unit plan. He is also the facilitator of the intelligence preparation of the battlefield (IPB) process. Working with the commander, operations officer, and other staff officers, the S2 participates in the development of the decision support template.

The regimental S2 and the regimental S3 are assisted by the regimental analytical control element in analyzing and directing electronic warfare, intelligence, and OPSEC missions. The regimental TOC analytical control element is the nerve center of regimental intelligence and electronic warfare operations. The S2 staff section, regimental TOC analytical control element, and military intelligence (MI) company are the key elements of the regimental intelligence system.

Operations Officer (S3)

The S3 is the commander's principal assistant for matters pertaining to the organization, employment, training, and operations of the unit and supporting elements. He also has a special relationship with the commander and normally has direct access for functional area matters. He monitors the battle, ensures the necessary combat support assets are provided when and where required, and anticipates developing situations. The S3, assisted by his operations sergeant and assistant, maintains routine reporting, coordinates the activities of liaison personnel, and is always planning ahead. The S3 and S3 air/assistant S3 remain responsive to directives from higher headquarters, the commander or XO, as well as the needs of subordinate commanders and supporting organizations. The S3 ensures his soldiers and equipment are organized, trained, and maintained to support the XO in the TOC.

In battle, the S3 is normally in the command group or on a secondary avenue of approach, axis of advance, or with the supporting effort. If unit operations orient in several directions simultaneously, he may assume individual control of a part of the battlefield as directed by the commander. The S3 maintains close coordination with the S4 for combat service support status.

Supply Officer (S4)

The regimental S4 provides logistics information to the regimental commander and functions as the regiment's logistic planner. He coordinates with squadron XOs and S4s about the status of equipment and supplies. The regimental S4 has representatives in both the main and rear command posts. He personally participates in the planning process at the main command post. The regimental S4 coordinates with the regimental support squadron commander and his staff to ensure the regimental commander's logistics priorities are understood and supported.

Due to the unique environment of cavalry logistics, the squadron S4 is often employed differently from battalion S4s. Employment of the squadron S4 is discussed in greater detail in Chapter 10. The cavalry squadron S4 focuses on staff responsibilities that mirror the responsibilities of the regimental S4. He provides logistics information to the squadron commander. He functions as the squadron's logistics planner. He coordinates with troop first sergeants and XOs about status of equipment and supplies. He also coordinates with supporting units and higher headquarters staffs to ensure logistics support is continuous. The S4 is in charge of the CTCP.

Civil Affairs Officer (S5)

When authorized for the regiment, the S5 serves as the principal staff officer for the commander in all matters concerning the civilian impact on military operations and the political, economic, and social effects of military operations on civilian personnel. He has staff responsibility for those activities embracing the relationship among the military forces, the civil authorities, and people in the area of operations. The S5 has primary coordinating staff responsibility for the areas of civil affairs and civil-military operations. When the S5 is not authorized, the S3 usually assumes responsibility for these functions.

Air Defense Officer

The air defense officer (ADO) is the commander or leader of the organic, direct support, attached, or operationally controlled air defense artillery (ADA) unit providing support. In the regiment, he is the ADA battery commander. For regimental squadrons, he is the task organized platoon / section / team leader from the battery. In division cavalry, he normally comes from the division ADA battalion. The air defense officer is the commander's primary advisor on all air defense matters. The ADO, after coordinating with the S2 for the aerial portion of the IPB, provides the commander with recommended air defense priorities. He takes into account asset criticality, vulnerability, recoupability, and threat. The ADO works closely with the air liaison officer, fire support officer, and flight operations officer to coordinate A2C2 matters that have either direct or indirect impact on the regiment or squadron. Because of his duties, the ADO is not at the TOC continuously, but is present during planning and is part of the orders group. In the absence of an ADA unit, the unit S3 assumes responsibility for these functions.

Air Liaison Officer

The air liaison officer is an Air Force officer who is a member of the tactical air control party (TACP). The air liaison officer moves with the commander as part of the command group. He may serve as a forward air controller or have additional officers assigned to the TACP as forward air controllers. He advises the commander and staff on the employment of offensive air support, including close air support, battlefield air interdiction, joint suppression of enemy air defenses, aerial reconnaissance, and airlift.

Aviation Unit Maintenance (AVUM) Troop Commander

In division cavalry, the AVUM troop commander is responsible for preventive maintenance, repair, and parts replacement for aircraft and aviation equipment. He is also responsible for evacuation of unserviceable modules, components, and end items. He coordinates closely with the S4.

Chaplain

The chaplain and chaplain assistant compose the unit ministry team (UMT). The UMT operates out of the combat trains. The chaplain is not restricted to a fixed location within the unit. He moves as necessary to perform his duties. He normally has direct access to the commander. The UMT provides pastoral care, counseling, and advice to the commander on matters of religion, morale, and morals.

Chemical Officer

The chemical officer advises the commander on NBC defensive operations. He is the commander's primary advisor for decontamination, smoke/obscurants, flame, and NBC reconnaissance operations. The regimental chemical officer, along with his staff section, is responsible for coordinating NBC tasks among supporting NBC assets, including the regimental chemical troop. The squadron chemical officer, assisted by an NCO, also serves as an assistant operations officer in addition to NBC duties. Both officers (regimental/squadron) work directly for the S3 and are responsible for integrating NBC defense into all aspects of unit training.

Signal Officer

The signal officer is a signal corps officer. He normally works for the XO at regiment and at squadron. He operates from the TOC, advising the commander on all signal matters, including the location of command posts, signal facilities, best uses of signal assets, and the use of signal activities for deception. He monitors the maintenance status of organic signal equipment. Additionally, he coordinates the preparation and distribution of the signal operation instructions (S0I) and supervises the communications security accounting activities.

Engineer Officer

The regimental staff has an engineer officer and staff section. The engineer officer normally locates in the main command post under the direct supervision of the XO or he may be located in the regimental TOC. The regimental engineer advises and assists the regimental commander in all aspects of engineer planning, coordination, and execution. The regimental engineer is the terrain expert. He works closely with the S2 in the IPB process to develop an accurate detailed analysis of the effects of weather on terrain and how these effects impact on the mission. The regimental engineer determines the requirements for engineer support, to include recommending the support relationship. He is assisted by the assistant regimental engineer. The regimental engineer prepares engineer estimates and engineer portions of the plans and orders, to include the engineer annex. The engineer officer provides the commander and staff information on the enemy's engineer capabilities.

The squadron engineer is the commander or leader of the direct support, attached, or operationally controlled engineer unit supporting the squadron. For a regimental squadron, he comes from the regimental engineer company or a

supporting corps engineer battalion. For division cavalry, he normally comes from the division engineer brigade. He is the commander's primary advisor on all engineer matters. Because of his duties, he cannot be at the squadron TOC continuously. He is in the TOC during planning and is part of the orders group. In the absence of an engineer unit, the S3 assumes responsibility for engineer functions.

Flight Operations Officer

In division cavalry, the flight operations officer is part of the S3 section and works in the TOC for the S3. He is assisted by an NCO and flight operations specialist. He is the operations expert on army aviation in the squadron. He assists in planning and managing the integration of air cavalry in the squadron's scheme of maneuver. Some of his responsibilities are listed below.

- Coordinate with the aviation brigade for aviation support.
- Receive Army airspace command and control (A2C2) control measures and directives from the aviation brigade or division A2C2 element.
- Incorporate applicable A2C2 measures into the scheme of maneuver.
- Maintain A2C2 overlay in squadron TOC.
- Establish and monitor flight-following net (air traffic control net) for squadron aircraft, when required.
- Maintain squadron flying hour program and monitor crew endurance.
- Disseminate A2C2 changes to the air cavalry troop (ACT) and the AVUM (F Troop) commander.
- Assist in operations of the S3 section.
- Assist the S3 and the fire support officer (FSO) in planning required SEAD and J-SEAD fires.

Fire Support Officer

The FSO is the commander's principal advisor and coordinator for fire support matters. His primary duty is to help the commander integrate all fires to support the scheme of maneuver. This includes planning, coordinating, and executing fire support. He is also responsible for coordinating with the S3 and the flight operations officer for required SEAD and J-SEAD fires. He frequently moves with the commander during tactical operations to expedite fire support. The FSO coordinates the efforts of subordinate FSOs and maintains digital and voice communications to supporting artillery. The fire support section (FSS) assists the FSO. In the armored cavalry regiment, the regimental and squadron FSO and FSS are organic at each level. Troop FSOs and fire support teams (FIST) are organic to squadron howitzer batteries. In division cavalry, the fire support elements and troop FISTs are dedicated assets from division artillery.

HHT Commander

The regimental HHT commander serves as the headquarters commandant for the main command post and answers directly to the regimental XO. The HHT commander is responsible for the support, security, and movement of the main command post and for supporting all elements of the HHT. He normally delegates the function of maintenance support to the HHT XO and the function of supply to the HHT first sergeant. Although he is a unit commander, not a staff officer, the squadron HHT commander fulfills a unique role. Employment of the HHT commander and his relationship with the squadron S4 are discussed in Chapter 10.

Liaison Officer

Liaison officers are in the S3 section of the regiment and squadron. They represent the commander at the headquarters of another unit for effecting coordination and for promoting cooperation between the two units. Through personal contact, they facilitate the exchange of information and ensure mutual understanding and unity of purpose before, during, and after combat operations. Liaison officers operate from the TOC where they are normally briefed and debriefed by the XO or TOC shift leader.

Regimental Support Squadron Commander

The regimental support squadron commander is the regimental commander's main combat service support operator. He advises the regimental commander concerning supply, maintenance, field and health services, and implementation of the combat service support functions throughout the regiment. The regimental support squadron commander has operational control over all units and elements within the regimental support area for movement, security, terrain management, and synchronization of sustainment activities. He coordinates and implements plans for assigned rear operations responsibilities within the regimental support area. He usually works through the regimental XO and coordinates with the regimental S4. He is located in the rear command post.

Squadron Maintenance Officer (SMO)

The SMO is responsible for coordinating all activities including recovery, evacuation, repair, and replacement of combat equipment to sustain the operational readiness of the squadron. The SMO is responsible for all ground tactical equipment. The SMO coordinates and supervises the efforts of the squadron maintenance platoon and exercises staff supervision over unit maintenance in the troops. He also functions as the maintenance platoon leader. The maintenance warrant officer assists the SMO by providing technical assistance and supervision to the maintenance platoon. During combat, the SMO operates from the combat trains or a unit maintenance collecting point (UMCP). In the absence of the S4, he controls the combat trains.

Surgeon

The squadron surgeon advises and assists the commander on matters concerning the fighting strength of the command to include preventive, curative, and restorative care. He advises the commander on the combat health support of the command and of the medical threat present in the occupied or friendly territory within the commander's area of responsibility. He determines requirements for the requisition, procurement, storage, maintenance, distribution, management, and documentation of medical equipment and supplies. The regimental surgeon is normally located at the clearing station in the regimental support area. The squadron surgeon and the physician's assistant operate the squadron aid station located in the combat trains. The division cavalry surgeon is also a qualified flight surgeon.

TROOP AND COMPANY-LEVEL STAFF

The leaders at troop and company level perform functions similar to their squadron counterparts.

Troop XO

As second in command, the troop XO supervises operations from the troop command post. The XO is also assigned a combat vehicle so he can quickly assume command of the cavalry troop in case the commander becomes a casualty or if the mission requires his presence forward. He stays abreast of the tactical situation within the squadron and troop. He manages the flow of combat information between the troop and squadron. He advises the commander, represents him in his absence, and prepares to assume command. The XO ensures that organic and supporting combat support assets are continuously synchronized with the troop's scheme of maneuver. With assistance from the troop first sergeant, he plans and coordinates combat service support for the troop.

First Sergeant

The troop first sergeant is primarily responsible for sustaining the troop's ability to fight. He supervises the procurement and distribution of fuel, ammunition, food, water, clothing, equipment, replacements, and repair parts. He receives personnel replacements and assigns them to subordinate elements as needed. He ensures soldiers wounded or killed in action are evacuated by directing the combat medic teams. He is also responsible for the evacuation and recovery of damaged combat equipment. He leads the troop combat trains. He supervises NCO development and soldier training. As a troubleshooter and advisor, he assists the commander in tactical operations as needed.

Platoon Leader

The platoon leader is responsible to the commander for the discipline, combat readiness, welfare, and training of the platoon as well as the maintenance of its equipment. He must be proficient in the tactical employment of the platoon. He must also know the capabilities and limitations of the platoon's personnel and equipment. The platoon leader's responsibility in combat is twofold:

- Accomplish all missions assigned to the platoon in accordance with the troop commander's intent.
- Preserve the fighting capability of the platoon.

Platoon Sergeant

The platoon sergeant leads elements of the platoon as directed by the platoon leader and assumes command of the platoon in the absence of the platoon leader. The platoon sergeant assists the platoon leader in maintaining discipline, training, and controlling the platoon in combat. He supervises the maintenance of equipment, supply, and other combat service support matters. He advises the platoon leader as required.

Mortar Section Sergeant

The mortar section sergeant is responsible for providing indirect fires to support the troop commander's concept of the operation. He trains, supervises, and maintains the mortar section and its equipment.

Supply Sergeant

The supply sergeant requisitions, picks up, transports, and issues or stores supplies and equipment for the troop. He normally leads the LOGPAC (logistics package). He supervises the troop supply section. He works closely with the first sergeant to accomplish these tasks. He evacuates enemy prisoners of war and assists in evacuating KIA (killed in action) remains.

Maintenance Sergeant

The maintenance sergeant supervises prompt recovery of damaged or inoperable equipment on the battlefield. He leads the troop maintenance section. He works closely with the first sergeant to accomplish these tasks.

Communications Sergeant

The communications sergeant prepares the troop command post and its assigned crew for combat operations. He assists the XO in the troop command post during combat operations. Where no command post is authorized, he operates out of the combat trains. Within his capability, he repairs communications equipment of subordinate elements. He is responsible for distributing the unit SOI and COMSEC equipment.

NBC NCO

The troop NBC NCO is responsible for troop NBC defense activities. He supervises radiological monitoring, chemical detection, and decontamination operations (less patient decontamination). He assists in maintaining NBC equipment and in training NBC equipment operators and decontamination teams.

Section IV. Command and Control Process

This section discusses the decision-making process. This process is how the commander and staff accomplish the mission. It is a cycle that begins and ends with the commander. It is the procedures and techniques the commander uses to find out what is going on, decide what action to take, issue instructions, and supervise execution.

PRINCIPLES

Military decision making is both an art and a science. The commander and staff continually face situations that involve uncertainties, questionable or incomplete data, and several possible alternatives. They must not only decide what to do, but also recognize when a decision is necessary. A systematic approach to problem solving assists in accomplishing the task. How a commander or staff officer arrives at a decision is a matter of personal determination; however, sound conclusions, recommendations, and decisions result only from a thorough, clear, unemotional analysis of all facts and assumptions relating to the situation. Subordinate commanders must have sufficient time to plan and prepare. Subordinate units require at least two-thirds of the available time to develop their plans.

TROOP-LEADING PROCEDURES

All unit commanders use troop-leading procedures to prepare their unit for battle (see Figure 2-2).

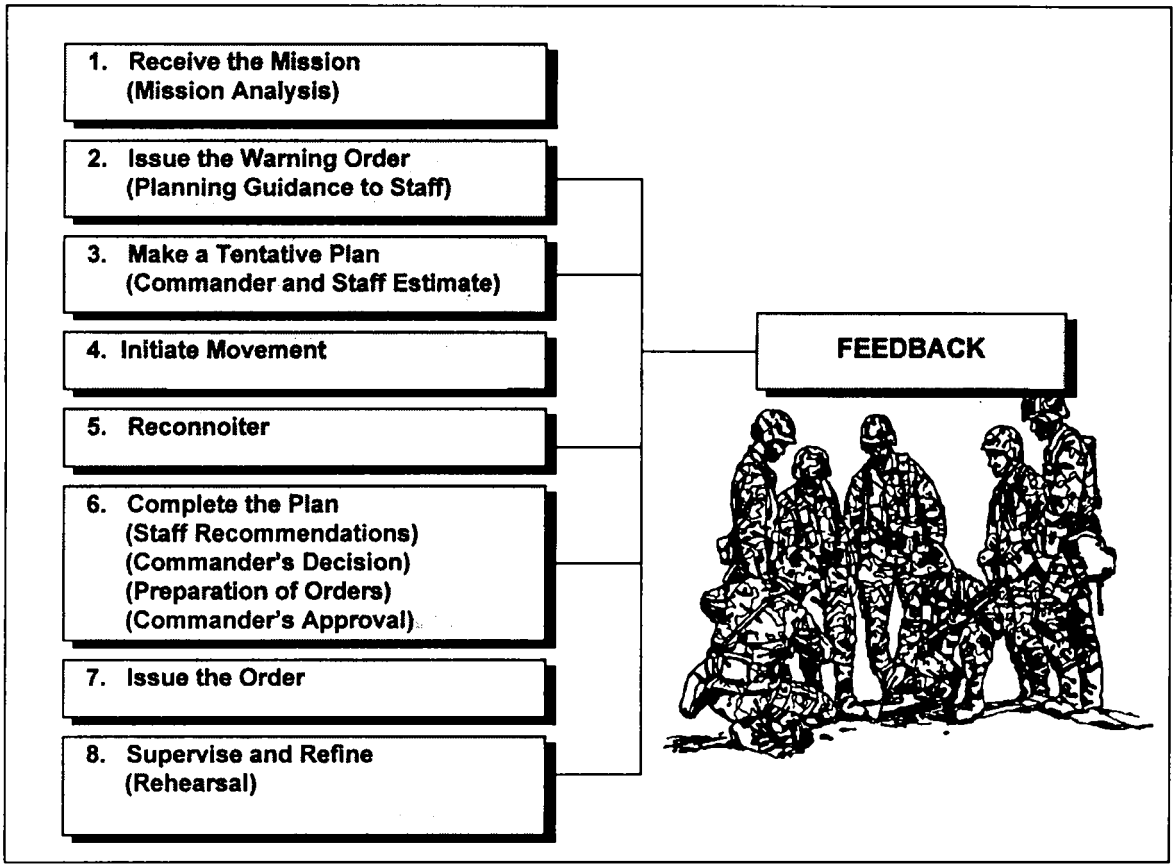


Figure 2-2. Troop-leading procedures with staff input.

Receive and Analyze the Mission

Upon receipt of an order, the commander conducts a mission analysis. He may be assisted by the XO or the S3 in this step. The commander determines the who, what, when, where, and why elements of the mission. He ensures he understands the commander's intent two echelons higher. His analysis should spell out the following:

- Specified tasks.
- Implied tasks.
- Essential tasks.
- Intent of the higher commander.
- Any constraints or limitations.

This step concludes with a restated mission statement.

Issue the Warning Order

The commander immediately issues a warning order after finishing the mission analysis. The warning order is a brief oral or written message that provides essential information to the staff and subordinates. This allows them to begin their planning and preparation to maximize the use of available time throughout the unit. A

warning order is critical at troop level to initiate precombat checks and to prepare for movement. The commander may follow up this order with additional guidance.

Make a Tentative Plan

During this step, the commander and the S3 use the restated mission, commander's guidance, and higher commander's intent to develop several possible courses of action.

There are tools commanders may use to choose a plan. The commander selects the tool he will use based on the time available and the size of his staff.

DECISION-MAKING PROCESS

The decision-making process is a systematic approach to decision making, which fosters effective analysis by enhancing application of professional knowledge, logic, and judgment. Decision making occurs within the context of the troop-leading procedures and encompasses the estimate of the situation (see Figure 2-3).

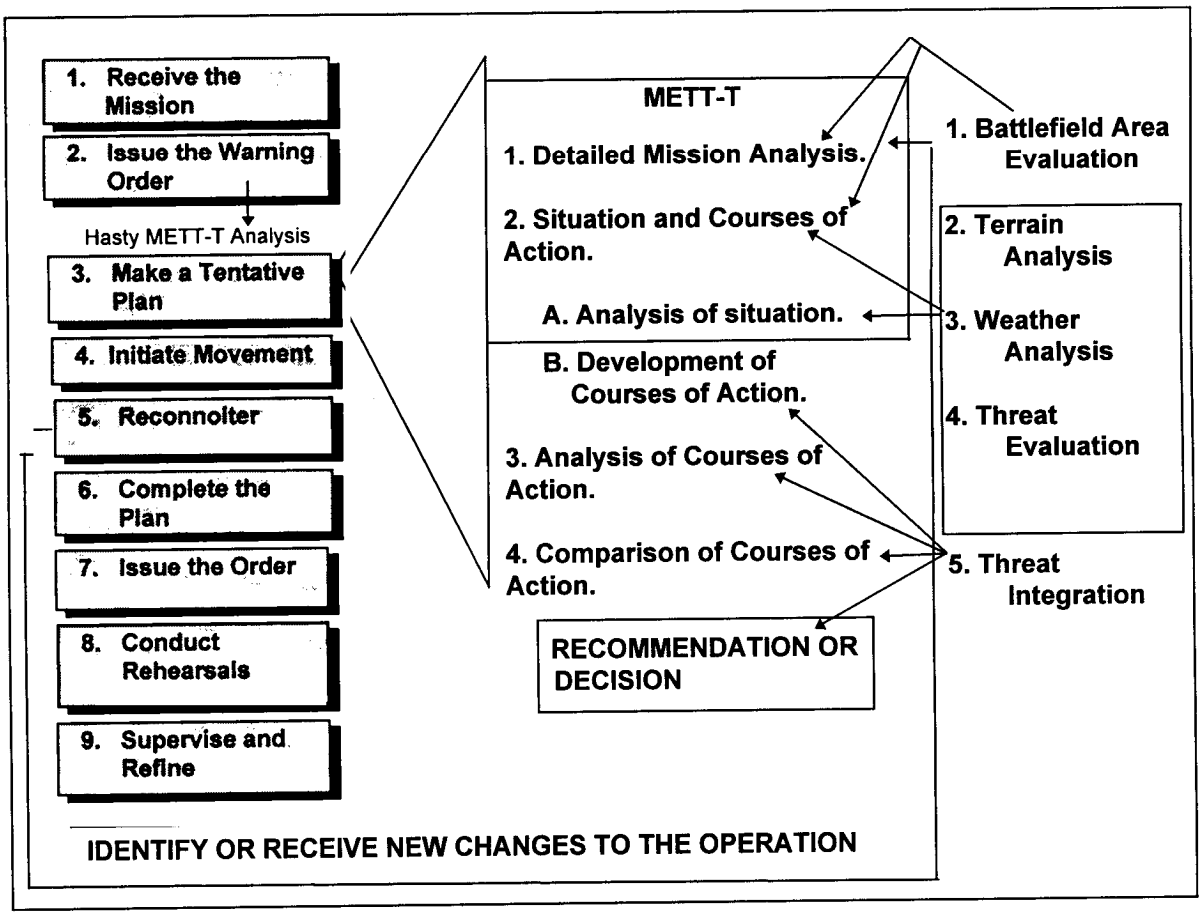


Figure 2-3. The military decision-making model.

This process consists of six broad steps, which are the foundation of decision making:

1. Recognize and define the problem.
2. Gather facts and make assumptions.
3. Develop possible solutions.
4. Analyze each solution.
5. Compare the outcome of each solution.
6. Select the best solution available.

The military decision-making process revolves around an established, proven, analytical procedure (see Figure 2-4). It is a continuous and sequential process that allows the commander and his staff to examine the battlefield and reach logical decisions. The key elements of the process areas follows:

- Estimate updates (information gathering).
- Mission analysis.
  - – Restated mission.
  - – Commander's guidance.
- Course of action development, analysis, comparison, and recommendation.
- Course of action approval.
- Preparation, approval, issuance of plans, orders, and fragmentary orders (FRAGO).
- Execution.

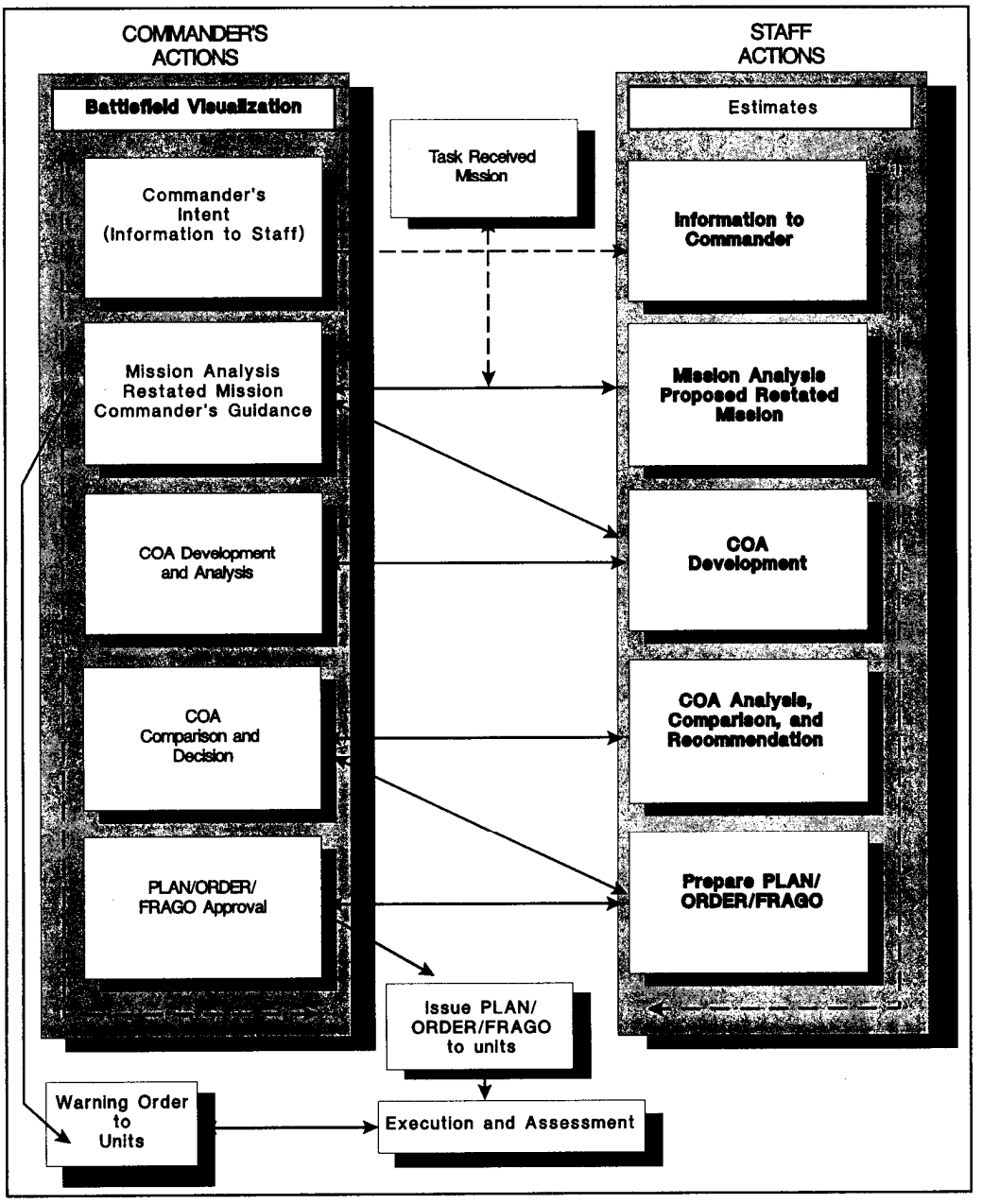


Figure 2-4. Decision-making process.

Both the commander and his staff prepare an estimate of the situation, although it lies first and foremost in the commander's mind. He prepares the commander's estimate (mentally or in writing) while continuing to collect information and analyze METT-T as well as other relevant factors that could affect the mission. He integrates his personal knowledge of the situation, his assessment of subordinate commanders, and any relevant details gained from his staff. Analysis and subsequent comparison of the developed courses of action help determine the best one to accomplish the

mission. Staff members help the commander by preparing their estimates. The different types of estimates are listed below.

- Personnel estimate.
- Intelligence estimate.
- Operations estimate.
- Logistics estimate.
- Civil-military estimate.
- Other staff estimates (prepared by special staff officers).
- Other staff estimates (prepared by special staff officers).

While the military decision-making model is a deliberate analytical process, the commander has the option to modify this process based on his needs and experiences. METT-T and unforeseen circumstances may make it difficult if not impossible to follow a deliberate process. Therefore, the commander must abbreviate or accelerate the military decision-making model in order to arrive at a logical decision in the shortest amount of time.

The military decision-making model provides a firm foundation for decision making during continuous operations. It is extremely important that the commander thoroughly understand and use the decision-making model in training. This process helps the commander and his staff apply thoroughness, clarity, sound judgment, logic, and the use of professional knowledge to a mission requirement. Effective decision making by competent, experienced, and confident battle commanders is key to the process. For a detailed discussion on military decision making, see FM 101-5.

Initiate Necessary Movement

While preparing the tentative plan, or immediately following, the commander initiates necessary movement of key elements and units. This movement may include those elements that assist in command and control of the operation, conduct reconnaissance, pre-position combat service support assets, or conduct liaison. The entire unit may be required to displace over a long distance to a forward assembly area.

Conduct Reconnaissance

The commander conducts a physical reconnaissance of the area of operations, movement routes, forward assembly area, and line of departure if possible. This reconnaissance includes subordinate organic and attached leaders. Reconnaissance may be conducted on the ground or in the air. Engineer reconnaissance is an integral part of this effort. The IPB saves valuable time by providing detailed terrain analysis, allowing leader efforts to focus on critical items. Time or the situation may

preclude a physical reconnaissance. In this case, a map reconnaissance is conducted. Again, the IPB is essential for a successful effort.

Complete the Plan

The commander uses information gained during the reconnaissance, new information from corps or division, and updated information from the staff to complete the plan. Changes to courses of action and completion of war gaming are conducted. The commander considers staff recommendations and makes his decision. At this point, the regimental/squadron commander delegates the authority for completion of the order to his staff, with the S3 or the XO having the ultimate responsibility to prepare the order for distribution. The commander may sign the finished order or delegate his S3 or XO to authenticate it in his name. Troop commanders normally prepare simple SOP-based oral orders.

Issue the Order

Ideally, the commander briefs the plan to the orders group on the ground chosen for the operation. Alternatively, the order can be briefed in the TOC or at a forward position. Overlays and copies of the order should be in the TOC or at a forward position and issued at the start so notes can be made on them during the briefing. When time is short, the order can be distributed by messenger or issued by radio. Methods of issuing the order include the written five paragraph order with overlays, overlay order, FRAGO, and oral FRAGO. The method selected reflects the amount of time available and the urgency of the mission.

Orders are communications—written, oral, or by signal—that convey instructions from a superior to a subordinate. The terms order, command, directive, and letter of instruction are synonymous for all practical purposes. Directive and letter of instruction normally apply to high levels of command and set broad goals, aims, or policies. An operation order implies discretion as to the details of execution whereas a command does not. Cavalry commanders use combat orders in issuing instructions. Combat orders have the following characteristics:

- Clarity.
- Completeness.
- Brevity.
- Recognition of subordinate commanders' prerogatives.
- Use of the affirmative form.
- Avoidance of qualifying expressions.
- Authoritative expression.
- Timeliness.

Figure 2-5 describes the type of combat orders that cavalry commanders use. FM 101-5 and supporting manuals discuss orders and formats.

TYPE	PURPOSE	PRODUCTS
OPLAN	Prepared prior to hostilities: contingencies general defense plan. Covers single operation or a series of connected operations carried simultaneously or in succession. Becomes OPORD when implementing conditions occur. Result of deliberate planning.	Five-paragraph format with all appropriate annexes. Contains assumptions.
OPORD	Directive issued for effecting coordinated execution of an operation. Includes tactical movement orders. Result of deliberate planning.	Five-paragraph format with annexes. Overlay order: overlay intent
WO	Preliminary notice of an action or order to follow. Gives subordinates time to plan and prepare. Used for all operations/orders.	No fixed format. Brief written/oral order.
FRAGO	Abbreviated form of OPORD used to make changes in missions to units or inform them of changes in the tactical situation. Used for mission orders. Result of hasty planning.	Brief. Written, overlay, or oral. Format highlights changes to five-paragraph order. Use existing graphics as much as possible.

Figure 2-5. Types of combat orders.

Immediately after the order is issued, the commander and staff answer questions from subordinate leaders. Once all questions have been answered, the commander gathers his subordinate leaders and conducts the confirmation brief. The confirmation brief is a tool the commander uses to ensure his subordinates understand the mission, his intent, and his guidance for the conduct of the operation. The confirmation brief adjourns when the commander is confident his subordinates understand their mission, his and the higher commander's intent, the concept of the operation, the scheme of maneuver, the timeline, and the type and location of the rehearsal.

Rehearse

Rehearsals are of paramount importance before executing any plan. Rehearsals help in the following ways:

- Clarify the commander's intent.
- Expose combat, combat support, and combat service support or disconnected activities in the plan.
- Reinforce the scheme of maneuver and fire support plan.
- Focus on actions and decision points critical to mission accomplishment.
- Ensure subordinates explicitly understand their missions, how their missions relate to one another, and how each mission relates to the commander's plan.
- Provide feedback to the commander.

Commanders/unit leaders conduct rehearsals at their appropriate levels. Rehearsals at all levels are key to ensuring understanding the concept of the operation, verifying specific responsibilities, timing actions, and identifying backup procedures to synchronize combat operations. Rehearsals should be as complete as time allows. In time-constrained situations, the rehearsal can be abbreviated to focus on the most critical events of the operation, as prioritized by the commander. Commanders should avoid a chronological mindset.

METT-T will determine the type or extent of the rehearsal. An accurate timeline issued in the warning order identifies and assists in the prioritization of tasks to be rehearsed. There are several techniques for rehearsing:

- Backbrief.
- Radio rehearsal.
- Sketch map rehearsal.
- Terrain model rehearsal.
- Key leader rehearsal.
- Full rehearsal.

See Appendix A for more information on rehearsals.

Supervise and Refine

This step requires the collective efforts of the commander, staff, and subordinate commanders. Prior to execution, backbriefs by subordinate commanders or leaders ensure the intent is understood, problems corrected, and coordination refined. Units conduct rehearsals of movements, drills, fire commands, and formations whenever possible. The commander must rely on his staff and subordinate commanders for assistance and advice in supervising and refining the plan during execution.

Plans are the initial basis of action, but the commander must expect considerable variation from them during execution of operations. The command and control system must allow the tactical leaders freedom of action to position wherever the situation calls for their personal presence without depriving them of the ability to control subordinates. The commander must retain mental flexibility and agility to change the plan during execution and to rapidly perform the steps of the troop-leading procedures to arrive at a decision and issue a FRAGO. The staff and subordinate commanders must be equally adept at gathering information, making recommendations, and executing subsequent orders. They must do this continuously, rapidly, and with brevity.

Higher commands will often order cavalry units to perform missions immediately or with very little planning time. These orders, normally issued after commencement of an operation, will be issued in fragmentary form. A FRAGO is an abbreviated form of an operation order that contains information of immediate concern to subordinates. A FRAGO has no specified format; however, commanders should use the five-paragraph operation order, abbreviated to address changes and modifications in the existing order, thereby eliminating the need for restating information contained in the base order. The commander must ensure he includes enough information for his subordinates to clearly understand his intent. If time and the situation permit, the commander should issue the FRAGO face-to-face with his subordinates. Commanders issue orders over the radio when distance prevents issuing the order face-to-face and time does not allow for a written order. A radio order normally contains the following elements:

- Changes to task organization.
- Situation.
- Concept—mission statements to subordinate units.
- Fire support.
- Coordinating instructions.
- Service support.
- Command and signal.

INTELLIGENCE PREPARATION OF THE BATTLEFIELD

IPB is the foundation of successful decision making. Each decision-making tool uses IPB, which is conducted continuously throughout the decision-making process. IPB develops intelligence about the enemy, weather, and terrain, which the commander and staff need to complete their planning. It enables the commander and staff to see, rather than visualize mentally, where both friendly and enemy forces can move, shoot, and communicate. It provides a graphic data base for comparing friendly and enemy courses of action. It serves as a graphic intelligence estimate. Weather and terrain overlays and enemy templates are the principal graphic products used to integrate the battlefield environment for the decision-making process. IPB is developed for both the area of operations and the area of interest. It is used in all

operations. IPB is a continuous process consisting of four steps that are performed each time IPB is conducted:

- Define the battlefield environment.
- Describe the battlefield effects.
- Evaluate the threat.
- Determine threat courses of action.

IPB integrates enemy doctrine with the battlefield effects—weather and terrain-as they relate to the mission and to the specific battlefield environment. It provides a basis for determining and evaluating enemy capabilities, vulnerabilities, and probable courses of action. Terrain and weather analysis and threat evaluation may be performed simultaneously or in sequence. Determining the threat courses of action is performed last by integrating weather, terrain, enemy, and friendly forces. Threat integration determines their combined effects on friendly combat operations.

IPB production is labor intensive. During peacetime, the S2 builds an extensive data base for each potential area in which a unit will operate. Once hostilities begin and current data becomes available, the intelligence estimate becomes dynamic, changing as the situation changes on the battlefield.

The S2 defines the battlefield environment. IPB done before an operation shows gaps in the intelligence data base, establishes the limits of the area of interest and identifies characteristics of the battlefield that will affect both the threat and friendly forces. When possible, requirements are satisfied before the operation begins. Remaining gaps in information frequently become priority intelligence requirements. IPB provides the basis for a dynamic collection plan and a guide for the effective employment of collection, reconnaissance, and surveillance resources.

The S2 does not conduct IPB in a vacuum. He is assisted by other members of the staff. He has access to the detailed products produced at higher headquarters and can routinely request the products he needs. He normally has a direct link to the TOC analytical control element at the higher headquarters.

Threat evaluation consists of a detailed study of enemy forces, their composition and organization, tactical doctrine, weapons and equipment, and supporting battlefield functional systems. Threat evaluation determines enemy capabilities and how they operate relative to doctrine and training or how they would fight if not restricted by weather and terrain.

Threat evaluation also includes an evaluation of threat high-value targets, critical nodes, and doctrinal rates of movement. High-value targets and movement rates are reevaluated during threat integration within the constraints imposed by the terrain and weather.

The threat information is now integrated into the analysis of the terrain and weather. Determination of threat courses of action relates enemy doctrine to the terrain and weather to determine how the enemy might actually fight within the specified battlefield environment. This integration is sequentially accomplished through the development of doctrinal, situation, event, and decision support templates (see Figure 2-6).

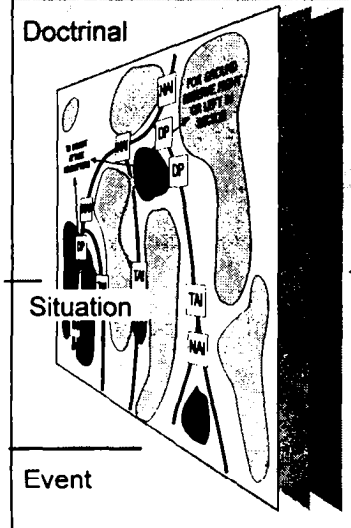
TEMPLATE	DESCRIPTION	PURPOSE
Doctrinal 	Enemy doctrinal deployment for various types of operations without constraints imposed by weather and terrain. Composition, formations, frontages, depths, equipment numbers and ratios, and HVTs are types of information displayed.	Provides the basis for integrating enemy doctrine with terrain and weather data.
Situation	Depicts how the enemy might deploy and operate within the constraints imposed by the weather and terrain.	Used to identify critical enemy activities and locations. Provides a basis for situation and target development and HVT analysis.
Event	Depicts locations where critical events and activities are expected to occur and where critical targets will appear.	Used to predict time-related events within critical areas. Provides a basis for collection operations, predicting enemy intentions, and locating and tracking HVTs.
Decision Support	Depicts decision points keyed to significant events and activities. The intelligence estimate is in graphic form.	Used to provide a guide as to when tactical decisions are required relative to battlefield events.

Figure 2-6. Threat integration templates.

A template is a graphic illustration (normally drawn to scale) of enemy force structure, deployment; or capabilities. It provides a basis for seeing the battlefield and for command estimates and decisions affecting resource allocation. It is used as a comparative data base to integrate what is known about the enemy with a specific weather and terrain scenario. Templates enable the commander to visualize enemy capabilities, predict likely courses of action before combat, and confirm or refute them during combat. They provide a means for continuous identification and assessment of enemy capabilities and vulnerabilities.

Templates portray a variety of enemy characteristics such as disposition of forces, weapons, fortifications, and equipment. Battlefield functional systems, like artillery or engineers, may also be templated. Templates can be added to, changed, or deleted as the situation dictates.

Doctrinal templates are the primary products that result from threat evaluation, Doctrinal templates convert enemy order of battle data into graphic displays that model how the enemy might look according to doctrine and training without the effects of weather and terrain considered. They portray various enemy echelons and types of units for various capabilities and schemes of maneuver. Doctrinal templates are used to-

- Develop situation templates,
- Assist in identifying types of units.
- Identify gaps in intelligence holdings and in the collection plan.
- Assist in locating enemy units, weapons, equipment, unit boundaries, and high-value targets.
- Assist in locating and identifying command and control, combat support, and combat service support elements.

The situation template is basically a doctrinal template with the terrain and weather constraints applied. It shows how the threat forces might deviate from doctrinal dispositions, frontages, depths, and echelon spacing to account for the effects of the terrain and weather. These templates focus on specific mobility corridors. Situation templating is basically a visual technique. By placing a doctrinal template over a segment of a mobility corridor, the analyst adjusts units or equipment dispositions to depict where they might actually be deployed in the situation. Time and space analyses are important in developing situation templates. They are used to war-game the battlefield.

Situation templating is the basis for event templating. Event templating is the identification and analysis of significant battlefield events and enemy activities that provide indicators of the enemy course of action. By knowing what the enemy can do and comparing it with what he is doing, we can predict what he will do next. This is an important analysis factor in determining the enemy's posture and movement. Knowing when and where enemy activity is likely to occur on the battlefield provides indicators of enemy intentions, or verifies that projected events did or did not occur.

As the enemy force is visualized moving along a mobility corridor, critical areas become apparent. These areas are significant because they are where significant events and activities will occur. It is within these areas that targets may appear. These areas are designated as named areas of interest (NAI). An NAI is a point or area along a mobility corridor where enemy activity will confirm or deny a

particular enemy course of action. The NAIs must be observed to be effective. Therefore, the number and location of designated NAIs are tied to the unit's ability to observe them.

The event template depicts NAIs along each mobility corridor and the relationship of events along all mobility corridors. It provides a means for analyzing the sequence of activities and events that should occur for each enemy course of action and how they relate to one another. The event template is developed by mentally war gaming each enemy course of action from a start point to potential enemy objectives.

Event templating is the basis for decision support templating. The decision support template is essentially the intelligence estimate in graphic form. It relates the detail of event templates to decision points that are of significance to the commander. It does not dictate decisions to the commander, but it does identify critical events and threat activities relative to time and location that may require tactical decisions. It provides a structured basis for using experience and judgment to reduce battlefield uncertainties.

Areas along each avenue of approach and mobility corridor where the commander can influence enemy action through successful interdiction are called target areas of interest (TAI). The TAIs are usually areas that were earlier identified as NAI. They are areas where units can delay, disrupt, destroy, or manipulate the enemy force. They are also areas suitable for attacking high-value targets.

A TAI is an engagement area or point, usually along a mobility corridor, where the interdiction of threat forces by maneuver, fires, or jamming will deprive or reduce a particular threat capability. It can also cause him to abandon a particular course of action or require the use of unusual support to continue the operation. In the latter option, TAIs must be terrain-dependent to inhibitor deny movement.

Example TAIs include the following:

- Key bridges.
- Road junctions.
- Choke points.
- Drop zones and landing zones.
- Known fording sites.

Following the selection of TAIs, decision points are identified. The location of decision points is largely influenced by the availability and capability of friendly fire and maneuver systems; therefore, their selection is primarily an S3 function.

Decision points identify what battlefield events may require tactical decisions and when these decisions must be made so the commander can synchronize his forces. Decisions must be made early enough to ensure they can be implemented in

time to achieve the desired effects. Decision points equate time to specific points on the battlefield. They are determined by comparing times required to implement decisions, enemy movement rates, and distances.

A detailed discussion of IPB is in FM 34-130 and example IPB procedures are in FM 17-97 and FM 17-98.

Section V. Command and Control Facilities

The commander organizes his staff to accomplish the mission. He develops an organization that is flexible enough to meet changing situations. The facilities from which the commander and his staff operate are closely aligned with the command and control organization. They provide processing and transmitting information and orders necessary for effective command and control. They sustain the operation through continuity, planning, and coordination of combat support and combat service support. The command and control facilities used in a tactical situation are listed below.

- Tactical command post (TAC CP).
- Main command post.
- Combat trains command post (CTCP).
- Alternate command post.
- Rear command post.

These facilities are not distinct groups, nor are they appropriate for all levels of command. Overlap does occur and redundancy is necessary to ensure adequacy and survivability of the command and control system. Most functions performed in a command post fall into one of three mutually supporting groups: those that directly relate to the control and direction of the on-going battle, those that support the force, and those that relate to planning future operations. Figure 2-7 illustrates the relationship between command post facilities, their functions, and the command and control organizations. FM 71-100 and FM 101-5 provide techniques for organizing these facilities.

FUNCTION	FACILITY	REGIMENT	SQUADRON	TROOP
Command Support Current Operation	TAC CP Command Group	S3 (as required) S2/S3 Staff Rep (Others as Necessary)	S3 (as required) S2/S3 Staff Rep (Others as Necessary)	None
Control/ Sustain Current Operation; Operation Planning	Main CP/ TOC	XO; Staff Sections for S2, S3, S5, FSE, TACP, Engr, TOCSE; RSO; RS1/RS4 Attachments; Support	XO; Staff Sections for S2, S3, FSE, Engr, TACP, Flt Ops, Comm(-); SSO; Attachments; Support	CP; XO, Comm NBC
Sustain Current Operations; Planning	CTCP		S1, S4, Staff Sections for S1/S4	1SG, Cbt Trains
Assume CP Functions	Alternate CP	TAC CP, ALC, Rear CP, Sqdn CP	TAC CP, ALC, Trp CP	1SG, Plt Ldr
Sustainment; Admin Operations; Field Trains Command and Control	Rear CP	RSS TOC; RS1/ RS4 Rep	HHT CP	None

Figure 2-7. Command post echelons.

The following are some considerations that affect how the command and control facilities organize for combat operations:

- Missions, tasks, and resources must be in reasonable balance. The commander considers what must be done to accomplish the current mission and organizes and allocates sufficient resources to each element. The efficiency, effectiveness, and convenience of the commander and staff elements are important concerns.
- Functional responsibilities and authority must be clearly established. Functional grouping of staff sections, or elements of the sections, promotes efficiency and coordination. When the command and control facility is echeloned, the authority of each echelon must be clearly defined in SOPs.
- A smaller command and control element is more mobile, requires less time to setup and displace, and requires less transportation.
- Echeloning more than one command and control element allows the commander greater efficiency and effectiveness. This redundancy enables him to move freely while maintaining control, and makes his presence felt where needed most to provide leadership and to influence the battle.

- Communications with adjacent, subordinate, and higher headquarters and the ability to maintain communications during displacements must be provided. Echeloning command and control elements depends on good, continuous communications. The signal officer must be included in the early stages of planning for command post locations to ensure adequate communications.
- The commander must organize and train to do in peacetime what will be required in combat, not what is most expedient or convenient.

Command posts and their supporting communication systems are high-priority targets. They present radio frequency, thermal, acoustic, visual, and moving target signatures that are easy to detect. They must be made less vulnerable or risk destruction or disruption by electronic means. Some protective measures for command posts are as follows:

- Locate on reverse slopes to deny enemy direct or indirect fire effects,
- Locate in urban areas to harden and reduce infrared or visual signature.
- Disperse command post subelements.
- Displace frequently.
- Maintain redundant, separate facilities.
- Remote antennas.
- Use low power settings on radios.

Under most circumstances, survivability requires that a combination of techniques be employed. Survivability measures must also be balanced against the requirement for retaining effectiveness. While frequent displacement might reduce command post vulnerability, the command and control functions may be seriously degraded. This is particularly true if the enemy is capable of detecting and targeting a command post more rapidly than it can be set up.

COMMAND GROUP

The command group is located well forward, with appropriate communications means, to see and command the battle at the most critical point. The command group will generally consist of the following personnel:

- Commander.
- Air liaison officer.
- Fire support coordinator (FSCOORD) or fire support officer (FSO).
- S3 (as required).
- S2/battlefield intelligence coordination center (BICC) (as required).
- Engineer officer (as required).

The command group is not a permanent organization. It is organized and operated according to the commander and the needs of the current situation. It is highly mobile, displaces often, and may move continuously. Since cavalry frequently operates on wide frontages, the commander may place the S3 at a second critical location on the battlefield.

The command group fights the battle. It synchronizes the fight by arranging battlefield activities to achieve maximum effect on the enemy. It coordinates fires and movement in time and space to concentrate at the decisive point.

The commander positions himself so he can see the battle and issue appropriate orders at critical times. The air liaison officer either positions himself with the commander or locates where he can see the priority target area requiring close air support. The FSCOORD/FSO normally positions himself forward with the commander to facilitate synchronization of fires. The vehicle commander remains on the vehicle with the commander and the S3 and assists in operating radios, posting maps, repositioning, or freeing the commander and the S3 to concentrate on the battle.

TACTICAL COMMAND POST

Cavalry frequently operates over long distances, wide frontages, or extended depths. The commander maintains adequate internal communications over these distances as well as external links to the controlling headquarters. The TAC CP is the facility that supports this continuity of command and control. The TAC CP may serve as a long-term or temporary facility. The TAC CP, in some cases, may be viewed as a forward echelon of the TOC. Requirements for long-term operations dictate that the TAC CP cannot be formed at the expense of the TOC. The command group uses the TAC CP as a base. The regiment also operates a heliborne TAC CP as required. It is used by the commander or the S3 for fast-moving operations, extended frontages, or rapidly changing situations.

The S3 normally runs the TAC CP with the assistance of personnel from the S2 and S3 sections. Representatives of special staff officers may be present as required. The S3 positions the TAC CP well forward on the battlefield. It is highly mobile and relies on frequent displacement, small size, and comparatively low electronic signature to provide security. The TAC CP keeps a battle map the same as the TOC and provides the commander with a reasonably secure place to plan operations and issue orders.

The TAC CP controls the ongoing operation, provides the commander with critical combat information, and coordinates immediately available fire support. Additional functions of the TAC CP areas follows:

- Develop combat intelligence of immediate interest to the commander.
- Provide priorities and planning guidance for combat support and combat service support activities to the XO located in the TOC.

- Maintain communications to receive, process, and pass routine reports while the TOC displaces.
- Serve as net control station for command FM net.
- Serve as an alternate command post.

MAIN COMMAND POST

The main command post is composed of functional cells that serve as the control, coordination, and communications center for regiment/squadron combat operations. These functional cells include the headquarters cell, current operations cell, plans cell, intelligence cell, a fire support cell, and a combat service support cell. The corps normally provides the regiment with a variety of communications assets and intelligence system downlinks that become part of the main command post. Liaison officers from other headquarters report to and perform their duties at the main command post. The XO is responsible for operations at the main command post.

The location of the main command post varies according to the type of operation in which the unit is engaged. The primary considerations in positioning the command post are communications, accessibility, and survivability. The command post is arranged to facilitate work and security, to smooth traffic flow, to take advantage of cover, and to permit quick displacement. When possible, the command post is located in built-up areas using maintenance facilities, garages, or barns large enough to accommodate it. Support assets collocate at the command post; however, their vehicles and communications equipment are dispersed and camouflaged to reduce the electronic and visual signature. Where built-up areas cannot be used, the command post should be placed on a wooded reverse slope to provide cover and concealment from enemy observation and fires. Adequate road networks are needed to support command post traffic.

Detailed unit SOPs outline command post configurations and functions of individuals assigned. Configurations are flexible to accommodate terrain, the situation, and losses of equipment. Both hasty and long-term configurations are planned.

Tactical Operations Center

The TOC is the largest cell of the main command post. The TOC contains future, current, and close operations cells. The TOC is the principal planning organization for the unit. When the TAC CP is not deployed, the TOC controls close operations. Additionally, the TOC ensures combat service support operations remain integrated. The TOC provides information and assistance to the commander and his subordinate commanders. The TOC anticipates future combat support and combat service support requirements and pushes assets forward before needs are reported.

The TOC is responsive to requests and has a sense of urgency at all times. Other functions of the TOC are as follows:

- Collate information for the commander.
- Acquire and coordinate combat support assets.
- Provide reports to higher headquarters.
- Provide intelligence to subordinate units.
- Plan for future operations.
- Provide terrain management.
- Maintain communications.
- Monitor combat service support status.
- Provide target value analysis.
- Coordinate with adjacent units.

TOC PERSONNEL

The XO controls the TOC. It is composed of the S2 and S3 sections, the S1 and the S4 as appropriate, elements of the communications platoon, and the fire support element. It can also include engineer, air defense, and other representatives, depending on the mission of the unit. The nucleus of the TOC is the three functional areas of the S2, the S3, and the fire support element. Other elements are arranged around this nucleus. Standardizing TOC configurations facilitates rapid displacement, establishment, and efficient operations. Internal arrangements must facilitate staff coordination, provide adequate work space and communications assets, and reduce the number of personnel physically present inside the TOC.

Personnel in the TOC monitor operations on a 24-hour basis. They maintain communications with organic, higher, and adjacent units to stay abreast of the situation; post maps; maintain records; and send reports as required.

TOC OPERATIONS

Available personnel are organized to provide effective, continuous operation of the TOC. Establishing shifts provides a sufficient quantity of personnel to operate the TOC and the required expertise to make decisions on major issues.

The standard shift evenly divides available personnel based on staff function and expertise. This method provides standardized teams, enhanced teamwork, and simplicity. Disadvantages include a break in the continuity of operations during shift change and possible absence of a key staff officer when needed. Adequate shift change procedures reduce continuity problems.

A variation of the standard shift is the heavy/light shift. This method places a majority of personnel on duty when significant activity is ongoing or anticipated. The light shift consists of fewer soldiers with those off duty remaining on call. This

method provides flexibility based on mission requirements and the presence of key personnel when needed.

The staggered shift staggers the times that personnel come on and off duty. Each soldier works a shift length based on section and duty requirements. This method precludes a break in the continuity of operations but may be more complex to manage and support.

Regardless of the method used, several considerations apply. The XO is not placed on a duty shift since he is second in command and works as necessary. Personnel who do not work permanently in the TOC are not integral parts of a duty shift. This includes liaison officers and any attached special staff officers who are unit leaders or commanders. Additionally, members of the command group and TAC CP are not included. These personnel integrate into the existing manning schedules when present at the main command post for an extended period. The XO uses replacement or wounded officers and NCOs as augmentation. Using replacement leaders on the staff initially integrates them into the unit with minimum disruption. They may replace current staff officers who assume leadership roles in subordinate units. Any manning method used must retain flexibility to accommodate personnel departing from the TOC for specific duties and to adapt to changing situations and available personnel. Needlessly disrupting the rest of personnel rapidly degrades their effectiveness.

Figure 2-8 illustrates advantages and disadvantages of the different manning methods.

METHOD	ADVANTAGES	DISADVANTAGES
Standard Shift	Simple	Lack flexibility
	Standardized	Break in continuity
	Balanced	Key personnel may be absent
	Shift Leaders	
Heavy/Light	Key personnel available when needed	Disrupt sleep plans
	Flexible schedule	Not balanced
	Shift leaders	Break in continuity
Staggered Shift	Continuity of operations	More complex
	Balanced	No fixed shift
		Class I difficult

Figure 2-8. TOC shift operations.

Support Elements

The regimental command post may have a large support element consisting of organic and corps communications assets, the S2 regimental TOC analytical control element, intelligence and EW system downlinks, a security force, maintenance, and supporting or attached unit representatives. Combat support troops and companies of the regiment do not collocate their command posts at the regimental command post. Squadrons normally have a small support element for security and service support.

Service support of the command post is the responsibility of the HHT commander. He normally accomplishes this by delegating his authority to the HHT first sergeant. Support is provided to the main command post, TAC CP, and command group.

Command Post Security

The TOC is a lucrative target. The first line of security for the TOC is to prevent the compromise of its location through OPSEC and COMSEC measures. These measures include the following:

- OPSEC.
  - Use covered and concealed locations or buildings.
  - Do not indicate TOC location by signs.
  - Post security and use protective wire and mines.
  - Do not allow vehicles to congregate in the vicinity of the TOC.
  - Camouflage against ground and air observation.
  - Enforce noise and light discipline.
- COMSEC.
  - Use low power and keep transmissions short.
  - Displace radio teletypewriter and air liaison officer to another location for transmissions.
  - Remote radios whenever possible (from outside of TOC area).

The actual defense of the command post is the XO's responsibility. The regimental XO delegates this responsibility to the HHT commander who serves as the headquarters commandant. The headquarters commandant's responsibilities include security, movement, service support, and maintenance. The squadron does not have an officer dedicated to this function. The squadron XO normally tasks a staff officer in the TOC to perform the duties of the headquarters commandant.

A perimeter defense is initially established around the TOC and manned by TOC and TOC support personnel. The perimeter includes fighting positions, antiarmor mines, anti-intrusion devices, and protective wire to supplement the fighting positions. For continuous operations, the sleep areas should be organized so that teams are near their positions on the perimeter.

Off-duty shift personnel from the TOC may be used for security duties along with other personnel working in the TOC area. The senior TOC NCO normally coordinates the security shift schedule. All personnel must understand their security duties. A high degree of security must be maintained during displacement. The priority of work for establishing security generally follows this order:

1 – Establish initial security.
2 – Position crew-served weapons and vehicles.
3 – Position remaining personnel.
4 – Clear fields of fire.
5 – Emplace obstacles.
6 – Prepare fighting positions.
7 – Establish wire communications systems.
8 – Prepare alternate and supplementary positions.
9 – Select and prepare routes for supply and evacuation.

The ground fires of ADA elements in the area may be integrated with the fire plan for the command post. The most important factors in defense of the command post are that all personnel know where their positions are and that positions are well prepared and tied into each other. An alarm to occupy fighting positions should be an SOP item and the occupation of these positions practiced. When attacked or threatened, security becomes the primary task of all personnel. TOC operations are degraded and continue at a minimum level until the command post is secured. The TAC CP or alternate command post assumes functions the TOC cannot perform.

Displacement

When the command post moves, it can displace as a whole, by echelon, or by bounds. When the move allows continuous communications, the command post will displace as a whole. When moving a long distance, or when the move to the proposed location will not allow continuous communications, the command post displaces by echelon. The TAC CP can be used in this role. The larger main command post at regimental level frequently displaces by echelon as a security measure.

The XO designates the location of the command post site. If the site is significantly different from that previously determined by the S3 or if none has been designated, the XO coordinates the location with the S3. The first echelon of the TOC moves with the quartering party under control of the headquarters commandant. The quartering party performs a reconnaissance of the area, selects the exact location, and establishes communications. Once the first echelon is operational, and local security is established, the area is marked for occupation by other vehicles, and guides are posted. The off-duty shift may operate the first echelon. All personnel train to perform its functions. The signal officer is normally a member of the quartering party and selects the exact location for the TOC based on communications considerations. This is particularly important when considering line of sight requirements for area communications systems.

COMBAT TRAINS COMMAND POST

The CTCP is composed of portions of the S1 and S4 sections and is under the S4's control. Its primary functions are to plan logistics support and coordinate with subordinate units, higher headquarters, and the headquarters of the supporting logistics unit. It tracks the current logistics status of subordinate units. The regimental operations support section is located with the main command post. The squadron CTCP may be located with the TOC, combat trains, field trains, or unit trains. It serves as the field trains command post or the alternate command post.

Continuous communications are maintained with supporting and subordinate units. S1 and S4 personnel cross-train in duties and basic functions to provide continuous operations. An operations situation map is maintained to facilitate logistical planning and to backup tactical command and control.

ALTERNATE COMMAND POST

The alternate command post assumes the functions of the main command post if it (specifically the TOC) is destroyed or rendered ineffective. The alternate command post may be the TAC CP if it is deployed, a CTCP, a squadron command post (regiment level), or a troop command post (squadron level). During normal operations, the CTCP eavesdrops on the tactical net and is familiar with the situation. The alternate command post carries the same maps, charts, and SOPs as the TOC. It should also be capable of monitoring the key radio nets. The unit SOP provides for assignment of an alternate command post. The alternate command post normally cannot duplicate all the communications means or command and control functions of the main command post, so the SOP dictates the essential nets and activities that must remain operational. Standardized procedures facilitate rapid assumption of the command post functions by the alternate.

REAR COMMAND POST

The rear command post for the regiment is composed of the regimental support squadron command post and elements of the regimental S4 and S1 sections. The rear command post sustains current operations, forecasts future combat service support requirements, conducts detailed combat service support planning, and serves as an entry point for units entering the regimental support area. The regiment materiel management center is normally collocated with the rear command post. It coordinates with corps staff and COSCOM for logistics support. The regimental support squadron command post may serve as the regimental alternate command post.

In the squadron, the field trains command post performs the same function as a rear command post. Normally, the field trains command post is provided by the HHT. It is composed of elements of the S1 and S4 sections and the HHT. It controls all assets in the field trains, ensures sustainment activities are moving forward to the

combat trains, and coordinates support requirements, When collocated with the regimental support squadron or a forward support battalion, the field trains command post and field trains are under operational control of the support unit commander for security, positioning, and movement. The field trains command post maintains landline communication with all elements in or collocated with the field trains. Communications are maintained with the CTCP and the combat trains to coordinate service support requirements. When the squadron is operating at an extended distance from the field trains, these communications may be routed through the support unit command post.

TROOP COMMAND POST

The troop command post is a lean facility. Controlled by the XO, it is manned by members of the troop headquarters. The troop command post essentially performs command and support functions for the on-going operation. Limited planning may be accomplished. The command post maintains communications with subordinate organic and supporting elements, squadron, and adjacent units and plays a key role in coordinating air and ground troop operations. The command post maintains close contact with the first sergeant in the troop combat trains to coordinate service support operations.

The air cavalry troop does not have a command post. Communications with the air cavalry are effected by talking to the commander or other officers in the aircraft, the troop first sergeant in his vehicle, or a nearby facility, such as the rear command post.

Section VI. Command and Control Communications

"The major-general commanding directs me to say that it is of the utmost importance to him that he receives reliable information of the presence of the enemy, his forces, and his movements."

George G. Meade
Orders to the Union Cavalry
30 June 1863

Communications are essential to cavalry operations. Fundamental to reconnaissance and security is the reporting of combat information. This information is of interest to other maneuver units as well as to corps or division staffs and requires widest dissemination possible by eavesdrop or other means. Cavalry frequently operates over long distances, wide frontages, extended depths, and great distances from the controlling headquarters. Communications must be redundant and long range to meet these internal and external requirements.

In division cavalry, operational requirements may employ the squadron under different controlling headquarters. These conditions require the squadron to have the flexibility to communicate on division as well as brigade nets. The squadron requires the equivalent communications capability of a brigade.

Communications, particularly electromagnetic, are subject to disruption. Disruption may result from unintentional friendly interference, intentional enemy action, equipment failure, atmospheric conditions, nuclear blast electromagnetic pulse, or terrain interference. To compensate for these, the commander should—

- Provide for redundancy in means of communication.
- Ensure subordinates understand his intent so they know what to do during communications interruptions.
- Avoid overloading the communications systems.
- Minimize use of the radio.
- Ensure proper signals security and communications security practices are followed.

RESPONSIBILITIES

All levels of command gain and maintain communications with the necessary headquarters and personnel. The traditional communications responsibilities are listed below.

- Senior to subordinate. A senior unit is responsible for establishing communications with a subordinate unit. An attached unit of any size is considered subordinate to the command to which it is attached.
- Supporting to supported. A supporting unit is responsible for establishing communications with the supported unit.
- Reinforcing to reinforced. A reinforcing unit is responsible for establishing communications with the reinforced unit.
- Passing to stationary. Forward passage of lines.
- Stationary to passing. Rearward passage of lines.
- Lateral communications. Responsibility for establishing communications between adjacent units may be fixed by the next higher commander or SOP. If responsibility is not fixed by orders, the commander of the unit on the left is responsible for establishing communications with the unit on the right. The commander of a unit positioned behind another unit establishes communications with the forward unit.
- Restoration. Regardless of the responsibility, all units take prompt action to restore lost communications.

MEANS OF COMMUNICATION

Cavalry uses the full spectrum of communications means.

Wire

Wire is normally used for internal communications within the command post, support areas, and assembly areas. It is the primary means of communication whenever the situation permits.

Messengers

Messengers are used between the command post, trains, and higher and lower headquarters. Although ground messengers are slower than other means of communications, air cavalry provides a rapid capability. Aviation messengers may be particularly useful in carrying administrative/logistics messages when en route to and from rear assembly areas. They can be used even if units are in contact and especially when jamming or interception hampers FM communication.

Sound and Visual

Sound and visual signals are in the SOI or the unit SOP. Signals not included in the SOI maybe established by SOP. The battlefield will have many sound and visual cues. Commanders and staff planners carefully determine how sound and visual signals will be used and authenticated. Sound and visual signals include pyrotechnics, hand-and-arm, flag, metal-on-metal, rifle shot, whistles, and bells.

Commercial Lines

Commercial lines are used when approved by higher headquarters. If the unit is forced to withdraw, existing wire lines, including commercial lines, are cut and sections removed so the enemy cannot use them.

Radio

Cavalry operations normally depend on radio as the primary means of communication. This is particularly so during reconnaissance and security missions. Net discipline and SOP minimize needless traffic. To avoid detection by enemy direction finding equipment, cavalry uses all other means of communication to supplement the radio. Once in contact, the primary means of communication will be FM voice. Radio communications include electromagnetic communications in FM, AM, UHF, and VHF spectrums.

ARMORED CAVALRY REGIMENT EXTERNAL COMMUNICATIONS

The armored cavalry regiment communicates on the corps nets as illustrated in Figure 2-9 and discussed below.

Corps Area Common User Network

The area common user network is the primary system for voice telephone, data, and hard copy communications in the corps area. The network is installed and operated by the corps signal brigade. It provides an interlocking network of communications facilities providing the means to exchange information throughout the corps. Individual circuits within the network are terminated by common user telephones, facsimile machines, and data terminals that are user owned, installed, and operated. The network is built on a series of communication nodes providing communications support to headquarters and units operating in the corps area. Command posts are connected to two or more nodes to ensure redundancy, reliability, and survivability of communications. The area common user network provides a limited mobile individual call capability as well as a conference call. The net is capable of passing secure traffic.

Corps Command Net

This is a secure FM voice net, controlled by the corps G3. It is a back-up means to the corps area common user system. If established by the corps G3, the regimental command group, TAC CP, and main command posts will monitor.

Tactical Satellite Communications Network

The corps signal brigade provides the regiment with a tactical satellite communications terminal that links it to the tactical satellite communications network. This network is used to provide critical command and control communications between the corps and its subordinate maneuver units, echelons above corps, and national command authorities. This terminal normally positions with the regimental main command post and operates under the control of the regimental signal officer.

NET / STATION	CORPS CMD FM	CORPS OI FM	CORPS ACU
Regt Cmd Grp	X	A	X
Regt TAC CP	X	X	X
Regt Main CP	X	X	X
Regt Rear CP	A		X

X - Enter net.
A - Enter as required.
O - Monitor.

Figure 2-9. Regimental external communications nets.

Other Communications/Information Systems

The regiment is usually provided a ground terminal that provides a direct information link to corps side-looking airborne radar (SLAR) operating within the corps' area of operations. This ground terminal positions near the analytical control element in the main command post and passes information directly to the staff by landline or messenger. As the joint surveillance target attack radar system (JSTARS) is fielded, the ACR can expect to receive ground terminals from corps that also provide a direct information link to the aircraft. These terminals will also position near the TOC analytical control element and transmit information directly to the staff.

ARMORED CAVALRY REGIMENT INTERNAL COMMUNICATIONS

The armored cavalry regiment operates the internal nets discussed below and shown in Figure 2-10.

Regimental Command FM Net

This is a secure voice net, controlled by the regimental S3 in the TAC CP or the regimental XO in the main command post. It is the primary means used for command and control of all units assigned, attached, or under operational control of the regiment. Normally, only commanders, XOs, and S3s of subordinate units are permitted to communicate on this net.

Regimental Operations and Intelligence (01) FM Net

This is a secure voice net, controlled by the regimental S2 in the main command post. It is primarily used to collect and disseminate routine reports and information between command posts. It serves to keep the command net clear of anything but priority and urgent information.

Regimental Fire Support FM Net

This is a secure voice net, controlled by the fire support element in the regimental main command post. It is used to plan and coordinate employment of available indirect fires with subordinate squadron fire support elements and the fire support units providing support to the regiment. It is also used to monitor the status of available ammunitions, expenditures, and distribution of ammunition within the regiment's area of operations.

Digital Fire Direction FM Net

This is a digital net, used by the fire support element to prepare, coordinate, disseminate, and execute fire planning data by means of either the tactical fire direction system (TACFIRE), advanced field artillery tactical data system (AFATDS), or initial fire support automated system (IFSAS). The net is usually controlled by the supporting artillery unit, normally a direct support battalion or a field artillery brigade headquarters. The fire support element is provided a variable format message entry device (VFMED) that has a digital communications interface with the supporting artillery unit and subordinate fire support elements. The fire support element can also use the VFMED to transmit and receive battlefield information for the regimental commander and to conduct coordination by plain text if the command net is jammed or communications are lost with a subordinate squadron.

Regimental Administrative/Logistics (A/L) FM Net

This is a secure voice net, controlled by the regimental S4 in the rear or main command post. It is used primarily to plan and coordinate sustainment operations with subordinate units. Routine personnel and logistics reports are transmitted on this net. It is also used to monitor the status of personnel, equipment, fuel, and ammunition.

Regimental Command AM Net

This is an unsecure net that serves as a backup for the regimental secure FM command net. It is controlled by the regimental S3 in the TAC CP or TOC. It is used when the regiment is spread over wide frontages and FM secure communications with subordinate squadrons cannot be sustained.

Regimental Area Common User Network

This network is the primary system for data and hard copy communications in the regiment's area of operations. It may be used for command and for operations and intelligence traffic from the regiment to its subordinate squadrons in cases where FM voice communications cannot be established. The regiment should be provided with enough dedicated communications nodes so that all regimental and squadron main and rear command posts are supported. Without the dedicated nodes, vital combat information and logistics and other data traffic cannot be sent from squadron to regiment. This is because information would require too much time to transmit, making the unit vulnerable to radio electronic combat.

NET / STATION	REGT CMD FM	REGT OI FM	REGT A/L FM	REGT FS FM	REGT CMD AM	REGT ACU
Regt Cmd Grp	X	A		A		X
Regt TAC CP	N	X		X	X	X
Regt Main CP	X	N	X	N	N	X
Regt Rear CP	X		N			X
RAS	X	X	X	X	A	X
Support Sqdn	X	O/A	X	A	A	X
Separate Trp/Cos	X	X	A		A	X
ACS Cmd Grp	X					X
TAC CP	X	X		A	A	X
TOC	X	X	A	X	X	X
RS1/RS4		A	X		A	X
Rear CP			A			

N - Net control station.
X - Enter net.
A - Enter as required.
O - Monitor.

Figure 2-10. Armored cavalry regiment internal nets.

ARMORED CAVALRY SQUADRON INTERNAL COMMUNICATIONS

The armored cavalry squadron operates on the internal nets described below and illustrated in Figure 2-11.

Command Net

The command net is a secure FM net controlled by the S3 section at the TAC CP or TOC. It is used to command and control the squadron. All organic and attached units, fire support officer, air liaison officer, and supporting units operate in this net. The command net is used to send combat critical information to the

squadron commander or the S3 and to allow troop commanders and the squadron commander to talk to each other. The TOC can also operate a command AM net as a back-up means of communication over extended distances. Ground cavalry troops are equipped to enter this net.

OI Net

The 0I net is a secure FM net controlled by the S2 section of the TOC. All routine tactical reports and other intelligence matters are sent on this net. This net should be used to free the command net for command and combat critical traffic.

A/L Net

The A/L net is an FM net controlled by the S4 section in the CTCP. This net is used for A/L reports and coordinating maintenance operations. The first sergeant, TOC, squadron maintenance officer, and squadron field trains operate on the A/L net.

Fire Control Nets

The squadron fire control nets are part of the squadron fire control system. This system is used to control all indirect fire support within the squadron. Up to four nets may be used to control and coordinate fires. Internal nets are squadron and troop fire support, and external nets are a digital fire net and artillery command fire net. When the squadron has a direct support relationship with an artillery battalion, the battalion command fire net may become the squadron fire support net. The fire control system centers on the squadron fire support officer and his fire support net. This net is used to pass fire support coordination measures and information. Additionally, this net is used for back-up voice call for fire.

Troop Command

The troop command net is a secure FM net controlled by the troop XO in the troop command post. All organic and attached elements of the troop operate in this net. All tactical and logistics reports are forwarded to the troop command post on this net. Platoons operate on internal nets.

Troop Fire Support

The troop FIST controls this FM net. The troop FIST and mortars operate on the net to call for fires. An air cavalry troop commander or scout weapon team leader may enter the net as necessary to call for fire. Tank companies do not have this net.

NET / STATION	SQDN CMD FM	SQDN CMD AM	SQDN OI FM	SQDN A/L FM	SQDN FS FM	ARTY FS (DIG)	TRP/ CO CMD FM	TRP FS FM
Sqdn Cmd Grp	X		A	A	XI	XI		
Sqdn TAC CP	N	X	X		X			
Sqdn TOC	X	N	N	O	N	X		
Sqdn CTCP	X		O	N				
Sqdn Rear CP	A			X				
Trp/Co Cdrs	X		O	A	A			A
Troop CP	X	X	X	O/A				O/A
Trp/Co Plts					A		X	A
Trp/Co FIST					X	X	X	N
Trp/Co 1SG				X			X	
Trp Mortars							X	X
HHT Cdr	X			X				

N - Net control station.
X - Enter net.
A - Enter net as required.
O - Monitor.
I - FSO operates on this net.

Figure 2-11. Regimental armored cavalry squadron internal nets.

AVIATION SQUADRON INTERNAL COMMUNICATIONS

The regimental aviation squadron operates the internal nets described below and illustrated in Figure 2-12.

Command Net

The regimental aviation squadron operates a command net on secure FM, UHF, and HF (AM) controlled by the S3 section in the air TAC CP, ground TAC CP, or TOC. It is used to command and control the squadron. All organic and attached units, fire support officer, air liaison officer (if present), and supporting units operate in this net. The command net is used to send combat orders to troop commanders, critical combat information to the squadron commander or S3, and to allow troop commanders and the squadron commander to talk to each other. The UHF command net is normally used for back-up command, US Air Force communications, and flight-following. The air cavalry and attack troop command nets are normally VHF or secure FM nets controlled by the troop commander.

OI Net

The OI net is a secure FM net controlled by the S2 section of the TAC CP. All routine tactical and intelligence reports are sent on this net. Routine coordination is conducted on this net. This net is used to free the command net for command and critical combat traffic.

A/L Net

The A/L net is a secure FM net controlled by the S4 section of the CTCP. This net is used for sending A/L reports and coordinating maintenance operations. The HHT and AVUM commanders and their subordinates execute logistics support using this net. Troop first sergeants coordinate logistics support on this net. Communications between the TOC and the CTCP are by face-to-face, messenger, or wire since they are normally collocated or in close proximity.

Fire Support Net

The squadron fire support net is used to control and coordinate all indirect-fire support. This net is used to pass fire support coordination measures and information. When the regimental aviation squadron has direct support artillery, calls for fire may be sent to a fire support officer or directly to the fire direction center on this net. The artillery unit command fire net may become the squadron fire control net. When air cavalry and attack troops cannot establish communications with an artillery unit, calls for fire may be relayed through the regimental aviation squadron fire support element on the fire support net.

General Purpose Net

The general purpose net is a VHF net controlled by the air TAC CP. It is used to talk aircraft-to-aircraft, freeing the on-board FM radios to monitor critical nets. It may be used as a command net or OI net for specific missions.

NET / STATION	SQDN CMD FM	SQDN CMD UHF	SQDN CMD HF (AM)	SQDN GP VHF	SQDN OI FM	SQDN A/L FM	SQDN FS FM	TRP CMD VHF
Cmd Grp	X	X		X	A			
Gnd TAC CP	N1		X		N		N	
Air TAC CP	X1	X1		N	A		X	
TOC	X	N1	N		X		X	
CTCP	X				A	N		
Trp Cdr	X	X		A	A	A	X	N
Trp/CP/ 1SG					O	X		
HHT Cdr	X					X		
AVUM Cdr	X					X		

N - Net control station.
X - Enter net.
O - Monitor.
A - Enter as required.
1 - Air TAC is NCS when deployed.

Figure 2-12. Regimental aviation squadron internal nets.

DIVISION CAVALRY COMMUNICATIONS

External Communications

External communications nets vary with the controlling headquarters (see Figure 2-13). The brigade nets illustrated include both ground and aviation brigades. As indicated, the squadron always enters certain nets, regardless of the command and control relationship in effect.

DIVISION CONTROL

NET / STATION	DIV CMD FM 5	DIV REAR CMD FM	DIV CMD AM	DIV OI FM	DIV ACU	DIV A2C2 FM
Cmd Grp	X	X1		X	X3	
TAC CP	X2	X2		X2	X3	
TOC	O/A	O/A1	X	X	X3	X3
CTCP				O	X3	
Rear CP						

BRIGADE CONTROL

NET / STATION	BDE CMD	BDE OI FM	BDE A/L FM	DIV ACU FM	AVN BDE UHF
Cmd Grp	X	O/A	A		
TAC CP	X2	X			
TOC	O/A	X	O/A		X
CTCP		O	X4	X	
Rear CP			X4		

X - Enter net.
A - Enter as required.
O - Monitor.

Notes. 1. When performing rear operations.
2. When deployed; otherwise TOC.
3. Always active.
4. Net of brigade providing area support.
5. Division command FM is normally an on-call net.

Figure 2-13. Division cavalry squadron external nets.

Internal Communications

Nets for squadron and troop internal communications are shown in Figure 2-14 and described in the paragraphs that follow.

The command, OI, A/L, fire support, troop command, and troop fire support nets are the same as discussed under the regimental armored cavalry squadron.

The division cavalry squadron also operates a UHF aviation net. The S3 flight operations section is the net control station. This net is used for routine communications with aircraft, freeing the squadron FM command net for combat-critical communications. It is also used for disseminating A2C2 measures and as a flight-following net (when required).

Division cavalry ACTS operate internally on UHF and VHF nets. These radios are also used to communicate with other Army and Air Force aircraft supporting the squadron. The troop commander or senior airborne leader communicates on the squadron command net. The commander or another designated aircrew operates on the squadron OI net. Aircrews enter ground troop FM nets and the squadron fire support net as required for coordination. ACT aircraft "may also serve as a radio relay for ground cavalry units operating at extended distances from the supported headquarters. To do this, some ACT assets may operate between ground cavalry units and the supported unit's headquarters. They may enter the fire support net for fire support. The commander, when airborne, communicates with the first sergeant on the squadron A/L net. Due to the ACT's lack of communications equipment and the distance that is usually between the assembly area, the squadron TOC, and ground troops, the flight operations section acts as a vital communications link. Wire and messenger are predominant in rear assembly areas. When the troop is in a forward assembly area, communications with the squadron TOC or TAC CP are normally maintained by an aircrew on the ground at flight idle, with manpack radio, or by a single ship launch. The troop must remain responsive when in a forward assembly area.

NET STATION	SQDN CMD FM	SQDN CMD HF (AM)	SQDN OI FM	SQDN A/L FM	SQDN AVN UHF	SQDN FS FM	ARTY FS (DIG)	GND TRP CMD FM	GND TRP FS FM	AIR TRP UHF/ VHF
TAC CP	N2		X			X				
TOC		X	N	N	O	N	N	X		
CTCP		X		O	N					
Rear CP	A			X						
Sqdn Atchs		X		X	X		X			
Air Trp	X		X	A	A	A	X	A	A	X
Gnd Trp Cdr	X		O	A		A		X	A	
Trp CP	X	X	X	O/A		O/A		N	O/A	
Plts							A		X	A
FIST							X	X	X	N
1SG					X				X	A
Trp Atchs									X	A
Mort								X	X	

N - Net control station.
X - Enter net.
A - Enter as required.
O - Monitor.
1 - FSO operates on this net.
2 - When deployed command NCS.

Figure 2-14. Division cavalry squadron internal nets.

COMMUNICATIONS SECURITY

COMSEC involves physical security, crypto security, and transmission security. COMSEC procedures must be covered in the unit SOP.

Physical security protects the crypto system and classified documents (including plain-language copies of messages and carbons) from capture or loss. Before an area is vacated, soldiers inspect for messages, carbons, cipher tapes, and copies of maps or orders. Wire lines are patrolled to prevent enemy tapping. When SOI codes or cryptographic equipment is lost or captured, the unit reports the facts promptly to the next higher command. The SOP must contain instructions for destruction of equipment and classified documents to prevent their capture or use by the enemy. Complete SOIs should not be carried forward of the squadron TOC. When necessary, the signal officer distributes extracts for use by forward elements. The SOP establishes priority for issue of SOIs and extracts.

Crypto security is maintained by using operations codes, numerical encryption devices, secure voice devices, and other secure communications equipment.

Transmission security limits the enemy's ability to listen to radio signals. Any signal transmitted can be intercepted and jammed by the enemy. All transmissions should be short and treated as if the enemy were listening. Net discipline is the responsibility of all users, but the net control station is responsible for policing the net. Brevity codes, the terrain index reference system, and coded reports all serve to reduce net traffic.

Section VII. Integrated Air and Ground Operations

Integrating air and ground operations is essential to cavalry operations. The regimental commander is responsible for integrating the regimental aviation squadron and armored cavalry squadron in regimental combat operations. The commander normally employs the aviation squadron as a squadron. It frequently performs missions over the same ground that ground squadrons are assigned. This dictates the development of techniques and procedures to provide effortless combined arms operations. An air cavalry troop may be placed under operational control of a ground squadron. This method ensures the squadron gets combat information immediately from the forward air elements. When the air troop is under the operational control of the ground squadron, the ground squadron commander bears the responsibility for integrating air and ground operations. Forming a habitual relationship between an air cavalry troop and a ground cavalry squadron is important in fostering effective integration.

Division cavalry is unique as the only battalion-level structure in the Army with organic air and ground maneuver assets. Integrating operations is a continuous requirement for all operations.

This section discusses the integration of air and ground cavalry from the perspective of the division cavalry squadron. It is applicable to the ACR squadron when employing an air cavalry troop under its operational control. The principles of synchronization discussed apply to the regiment as it integrates air and ground squadron operations.

CAPABILITIES AND LIMITATIONS

Air and ground troops are employed by the squadron to perform missions that are frequently the same or overlap. Mission profiles are similar. Each troop offers specific operational strengths that compensate for the other's weaknesses. Of particular note, all air cavalry assets now have improved night acquisition capabilities and increased lethality over previous air cavalry platforms. These capabilities must be exploited in future air-ground cavalry operations. When employed together in an integrated concept, the effectiveness of the air and ground units is enhanced and the tempo of operations is increased. Teamwork must be diligently trained to develop air and ground leaders who inherently understand the employment, capabilities, and limitations of each troop. Training also develops the close operational teamwork necessary for integrated operations.

Air cavalry capabilities and limitations are listed in Figure 2-15.

Ground cavalry capabilities and limitations are listed in Figure 2-16.

CAPABILITY	LIMITATION
Terrain independent movement	Degraded limited visibility operations
Speed	Lack detail in reconnaissance
Add agility to operations	Limited station times
Add depth to operations	Crew endurance
Increase tempo of operations	Aircraft maintenance requirements
Digital link	
Enhanced optics	
Elevated observation platform	
Video reconnaissance	

Figure 2-15. Air cavalry capabilities and limitations.

CAPABILITY	LIMITATION
Hold terrain	Terrain restrictions
Detailed reconnaissance	Movement Visibility Obstacles
Continuous operations	Responsiveness over extended distances
Self supporting	
Command and control organization	

Figure 2-16. Ground cavalry capabilities and limitations.

COMMAND AND CONTROL

The commander must define control of the integrated air and ground operation. Two basic methods of control are used. Under either method, control normally rests with the commander in place who possesses the terrain the operation is covering.

The normal method of employment is by the squadron commander. He issues orders to all troops and controls the integration of their operations. Troop commanders operate on the squadron command net. They coordinate actions on this net or meet on an agreed upon troop net for detailed coordination. Eavesdropping is essential since troop commanders often report information of immediate concern to their peers. The squadron commander ensures the focus of the troops remains synchronized, clarifies coordination, and issues orders to each troop as necessary.

The second method of employment is by air-ground teams. This is often a temporary relationship to deal with a specific situation. Operational control is the relationship used. Control of the team may rest with either the air or ground troop commander.

Control by the air cavalry troop is appropriate when—

- Limited ground troop assets are in the area.
- Ground troop commander or command post is not positioned to control.
- Air cavalry troop commander is more familiar with the terrain or situation.
- Operation is of limited duration.

Ground troop control is appropriate when—

- Ground troop commander and command post are positioned to control.
- Limited air cavalry troop assets are operating in the area.
- Contact is made in the ground troop's area of operations.

EMPLOYMENT METHODS

Due to the size of the air cavalry troops, both in personnel and in aircraft, it is critical that the commander clearly determines how he will employ them. If 24-hour operations are required with the air troops, the result is having only two or three aircraft covering the entire squadron zone/area. If 24-hour operations are not required, he can accept risk and only employ them at the critical times and places as determined by the IPB process. Once determined, the two air troops are employed in one of two ways in relationship to another. He can elect to assign each of them the same mission in the same operational area. One ACT would operate for a given period of time and then be replaced by another ACT. The duration of each rotation is determined by the fuel and crew endurance and availability of aircraft. The deployed troop operates out of a forward assembly area while the other troop rests and performs maintenance in the tactical assembly area or another forward assembly area. This establishes rotation by troops into the operational area. The deployed troop commander establishes a rotation plan within his troop to maintain a continuous presence on station as directed by the squadron commander. This method provides sustained air cavalry presence for the squadron and is appropriate for an extended operation.

The second method is to employ all troops simultaneously in the squadron operation. The ACT commanders establish internal rotation plans for the scout weapon teams to maintain aircraft presence as directed by the squadron commander. Troops operate out of the air troop assembly area or forward assembly area and refuel out of the forward area rearm/refuel point (FARP), which is pushed forward. This method provides maximum aircraft forward. This may be appropriate for surge requirements, short duration operations, if the squadron is extended over broad frontages, or if oriented in several directions. The significant disadvantage is the

potential total loss of ACT presence due to crew endurance or maintenance requirements.

Under either method, the squadron commander can place constraints on when and where the air cavalry will be allowed to engage with direct fire. This may be necessary to ensure the availability of armed aircraft when required for a critical squadron task.

SYNCHRONIZING

Integration is achieved by the manner in which the commander uses techniques of command and control to improve the air-ground synchronization. The most critical method is through an effective SOP. The SOP establishes standard organizations for air-ground operations, common operating procedures, and delineation of responsibilities among commanders and staff.

The integration of air cavalry into the decision-making process is an important and unique aspect of staff planning in any cavalry organization. How the regiment or squadron plans to use their air cavalry will often be the significant difference in courses of action presented to the commander. When developing courses of action, air-ground synchronization should be planned along the following guidelines:

- Friendly Maneuver. Air and ground cavalry may cross the line of departure together or separately. Always having the air cavalry cross ahead of the ground elements may limit the availability of the air troops during the operation's critical phase. Tying the air cavalry's line of departure time to a friendly event will better focus the air assets and ensure they are available for the more critical time of the operation. For example, ground troops conducting a zone reconnaissance cross the line of departure at 0400. No enemy contact is expected for 15 kilometers, so air troops wait until the ground troops reach phase line (PL) Stuart before crossing the line of departure. The air troops make contact with the ground troops along PL Stuart and conduct zone reconnaissance one phase line ahead of the ground troops. When the ground troops reach PL Grant (LOA), the air troops will continue zone reconnaissance to PL Viking (air LOA) and screen in order to provide early warning to ground troops establishing observation posts along PL Grant (LOA). (See Figure 2- 17.)

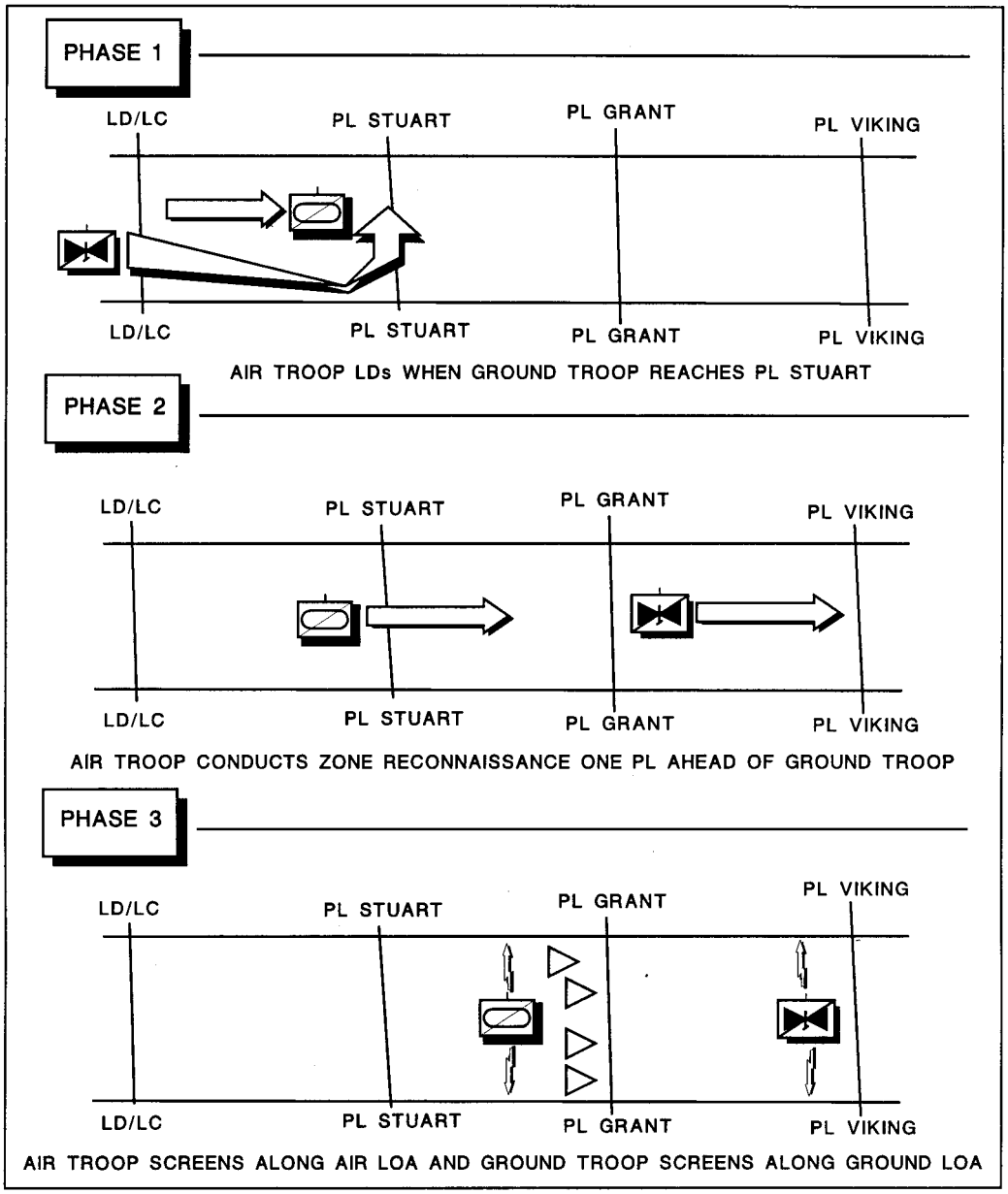


Figure 2-17. Air-ground synchronization.

- Enemy Actions. The most important consideration for planning air and ground coordination is the enemy. What has the enemy done in the past? How does he configure his reconnaissance, and how does he maneuver? What size formations, placed where on the battlefield, determine the difference between the main effort and a supporting attack? Where does he place his reconnaissance in the defense? Obviously this is IPB intensive. Commanders plan to have air cavalry make contact with the enemy first, provide information, and develop the situation using both air and ground elements. This works only if the air cavalry is on station and focused on an enemy that they understand. The S2, role-playing as the enemy commander

during the war-gaming process, adds immeasurably to the unit's understanding of the enemy, and ultimately helps to focus air-ground synchronization. Units that designate specific aircrews for day operations and specific aircrews for night-vision system operations, while having utility in garrison, do not help in planning against the enemy's most probable course of action. Assuming most enemy reconnaissance will be conducted during periods of limited visibility, all aircrews must be proficient in operating with night-vision systems. This allows the staff to plan against the enemy's capability and not the unit's limitation.

- Fighting the Air Cavalry. The fundamental role of the air cavalry is to observe the enemy and report information to the commander. The advent of the OH-58D (Kiowa Warrior) does not change this. In fact, that ability is enhanced with its advanced optics located in the mast mounted sight. Additionally, the Kiowa Warrior's ability to defend itself or conduct offensive operations with a combination of Hellfire, 2.75-inch rockets, .50 caliber machine gun, and Stinger missiles increases the capabilities of the air cavalry. Couple that with the ability to have an eight-digit grid to the aircraft and the target locations and to digitally talk to supporting artillery units presents the commander with a potent fighting asset. The cavalry commander must focus the information-gathering potential of the Kiowa Warrior, and set strict engagement criteria so that his air assets do not become engaged in the fight unnecessarily. Different guidance should be provided for the different cavalry missions the air cavalry will be asked to perform. Reconnaissance missions should focus the aircraft on the reconnaissance objective, and set strict engagement criteria and criteria for developing the situation in conjunction with a ground cavalry unit or indirect fire. Security missions should stress weapons loads and engagement criteria. Since the air cavalry is usually placed forward of the ground cavalry, guidelines on what the air should engage, when it should engage, and with what asset (direct fire or indirect fire) should be specified. Commanders should be trained to recognize battlefield events that would change these engagement criteria. Ground cavalry displacing from an initial screen line should do so without pressure from the enemy. The air cavalry, with its organic weapons and ability to deliver observed field artillery fires, can ensure the ground cavalry elements displace without being engaged by the enemy. In a regiment, the attack helicopter troops can be used to conduct aerial reconnaissance, to supplement the combat power of the ACTS, or to conduct independent attack missions.

An operation is integrated through the use of control measures. Squadron level control measures must be useful to both air and ground troop commanders. Troop commanders, in turn, add additional control measures to facilitate internal operations. A2C2 control measures should be on operations overlays, or at a minimum, an A2C2 overlay available as a drop to the operations overlay. Control

measures should be recognizable on terrain from the ground and the air. Multipurpose graphics are particularly useful. They may be used to-

- Report locations.
- Establish physical contact on the ground.
- Facilitate internal air and ground troop control.
- Conduct a passage of lines when an air cavalry troop is forward of the ground.
- Serve as downed aircrew points.
- Control direct and indirect fires.

The S3/flight operations sends down to the ACTS both the standard hard copy overlays and the same information on aviation mission planning station (AMPS). Due to the large amount of data that could be entered into the AMPS and the limited number of waypoints available in the aircraft, the squadron only sends the ACTS the mission-essential graphics on the AMPS. This will leave the troop commander enough waypoints to do his detailed mission planning.

Battle handover is an important concept in synchronizing operations. The nature of integrated operations frequently calls for one troop to pass an acquired enemy force over to another. In a practical sense, this is established in the SOP as target turnover procedures. These procedures are automatically executed by commanders as an informal process normally coordinated on the squadron command net.

Fire support coordination is critical to prevent the troops from engaging each other. This includes coordination with supporting air defense assets who may not be familiar with squadron operations. Control must not needlessly restrict the engagement of the enemy by either air or ground troops. Chapter 9 discusses fire support synchronization in detail.

The concepts of the operation are coordinated between troop commanders and the squadron commander. He can delineate specific tasks to be performed by air and ground troops to increase the tempo of an operation. This is particularly useful during reconnaissance. Troop commanders coordinate in advance actions they plan or anticipate to reduce coordination required during the operation.

Location of the air troop assembly areas and the FARPs are coordinated by the staff with the troop commanders. They frequently lie in the assigned area of operations of a ground troop. Their locations must not interfere with ground maneuver. Ground commanders can provide emergency support or protection to these areas if they are attacked. With prior coordination, ACTS may be able to use FARPs of the division aviation brigade.

AIR-GROUND COORDINATION EXAMPLE

A divisional cavalry squadron is given the mission of conducting a zone reconnaissance forward of the division. The squadron is focused on the critical tasks of finding and reporting all enemy within the zone and reconnoitering key terrain within the zone. The squadron crosses the line of departure with one ACT conducting zone reconnaissance focused on locating the enemy and reconnoitering specified NAIs. Three ground troops are on line, conducting zone reconnaissance approximately 3 to 5 kilometers behind the ACT. As the ACT crosses PL Cougar, one of its air cavalry teams locates an enemy reconnaissance platoon in the vicinity of CP 1. The ACT commander directs the air cavalry team to maintain contact and reports to the commander on the command net. Simultaneously the ACT's two other air cavalry teams continue their reconnaissance in order to develop the situation to the flanks and rear of the reported contact. The ACT commander orders them to proceed no further than PL Tiger and establish a screen oriented on the high-speed avenues of approach.

The squadron commander orders the ACT to maintain contact with the enemy platoon and pass it off to B Troop for destruction. The ACT commander and the B troop commander acknowledge and then coordinate briefly on the squadron command net. The ACT commander informs the B Troop commander that the enemy platoon is currently at CP 1 and moving towards CP 10. He estimates that it will reach CP 10 in approximately 15 minutes. He informs the B Troop commander that his platoon leader is maintaining contact by bounding back through the zone and that the platoon leader will contact him on his internal troop command net. He also passes off the air cavalry team's present location. The air cavalry platoon leader then contacts the ground troop commander on the B Troop command net and passes an updated spot report suggesting potential engagement areas or attack-by-fire positions. The B troop commander issues a FRAGO to his troop, sending the scout platoons to occupy designated OPs in the zone to gain contact with the enemy platoon. He orders the tank platoons into attack-by-fire positions to ambush the enemy platoon in the vicinity of CP 10 while also moving the mortars into a mortar firing position behind 2nd platoon.

Soon after the B Troop scouts occupy their OPs, the air cavalry platoon leader relays the current location of the enemy platoon. B Troop then conducts internal coordination per its SOP and destroys the enemy platoon. The B Troop commander then releases the air cavalry platoon back to the control of the ACT commander. Once released and handover of the target is complete, the air cavalry platoon continues its reconnaissance to PL Tiger. (See Figure 2-18.)

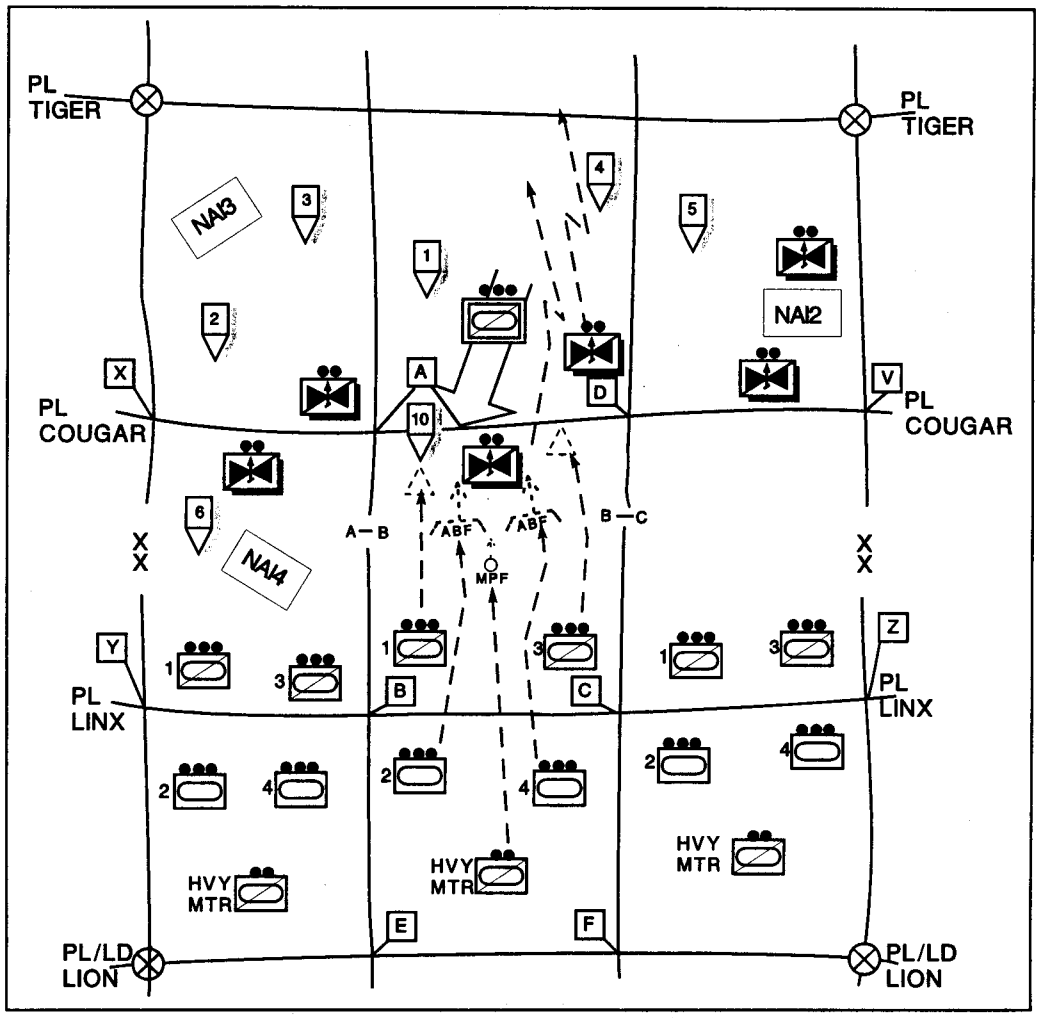


Figure 2-18. Example of divisional cavalry squadron air-ground coordination.

Section VIII. Continuous Operations

Fatigue is probably the foremost degrader of performance. Performance and efficiency begin to deteriorate after 14 to 18 hours of continuous work and reach a low point after 22 to 24 hours. Most tasks involving perceptual skills begin to show a performance degradation after 36 to 48 hours without sleep. Soldiers cease to be effective after 72 hours without sleep. Performance degradation increases dramatically in an NBC environment and sleep becomes more difficult in mission-oriented protective posture (MOPP) gear.

The commander must recognize the signs of sleep loss or performance degradation. These effects are characterized by the following:

- Slower reaction time.
- Increased time to perform a known task.

- Short-term memory decrement.
- Impairment in learning speed.
- Errors in omission.
- Lapses of attention.
- Irritability.
- Depression.
- Erratic performance.

The day/night cycle has a significant effect on performance. When soldiers become accustomed to a set pattern of work and rest periods, they become physiologically adapted to this schedule. Any deviation from this schedule will result in performance decrements. Physiological adaptation to work or rest schedules may take from 20 to 30 days.

Units deployed on contingency operations are particularly vulnerable to disruption of physiological time schedules. Sleep and meal times should be adjusted to coincide with the contingency area. Soldiers and leaders should not be pushed without sleep before departure to preclude arriving in the contingency area already suffering from sleep loss.

Endurance factors for aircrews are a fact of life. Protecting the force demands taking into account the mission, flight mode, time of day, and weather conditions that aircrews must operate in. By thoroughly war-gaming courses of action and understanding the enemy, squadron commanders know when the air cavalry is needed on station and can better enable the squadron to operate aircraft without unnecessarily tiring aircrews. Air troop commanders, aviation safety officers, and instructor pilots can assist in the planning process to ensure that the air cavalry is on station when needed.

A strictly enforced sleep plan is vital when possible. In continuous operations each soldier should get at least four hours of uninterrupted sleep each 24 hours (five hours if sleep is interrupted). Do not go with only four hours of sleep each 24 hours for more than two weeks before paying back the sleep debt. See FM 22-51 for additional information on risk factors associated with sleep loss.

Another aspect of sleep loss that must be considered is the time it takes to recover from the effects of sleep loss. After an operation of 36 to 48 hours without sleep, 12 hours of sleep or rest is required to return soldiers to normal functioning; however, fatigue may linger for three days. After 72 or more hours without sleep, soldiers may need as much as two or three days of rest to recover to normal performance.

To minimize the effects of sleep loss, the commander has several options. Possibly the best solution for staff personnel is periodic breaks and mild exercise. Among combat crews, the commander may rotate tasks if the crews are cross-trained. Varying tasks through job rotation, however, works only if the jobs include tasks with different requirements (gunner to loader or driver).

The two categories of personnel who can be expected to show signs of fatigue first are the young immature soldier who is not sure of himself and the seasoned older soldier upon whom others have relied and who has sustained them at cost to himself. Commanders and leaders often regard themselves as being the least vulnerable to fatigue. Tasks requiring quick reaction, complex reasoning, and detailed planning make leaders the most vulnerable to sleep deprivation. The display of sleep self-denial as an example of self-control by leaders is extremely counterproductive.

Section IX. Command and Control Techniques

Effective command and control is challenging. The commander must develop a body of techniques and procedures to facilitate and streamline the process. These techniques become central elements of the SOP. Effective techniques are simple, timely, brief, and clear. Techniques are discussed in FM 17-97, FM 17-98, FM 24-1, FM 101-5, and FM 101-5-1. Figure 2-19 summarizes major techniques.

TECHNIQUE	PURPOSE
SOP	Standing orders prescribing routine methods followed in operations.
Graphic Control Measures	Standardized system of military symbols that identify items of operational interest on maps.
Operational Terms	Common language of terms to enhance brevity and clarity in communications.
Standardized Organizations	Standardized squadron organization for combat and troop formations provide maneuver framework.
Movement Techniques	Manner of traversing terrain based on likelihood of enemy contact. Used with formations.

Figure 2-19. Command and control techniques.

TECHNIQUE	PURPOSE
Standardized Reports	Formatted reports enhance brevity and clarity in communications.
Precombat Inspections	Provide standardized means for unit leadership to determine combat readiness.
Backbriefs/Rehearsals	Ensure subordinates understand intent and comply with concept.
Readiness Conditions (REDCON)	Establish the amount of time after receiving orders the unit will have to get ready for action.
Orders Group	Standing group of key personnel requested to be present for orders.
Eavesdrop	All stations monitoring a radio net use message traffic even when not the recipient. Speeds dissemination; reduces repetition.
Terrain Index Reference System (TIRS)	Quick and accurate method to articulate intent, report locations, control maneuver, pass out control measures, reference battle positions or orientation. Must be encrypted on unsecure nets. Based on analysis of terrain.
Vehicle Identification System	Helps commander control maneuvers and identify friendly elements. Useful at troop and squadron level.
Staff Journals	Official chronology of events about a unit or staff section. Logs OPORD and messages.
Situation Map (SITMAP)	Graphic presentation of current operational situation. Used in command posts.
Information Display	Supplement SITMAP with tabulated data not suited for the map.
Staff Workbook	Ready reference for conducting current operations and preparing reports.
Preformatted Orders	Facilitate preparation and issuing orders. Used for all combat orders.
Fragmentary Orders	Enable the commander to quickly change or modify an order, or to execute a branch or sequel to that order.
Execution Matrix	Graphically portrays instructions to subordinates in table form. Embodies concept of operation. Synchronizes CS and CSS with maneuver. Used with overlay orders/FRAGO. May be used separately for fire support execution and CSS operations.

Figure 2-19. Command and control techniques (continued).

Section X. Automated Information Systems in Support of Battle Command

The Army is developing computer-aided command and control systems to support the maneuver commander and his staff. Force XXI Battle Command Brigade and Below (FBCB2) will be the bottom-up feed to the Army tactical command and control system (ATCCS). The ATCCS is comprised of six systems: maneuver control system/Phoenix (MC S/P); all source analysis system (ASAS); forward area air defense command, control, communications, and intelligence (FAADC31); advanced field artillery tactical data system (AFATDS); combat service support control system (CSSCS); and FBCB2. FBCB2 will provide automated command and control support to enhance the quality and shorten the duration of the decision-making cycle and to give the operational warfighter a mobile, distributed, and seamless command and control system.

FBCB2 is the implementation of information age technology to provide increased battlefield operational capabilities. When combined with changes in doctrine and organizational design made possible by these technologies *and* placed in the hands of soldiers/leaders who are trained in their use, FBCB2 provides an increased battlefield capability. Battle command in a digitized brigade will require the development of new initiatives across doctrine, training, leader development, organizations, and materiel in order to manage information resources to achieve the maximum benefits to tactical operations. FBCB2 will provide horizontal and vertical integration of the data and information generation and processing capabilities of individual soldiers as well as weapons, sensors, and support platforms. Aggregation of individual subsystems with linkage to each battlefield operating system (BOS) will establish a computerized digital network resulting in one homogeneous battle command operational architecture throughout all facets of the brigade structure. As a component of the Army battle command system (ABCS), FBCB2 will seamlessly interoperate with and exchange appropriate data and information with all other battlefield automated systems (BAS), SOF, USAF, USMC, and USN.

FBCB2 will complement and have synergy with MCS/P. MCS/P will integrate the maneuver function with the command and control systems of the four major functional areas (fire support, air defense, intelligence and electronic warfare, and combat service support) as they become available. It will assist in managing information and in executing the commander's concept of operations. The MCS/P will provide automated assistance in coordinating plans, disseminating orders and guidance, and monitoring and supervising operations.

MCS/P is the integration at regiment and squadron command posts, whereas FBCB2 is the holistic system for the maneuver commander. The two systems rely on each other. As we move toward the twenty-first century, the Army will continue to pursue advanced technology and operational concepts that will give our soldiers an information advantage over potential adversaries.

Chapter 3

RECONNAISSANCE OPERATIONS

"Those who do not know the conditions of mountains and forests, hazardous defiles, marshes, and swamps, cannot conduct the march of an army."

Sun Tzu

Reconnaissance is a mission undertaken to obtain information by visual observation, or other detection methods, about the activities and resources of an enemy, or about the meteorologic, hydrographic, or geographic characteristics of a particular area. Reconnaissance produces combat information. Combat information is a by-product of all operations, acquired as they are in progress. Reconnaissance, however, is a focused collection effort. It is performed before and during other combat operations to provide information used by the commander to confirm or modify his concept. Cavalry is the corps or division commander's principal reconnaissance organization.

Cavalry performs reconnaissance as organized, but it may be reinforced. Cavalry combines mounted, dismounted, and aerial techniques to accomplish the mission. Integrated air and ground troop operations provide an increased tempo of reconnaissance, depth, and flexibility. Habitually integrated operations are critical in division cavalry. Both ground and air commanders habitually dismount scouts for close reconnaissance and stealth.

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Reconnaissance involves two contrasting methods. First is reconnaissance by stealth. Using this method, cavalry avoids physical contact with the enemy and gathers information by quiet, deliberate, dismounted techniques. Surveillance is the primary task performed. The second method is aggressive reconnaissance and

fighting for information as necessary. Using this method, cavalry avoids decisive engagement but prepares to fight, especially enemy security and reconnaissance forces, to gain information. This method does not have to be as stealthy and may proceed at a faster pace.

Historically, the best way for cavalry to obtain information on the enemy has been aggressive action requiring combat; in other words, fighting for information. Fighting for information means employing reconnaissance by fire, attacking the enemy with fire, and conducting hasty attacks with subordinate units. Fighting for information does not entail units as a whole becoming decisively engaged, conducting deliberate attacks, or assaulting a prepared position. Through fighting for information, cavalry forces the enemy to disclose not only his disposition but also to reveal his intent and will to fight.

Cavalry needs the capability to perform reconnaissance using both methods. Scouts require vehicles and aircraft that allow reconnaissance by stealth and the abiliity to fight when necessary. The troop and squadron support the scouts with tanks or other heavier vehicles, attack helicopters, and fire support, which provide the primary fighting capability.

The distances at which cavalry operates from the main body and the fluid nature of reconnaissance operations place additional unique requirements on cavalry organizations. They require vehicles with an extended operating range and increased on-board storage capacity to reduce the burden on a stretched service support system. Extended self-sustainment reduces constraints imposed by a logistics tail. Cavalry requires long-range communications, internally and externally, to ensure adequate command and control and reporting over extended distances. Information that cannot be reported is of no use to the division or corps commander. A mobility differential, air and ground, over the main body of the division or corps is the foundation of flexible, extended, and unfettered reconnaissance. This mobility is enhanced by effective long-range communications and an organizational structure reducing reliance on outside support. These factors taken together enable cavalry to respond rapidly, to operate over large distances, and to reconnoiter as organized.

Surveillance is a primary task of cavalry during reconnaissance operations. Surveillance is the systematic observation of airspace or surface areas by visual, aural, electronic, photographic, or other means. Scouts, ground and air, are the principal collectors of information. Scouts conduct surveillance using their natural senses. They require equipment that enhances their senses, allowing them to conduct mounted and dismounted surveillance with stealth, at long ranges, and in limited visibility. FM 1-116, FM 7-92, FM 17-98, and FM 17-98-1 discuss scouting techniques in detail.

Section I. Purpose and Fundamentals

PURPOSE

Cavalry does not perform a reconnaissance mission for its own sake. Cavalry performs reconnaissance for another friendly force to provide it fresh, accurate information about the terrain and enemy within the area. Reconnaissance is an inherent part of security and other combat missions. Reconnaissance allows the follow-on forces to maneuver more freely and rapidly to the objective. Reconnaissance allows the higher commander to keep other forces free from contact as long as possible and concentrated for the decisive engagement.

FUNDAMENTALS

Successful reconnaissance operations are planned and performed with six fundamentals in mind:

- Maximum reconnaissance force forward.
- Orient on the location or movement of the reconnaissance objective.
- Report all information rapidly and accurately.
- Retain freedom to maneuver.
- Gain and maintain enemy contact.
- Develop the situation rapidly.

Maximum Reconnaissance Force Forward

In reconnaissance, every scout makes a difference. Cavalry often conducts reconnaissance over extended frontages and requires the maximum number of scouts forward to perform the mission. Cavalry units normally do not keep scout platoons or aeroscouts in reserve. Extended operations may require commanders to rotate scouts or otherwise plan rest and resupply operations to maintain a continuous reconnaissance effort. This does not mean scouts are always arrayed in a linear fashion. Depth is essential, especially in restricted terrain or in a contaminated environment. Depth is often achieved through integrated air and ground scout actions. (For further information concerning the doctrinal frontages/distances of armored cavalry units in conjunction with reconnaissance operations, refer to FM 1-116, FM 17-97, and FM 17-98.)

Orient on the Location or Movement of the Reconnaissance Objective

The commander focuses the efforts of the unit with a reconnaissance objective. This objective may be a terrain feature, control measure, or enemy force. If the enemy force is moving, the unit adjusts the scheme of maneuver to maintain orientation on the enemy. IPB (intelligence preparation of the battlefield) may identify the reconnaissance objective. Commanders remain focused on reaching the reconnaissance objective regardless of what is encountered during the mission. Capabilities and limitations of the unit are a significant factor influencing how aggressively the commander attempts to reach the objective.

Report All Information Rapidly and Accurately

Cavalry performs reconnaissance to gather information. Higher commanders need this information to confirm or make decisions. Combat information loses value quickly. Absence of the enemy is just as important as his presence. Scouts report exactly what they see. Troop and squadron commanders clarify and summarize, but do not delete raw information reported by the scouts. Seemingly unimportant information may be extremely important in context with other information not available to the squadron. Negative reports may tell more than positive reports or no report at all. IPB helps to focus reconnaissance efforts by identifying critical information required by the corps or division. Communications equipment must be adequate to allow for an uninterrupted flow of information.

Retain Freedom to Maneuver

Cavalry units must retain the ability to maneuver on the battlefield to continue the reconnaissance mission. Decisive engagement occurs when a unit is fully committed and cannot maneuver or extricate itself. When this happens, reconnaissance ceases. Use of proper movement techniques, overwatch, and good reconnaissance techniques helps to prevent decisive engagement. IPB provides information used by leaders to anticipate locations of likely contact. Leaders remain abreast of the overall situation and anticipate tactical developments. Mental agility allows leaders to dictate events, not merely react to enemy action.

Gain and Maintain Enemy Contact

Information on the enemy is always critical. Unreported enemy actions can have decisive impact on friendly operations. The enemy is seldom static and changing situations must be reported to the commander. Contact is any condition ranging from a surveillance sighting to engaging in close combat. Surveillance is often sufficient and is the preferred method of maintaining contact. When necessary or required, fire and movement may be used. Once gained, contact is not lost unless ordered. Responsibility for maintaining contact does not rest solely with the scout or

small unit first gaining it. Troop, squadron, and regimental commanders are responsible for maintaining contact using all the resources available to them.

Develop the Situation Rapidly

During reconnaissance, cavalry frequently and repeatedly encounters tactical situations that require action to determine what is being faced. These situations may be terrain oriented, obstacles, or enemy. Terrain or obstacle situations require close reconnaissance; bypass; hasty breach, if necessary; and marking. If an enemy force is encountered, cavalry determines his size, composition, dispositions, and activities. IPB provides the threat situational information that guides the effort. Reconnaissance techniques, often in the form of drills, are used while developing the situation.

ACTIONS ON CONTACT

Actions on contact are a series of combat actions taken on contact with the enemy to develop the situation. Obstacles are treated like enemy contact since they are assumed to be covered by fire. The element making contact initiates these actions and they occur at each level of command, often simultaneously. Units perform these actions whether or not the enemy has detected the presence of the scout. Actions on contact are as follows:

- Deploy and report.
- Develop the situation.
- Choose a course of action.
- Recommend or execute a course of action.

Deploy and Report

Upon encountering an obstacle or enemy force, the element of the troop making contact deploys to a covered position affording observation and fields of fire. If necessary, the element uses direct fire to suppress the enemy, allowing freedom to maneuver. An immediate contact report is submitted with whatever information is available. This report alerts the commander and allows him to begin necessary actions.

Develop the Situation

The leader of the element in contact develops the situation to define the threat being faced, using various reconnaissance techniques as appropriate. These techniques range from stealthy dismounted reconnaissance, mounted reconnaissance, and reconnaissance by fire-both direct and indirect. The troop or squadron commander continues the mission with other elements to a designated limit of advance. Doing so helps to develop the situation across the front and provides more

maneuver space to execute subsequent action. Once a clearer picture of the situation is developed, detailed spot reports are forwarded.

Choose a Course of Action

Once the leader in contact has gathered enough information to make a decision, he selects a course of action. The course of action should adhere to the intent of the commander, be within the capability of the unit, and allow the unit to resume the mission as soon as possible. For an obstacle, these courses of action are a hasty breach or bypass. For enemy contact, courses of action consist of the following:

- Hasty attack. A hasty attack is executed if sufficient combat power is available, and it will not detract from mission accomplishment. A hasty attack is executed by at least a troop, which can mass adequate combat power.

- Bypass. The enemy may be bypassed if sufficient combat power is not available, or if an attack will jeopardize mission accomplishment. The unit requests permission to bypass unless stated in orders. The commander must keep a minimum force in contact with the bypassed enemy.

- Hasty defense. If a hasty attack is not possible or a bypass is not feasible, the leader establishes a hasty defense or screen. The unit will conduct a hasty defense if it can defend against an enemy force. If the enemy contact exceeds the unit's capability to defend, it may elect to establish a screen and maintain contact through observation. The unit concentrates on maintaining contact with the enemy and fixing it in place with indirect or possibly direct fire until additional combat power can be brought to bear from supporting units.

Recommend a Course of Action

Once the leader has selected a course of action, he reports it to his commander. The commander approves or disapproves the course of action based upon its impact on the overall mission. The SOP may provide automatic approval of certain actions to avoid unnecessary delay. If the higher commander assumes responsibility to continue developing the situation, the leader in contact supports his actions as ordered.

RECONNAISSANCE TECHNIQUES

Reconnaissance techniques are the basic methods of using available equipment and personnel to accomplish reconnaissance tasks. These techniques fall into the broad categories of aerial, mounted, and dismounted. They are used in combination to meet the needs of the situation. Units train to standards on reconnaissance

techniques, apply them with common sense, and make them part of the unit SOP. Techniques prevent reconnaissance that is blind, reckless, or blundering.

Troop commanders plan on using a combination of mounted and dismounted reconnaissance. Mounted reconnaissance is appropriate when—

- Time is limited.
- Detailed reconnaissance is not required.
- An air cavalry troop is performing coordinated reconnaissance.
- IPB provides good information on the enemy.
- Terrain is open.

Dismounted reconnaissance is appropriate when—

- Time is available.
- Detailed reconnaissance is required.
- Stealth is required.
- IPB indicates close proximity to enemy positions.
- Enemy contact is expected or has been achieved.
- Danger areas are encountered.
- Restrictive terrain is encountered.
- Security is the primary concern.

Air cavalry troop commanders may set down observation helicopters on terrain affording good observation and establish a temporary observation post (OP) to extend the station time of aircrews and aircraft. Pilots dismount under the following circumstances throughout reconnaissance missions:

- Close reconnaissance of obstacles.
- Evaluation of bridges.
- Evaluation of ford or crossing sites.

Reconnaissance by fire is a method of reconnaissance in which fire is placed on a suspected enemy position to cause the enemy to disclose his presence by movement or return fire. This technique is appropriate when time is critical, while developing the situation once in contact, or when mounted or dismounted maneuver is not possible. During reconnaissance by fire, scouts maintain surveillance of the

known or suspected enemy position looking for a reaction. Any surprise maintained to that point will be lost. Reconnaissance by fire may not cause seasoned or prepared enemy forces to react. Either direct or indirect fire is used (see Figure 3-1). Reconnaissance by fire entails the risk that the unit may precipitate a decisive engagement. The unit commander may use reconnaissance by fire when—

- Time is critical.
- Natural or man-made obstacles are encountered and could be overmatched by an enemy force.
- A suspected enemy position fits the situation template.
- Bunker complexes that may or may not be occupied are encountered.
- Enemy locations are known.

	ADVANTAGES	DISADVANTAGES
DIRECT FIRE	Rapid response.	Sacrifices stealth and discloses friendly positions.
	Accuracy.	Low volume of fire may reveal intention.
	Minimum communications required.	Observation capability by firing vehicle reduced.
	Fire can be delivered from different directions.	Limited by the range of direct-fire weapons and ammunition availability.
INDIRECT FIRE	Security for the scout directing the fire and observing enemy action.	Slower to deliver initial round.
	Permits all scout elements to observe effects.	Usually requires adjustment for accuracy.
	Wider variety of ammunition available for the mission.	Mortar or artillery ammunition availability.
	More likely to force enemy movement.	Less likely to cause the enemy to return fire.

Figure 3-1. Reconnaissance by fire.

Troops encounter repetitive tactical situations during reconnaissance that lend themselves readily to establishment as techniques. These situations include certain terrain features, bridges, water obstacles, built-up areas, man-made obstacles, and forested areas. These techniques are discussed in detail in FM 17-97.

Limited visibility operations are conducted at night and during other periods of reduced visibility. These periods include smoke and battlefield obscuration, fog, rain, snow, and other weather or atmospheric conditions. These conditions affect air and ground troops in different manners. Air cavalry troops may also be adversely affected by high winds, extreme temperature, and loose top soil or sand. Reconnaissance during limited visibility is generally slower, but often is better for stealth. The capabilities of a unit's equipment are a major factor in assessing the extent of degradation suffered. Dismounted reconnaissance and patrols are more frequent, night and thermal observation devices employed, and electronic surveillance devices and ground surveillance radars used. Engines and tracked movements are audible for considerable distances at night, making vehicles highly susceptible to ambush. Cross-country movement is more difficult, and except for short cross-country movements, mounted reconnaissance may focus on road networks. Sound and light discipline prevents compromise and ambush.

Commanders should emphasize greater depth and concentration of scouts in critical areas during operations in a contaminated environment. Scouts and cavalry units are trained to detect and reconnoiter contaminated areas and to perform damage control in an NBC environment. Likewise, reconnaissance by cavalry units is critical in nuclear warfare. Cavalry can reconnoiter the effects of both friendly or enemy nuclear fires and determine how and where friendly units can exploit.

Section II. Route Reconnaissance

A route reconnaissance is a directed effort to obtain detailed information of a specified route and all terrain from which the enemy could influence movement along that route. A route is the prescribed course to be traveled from a specific point of origin to a specific destination. Route reconnaissance may orient on a road or on an axis of advance. This mission is appropriate when a commander wants to use a route. He must first ensure that it is clear of obstacles and enemy and that it will support the proposed forces before he uses it. Route reconnaissance may be performed as a mission itself or as a task during another mission. Route reconnaissance proceeds faster than zone reconnaissance because effort is concentrated along the route and terrain the enemy can use to dominate movement along the route.

Route reconnaissance is seldom performed by a squadron. The squadron obtains route information as part of another mission or by assigning the task to a troop. Reconnaissance of a specific route may be a specified task for a troop during zone

reconnaissance. Only one major route should be assigned to a troop when contact is expected. Under other circumstances, the troop may reconnoiter one route per assigned scout platoon. Multiple routes must be close enough together for the troop commander to effectively command and control the operation. Integrated air and ground troop reconnaissance provides for faster and more secure reconnaissance.

CRITICAL TASKS

Certain tasks must be accomplished during route reconnaissance unless the squadron commander specifically directs otherwise. Critical tasks serve as a guide to indicate those tasks that are associated with a route reconnaissance. These tasks are not a checklist or sequentially arranged. Some may not be appropriate in all situations. Based on time and the commander's intent, the troop may be directed to reconnoiter for specific information only. IPB often indicates the critical information desired by the higher commander. An air cavalry troop may be directed to accomplish some tasks and a ground troop others. The following are critical tasks:

- Reconnoiter and determine the trafficability of the route.
- Reconnoiter all terrain the enemy can use to dominate movement along the route.
- Reconnoiter all built-up areas along the route.
- Reconnoiter all lateral routes.
- Inspect and evaluate all bridges on the route.
- Locate fords or crossing sites near all bridges on the route.
- Inspect and evaluate all overpasses, underpasses, and culverts.
- Reconnoiter all defiles along the route. Clear all defiles of enemy and obstacles within capability or locate a bypass.
- Locate and clear the route of mines, obstacles, and barriers within capability.
- Locate a bypass around built-up areas, obstacles, and contaiminated areas.
- Find and report all enemy that can influence movement along the route.
- Report route information.

Determining trafficability of a route requires the troop to determine the capability or extent to which the terrain will bear traffic or permit continued movement of a force. Modern roadway features are often difficult to quickly evaluate in the process of route reconnaissance. In some cases, the troop assesses the capability of the feature to accommodate the follow-on forces. The troop does not conduct a deliberate engineer route classification. Engineers can provide a detailed route and obstacle classification effort and reduce obstacles as required. The route reconnaissance performed by the troop allows the engineers to proceed faster and to focus more on specific points of interest along the route.

PLANNING CONSIDERATIONS

The squadron commander assigns the mission to the troop as a mission or specific task in another mission. This section discusses route reconnaissance in the context of an assigned troop mission. This mission may be assigned to a ground or air cavalry troop. Ground cavalry provides a more deliberate and detailed reconnaissance, particularly in close terrain. Air cavalry is effective when speed is essential and terrain is open. This mission lends itself readily to formation of air and ground teams in division cavalry. Teams provide a thorough and fast reconnaissance effort. The squadron commander normally provides the following guidance to the troop commanders:

- Critical tasks to be accomplished by air and ground elements of the reconnaissance team, when used. Any tasks that may be deleted during the reconnaissance are identified.
- Task organization. Any reinforcements, especially engineers, and their relationship to the troop are identified. Supporting artillery relationships are also defined.
- Start point, release point, and designation of the route.
- Mission to be performed to the start point and after reaching the release point.
- Time the mission is to start and, if required, to be completed.
- Critical points along the route identified as checkpoints.
- IPB information on the route and enemy situation.
- Any constraints or restrictions.

The troop commander considers several factors in formulating his concept. IPB provides critical information on the enemy and terrain. Enemy threats may be encountered in two basic forms:

- Ambushes along the route in close or restricted terrain.
- Attack by long-range direct or indirect fires from dominating terrain along the route.

Analysis of the terrain provides an indication of danger areas and the nature of the potential threat. From this information, the commander determines how much terrain on each flank of the route must be reconnoitered and the organization for combat. Any constraints or restrictions may also influence how much terrain is reconnoitered.

The troop commander adds control measures to provide an adequate framework for the mission (see Figure 3-2). He places a boundary on both sides of the route far

enough out to provide reconnaissance of the dominating terrain. A line of departure is placed perpendicular to the route short of the start point, allowing adequate space to deploy into formation. A limit of advance is placed far enough beyond the release point to enclose dominating terrain that overmatches it. He uses additional phase lines to maintain a coordinated troop reconnaissance. Boundaries and phase lines are drawn along recognizable terrain. The terrain features should be identifiable from ground and air to assist air-ground coordination. Checkpoints placed along the route control movement and indicate critical points. The commander uses other control measures as necessary for control and maneuver flexibility.

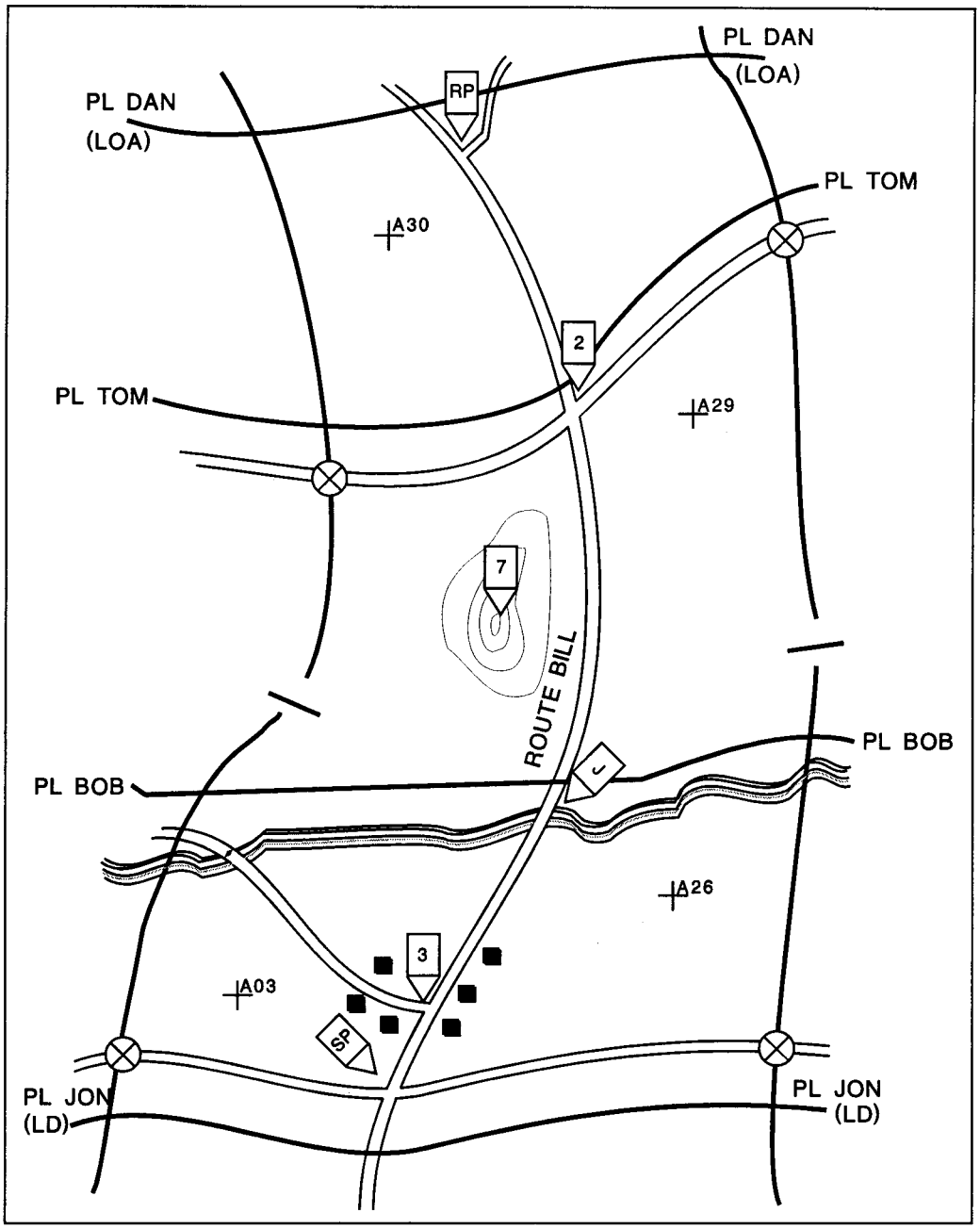


Figure 3-2. Route reconnaissance (troop graphics).

The cavalry troop normally performs a tactical road march to the line of departure for the route reconnaissance. The amount of intelligence indicates how much security the commander uses during the move. Enemy that are encountered en route to the line of departure may be bypassed. Upon completion of the mission, the troop may depart the area, screen along the limit of advance, or perform another mission, such as zone reconnaissance. Consideration of follow-on missions may influence the concept for performing the route reconnaissance.

When reconnoitering one route, the commander assigns one scout platoon to reconnoiter the route itself. He places the other scout platoon to either side of the route to reconnoiter the dominating terrain. This flank platoon essentially performs zone reconnaissance and may precede the platoon on the route to provide it greater security. The mortars follow the lead scouts to provide fires up to two-thirds of their effective range forward of the scouts. They may move off the route to avoid interfering with the scout platoon on the route. Mortars may displace by squads to provide continuous fire support. Tank platoons, when present, move behind the scout platoon on the route. They remain in depth to retain flexibility for the troop commander in responding to enemy contact. In the absence of tanks, the troop commander may use a scout platoon in this role. The troop combat trains and command post follow, moving generally along the route displacing to successive positions. These follow-on troop elements move along the route for speed, but always displace off the route when occupying positions. The troop commander is located forward to observe and control the reconnaissance effort. Engineer reconnaissance elements tasked organized to the troop can provide both tactical and technical information to the troop commander. The engineer reconnaissance elements focus on specific obstacles, bridges, and minefield, for example, adding to the quality of the battlefield information reports. The XO compiles reports and provides updated route reconnaissance information to the squadron. Route report formats are established by the SOP.

When reconnoitering multiple routes, the commander assigns one route to each scout platoon. The troop may be augmented with an engineer reconnaissance element to facilitate technical and tactical reconnaissance. One route is the maximum that may be handled by a scout platoon. (FM 17-98 and FM 7-92 discuss scout platoon techniques.) Tank platoons move behind scout platoons on each route. The commander follows one platoon, usually the main effort, on one route and the XO follows the other route. Considerations for other assets remain the same.

When reconnoitering a ground route, the air troop commander considers the same factors of IPB and control measures as the ground troop commander. Scout weapon teams are normally assigned to reconnoiter the terrain on the flanks of the route while another scout weapon team concentrates on the route itself. Frequent dismounting is often necessary to reconnoiter specific route features. The disadvantages of air cavalry troops are the limited personnel available for dismounted reconnaissance, limited ability to reconnoiter close terrain, and difficulty in determining actual route trafficability. An air cavalry troop is ideal, however, to reassess a previously reconnoitered route to determine if it remains trafficable and clear of enemy. A route may be too long for the troop to reconnoiter without rotating

teams through a FARP. When the commander does so, he must always maintain at least one team in zone.

In division cavalry, air and ground teams are well suited for route reconnaissance. Air cavalry may facilitate the route reconnaissance by reconnoitering the terrain on the flanks of the route, forward of the ground troop, between assigned troop routes, or by screening an exposed flank. The air troop may also quickly reconnoiter key points along the route to assist the ground troop. The ground troop concentrates on determining route trafficability and reconnaissance of close terrain. Air and ground troop commanders coordinate control measures so they are useful for both and enhance mutual support.

An air cavalry troop may be assigned an air route reconnaissance mission. The principles are the same as those for a ground route. Aviation forces moving along an air route are primarily concerned with the location of enemy forces, ease of navigation, suitability of landing zones, and hazards to flight. Hazards to flight include natural and man-made obstacles, such as buildings, wires, mountainous areas, and enemy air defense weapons locations.

Section III. Zone Reconnaissance

A zone reconnaissance is a directed effort to obtain detailed information concerning all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries. Obstacles also include chemical and radiological contamination. A zone reconnaissance is assigned when the enemy situation is vague or when information concerning cross-country trafficability is desired. The commander, through his intent, may focus the reconnaissance on the enemy, the terrain, or a combination of the two. Additionally, the commander may focus the reconnaissance effort on a specific enemy force such as the enemy's reserve tank brigade. It is appropriate when previous knowledge of the terrain is limited or when combat operations have altered the terrain. The commander assigning the mission needs this information before other forces enter the zone. Zone reconnaissance may be oriented on the main body's zone of action or an axis of advance.

Zone reconnaissance is a deliberate, time-consuming process. This mission takes more time than any other reconnaissance mission. The cavalry commander must ensure he has been given adequate time to accomplish the mission. If not, he seeks additional time or identifies the critical information desired so that he can use various techniques to accelerate the reconnaissance. If time is a constraint, the commander will need to focus the reconnaissance to achieve the higher commander's intent. Accelerating reconnaissance increases the risk assumed by the unit. Each situation requires a certain minimum time for adequate reconnaissance and an acceptable level of risk. Cavalry units equipped with or supported by tanks can assume greater risk and perform faster reconnaissance than those without tanks. The commander ensures he has received at least the minimum amount of time. The type of cavalry unit and factors of METT-T determine these time requirements.

Zone reconnaissance may be performed by any cavalry unit. They may perform this mission as organized or be reinforced. Troops often perform zone reconnaissance as part of another squadron mission. Troop commanders also receive route reconnaissance as a specified task during this mission.

CRITICAL TASKS

Certain critical tasks must be accomplished during a zone reconnaissance unless otherwise directed. Zone reconnaissance is a deliberate, time-consuming process if not specifically focused. During a zone reconnaissance, the cavalry unit accomplishes the critical tasks listed below unless specifically directed otherwise by the higher commander. The higher commander, depending on the conditions of METT-T, may select specific critical tasks for the troop to accomplish. The commander, in the commander's intent paragraph, should focus the unit on its critical tasks when he articulates his purpose. Additionally the critical tasks should be listed in the coordinating instructions since they are tasks that apply to two or more units. Three primary tasks are associated with a zone reconnaissance:

- Find and report all enemy forces within the zone.
- Reconnoiter specific terrain within the zone.
- Report reconnaissance information.

The commander, time permitting, may also direct the troop to accomplish the following:

- Reconnoiter all terrain within the zone.
- Inspect and classify all bridges within the zone.
- Locate fords or crossing sites near all bridges in the zone.
- Inspect and classify all overpasses, underpasses, and culverts.
- Locate and clear all mines, obstacles, and barriers in the zone within its capability.
- Locate a bypass around built-up areas, obstacles, and contaminated areas.

The commander may select specific critical tasks from this menu depending on METT-T. He may also choose to further refine these tasks in his guidance. For example; he may focus the troop's efforts on a specific enemy force and specific terrain features that he deems important to the success of the squadron's mission.

REGIMENTAL PLANNING CONSIDERATIONS

The regiment often accomplishes zone reconnaissance as an aspect of offensive cover or by directing squadrons to perform the mission. When assigned a zone reconnaissance mission, the regimental commander is provided considerable

freedom of action within the corps commander's intent. This allows the reconnaissance effort to pull the corps main body along the lines of least resistance and seize opportunities as they occur.

The regiment normally performs reconnaissance in a wide zone with three ground squadrons abreast and the aviation squadron forward. The regimental commander establishes adequate control measures to ensure synchronized reconnaissance, but decentralizes execution to the squadron commanders. Combat support assets are frequently task organized to squadrons to support their reconnaissance.

The regiment may perform reconnaissance as organized or be reinforced. Attached maneuver task forces are normally employed as a reserve, providing the regiment a greater capability to develop the situation. When no maneuver units are attached, the regiment may place constraints on squadron tank companies and/or attack helicopter troops as a contingency regimental reserve. Attached combat support assets are frequently task organized with the ground squadrons. Artillery may be placed in direct support to squadrons or held in general support to the regiment.

Normally, air cavalry troops are under the control of the aviation squadron. The regimental commander may direct the aviation squadron to place one air troop under the operational control of each ground squadron. Whether the air troops are operationally controlled or not, the aviation squadron commander will normally assign one troop into each squadron zone, using the ground unit graphics. This also maintains the habitual relationship between the air cavalry troop and ground squadron. The liaison officers attached from the aviation squadron to the ground squadrons are critical for successful coordination. Regimental SOP establishes the procedures used to facilitate air and ground operations, reducing or eliminating the need for lengthy coordination during the mission.

The aviation squadron commander is able to use the joint air attack team more effectively when air cavalry troops are left under his control. Additionally, he can mass the squadron quickly and manage his assets better to meet the regimental commander's guidance. Attack helicopter troops may be held in reserve. Often the regimental commander places constraints on their employment as the attack troops represent the most responsive force he has available.

The addition of the AH-64 to the attack helicopter troops of the regiment gives the regimental commander an additional asset that may be more effective if used in the active reconnaissance and security roles than being held in reserve. The sensors on the AH-64, coupled with its mobility and extended weapons ranges, allow earlier detection of enemy units, provide a greater stand-off capability, and give ground cavalry units more reaction time to develop the situation.

As units become equipped with the AH-64D Longbow, the regimental commander will have an even greater sensor/shooter asset. This system will allow aircraft to acquire and identify multiple enemy units and provide information in both quantity and accuracy to allow the regimental commander more reaction time.

SQUADRON PLANNING CONSIDERATIONS

The squadron commander receives certain minimum guidance when assigned a zone reconnaissance mission. Most important is the commander's intent. The nature of reconnaissance requires freedom of action for the squadron. The squadron commander may focus or direct the zone reconnaissance to specific critical tasks based on his analysis of the situation. He must understand that it may not be possible to execute all the critical tasks. The squadron commander must understand the concept for the follow-on forces so he can support the mission with the reconnaissance effort. The commander's intent, however, allows for flexibility to take advantage of opportunities uncovered by the squadron. The squadron commander must recognize and understand the significance of these opportunities, present them directly to the higher commander, and support the modified concept as directed. This often entails a change of mission or focused reconnaissance into a gap in enemy positions. Reconnaissance pull is an inherent part of agility and the squadron always remains flexible to seize opportunities.

The higher commander defines reinforcements attached to the squadron and provides adequate fire support. He also provides graphic control measures. These include the boundaries for the mission, a line of departure, and an objective or limit of advance. The boundaries may be defined as an extension of the division and corps boundaries or as the axis of advance for an attacking force. The line of departure is the same as the main body unless otherwise specified. The objective or limit of advance is used to focus the reconnaissance effort. It may be terrain or force oriented and may correspond to the main body objective. The operations overlay of the main body force is provided for the squadron TOC. The S2 obtains updated or new IPB information.

IPB provides an event template, terrain analysis, and enemy situation templates as known at that point. The event template will provide named areas of interest (NAI) that will identify information requirements. The reconnaissance will confirm or refute much of this information. The squadron uses this available information, however, to help determine factors, such as—

- Speed of the reconnaissance effort and where more deliberate reconnaissance is required.
- The overall focus of the reconnaissance.
- Missions of subordinate troops and zones for ground troops.
- Essential air troop on-station times or locations.
- Identification of essential critical tasks.

Integration of air and ground troop operations in division cavalry includes determination of the following:

- Command and control relationship of troops. Normally the squadron is controlling all troops. Air and ground teams may be formed as necessary during the mission.
- Air troop's rotation plan and missions.

- Ground troop's missions.
- Critical tasks to be performed by air and ground troops. Air cavalry troops accelerate the reconnaissance effort by reconnoitering open terrain, reconnoitering forward of the ground troops, screening an open flank, or orienting on locating enemy. These tasks allow ground troops to focus on close terrain, routes, and close reconnaissance of obstacles and enemy. When air and ground reconnaissance efforts are integrated, the squadron commander is also capable of developing the situation faster.

The regimental ground squadron seldom has more than a single air troop available. This troop is either under the operational control of the ground squadron or under control of the aviation squadron performing reconnaissance forward of the ground squadron. In either case, the ground squadron commander controls the terrain. The air troop commander always operates on or monitors the ground squadron command net.

Specific tasks assigned to an air cavalry troop may include the following:

- Reconnoiter terrain not easily accessible to ground troop vehicles.
- Rapidly check key points in zone.
- Locate the flanks of enemy forces encountered by air or ground scouts.
- Locate bypasses around obstacles and enemy positions.
- Provide security on the far side of obstacles while ground troops reconnoiter and clear them.
- Locate and maintain contact with large enemy formations, especially moving ones, before they make contact with the squadron. This gives the squadron commander valuable time to act.
- When a hasty attack is necessary, coordinate joint air attack team or attack helicopter operations.

When the division cavalry squadron is reconnoitering in the zone of the division, squadron boundaries are normally the boundaries of the division. When assigned an axis of advance, the commander establishes boundaries for the squadron beyond the axis on both sides to include reconnaissance of dominating terrain. The size of the axis determines whether the squadron treats it as a route or zone reconnaissance.

The regiment may perform zone reconnaissance across the entire corps sector, or in one portion of it. The regimental commander assigns zones to each squadron depending on the corps commander's requirements.

The squadron assigns zones for the ground troops (see Figure 3-3). FM 17-97 details cavalry troop capabilities. Zone reconnaissance is normally performed over an extended distance, requiring that all ground troops be employed abreast. The capacity of the squadron is a factor of the capability and status of assigned scout platoons. FM 17-98 details scout platoon capabilities. Boundaries are designated to

allow the troops to remain abreast of one another during the mission. Zones may not necessarily be the same size. The main body frequently orients movement along a major route, especially in an axis of advance. Reconnaissance of this route becomes a specified task for a troop. Phase lines control progress through the zone. Boundaries and phase lines are drawn along recognizable terrain. Contact points along boundaries maintain coordinated reconnaissance. Checkpoints are used to indicate critical terrain features, to control reconnaissance, or to coordinate air and ground teamwork. Additional control measures are used as necessary.

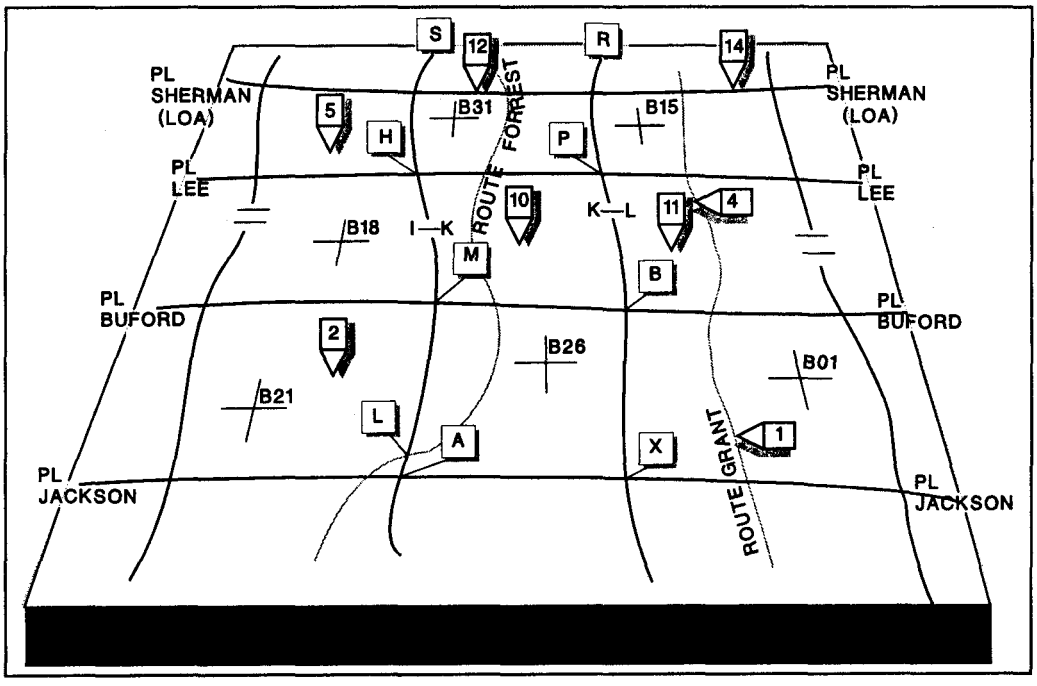


Figure 3-3. Regimental squadron zone reconnaissance.

Task organized reinforcements are normally retained under squadron control because of the vague situation. In the division cavalry squadron, maneuver company teams serve as a reserve and are used by the squadron commander to develop the situation on enemy contact. The regimental cavalry squadron uses its organic tank company in this role. Reserves are positioned to facilitate rapid employment anywhere in the zone. Engineers follow or are attached to the troop that is assigned a critical route to assist in reconnaissance, obstacle reduction, and route repair. The regimental squadron artillery battery normally provides direct support to the squadron. Priority of fire for artillery is assigned to troops based on intelligence or the main effort. ADA priority is normally toward protecting trains, command posts, artillery battery, and any designated reserve. The cavalry troops are too dispersed and rely upon passive air defense protective measures.

Both the squadron TAC CP and main CP are normally operational to ensure continuous communications over extended distances within the squadron and to higher headquarters. Combat trains generally move through the center of the zone along a route providing good movement laterally and in depth. A UMCP may move

along an alternate route to provide adequate support across a wide zone. The division cavalry squadron's field trains may be with the forward support battalion of the lead brigade in the main body. The field trains of the regimental cavalry squadron are either collocated with the regimental support squadron or echeloned in depth behind the combat trains. Depth of the zone or anticipated duration of the operation dictate arrangement of combat service support assets and how much is forward. Class III and Class V are the major concerns. A forward positioned FARP reduces aircraft turnaround time. The FARP may be in the squadron zone or in the zone of the lead unit behind the squadron. The air cavalry troop's forward assembly areas are used. Command posts and combat service support assets remain mobile and bound forward as the squadron advances. The main CP monitors locations and status to ensure no element falls too far behind.

Upon completion of the mission, the squadron proceeds with any assigned follow-on mission. If no mission has been assigned, the squadron provides security along the limit of advance or reconnaissance objective. Major enemy forces beyond the squadron's capability may be encountered before reaching the objective. When no gap or bypass is found, the squadron assumes a hasty defense, continues close reconnaissance, and prepares to pass main body forces forward. Regimental cavalry can fight through heavier enemy forces than division cavalry and may be required to do so to accomplish its reconnaissance mission.

TROOP PLANNING CONSIDERATIONS

The troop commander divides his troop zone into scout platoon zones (see Figure 3-4). As with the troop, the platoon zones are designated to keep the platoons abreast during the reconnaissance. The factors of METT-T determine how to divide these zones. The width of the troop zone requires the commander to place all scout platoons abreast. The troop scout platoons are not placed in reserve. The troop's organic tank platoons perform this role, thereby freeing the scout platoons to perform the reconnaissance mission. Boundaries should not be placed on roads, nor should they divide avenues of approach to preclude division of responsibility. The commander adds additional phase lines, if necessary, to control the progress of the reconnaissance. Boundaries and phase lines are drawn along recognizable terrain. Contact points are added along boundaries on recognizable terrain to maintain a coordinated effort. Checkpoints are added to identify specific terrain features and TIRS (terrain index reference system) for maneuver control and reporting. Other control measures may also be used.

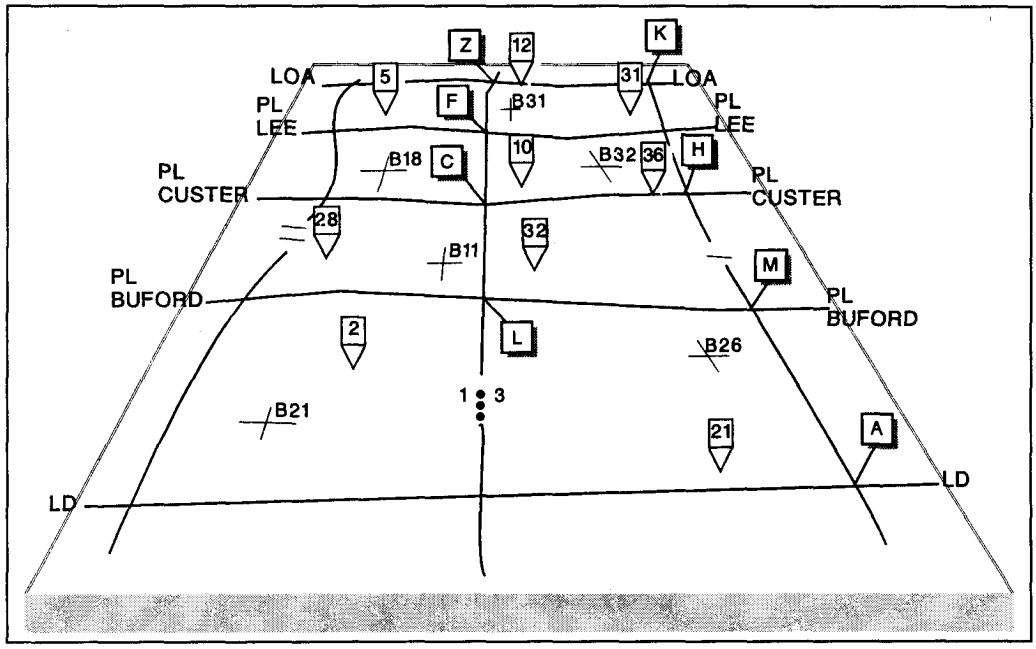


Figure 3-4. Division cavalry troop zone reconnaissance.

The troop commander selects a bombat formation appropriate to the situation. Combat foramations may change during the course of the reconnaissance as terrain or enemy situations change. The mortar section generally moves through the center of the sector or follows a scout platoon, depending on expected enemy contact. The fire support officer plans indirect fires to compensate for mortar section range limitations caused by positioning. Tank platoons, when present, follow scout platoons in depth and remain responsive to developing situations. Tank platoons key their movement on the progress of the scout platoons. The troop command post displaces through the zone, using terrain that affords effective communications. Troop combat trains move under control of the first sergeant, bounding forward based on the troop's movement.

The air cavalry troop commander plans his mission in much the same manner as the ground troop commander. He uses the same operations graphics and considers the same critical tasks. He organizes his troop to accomplish the mission considering the same aspects of IPB as the ground troop. In particular, hazards to navigation and anticipated enemy air defense are considered. The air troop operates in platoons, but may be task organized into scout weapon teams who may use scouts only if the situation permits. The commander identifies and tracks the locations of available FARPs, and monitors the endurance of his crews. He ensures that he has elements on station during those critical times directed by the commander. He plans flight modes and routes to maximize station time actually performing the mission.

Section IV. Area Reconnaissance

An area reconnaissance is a directed effort to obtain detailed information concerning the terrain or enemy activity within a prescribed area. An area reconnaissance is a specialized form of zone reconnaissance. It is assigned to a cavalry unit by the commander under the same circumstances as a zone reconnaissance. The regimental commander may assign an area reconnaissance mission to one of the ground squadrons, the aviation squadron, or task organize an air-ground team to perform the mission. Area reconnaissance proceeds faster than zone reconnaissance since the effort is focused on a specific piece of terrain or enemy force. The squadron or troops may perform area reconnaissance. This mission lends itself to formation of air-ground teams. The squadron may be required to reconnoiter one large area or several smaller ones.

CRITICAL TASKS

During an area reconnaissance, the critical tasks listed below must be accomplished unless the higher commander directs the cavalry unit to do otherwise. Accomplishing all of these tasks is a time-consuming process. Based on time and the commander's intent, the cavalry commander may direct the reconnaissance towards specific information requirements only. Like the zone reconnaissance, the commander should focus his unit in the commander's intent paragraph and list the critical tasks in the specific instructions. Three primary critical tasks are associated with an area reconnaissance:

- Find and report all enemy within the area.
- Reconnoiter specific terrain within the area.
- Report reconnaissance information.

Other critical tasks include the following:

- Reconnoiter all terrain within the area.
- Inspect and classify all bridges within the area.
- Locate fords or crossing sites near all bridges within the area.
- Inspect and classify all overpasses, underpasses, and culverts.
- Locate and clear all mines, obstacles, and barriers in the area within its capability.
- Locate a bypass around built-up areas, obstacles, and contaminated areas.

PLANNING CONSIDERATIONS

The unit normally conducts movement to the area as a tactical road march. IPB indicates how much security is required for the move itself. The unit moves rapidly to the area, reporting and bypassing enemy or obstacles encountered en route. Known enemy outside the area are avoided.

The commander treats the assigned area like a zone reconnaissance. The area and any dominating terrain around it are enclosed in a boundary. Other control measures are used as in a zone reconnaissance (see Figure 3-5). If the area is to be occupied by another force as an assembly area, the unit reconnoiters trafficability of the area to support that force. An air cavalry troop may initially secure the area by establishing a screen.

Upon completion of the reconnaissance, the troop or squadron departs the area on a different route. Alternatively, the unit may proceed on a different mission or secure the area by establishing a screen. The screen may orient in a particular direction or all around the area. If follow-on forces are to occupy the area, the cavalry is relieved by unit quartering parties and continues with other assigned missions.

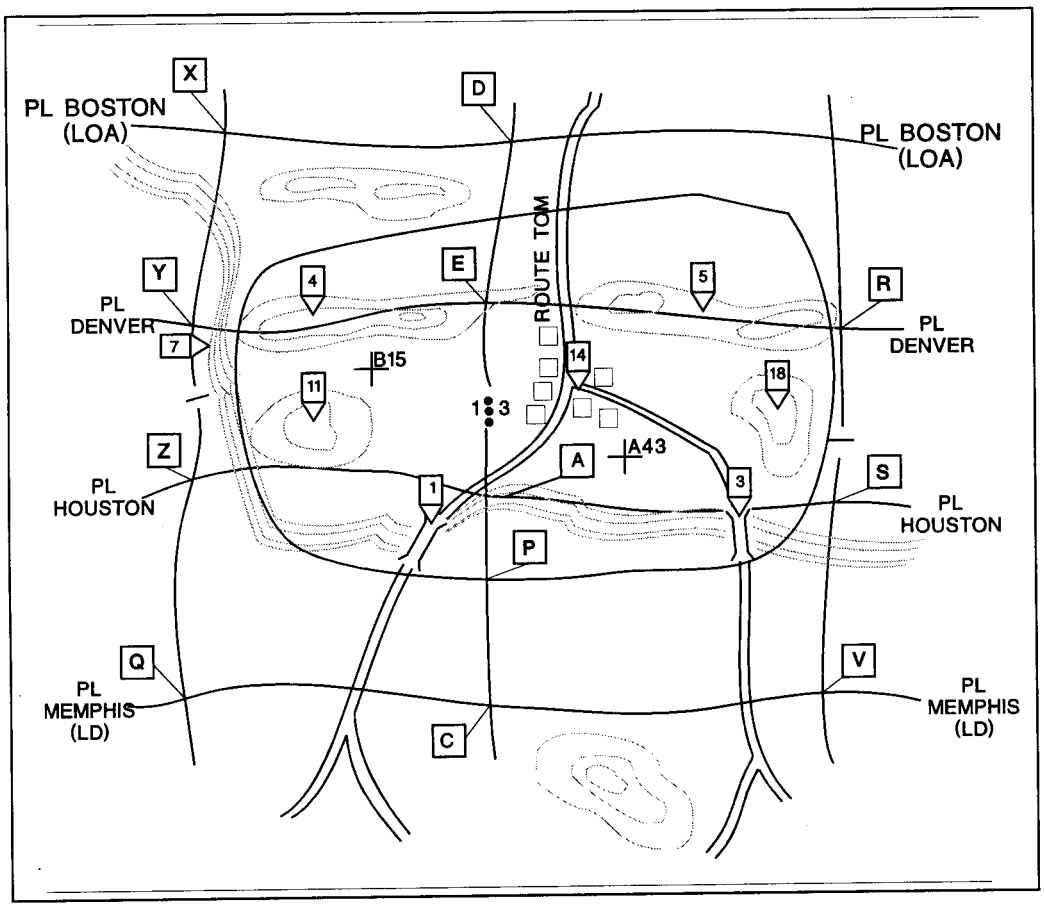


Figure 3-5. Regimental cavalry troop area reconnaissance.

Section V. Reconnaissance in Force

A reconnaissance in force is a limited objective operation by at least a battalion-size force to obtain information and to locate and test enemy dispositions, strengths, and reactions, It may be assigned when limited information about the enemy is available, when the commander desires more specific information on the enemy, and when this information cannot be gathered by any other means. The armored cavalry regiment is of adequate size to conduct a reconnaissance in force. The division cavalry squadron may conduct a reconnaissance in force independently or as part of a larger force. Squadrons and troops perform this mission as a zone reconnaissance or a movement to contact.

Even though the commander is executing a reconnaissance in force primarily to gather information, he must be alert to seize any opportunity to exploit tactical success. If the reconnaissance in force will be conducted along a broad front, it may consist of a series of strong probing actions to test the enemy's reactions at selected points. The enemy reaction, or lack thereof, may reveal a weakness in his defenses. The commander assigning the reconnaissance in force must carefully weigh the risks involved. For instance, while the reconnaissance in force may reveal a weak point in the enemy's defenses, it may lead to a general engagement under unfavorable conditions. The reconnaissance in force may also reveal future plans to the enemy. Advance planning must be conducted for the extrication of the force or the exploitation of success.

Chapter 4

SECURITY OPERATIONS

"Skepticism is the mother of security. Even though fools trust their enemies, prudent persons do not. The general is the principal sentinel of his army. He should always be carefull of its preservation and see that it is never exposed to misfortune."

Frederick the Great

Security operations obtain information about the enemy and provide reaction time, maneuver space, and protection to the main body. Security operations are characterized by aggressive reconnaissance to reduce terrain and enemy unknowns, gaining and maintaining contact with the enemy to ensure continuous information, and providing early and accurate reporting of information to the protected force.

Security operations include the following missions:

- Screen.
- Guard.
- Cover.
- Area security.

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Security operations may be considered in terms of the degree of security provided and the amount of combat power required to perform them. Cavalry troops screen. The squadron performs screen and guard. Covering force operations are normally an armored cavalry regiment mission. Separate brigades or task organized divisional brigades may perform cover as well.

Cavalry units perform security operations as organized or reinforced. Reinforcements may include tank and mechanized infantry units, attack helicopter units, combat support units, and close air support. The nature of the security mission performed determines what reinforcements are needed. During security missions, squadrons and troops may perform reconnaissance and offensive, defensive, and retrograde operations. Integrated air and ground troop operations provide increased depth, flexibility, and responsiveness in performing these missions.

Security is an essential part of all offensive and defensive operations. Cavalry provides security for the commander along an exposed front, flank, or rear of the main body where a threat may exist. Security along a common boundary with another friendly unit is the responsibility of the unit assigned to that zone or sector. Some cavalry units may perform security missions as part of a larger security force. In division cavalry, sustained security operations require the entire squadron. Fragmenting the squadron to provide security in multiple directions simultaneously should be avoided.

Surveillance is continuous during security operations. Even during security missions that involve fighting the enemy, the scouts' primary task remains gathering information. Scouts do this by establishing observation posts (OP), conducting patrols, and performing reconnaissance. Air and ground scouts are coordinated to synchronize their complementary capabilities.

Counterreconnaissance is an inherent task in all security operations. Counterreconnaissance is the sum of actions taken at all echelons to counter enemy reconnaissance and surveillance efforts through the depth of the area of operations. It is active and passive and includes combat action to destroy or repel enemy reconnaissance elements. It also denies the enemy information about friendly units.

Counterreconnaissance keeps enemy reconnaissance forces from observing the main body by defeating or blocking them. In the execution of counterreconnaissance, cavalry operates either offensively or defensively using whichever tactics best accomplish the task. Hasty attack, ambush, and indirect fires are the principal techniques used. Cavalry must be organized to defeat enemy reconnaissance forces without requiring reinforcement. Enemy reconnaissance capabilities in any given situation must be compared to the cavalry unit's capabilities to determine if additional maneuver or combat support assets are required.

Liaison with the protected force is critical during security missions. This ensures both the security force and the protected force remain abreast of the full situation and maintain synchronized operations. This is most significant during flank and rear guard operations when the security force and the protected force are oriented in different directions. The security force accomplishes this task with liaison officers.

Section I. Purpose and Fundamentals

PURPOSE

Cavalry performs security missions to provide information about the enemy and terrain and to preserve the combat power of friendly forces. Cavalry provides information about the size, composition, location, and direction of movement of enemy forces. Cavalry provides information about terrain to facilitate the movement or maneuver of other forces. Reaction time and maneuver space gained by this information allow the main body commander to prepare or to deploy to engage the enemy. Security prevents the main body from being surprised by the enemy. This allows the commander to preserve the combat power of maneuver forces to be concentrated at the point of decision.

FUNDAMENTALS

Successful security operations are planned and performed with five fundamentals in mind:

- Orient on the main body.
- Perform continuous reconnaissance.
- Provide early and accurate warning.
- Provide reaction time and maneuver space.
- Maintain enemy contact.

Orient on the Main Body

The security force operates at a specified distance between the main body and known or suspected enemy units. If the main body moves, the security force must also move. The security force commander must know the scheme of maneuver of the main body and maneuver as necessary to remain between it and the enemy. The value of terrain occupied by the security force lies in the protection it provides to the main body commander.

Perform Continuous Reconnaissance

Security is active. The security force performs continuous, aggressive reconnaissance to gain all possible information about the enemy and terrain. Security comes in large part from knowing everything about the enemy and terrain within the assigned area of operations. (For further information concerning the doctrinal frontages / distances of armored cavalry units in conjunction with security operations, refer to FM 17-97 and FM 17-98.) Surveillance and patrolling required in security

use the same techniques as in reconnaissance. The security force commander must know what the terrain will allow both the enemy and his own forces to do. If the security mission involves movement, reconnaissance is necessary for both the squadron and the main body.

Provide Early and Accurate Warning

Information is security. Early warning of enemy activity provides the main body commander the time and information needed to retain the tactical initiative and to choose the time and place to concentrate against the enemy. Ground scouts and aeroscouts are positioned to provide long-range observation of expected enemy avenues of approach and are reinforced with electronic surveillance devices when available. Flexibility and depth are built into the surveillance plan.

Provide Reaction Time and Maneuver Space

This fundamental embraces the intent of security operations. The security force operates as far from the main body as possible, consistent with the factors of METT-T. This distance provides the reaction time and maneuver space required by the main body commander. It fights, as necessary, to ensure adequate time and space for the main body commander to maneuver and concentrate forces to meet the enemy.

Maintain Enemy Contact

Unless otherwise directed, contact once gained is not broken. Contact does not have to be maintained by the individual scout who first makes it. The security force maintains contact as a whole. Continuous information on the enemy's activities must be gathered, and he must be prevented from endangering other friendly forces. This requires—

- Continuous visual contact.
- The ability to use direct and indirect fires.
- Maintaining freedom to maneuver.
- Depth.

Section II. Screen

The primary purpose of a screen is to provide early warning to the main body. Based on the higher commander's intent and the screen's capabilities, it may also destroy enemy reconnaissance and impede and harass the enemy main body with indirect and/or direct fires. Screen missions are defensive in nature and largely accomplished by establishing a series of observation posts and conducting patrols to ensure adequate surveillance of the assigned sector. The screen provides the protected force with the least protection of any security mission. This mission is appropriate when operations have created extended flanks, when gaps exist between major subordinate maneuver units that cannot be secured in force, or when required to provide early warning over gaps that are not considered critical enough to require security in greater strength. This permits the main body commander to maximize the security effort where contact is expected.

Squadrons normally perform a screen with organic assets. Engineers may be available for specific tasks. For division cavalry, direct support artillery may be designated. The squadron operates within the range of main body artillery for access to indirect fire support. An air or ground cavalry troop from the divisional cavalry squadron, armored or light, may be under the operational control of or attached to a brigade to perform a screen in support of brigade operations. When this occurs the troop should receive direct support artillery.

The armored cavalry regiment as a whole is seldom assigned a screen mission. However, squadrons within the regiment may be required to perform a screen mission as part of a regimental mission. Their organic artillery allows these squadrons to operate at a greater distance from the protected force. To conduct the mission, squadrons will often work in coordination with the regimental aviation squadron or an air cavalry troop (ACT) under its operational control.

Displacement of the screen to subsequent OP positions is event driven. The approach of an enemy force, relief by a friendly unit, or movement of the protected force dictate screen movements. The main body commander does not place a time requirement on the duration of the screen. Doing so may force the screening force to accept decisive engagement.

Because a screen is defensive in nature, a screen may be performed for a stationary force to the front, flank, or rear of the main body. A screen is performed for a moving force to the flank or rear of the main body. A screen mission is not performed forward of a moving force. Zone reconnaissance, movement to contact, or advance guard is more suited for operations forward of a moving force. Figure 4-1 depicts the three locations a squadron may screen a moving force and the four locations a squadron may screen a stationary force.

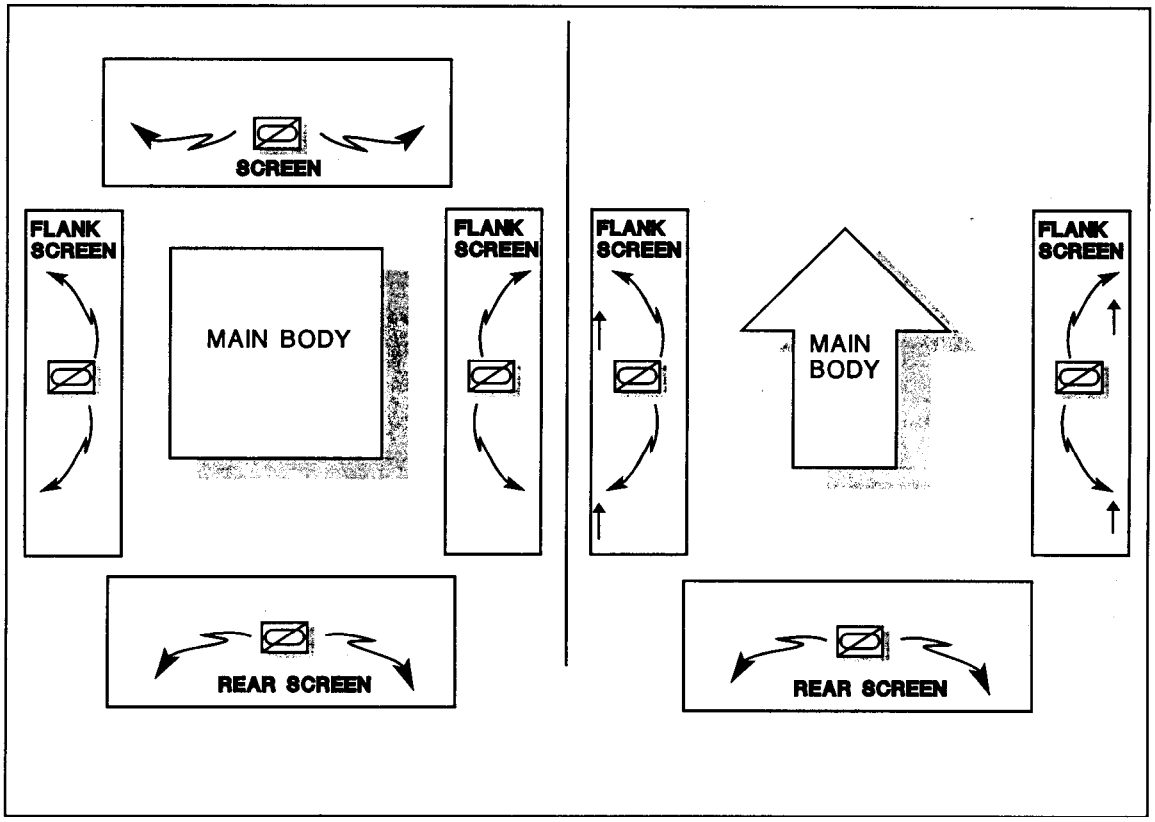


Figure 4-1. Screen locations.

All screens are active operations. Stationary OPs are only one part of the mission. Patrols, mounted and aerial reconnaissance, and relocating OPs on an extended screen ensure that continuous overlapping surveillance occurs. Inactivity in an immobile screen develops complacency.

Depth is important in a screen. The term screen line is descriptive only of the trace along which security is provided. Depth allows an enemy contact to be passed from one element to another without displacing. Depth is advantageous to-

- Destroy an enemy reconnaissance patrol without compromising critical OPs.
- Prevent the enemy from penetrating the screen line too easily.
- Prevent gaps from occurring when OPs displace or are lost.

Depth is achieved primarily by the positioning of OPs, particularly where there are limited avenues of approach. Air scouts, unmanned aerial vehicles, ground- and space-based sensor systems all help create depth in the security zone. Tank platoons and mortar sections set behind the screen establish local security, providing additional surveillance.

Cavalry provides additional depth by ingraining surveillance as an inherent task of every soldier. All soldiers must understand the situation and be attuned to the environment. No vehicle should move, aircraft fly, or position established without soldiers being alert to their surroundings. Any enemy or suspicious activity observed must be reported.

CRITICAL TASKS

A screen mission has certain critical tasks that guide planning. Critical tasks are not a checklist or sequential execution guide. The level to which the critical task can be achieved is dependent on the unit's capabilities. To achieve the intent of a screen mission, the following critical tasks are accomplished:

- Maintain continuous surveillance of all battalion-size avenues of approach into the sector under all visibility conditions.
- Destroy or repel all reconnaissance elements within capabilities.
- Locate the lead company of each suspected advance guard battalion and determine its direction of movement.
- Maintain contact with the lead company of the advance guard battalion while displacing, and report its activity.

STATIONARY SCREEN

Cavalry Commander's Guidance

The main body commander provides the following broad guidance to the cavalry commander.

REINFORCEMENTS

Any unique requirement posed by the mission may require assets not organic to the screening unit. Division cavalry may require reinforcement with additional air-ground maneuver assets. The regimental cavalry squadron may require reinforcement with air assets. Both may require combat support assets.

THE GENERAL TRACE OF THE SCREEN AND THE TIME THE SCREEN MUST BE ESTABLISHED

This trace is indicated symbolically by a phase line placed along identifiable terrain (see Figure 4-2). This phase line considers the amount of early warning, range of indirect fires, and maneuver space desired by the main body commander and is consistent with the limitations of a screen mission. When screening forward of the division or corps main body, this phase line represents the forward line of own troops (FLOT) and may be along or close to a coordinated fire line.

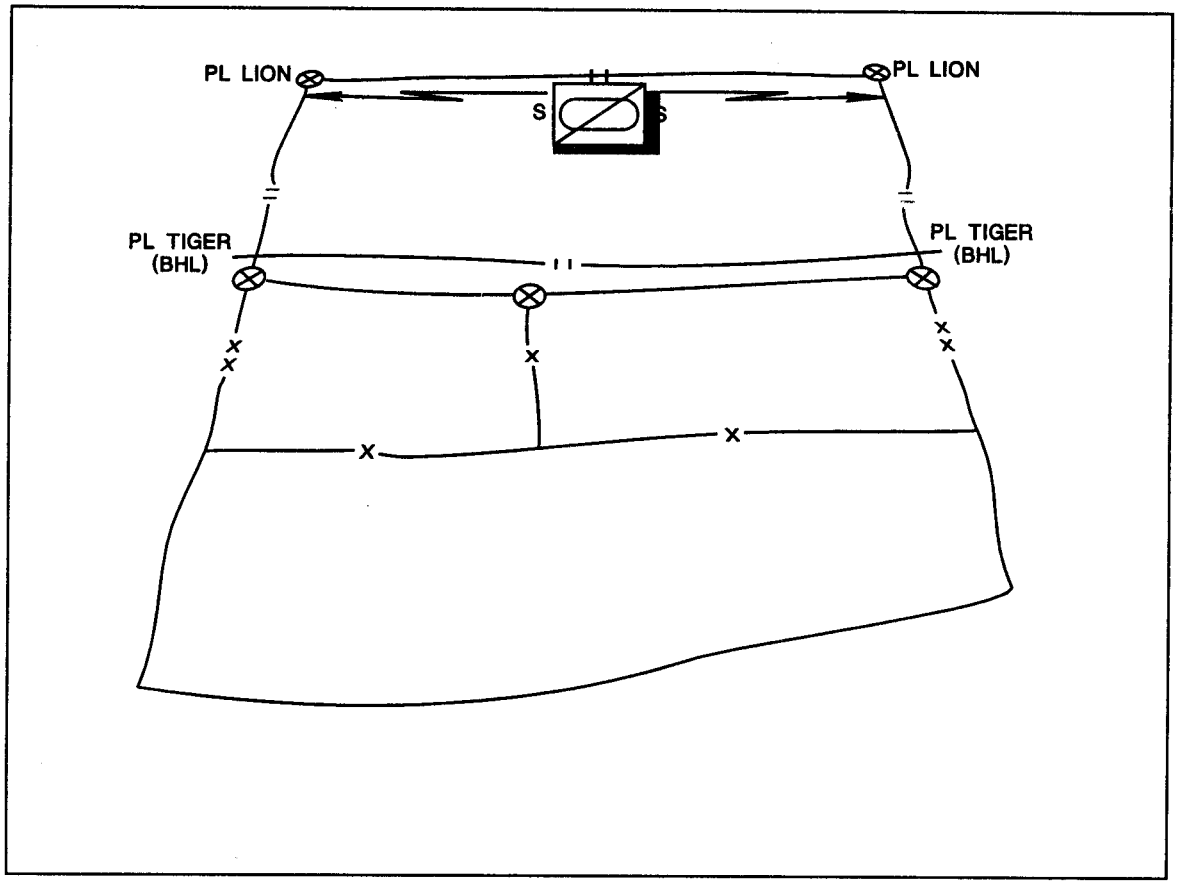


Figure 4-2. Division overlay.

THE WIDTH OF THE SCREENED SECTOR

The tasks required of a screening force are minimal compared to other security missions. Therefore, the screening force may be assigned a wide frontage. The determining factor for the capacity of the squadron is the capability of the assigned scout platoons. (FM 7-92 and FM 17-98 discusses the capabilities of the scout platoon.) If the squadron is required to screen beyond the capacity it can handle, the commander requests ground reinforcement. Careful consideration must be given when assigning air cavalry its own terrain. Limited visibility conditions, limited station time, and weather may affect the air cavalry's ability to cover the zone. It is also important to understand that air cavalry provides depth and flexibility to the security zone and is best used in concert with ground forces.

THE FORCE TO BE SCREENED

The protected force is often indicated by a command and control relationship.

THE REAR BOUNDARY OF THE SCREENING FORCE

The rear boundary of the screening force is depicted as a boundary. Responsibility for the area between the protected force and the screening force rear boundary lies with the screened force (main body). This boundary may also serve as a phase line internally to the squadron. This boundary reflects time and space requirements, clearly delineates terrain responsibilities, and provides depth required by the screening force. The rear boundary may serve as a battle handover line to control passing responsibility for the enemy to the protected force.

ANY SPECIAL REQUIREMENTS AND CONSTRAINTS

Requirements for observing specific named areas of interest (NAI) or target areas of interest (TAI) identified during the IPB are stated. If the screening force is to engage or control engagement of a threat at a TAI, the main body commander provides adequate resources.

Squadron Commander's Considerations

Given the higher commander's guidance, the squadron commander considers the following areas:

THE INITIAL SCREEN LINE

The initial screen line is established by the controlling headquarters (see Figure 4-3). It is placed closer to the main body only with permission of the higher commander of that headquarters. Requirements to observe specific NAI or TAI are considered. This screen line is placed on terrain that allows good fields of observation from behind the line. Because the initial screen line often represents the FLOT, it is considered a restrictive control measure. Coordination is necessary to move beyond the initial screen line to establish an air screen in depth or to perform reconnaissance. A phase line can designate the squadron limit of advance. This forward phase line then becomes the FLOT.

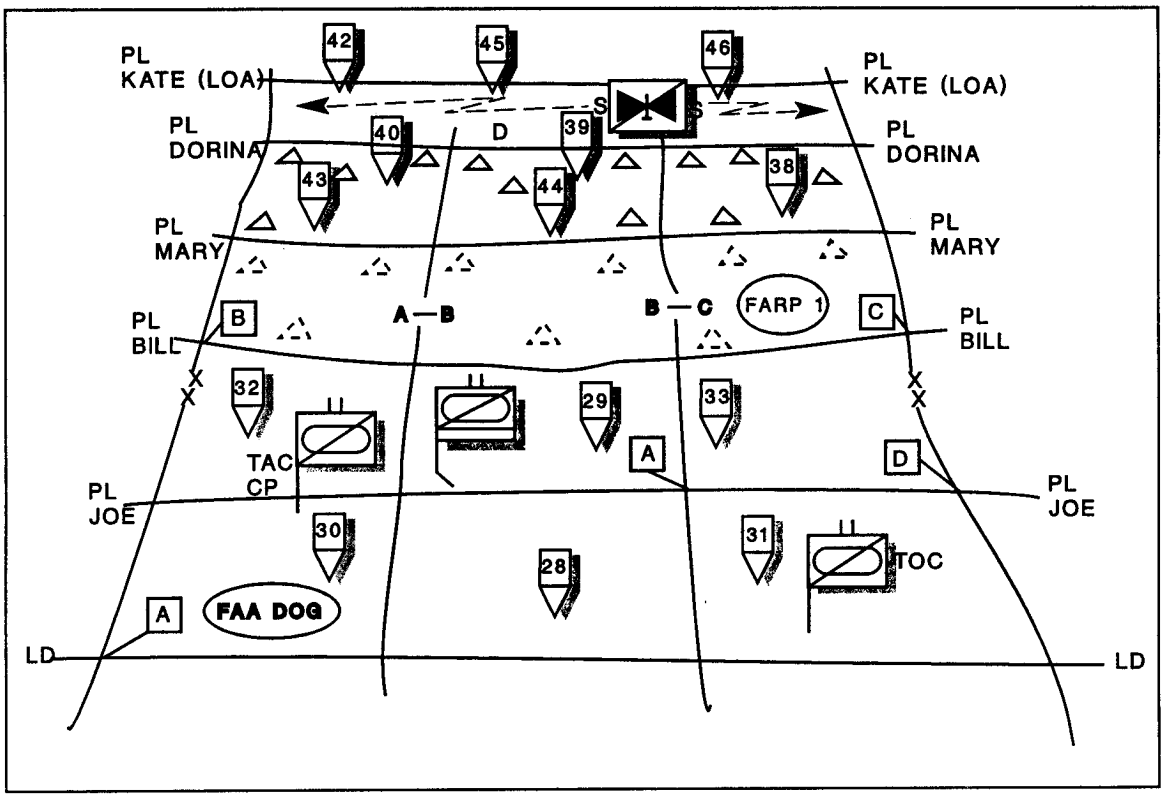


Figure 4-3. Divisional squadron screen.

Limited visibility surveillance requirements and depth are always incorporated in the screen. The initial screen should be within range of the main body's artillery support.

MOVEMENT TO THE SCREEN LINE

Time determines the method of occupying the screen line. Given adequate time, the squadron performs a zone reconnaissance. This clears the sector of any enemy and familiarizes the squadron with the terrain. When time is critical, the screen force performs a movement to contact or a tactical road march to a position just short of the screen line.

CONTROL OF DISPLACEMENT TO SUBSEQUENT POSITIONS

The squadron commander uses additional phase lines to control the operation. Since displacement to subsequent positions is event driven, subsequent phase lines serve to guide the troop commander's initiative during the mission.

SECTORS FOR SUBORDINATE TROOPS

The commander designates sectors for the subordinate ground cavalry troops. Terrain responsibility for NAIs and TAIs goes with the sector. Ground troops are normally deployed abreast. The tank company provides depth for the regimental

cavalry squadron, and the air cavalry provides depth for the division cavalry squadron. Reduced depth is the trade-off when screening extended frontages. When forced to do so, the commander may have to assign terrain to the air cavalry troop. This terrain should not be the high-speed avenues of approach. Plans must compensate for the absence of air cavalry by adjusting ground OPs during limited visibility or bad weather.

AIR AND GROUND INTEGRATION

Air cavalry troops may screen forward of the ground troops to add depth. When doing so, the ACTs should stay with range of the unit's indirect fires, either mortar or tube artillery. During the day or in higher threat environments, the distance between the ACTs and ground troops may be decreased to enhance survivability of the aircraft. The ACTs extend the capabilities of the ground screen (see Figure 4-3). They may screen an exposed flank of the squadron, assist in patrolling gaps between ground OPs on an extended screen, augment the surveillance of NAIs by ground OPs, and add depth within the squadron sector along subsequent screen lines. The concept of battle handover is used within the squadron as air and ground troops displace to subsequent OPs or a FARP. This ensures that the squadron maintains contact with the closing enemy. The use of attack helicopters may be constrained in case they are needed to respond to a rapidly developing situation. The division cavalry squadron commander determines the method of air cavalry employment. The regimental squadron has no organic air assets (see Figure 4-4). The regimental aviation squadron may screen forward of the ground troops, or air cavalry troops may be under the operational control of the ground squadrons. In either case, integrating air and ground assets greatly enhances the effectiveness of the screen.

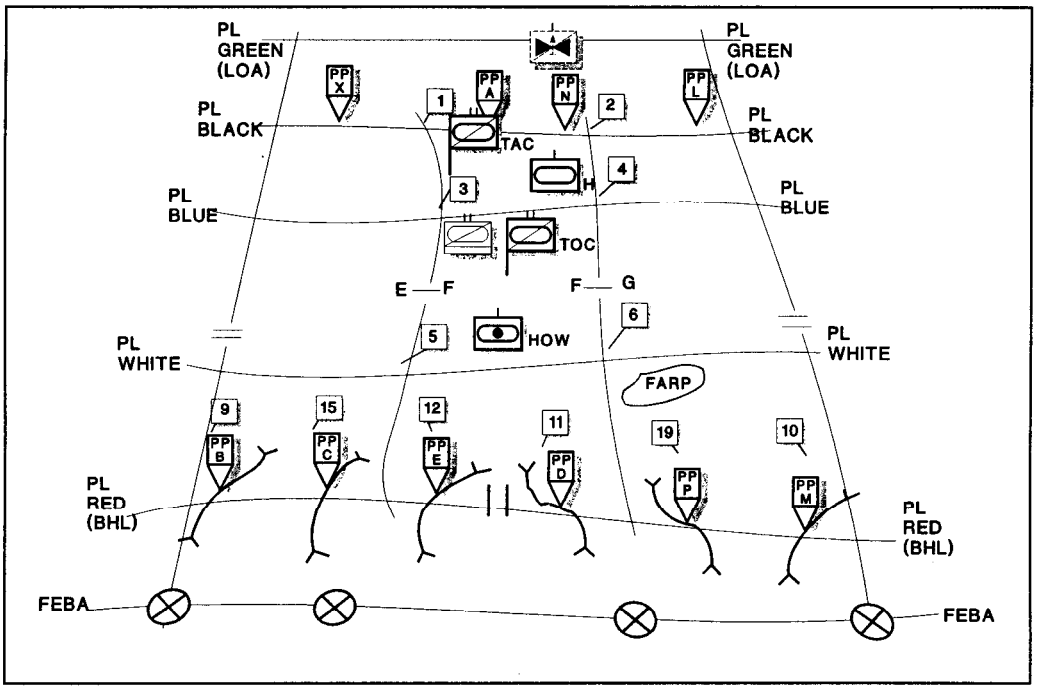


Figure 4-4. Regimental squadron screen.

INDIRECT FIRE PLANNING

Fire planning integrates artillery and mortar fires. Observers cover TAIs. The organic howitzer battery of the regimental squadron provides enhanced indirect fire capability. Its fires are integrated with those of the mortars and any supporting artillery fires. Relationships with supporting artillery for division cavalry are clearly defined with the division fire support element.

MOBILITY AND SURVIVABILITY

Engineers, if attached, may be available for specific tasks. Typical engineer tasks are survivability, improvement of combat roads and trails, and emplacement of situational obstacles. Situational obstacles are obstacles that units plan, and possibly prepare, before beginning an operation; however, they do not execute the obstacles unless specific criteria are met. Therefore, units may or may not execute situational obstacles, depending on the situation that develops during the battle. They are "be prepared" obstacles and provide the commander flexibility for emplacing tactical obstacles based on battlefield development. FM 90-7 provides specific considerations for planning situational obstacles.

POSITIONING OF COMMAND AND CONTROL, CS, AND CSS ASSETS

These assets occupy positions to support extended frontages and remain highly mobile for rapid displacement. Both the TAC CP and the TOC may be required to operate continuously. In the division cavalry squadron, a FARP is placed forward to facilitate rapid turn-around of aircraft. In the armored cavalry regiment, FARPs are positioned by the regimental aviation squadron to best support the screen mission. CSS assets prepare for extended operations as necessary.

Ground Troop Commander's Considerations

The ground troop commander considers the following factors when developing the troop concept. (Also see FM 17-97.)

SCOUT PLATOON SECTORS

The troop sector is divided between the scout platoons to delineate responsibility for surveillance (see Figure 4-5). The nature of a screen normally requires all scout platoons to be deployed abreast. Platoons receive clear responsibility for identified avenues of approach and designated NAIs.

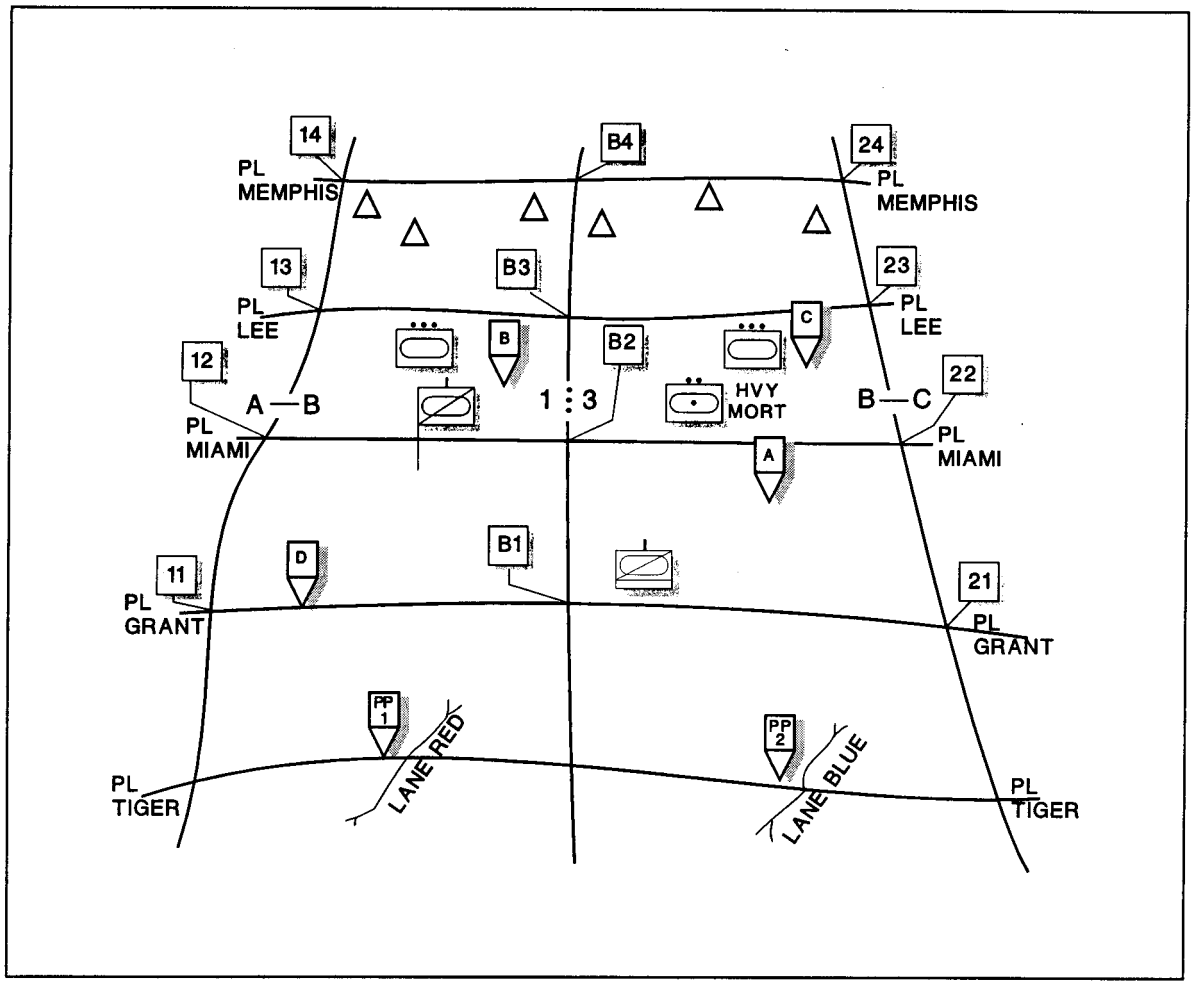


Figure 4-5. Division cavalry troop screen.

TANK PLATOONS

The commander positions organic or attached tank platoons in the sectors of the scout platoons. They may occupy hide or battle positions along avenues of approach. Tank platoons remain responsive to the troop commander. They are the primary direct fire killing asset.

GRAPHICS

Additional control measures and phase lines are added as necessary.

INITIAL OP LOCATIONS

The troop commander determines initial OP locations to ensure effective surveillance of the sector and designated NAIs. The scouts who occupy the OP always retain the responsibility to modify the location to achieve the commander's intent. The OPs are positioned along or behind the initial screen line. OPs are integrated with the indirect fire plan to ensure target reference points can be observed. Positioning forward of the screen line requires coordination. Planning for depth in the screen eases the task of maintaining contact.

PATROL REQUIREMENTS

Patrols may be required to cover gaps between OPs. The troop commander tasks the scout platoon leaders to perform specific patrols.

MORTARS

The troop mortars are positioned to fire up to two-thirds of their maximum range forward of the initial screen line. A wide sector may require the commander to position them to provide effective coverage of the most likely enemy avenue of approach determined by IPB. The troop fire support officer plans artillery fires to adequately cover any gaps in mortar coverage.

POSITIONING OF COMMAND AND CONTROL AND CSS ASSETS

The commander positions himself to observe the most dangerous avenue of approach. The command post establishes a position behind the initial screen line to provide continuous control and reporting during initial movements. After positions have been reestablished in depth, the command post can displace. Combat trains are behind masking terrain close enough for rapid response. They are best sited along routes providing good mobility laterally and in depth.

COORDINATION

The troop commander coordinates his concept with air cavalry troop commanders who may be working the same ground, flank troop commanders, and tank company commanders as appropriate.

Air Cavalry Troop Commander's Considerations

The air cavalry troop commander plans his concept using the considerations in FM 1-116. The following considerations are critical.

AIRCRAFT ROTATION

Based on the rotation method selected by the squadron commander, the troop commander determines methods of rotating aircraft to sustain the aerial screen. He must consider any constraint concerning the use of attack helicopters.

PLATOON/SCOUT WEAPONS TEAM ORGANIZATION

The troop commander organizes platoon/scout weapons teams based on the squadron commander's guidance, the likelihood of enemy contact, size of assigned sector, duration of the mission, and aircraft availability. If large frontages or several avenues of approach need to be covered, the troop commander may break down to the team organization instead of using platoons. When augmented with additional attack helicopters, they may remain immediately available in the forward assembly area or holding area to respond to the troop commander as required or when directed by the squadron commander.

COORDINATION

The troop commander ensures locations of attack helicopters, forward assembly areas, and FARPs are known by all aircrews. The commander closely coordinates his concept with the ground troop commander(s). He must direct particular attention towards OP locations, mortar positions, and scheme of maneuver. Coordinating the air passage of lines when operating forward of ground troops is essential. Understanding the ground troop's plan for displacing OPs is critical. Air troops will initially be forward to provide early warning, and when battlefield events dictate displacement for the ground elements, air cavalry may be required to engage with indirect and direct fires. Air cavalry's ability to use direct and indirect fires to maintain contact and to slow the enemy's rate of advance is critical to mission success.

MOVING SCREEN

The same planning considerations discussed above apply to a moving screen. Emphasis may shift since the main body is moving. The squadron may screen the rear or flank of a moving force. Screening the rear of a moving force is essentially the same as a stationary screen. As the protected force moves, the squadron occupies

a series of successive screen lines (see Figure 4-6). Movement is regulated by the requirement to maintain the time and distance factors desired by the main body commander. Air troops may assume the screen during ground troop movement.

The moving flank screen poses additional considerations. It is similar to the moving flank guard. The width of the screen sector is not as important as the force being protected. The squadron screens from the front of the lead combat element in the main body to the rear of the protected elements, exclusive of front and rear security forces (see Figure 4-7). Combat trains move with the squadron and field trains with either the nearest brigade forward support battalion in the main body (division cavalry), or with the regimental support squadron (regimental cavalry). If either support unit remains behind the original FLOT, the squadron field trains may remain with them.

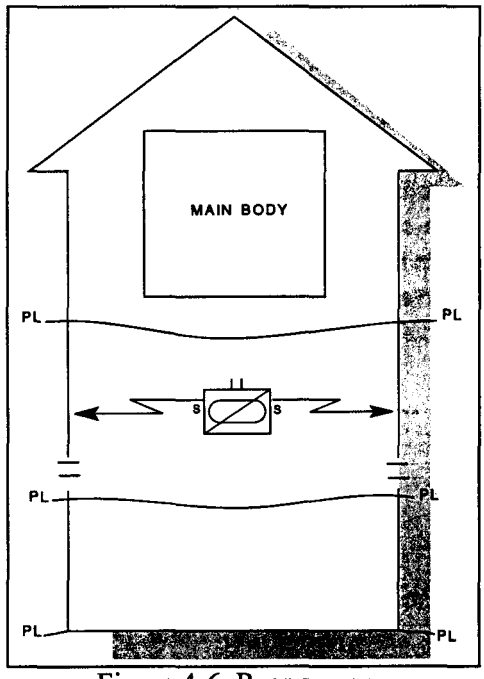


Figure 4-6. Rear screen.

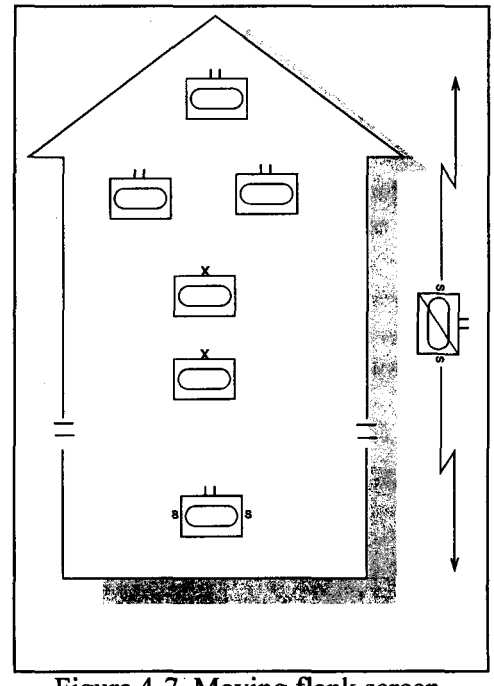


Figure 4-7. Moving flank screen.

There are three basic methods of occupying the screen line. These methods may often be combined.

In the first method, the squadron crosses the line of departure separately from the main body and conducts a tactical road march along a route of advance parallel to the main body (see Figure 4-8). Scout platoons occupy positions along a line of OPs as they reach them. This is the fastest but least secure method. Air cavalry troops are well suited to maintain contact with the main body and to perform reconnaissance forward of the squadron. This method is appropriate when the main body is moving very quickly, the line of departure is not a line of contact, or IPB indicates enemy contact is not likely in the area the squadron is moving through.

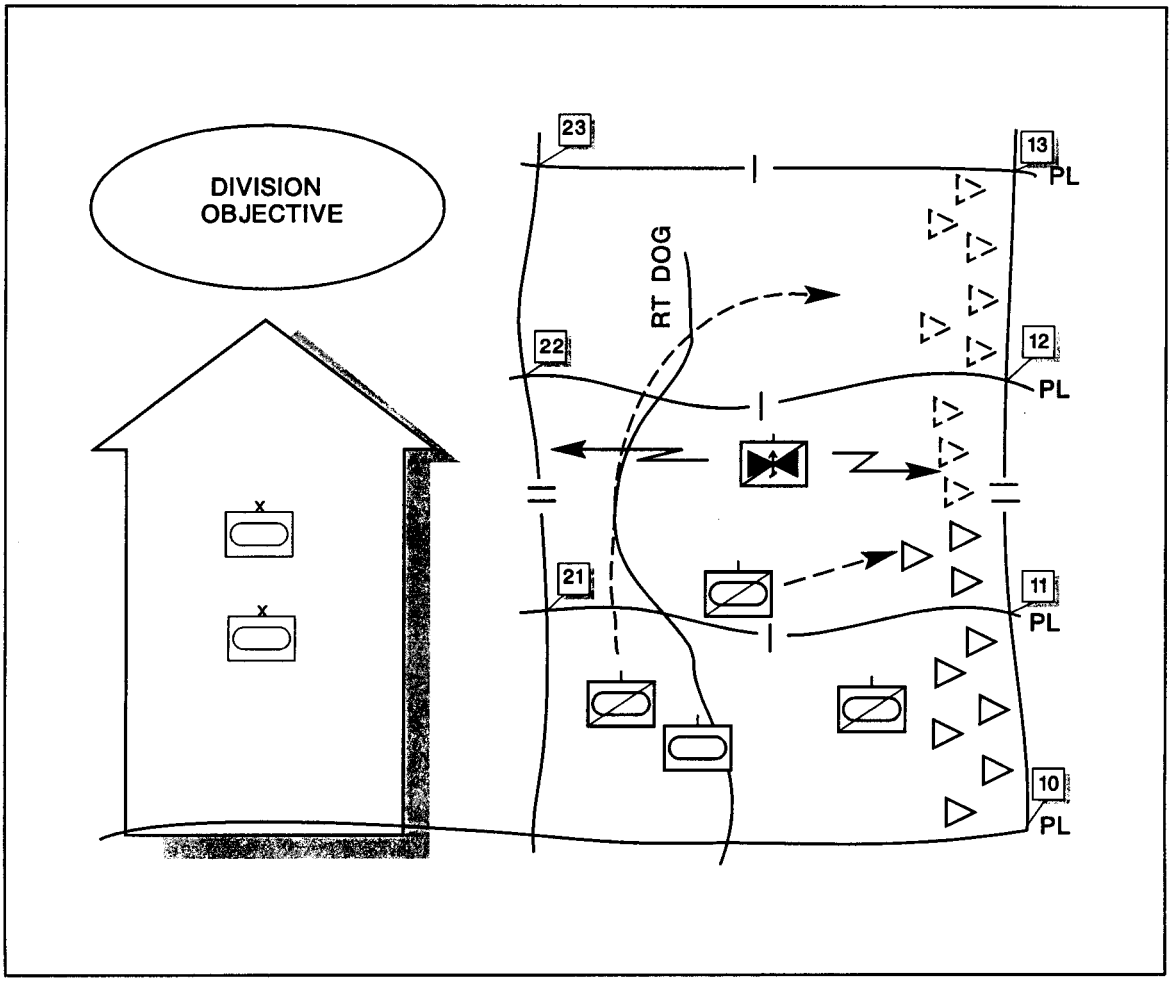


Figure 4-8. Moving flank screen (method one).

In the second method, the squadron crosses the line of departure separately from the main body and conducts a zone reconnaissance forward (see Figure 4-9). Screen positions are occupied as they are reached. This method is slower but provides better security to the squadron. The distance from the screen line to the main body determines the squadron formation used. This method is appropriate when the main body is moving slower, the line of departure is not a line of contact, or IPB indicates enemy contact is possible.

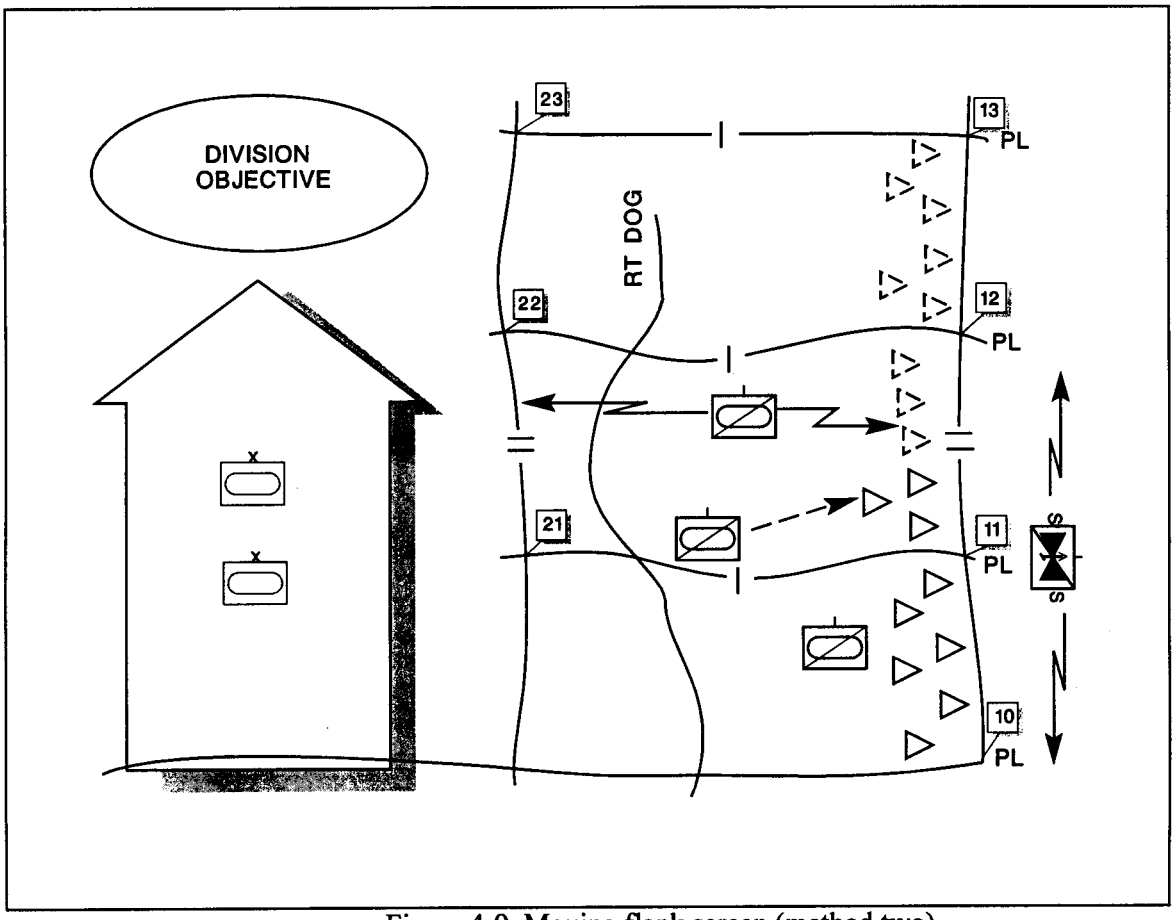


Figure 4-9. Moving flank screen (method two).

In the third method, the squadron crosses the line of departure with the main body and conducts a zone reconnaissance out to the screen line (see Figure 4-10). This method provides the most security for the squadron and the main body but requires more time. This method is appropriate when the main body is moving slowly, the line of departure is the line of contact, or the enemy situation is vague.

Because the squadron moves in one direction but orients in another, command and control is challenging. Control measures must facilitate both orientations. For example, phase lines serve as on-order troop boundaries and do not divide avenues of approach into the flank of the main body. The squadron not only plans for the advance and initial screen but also for a screen in depth back to the main body.

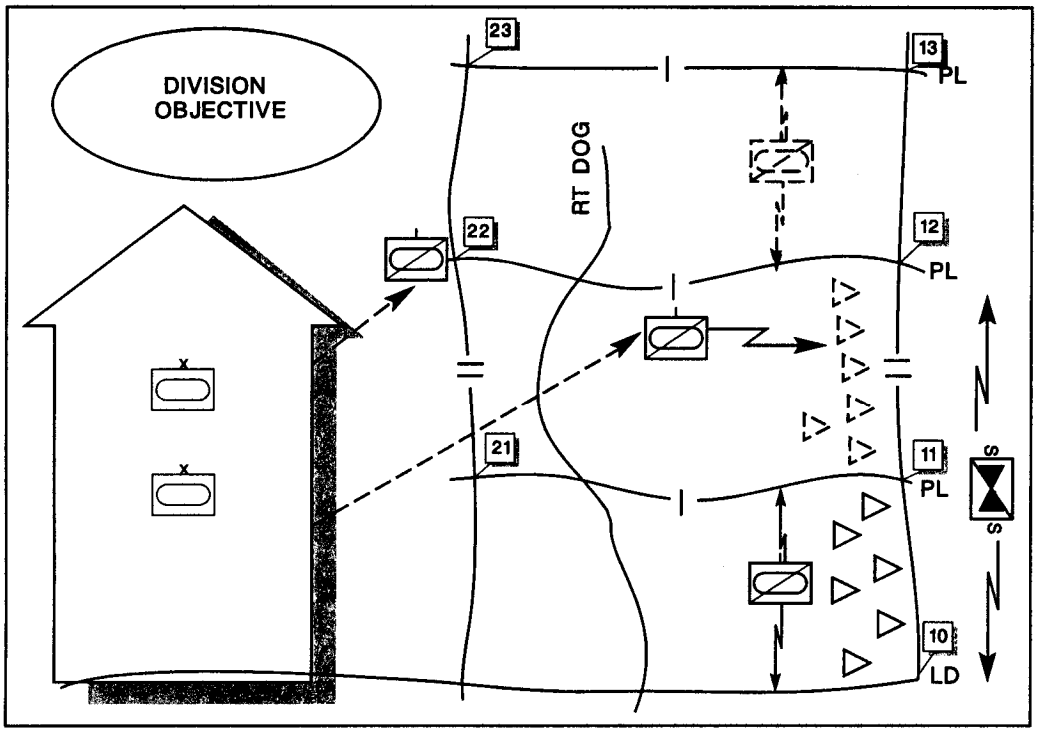


Figure 4-10. Moving flank screen (method three).

Movement along the screen line is determined by the speed of the main body, the distance to the objective, and the enemy situation. Squadron movement centers on a designated route-of advance. This route is parallel to-the axis of advance of the protected force, large enough to accommodate rapid movement of the squadron, and facilitates occupation of the screen line. The route must be kept clear to ensure rapid movement of the cavalry troops. Command and control, combat support, and combat service support assets move off the route when stopping and may move along other routes in depth. Four basic methods of movement may be used:

- Successive bounds.
- Alternate bounds by individual OPs.
- Alternate bounds by subordinate units.
- Continuous marching.

These methods are summarized in Figure 4-11. The squadron may use more than one as the speed of the protected force changes or contact is made.

METHOD	CONSIDERATIONS	ADVANTAGES	DISADVANTAGES
Successive Bounds	Main body slow; By platoon or troop; Contact possible; Simultaneously or in succession; Air screen during ground move	Most secure; Maintain maximum surveillance; Maintain unit integrity	Slowest method; Less secure during simultaneous move; May leave temporary gaps
Alternate Bounds by OPs	Main body faster; By platoon or troop; Contact possible; Bound rear to front	Very secure; Maintain maximum surveillance	Slow; Disrupt unit integrity
Alternate Bounds by Units	Main body faster; By platoon or troop; Contact possible; Bound rear to front	Fast; Good surveillance; Maintain unit integrity	May leave temporary gaps
Continuous Marching	Very fast main body; Perform as route reconnaissance; Contact not likely; Air screen on flank	Fast; Maintain unit integrity	Least secure

Figure 4-11. Methods of screen movement.

LIMITED VISIBILITY

Limited visibility conditions often occur during screen missions. The squadron commanders and troop commanders accommodate the screen to these conditions as they occur. The screen must never be left with gaps when aircraft cannot fly or scouts cannot observe. Ground OPs can be adjusted; night and thermal observation devices employed; electronic surveillance devices and FLIRs (forward looking infrared radar) activated; and trip flares, ground-based sensors, and OPs placed along dismounted avenues of approach. Depth in the screen can facilitate acquisition of enemy forces that may elude forward elements. Patrols are closely coordinated to prevent misidentification and engagement by friendly forces. Rigorous sound and light discipline at night prevents compromise and bypass of OPs by enemy reconnaissance forces. Additional OPs can be established as listening posts to take advantage of the extended distance sound travels at night. Indirect illumination is planned and used as necessary.

Section III. Guard

A guard force accomplishes all the tasks of a screening force. Additionally, a guard force prevents enemy ground observation of and direct fire against the main body. A guard force reconnoiters, attacks, defends, and delays as necessary to accomplish its mission. A guard force normally operates within the range of main body indirect-fire weapons. The main body commander assigns the guard mission when he expects contact or has an exposed flank that requires greater protection than a screen provides. A guard force is deployed over a narrower front than a screen to permit concentration of combat power. The momentum that the enemy attempts to achieve in an attack often forces a screen to transition rapidly into a guard.

The guard mission is normally assigned to a squadron. The multiple requirements of the mission, which must often be performed simultaneously over large areas, require the command and control structure of the squadron. Troops within the squadron perform zone reconnaissance, movement to contact, screen, defend, delay, or hasty attack missions. The guard mission requires the squadron to fight the enemy. To defeat a mechanized enemy force, the squadron requires tanks to mass the necessary combat power required for success. Depending on the threat, the division cavalry squadron may require reinforcement with additional maneuver assets to accomplish the guard mission. The regimental squadron may perform guard missions with its organic maneuver assets only, but integrating air cavalry into the conduct of the mission greatly enhances the squadron's capabilities. Either squadron may be reinforced with additional maneuver company teams when the zone or sector is large. Engineers often reinforce the squadron. Artillery may be provided in direct support to division cavalry. The intent of the main body commander in assigning the mission determines the nature and extent of reinforcement required.

Conduct of the mission is governed by the main body commander's intent. The squadron commander may be given freedom of action or be required to achieve time or event constraints. Permission to withdraw behind the rear boundary is normally required.

A guard may be performed for a stationary or moving force and to the front, flank, or rear of the main body. Planning considerations discussed for the screen apply to the guard. Figure 4-12 indicates the four locations a squadron may guard a moving or stationary force.

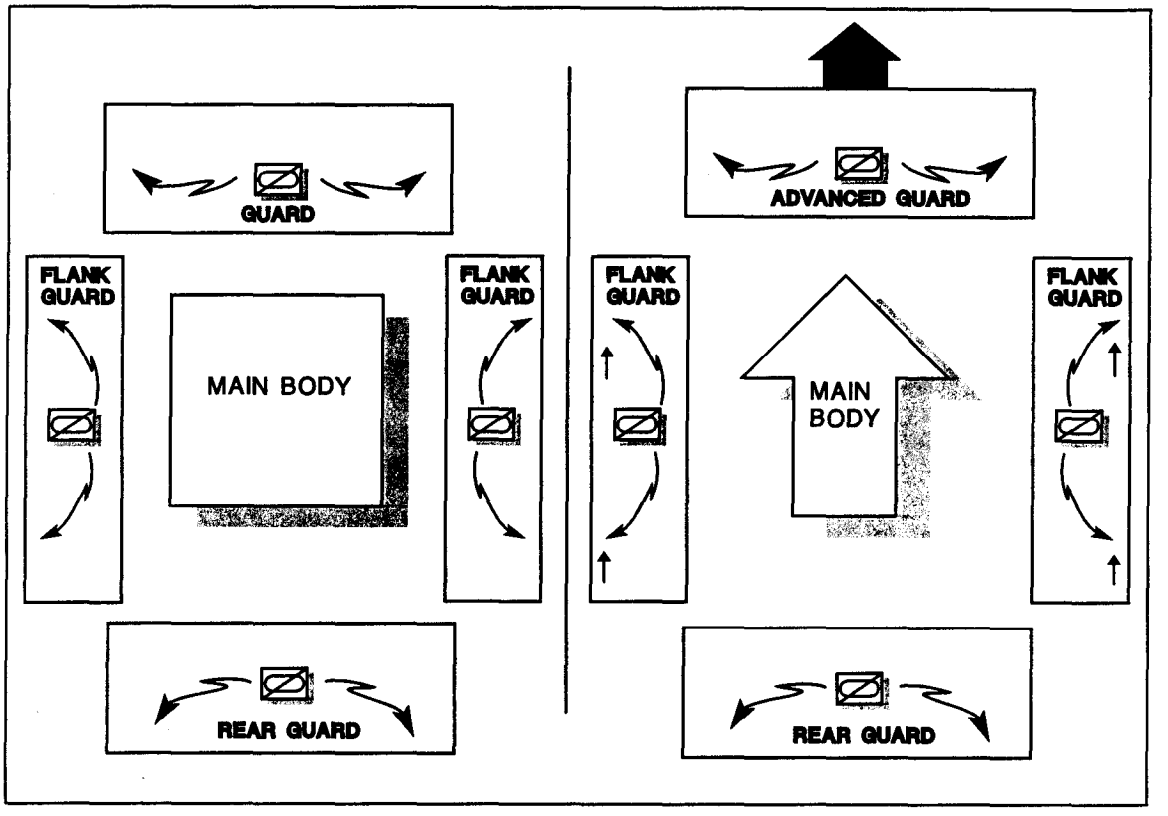


Figure 4-12. Guard locations.

The main body commander provides broad planning guidance (see Figure 4-13):

- Reinforcement of the squadron for the mission. Adequate combat and combat support assets are provided to achieve the commander's intent. Responsive fire support must be ensured.
- The general trace of the guard and effective time, if appropriate. The same considerations that were discussed in Section II, Screen, apply.
- The area of responsibility for the guard force.
- The force to be secured. The squadron commander must understand the concept of the protected force. Location or direction of movement of the force is critical.
- The rear boundary of the guard force. This boundary is placed far enough from the protected force so that the enemy cannot influence the main body without crossing the boundary. The rear boundary serves as the battle handover line to forces in the main battle area.
- Any special requirements or constraints.

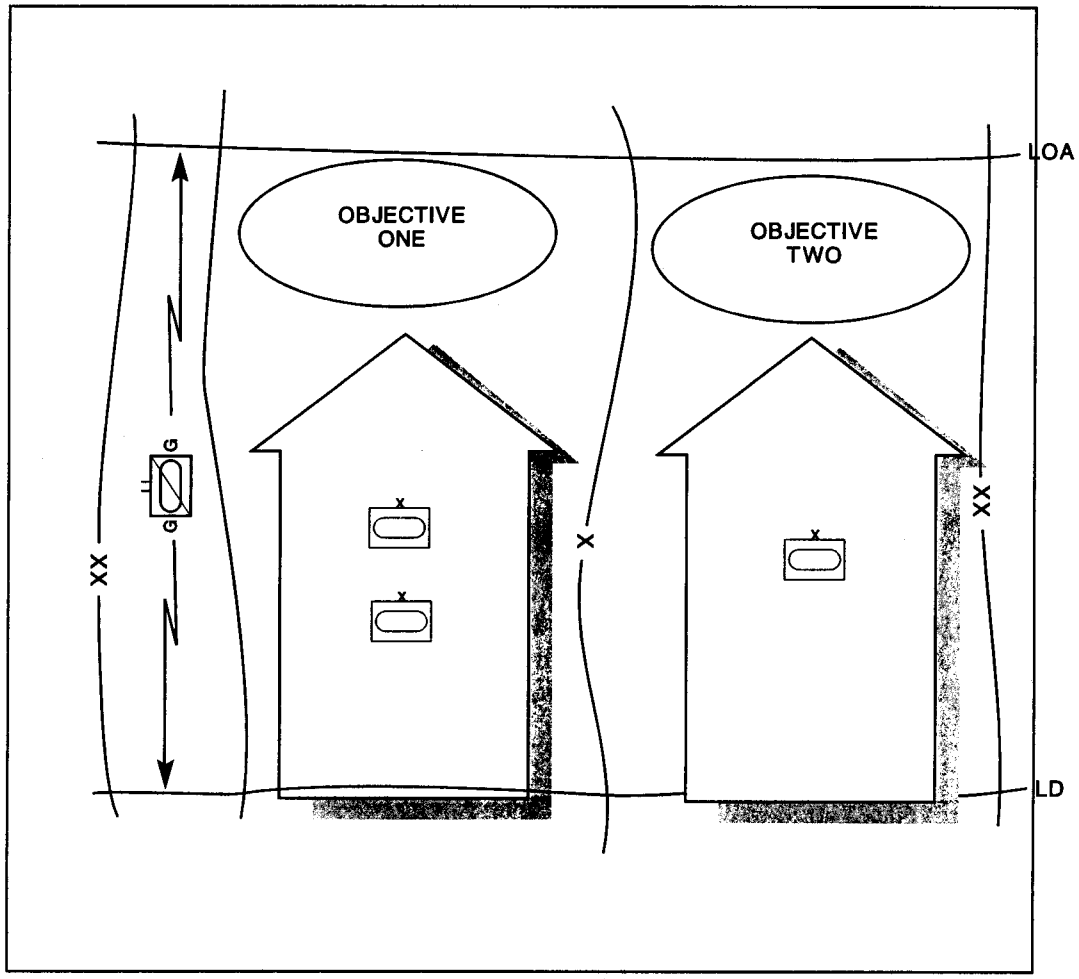


Figure 4-13. Division overlay.

ADVANCEGUARD

An advance guard for a stationary force deploys forward and defends. Once contact is made, the squadron continues to defend in sector or delay consistent with the commander's intent. An advance guard for a moving force is offensive in nature, finding and defeating enemy units along the axis of advance. The advance guard provides for the uninterrupted movement of the protected force. The squadron engages in offensive operations as necessary to accomplish the mission. Usually movement to contact as the advance guard would be the squadron mission. If the squadron encounters enemy forces beyond its capability, the squadron defends, continues close reconnaissance, and prepares to pass elements of the main body forward. Should brigades of a division be advancing on widely separated axes, the division cavalry squadron normally moves with the main effort. The supporting effort provides its own security.

An advance guard accomplishes the following critical tasks:

- Perform reconnaissance along the main body's axis of advance.
- Maintain continuous surveillance of enemy battalion-size avenues of approach, when stationary.
- Destroy or repel enemy reconnaissance and security forces.
- Defeat, repel, or fix enemy ground forces before they can engage the main body with direct fire.

The squadron commander clarifies, with the protected force commander, the interval to be maintained between the advance guard and the main body. The squadron is not tied to the protected force. Rather, it leads the main body within the intent of the commander. Through reconnaissance pull, the squadron guides the main effort to take advantage of opportunities (see Figure 4-14). The commander considers the following:

- Missions for subordinate troops. Subordinate troops of the squadron are normally assigned zone reconnaissance or movement to contact missions. Existing knowledge of the terrain or enemy situation, speed of advance of the main body, and nature of the main body objective may determine which mission is assigned.

- Missions for attached company teams or tank company. In division cavalry, attached company teams are best employed as a reserve by the squadron commander. They generally follow center of zone but remain responsive to shift rapidly wherever required. They can be used to develop the situation, destroy enemy bypassed by the troops, or support cavalry troops that become decisively engaged. In a wide zone, a company team may receive a zone and perform a movement to contact. In the regimental squadron, the tank company is the reserve to perform these missions.

- Zones for subordinate troops. Missions assigned influence the size of zones for the subordinate troops. A movement to contact normally has a narrower zone than a zone reconnaissance to allow adequate concentration of combat power. Ground troops are normally deployed abreast to cover the axis of advance or zone of the protected force.

- Air and ground integration. Air cavalry troops may perform reconnaissance forward of the ground troops or screen an exposed flank of the squadron. Additionally, they reconnoiter terrain that is hard to reach with ground troop vehicles. Other considerations discussed for the screen apply.

- Fire support planning. Providing adequate indirect fire support may require the protected force to position artillery well forward in the main body.

- Mobility and survivability. The possibility of receiving engineer support is increased while conducting a guard mission. Typical engineer tasks in support of a guard mission resemble those of a defense in sector: emplace

tactical obstacles, dig survivability positions, and plan the emplacement of situational obstacles.

- Positioning command and control, combat support, and combat service support assets. Considerations that apply to reconnaissance may be used. Combat trains move with the squadron. Division cavalry field trains normally move with the forward support battalion of a brigade in the main body. If the forward support battalion does not accompany the main body, the squadron's field trains normally remain behind as well. Regimental squadron field trains may be echeloned in depth, move with the regimental support area, or move within the main body.

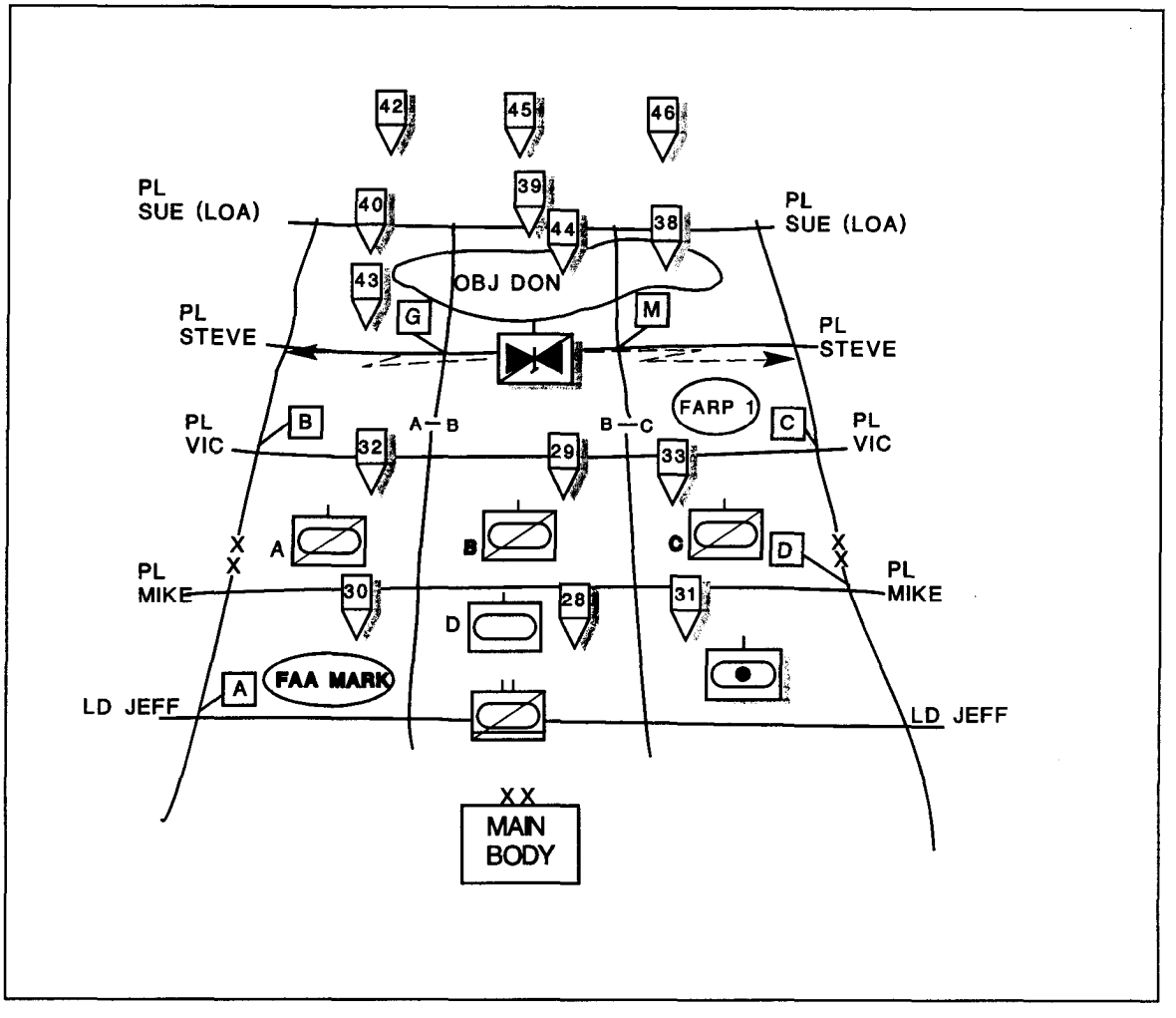


Figure 4-14. Advance guard (regimental cavalry squadron).

The ground troop commander plans his mission as he would a zone reconnaissance or a movement to contact. The hasty attack is a likely contingency he prepares to execute.

The air cavalry troop commander plans his mission as he would a zone reconnaissance or a screen if placed on a flank of the squadron.

FLANK GUARD

A flank guard protects an exposed flank of the main body. A squadron can guard one flank of a division-size force. In performing this mission, the squadron operates beyond the assigned zone or sector of the protected force. Normally, the flank guard's responsibility begins at the trail element of the advance guard or the lead combat element in the main body and ends at the rear of the protected force or lead element of the rear guard. The protected force commander clarifies this responsibility as necessary. A flank guard is similar to a flank screen except that defensive positions are planned for as well as scout OPs.

Stationary Flank Guard

A flank guard for a stationary force performs a zone reconnaissance when moving out to the initial security line positions. This allows the squadron to clear the zone and become familiar with the terrain that may subsequently be defended. Upon reaching the initial positions, the squadron establishes a defense (see Figure 4-15). The commander plans the defense or delay in depth from the initial positions. Troop commanders establish defensive positions in assigned battle positions or sectors, establish a screen forward of the positions, and plan defense in depth. Once contact is made, the squadron continues to defend in sector or delay as required. The following critical tasks apply during this mission:

- Maintain continuous surveillance of enemy battalion-size avenues of approach.
- Destroy or repel enemy reconnaissance forces.
- Maintain contact with the main body.
- Defeat, repel, or fix enemy ground forces before they can engage the main body with direct fire.

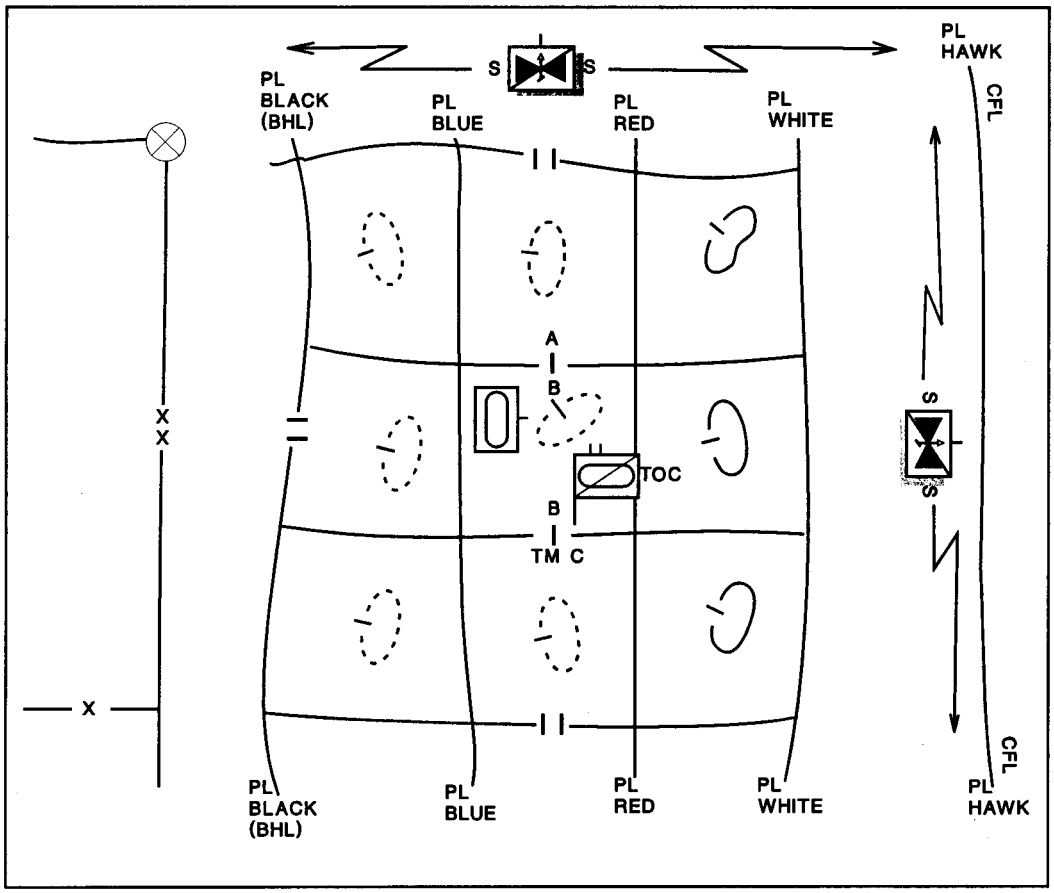


Figure 4-15. Stationary flank guard.

Attached company teams can be used as a reserve or assigned defensive sectors. In a vague situation, the squadron requires a larger reserve than one where the enemy's actions are more predictable. Infantry teams are best employed on close terrain or along dismounted avenues of approach. Tank teams are best along high-speed avenues of approach. A tank company defending may require a task organized scout platoon to establish the screen.

Moving Flank Guard

A moving flank guard poses additional considerations. Many of the considerations for the moving flank screen apply. Instead of occupying a series of OPs, the squadron plans a series of troop battle positions. The following critical tasks are accomplished:

- Maintain continuous surveillance of enemy battalion-size avenues of approach as long as they threaten movement of the main body.

- Reconnoiter the zone between the main body and the guard force battle positions.
- Maintain contact with the lead combat element of the main body.
- Destroy or repel enemy reconnaissance forces.
- Defeat, repel, or fix enemy ground forces before they can engage the main body with direct fire.

The lead troop of the squadron has a critical three-fold mission: to maintain contact with the main body, to reconnoiter the zone between the main body and the squadron route of advance, and to reconnoiter the squadron route. The troop accomplishes these tasks by performing a zone reconnaissance. The speed of the main body determines how thoroughly the reconnaissance is performed. Assistance is required if the zone is too wide for the lead troop. A zone that exceeds 10 kilometers from the guard line to the boundary with the main body generally should not be assigned to the three-fold mission troop. A three-fold mission troop tasked to conduct a zone reconnaissance greater than its doctrinal frontage (10 kilometers) will quickly find itself unable to match the tempo of the main body. When the distance from the guard line to the main body boundary exceeds 10 kilometers, commanders must consider using two troops abreast to ensure the troop maintaining contact with the main body is not overtasked, and can match the tempo of the main body. An air cavalry troop may maintain contact with the main body or a following troop may perform route reconnaissance along the route of advance. The lead troop does not reconnoiter the battle positions or occupy them unless required when contact is made.

The rest of the squadron marches along the route of advance and occupies battle positions as necessary. Criteria for the route are the same as in the moving flank screen. Troop-size battle positions are designated parallel to the axis of the main body, exterior to the squadron route of advance, and along the avenues of approach into the squadron. Follow-on troops reconnoiter these battle positions as they occupy them. Scouts occupy OPs along a screen line forward of the battle positions. Since the squadron is moving in one direction and orienting in another, the squadron commander plans control measures that facilitate this dual orientation. An objective may be assigned for orientation or to secure the flank of the main body objective. An air cavalry troop may assist the lead troop, reconnoiter the line of blocking positions, or screen the flank of the squadron beyond the blocking positions. Attached company teams prepare to occupy battle positions, or they may be used to form a reserve.

The squadron combat trains move with the squadron. Normally, the field trains move with the forward support battalion of the nearest brigade or with the regimental support squadron.

Two methods may be used to initiate the moving flank guard operation. These methods are based on how the main body crosses the line of departure. The squadron

should not make its own penetration of the line of contact when facing prepared enemy defenses. To do so may prevent or significantly delay the squadron in the assumption of the flank guard.

In the first method, the squadron crosses the line of departure separately from the main body and deploys to perform the mission (see Figure 4-16). This method keeps the two forces from intefering with one another and is faster. This method is appropriate when the line of contact has been penetrated by another force or the main body is not in contact with the enemy.

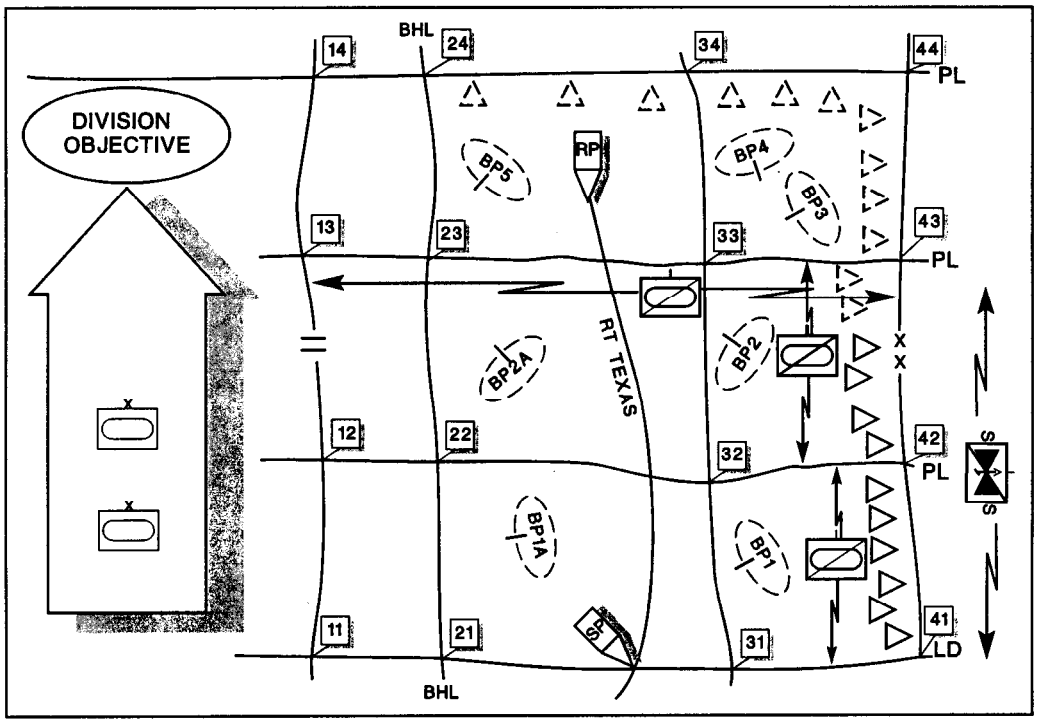


Figure 4-16. Moving flank guard (method one).

In the second method, the squadron crosses the line of departure with the main body and then deploys out into the zone (see Figure 4-17). This method is appropriate when the division makes its own penetration of the enemy defenses along the line of contact. The squadron may follow the lead battalion task force of the division through the gap and deploy when the situation permits. Alternatively, the squadron follows the combat elements of the lead brigade. This method is slower, but provides security for the squadron before assuming the flank guard.

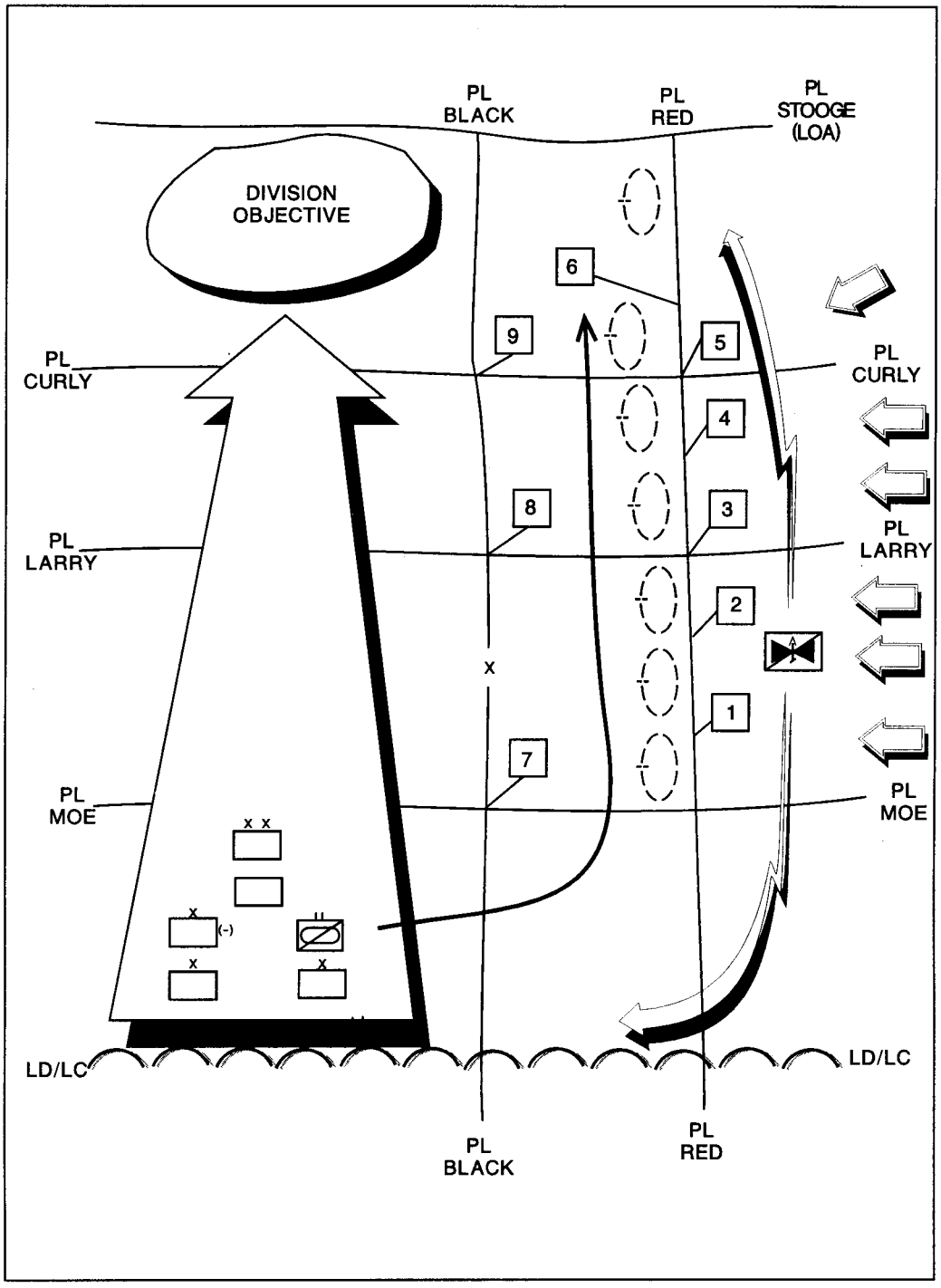


Figure 4-17. Moving flank guard (method two).

The squadron regulates movement along the route of advance by the pace of the protected force, distance to the objective, and the enemy situation. There are three methods of movement that the squadron may use:

- Successive bounds.
- Alternate bounds.
- Continuous marching.

Figure 4-18 summarizes these methods. If the protected force stops, the squadron occupies blocking positions. As the speed of the main body changes, the squadron changes movement methods. The squadron commander must not allow the squadron to fall behind the main body or present a lucrative target by remaining stationary along the route.

METHOD	CONSIDERATIONS	ADVANTAGES	DISADVANTAGES
Successive Bounds	Enemy contact likely; Main body slow; Bound by troops in succession or simultaneously	Most secure	Slowest
Alternate Bounds	Enemy contact likely; Main body slow; Troops bound from rear to front	Secure; faster than successive	
Continuous Marching	Enemy contact not likely; Main body fast; Troops remain in march column on route; Air screen on flank	Fastest	Least secure

Figure 4-18. Flank guard movement.

If the squadron becomes overextended, the squadron commander informs the main body commander and recommends one of the following courses of action:

- Reinforce the squadron.
- Reduce the squadron's area of responsibility.
- Screen a portion of the area and guard the rest.

The squadron does not needlessly overextend itself by continuing to occupy positions that have been passed by the rear of the protected force.

REARGUARD

A rear guard protects the exposed rear of the main body. This may occur during offensive operations when the protected force breaks contact with the FLOT or during retrograde operations. The rear guard deploys and defends for both moving and stationary main bodies. The critical tasks listed for the stationary flank guard apply. The rear guard for a moving force displaces to successive battle positions along phase lines in depth as the main body moves. The nature of enemy contact determines the method of displacement.

Establishing the rear guard during retrograde operations may be done in two ways. The squadron may relieve other units in place along the FLOT as they move to the rear. Alternatively, the squadron may establish a position in depth behind the main body and pass those forces through. Chapter 8 discusses retrograde operations.

Section IV. Cover

A covering force accomplishes all the tasks of screening and guard forces. Additionally, a covering force operates apart from the main body to develop the situation early and deceives, disorganizes, and destroys enemy forces. Unlike screening or guard forces, a covering force is tactically self-contained and capable of operating independently of the main body. Cover may be performed as an offensive or defensive mission. A covering force, or portions of it, will often become decisively engaged with enemy forces; therefore, the covering force must have substantial combat power to engage the enemy and still accomplish its mission.

The requirements placed upon the covering force, the command and control structure necessary for the forces involved, and the large areas of operations involved require an adequate level of command for successful accomplishment. The armored cavalry regiment is organized and equipped to conduct covering force operations. It normally forms the central element of the corps commander's covering force. Should the division be required to establish a covering force, it does so with a reinforced brigade. The division cavalry squadron may participate as part of the division covering force performing reconnaissance or security missions. If the division sector is narrow enough, an adequately reinforced cavalry squadron may perform cover.

The covering force mission is a high frequency mission for the armored cavalry regiment; therefore, this section will concentrate on the regiment's operations. However, the principles discussed in this section apply to any unit performing a covering force mission.

A covering force performs the following functions:

- Operates beyond the artillery range of the main body. The distance from the main body is determined by METT-T factors. A reinforced regiment may act as a covering force as far as 50 to 60 kilometers from the main body.
- Develops the situation earlier than a guard force, fights longer and more often, and defeats larger enemy forces.
- Reconnoiters, screens, attacks, defends, and delays as necessary. These missions are normally performed by subordinate elements of the covering force.
- Must not allow itself to be bypassed.

A regiment can act as a covering force without reinforcement, but it is normally reinforced with combat, combat support, and combat service support assets. Reinforcements increase the distance and time the regiment can operate away from the main body as well as improve the regiment's ability to fight. Typical reinforcements are illustrated in Figure 4-19. These reinforcements typically revert to their parent organizations upon passage of the covering force.

UNIT	RELATIONSHIP	PARENT ORGANIZATION
Battalion Task Force	Attached	Division
Cavalry Squadron	Attached	Division
Attack Helicopter Battalion	OPCON	Corps
Artillery Brigade	Attached or Direct Support	Corps
Engineer Battalion	Attached or Direct Support	Corps
Air Defense Artillery (SHORAD)	Attached or Direct Support	Corps
Military Intelligence (EW)	Attached or Direct Support	Corps
Combat Service Support	Attached or Direct Support	Corps

Figure 4-19. Typical armored cavalry regiment reinforcements for the covering force.

A covering force may be offensive or defensive in nature. The nature of the cover mission reflects the type of operation conducted by the corps. All covering force operations are aggressively executed making maximum use of offensive opportunities. Cover is force oriented.

An offensive covering force seizes the initiative early for the main body commander, allowing him to attack decisively. A defensive covering force prevents the enemy from attacking at the time, place, and combat strength of his choosing. Defensive cover is intended to disrupt the enemy's attack, destroy his initiative, and set him up for defeat.

OFFENSIVE COVER

During offensive operations, a covering force may operate to the front or flanks of the main body. Offensive covering forces perform the following functions:

- Conduct reconnaissance along the main body's axis of advance.
- Deny the enemy information about the size, strength, composition and objective of the main body.
- Destroy or repel enemy reconnaissance and security zone forces.
- Develop the situation to determine enemy strengths, weaknesses, and dispositions.
- Defeat, repel, or fix enemy forces as directed by the higher commander.
- Exploit opportunities until main body forces are committed.

Advance Covering Force

An advance covering force is conducted forward of the main body and has enough combat power to—

- Locate and penetrate the security zone and forward defenses of an enemy force deployed to defend.
- Destroy enemy reconnaissance, advance guard units, and as required, the first-echelon regiments of a moving enemy force.

An advance covering force is similar to a zone reconnaissance or movement to contact. The regiment advances on a broad front, normally with all three squadrons abreast (see Figure 4-20). The distance it operates forward of the main body depends on METT-T and the intent and instructions of the main body commander.

Planning for advance covering force operations is similar to that for zone reconnaissance or movement to contact. The width of the zone to be covered, and areas or routes of special importance are determined by mission analysis and IPB. Specific missions for subordinate squadrons are determined. Squadron or battalion boundaries are then assigned. The covering force commander will retain a reserve. In the armored cavalry regiment, this reserve may be composed of the attack helicopter troops of the regimental aviation squadron or attached battalion task forces. The reserve may be centrally located and ready to deploy anywhere in the covering force zone, located in the most dangerous or critical portion of the covering force zone, or positioned to support the covering force commander's tactical scheme of maneuver by executing a specific mission. Squadron commanders normally retain their tank

company as the squadron reserve. The reserve must be prepared to attack, counterattack, or defend.

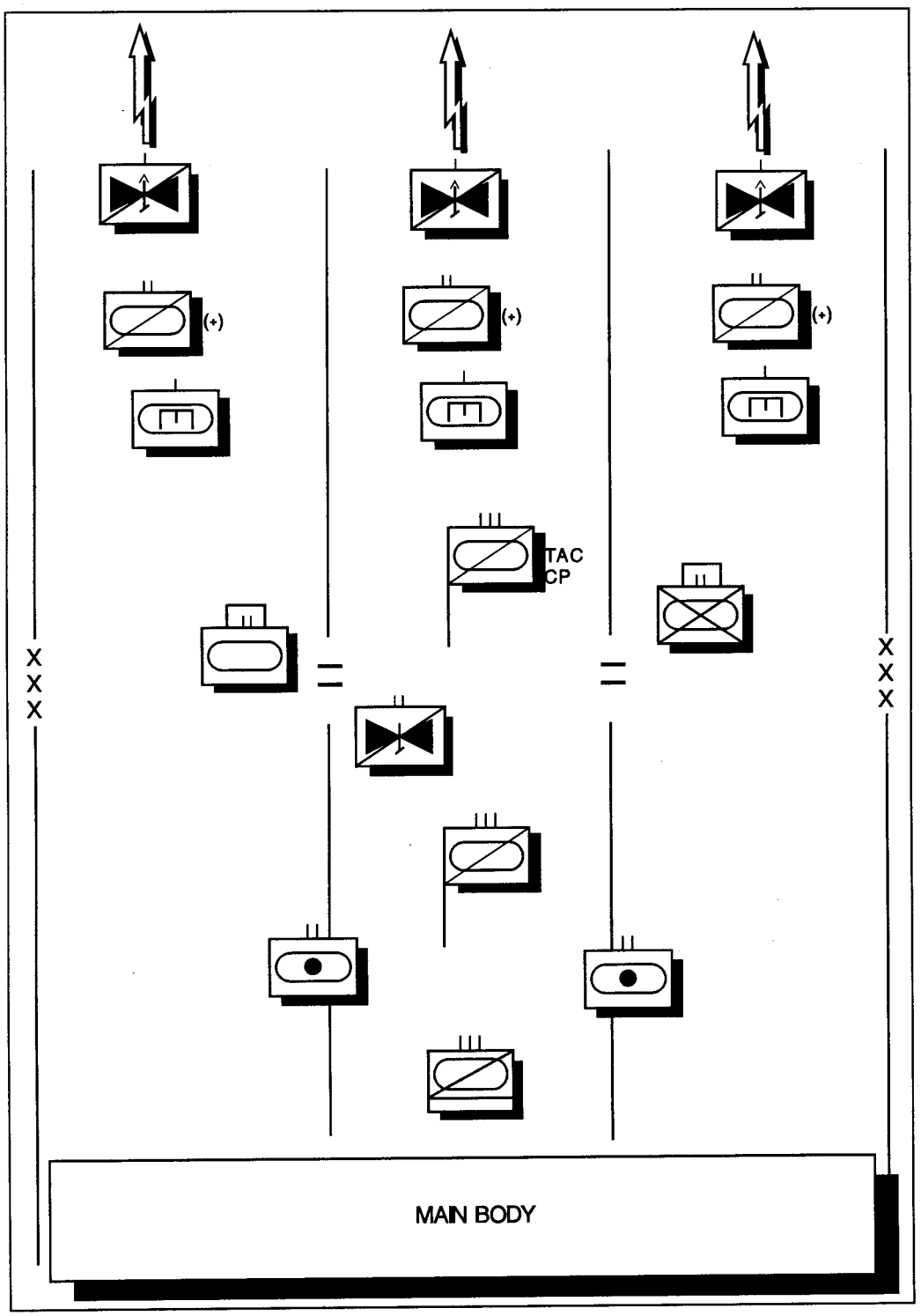


Figure 4-20. Reinforced armored cavalry regiment performing advance cover.

Air cavalry normally reconnoiters forward of advancing ground squadrons or battalions. Upon enemy contact, the air cavalry reports the enemy location to the ground unit in that zone and maintains contact. Once contact is made, the situation is rapidly developed. Supporting artillery fires are called in by air and ground scouts, and the enemy force is fixed and destroyed by fire and movement. The covering force will not bypass enemy forces without the permission of the main body commander.

When the covering force can advance no further, it defends and prepares to assist the forward passage of lines of main body units. It continues to perform close reconnaissance of enemy positions to locate gaps or vulnerable flanks. It reports enemy dispositions immediately to the main body commander so that he can exploit enemy weaknesses. The covering force may guide main body units as they attack through or around the covering force. If the covering force has done its job well, the main body commander will be able to attack the enemy's weak point at the time of his choosing with previously uncommitted main body forces.

If the regiment finds a gap in enemy defenses, it prepares to aggressively penetrate and disrupt the integrity of the defense. The regimental commander reports this to the corps commander immediately so he can divert follow-on forces. The regiment's penetration is synchronized with the arrival of other maneuver units, combat support, and combat service support to prevent its subsequent isolation and destruction by counterattacking enemy forces. Caution should not needlessly delay the regiment. The regiment is ideally organized to seize the initiative by penetrating, keeping the enemy off balance until the main body can move to reinforce the effort.

Flank Covering Force

A flank covering force is a security force operating to the flank of a moving or stationary force. A flank covering force mission is normally assigned if the main body commander perceives a significant threat to one of his flanks. The flank covering force is conducted much the same as a flank guard (see Figure 4-21). The main differences between the two missions are the scope of operations and the distance the covering force operates from the main body.

The area of operations for the flank covering force and the force to be protected are designated by the commander assigning the mission. Just as in the flank guard mission, the flank covering force must clear the area between its route of advance and the main body. It must also maintain contact with an element of the main body specified by the main body commander. This element is normally part of the advance guard for the flank division of the main body.

Air cavalry is invaluable in the conduct of a moving flank covering force. Integration of air and ground operations is essential. Air cavalry may be used to—

- Assist in clearing the area between the covering force and the main body.
- Assist in maintaining contact with the protected force.
- Screen to the front of the units conducting the flank covering force.

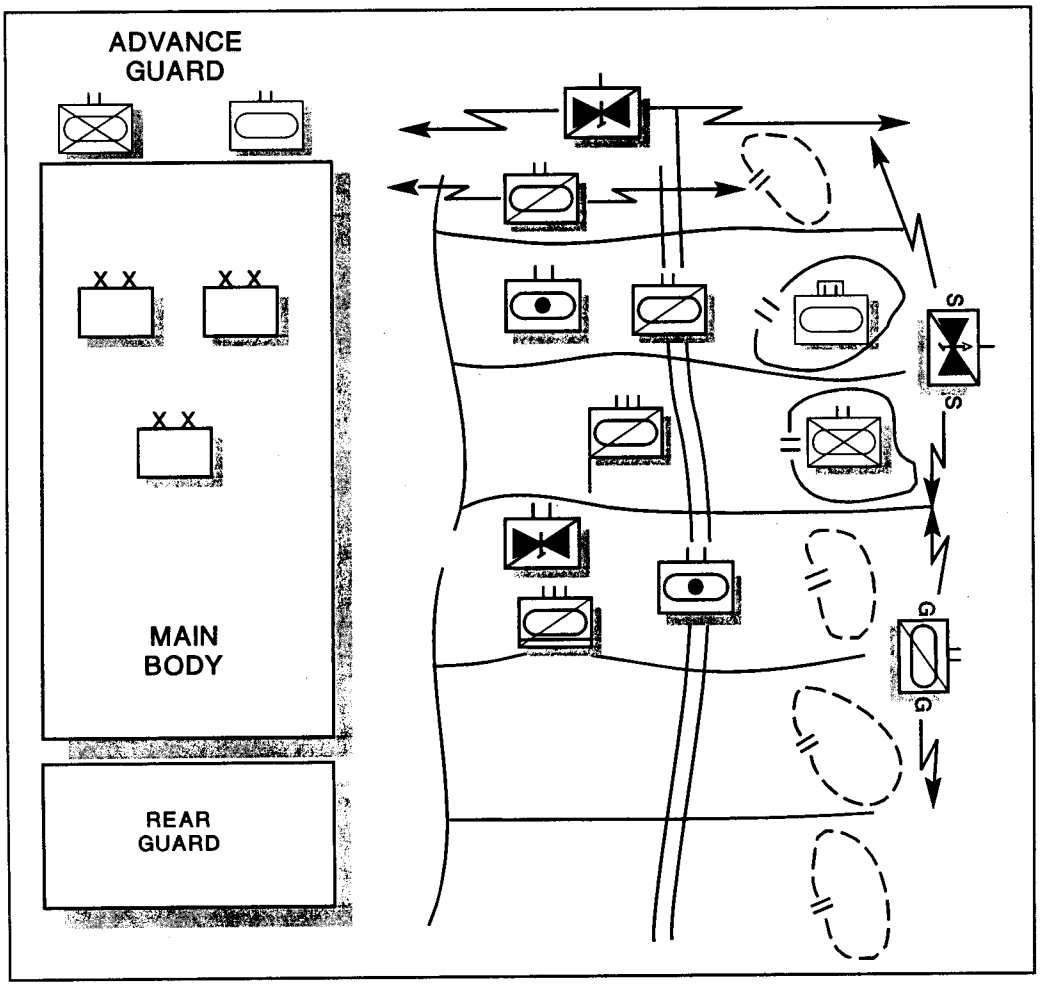


Figure 4-21. Reinforced armored cavalry regiment performing flank cover.

DEFENSIVE COVER

A defensive covering force operates to the front, flanks, or rear of a main body deploying to defend. Defensive cover is performed most frequently forward of the corps main body. The primary mission of a defensive covering force is to make the enemy reveal his main effort, disrupt his attack, and destroy his initiative. Defensive covering forces perform the following functions:

- Maintain continuous surveillance of battalion-size avenues of approach.
- Destroy or repel enemy reconnaissance and security forces in order to deceive enemy as to disposition and location of main defensive effort.

- Determine the size, strength, composition, and direction of the enemy's main effort.
- Defeat lead enemy echelons as directed.
- Force the commitment of and maintain contact with enemy second-echelon forces.

The corps commander will normally use the armored cavalry regiment as the foundation of the corps covering force. Reinforcing the regiment with additional combat, combat support, and combat service support assets will increase the length of time it can fight the covering force battle, and give it the capability to destroy larger enemy forces. The amount of augmentation the regiment receives depends on the intent of the corps commander.

The main body commander designates the forward and rear boundaries of the security force with phase lines. The lateral boundaries of the security area are normally extensions of the main body boundaries. The rear boundary of the security force is the battle handover line, which should be within range of main body artillery. The regiment designates additional control measures to help control the operation.

The regimental commander assigns sectors to each squadron. Squadron missions are normally defend in sector or delay. If certain terrain is key to the operation, battle positions may be assigned to battalion task forces. Squadron commanders have the same options in the deployment of their units. If the terrain and situation permit, the squadron boundaries should be extensions of the boundaries of corresponding main body units (divisions and brigades). This will serve to simplify the battle handover, and the transfer of control of any supporting assets from the covering force to main body units. Figure 4-22 depicts a reinforced armored cavalry regiment in a defensive covering force forward of a corps.

The regiment moves as in zone reconnaissance or movement to contact to the forward phase line in the security area. The regiment may be required to fight through enemy resistance to establish control over the security area. If heavy enemy resistance is encountered, the main body commander will normally order the covering force to occupy a new defensive line and conduct the cover. Planning for such contingencies is critical to the success of the covering force mission.

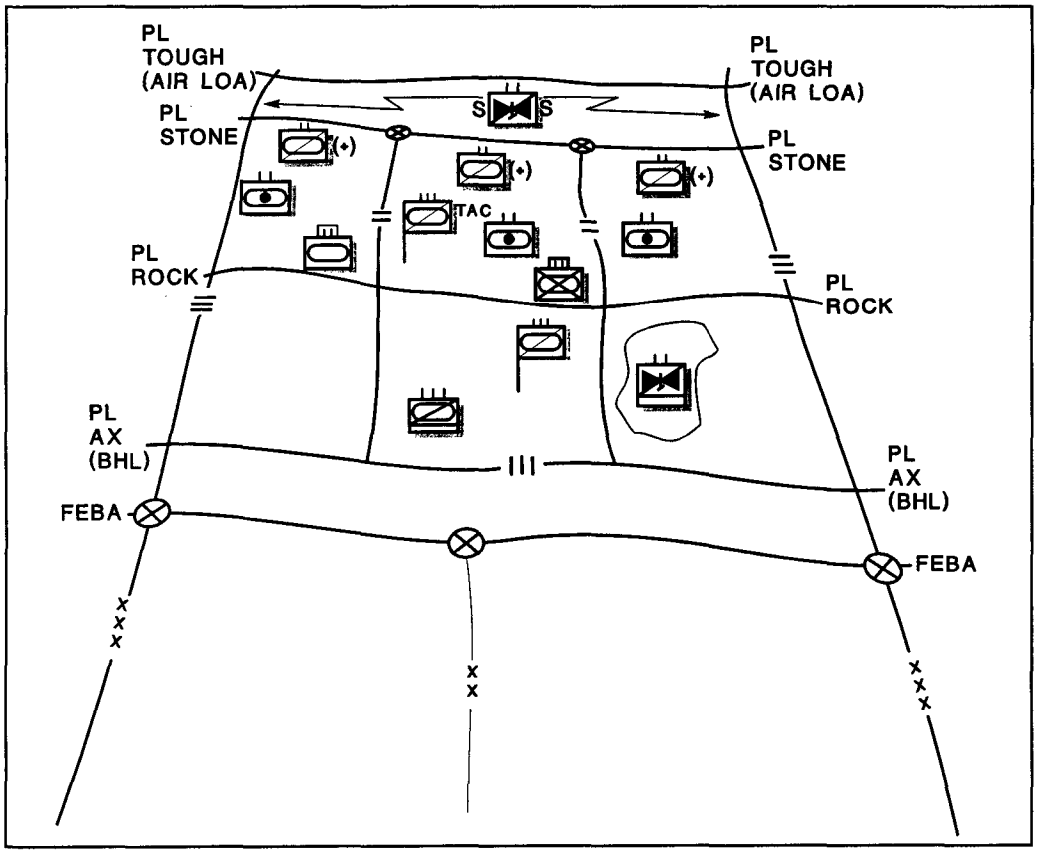


Figure 4-22. Reinforced armored cavalry regiment performing defensive cover.

Reserves are critical to a defensive cover. They allow the covering force commander to seize the initiative during the early stages of an enemy attack. The regimental commander always designates reserves. These are frequently attack helicopter battalions, attack troops of the regimental aviation squadron, and attached battalion task forces under his operational control (OPCON). In the absence of any attached or OPCON maneuver units, the regimental commander may assign contingency missions to squadron tank companies and dictate employment restrictions to squadron commanders. The tank company is the squadron commander's primary reserve force. Ground reserve forces are normally positioned in depth and prepared to execute a series of contingency missions (such as counterattack, block, support ground squadron, and assume defensive sector). Aviation reserves may counterattack in coordination with ground reserves, conduct joint air attack team operations, attack deep to delay second-echelon enemy forces, support ground squadrons, and react to unforeseen enemy actions. The regimental commander frequently structures his defense to shape an enemy penetration and then masses all available reserves to rapidly defeat an isolated enemy force.

As in any cavalry mission, integration of ground and air operations is critical to the success of the defensive covering force mission. Air cavalry can assist the reconnaissance of the security area as the regiment moves forward, screen forward of the covering force, cover areas between ground units, and assist in the

disengagement of ground units (especially valuable during the conduct of battle handover and passage of lines with the main body).

Battle handover and passage of lines is inherent in the conduct of defensive cover. This is a complex and dangerous task, and must be thoroughly planned as an integral part of the covering force mission. (See Chapter 8.)

Battle handover and passage of lines may not occur simultaneously for all covering force units. As some units begin passage, others may still be taking advantage of offensive opportunities in other parts of the security area. The regimental commander prepares to continue fighting in those portions of the security area where his forces are successful in order to set up offensive opportunities for the corps.

Flank Security Force

A defensive flank cover is performed in the same manner as defensive cover forward to the protected force.

Rear Covering Force

A rear covering force mission is similar to a rear guard mission. A rear covering force normally protects a force moving away from the enemy. The covering force deploys behind the forward maneuver units of the main body, conducts battle handover and passage of lines, and then defends or delays. Alternatively, the covering force may conduct a relief in place as part of a deception plan or to take advantage of the best defensive terrain.

The regiment deploys its squadrons abreast, generally across the sectors of defending divisions. The squadrons establish passage points and assist the rearward passage of the main body, as necessary. From that point on, the mission is conducted the same as any other defensive covering force operation. As the main body moves, the covering force displaces to subsequent phase lines in depth. If the enemy does not follow the withdrawing forces, contact may eventually be lost. Fighting a defense or delay is necessary if the enemy detects the movement and attacks.

Section V. Area Security

Area security is a form of security that includes reconnaissance and security of designated personnel, airfields, unit convoys, facilities, main supply routes, lines of communications, equipment, and critical points.

An area security force neutralizes or defeats enemy operations in a specified area. It operates in an area delineated by the headquarters assigning the area security mission. It screens, reconnoiters, attacks, defends, and delays as necessary to accomplish its mission. Area security operations may be offensive or defensive in

nature and focus on the enemy, the force being protected, or a combination of the two. Commanders may balance the level of security measures with the type and level of threat posed in the specific area; however, all-around security is essential.

Area security operations are conducted to deny the enemy the ability to influence friendly actions in a specific area or to deny the enemy use of an area for his own purposes. This may entail occupying and establishing a 360-degree perimeter around the area being secured, or taking actions to destroy enemy forces already present. The area to be secured may range from specific points (bridges, defiles) to areas such as terrain features (ridgelines, hills) to large population centers and adjacent areas.

Proper IPB is vital to provide adequate security for the assigned area. The factors of METT-T and unit capability will determine specific unit missions. Factors are as follows:

- The natural defensive characteristics of the terrain.
- Existing roads and waterways for military lines of communication and civilian commerce.
- The control of land and water areas and avenues of approach surrounding the area to be secured extending to a range beyond that of enemy artillery, rockets, and mortars.
- The control of airspace.
- The proximity to critical sites such as airfields, power generation plants, and civic buildings.

Due to the possibility of commanders tying their forces to fixed installations or sites, these types of security missions may become defensive in nature. This must be carefully balanced with the need for offensive action. Early warning of enemy activity is paramount in the conduct of area security missions and provides the commander with time to react to any threat. Proper reconnaissance and surveillance planning coupled with dismounted/mounted patrols and aerial reconnaissance is key to successful operations.

A perimeter is established when a unit must secure an area where the defense is not tied into an adjacent unit. Perimeters vary in shape depending on METT-T. If the commander determines the most probable direction of enemy attack, he may weight that part of the perimeter to cover that approach. The perimeter shape conforms to the terrain features that best use observation and fields of fire.

Perimeters are divided into troop/platoon sectors with boundaries and contact points. Mutual support and coordination between defensive elements require careful planning, positioning, and coordination due to the circular aspects of the perimeter. A screen line is established, integrating OPs, ground surveillance radar, and patrols. Tanks and antiarmor weapons systems are placed on armor-restrictive terrain and

high-speed avenues of approach. Likely enemy drop zones or landing zones are identified and kept under observation. Air cavalry assets, if available, are integrated into the reconnaissance and surveillance plan. Figure 4-23 depicts an armored cavalry squadron conducting an area security of an urban area.

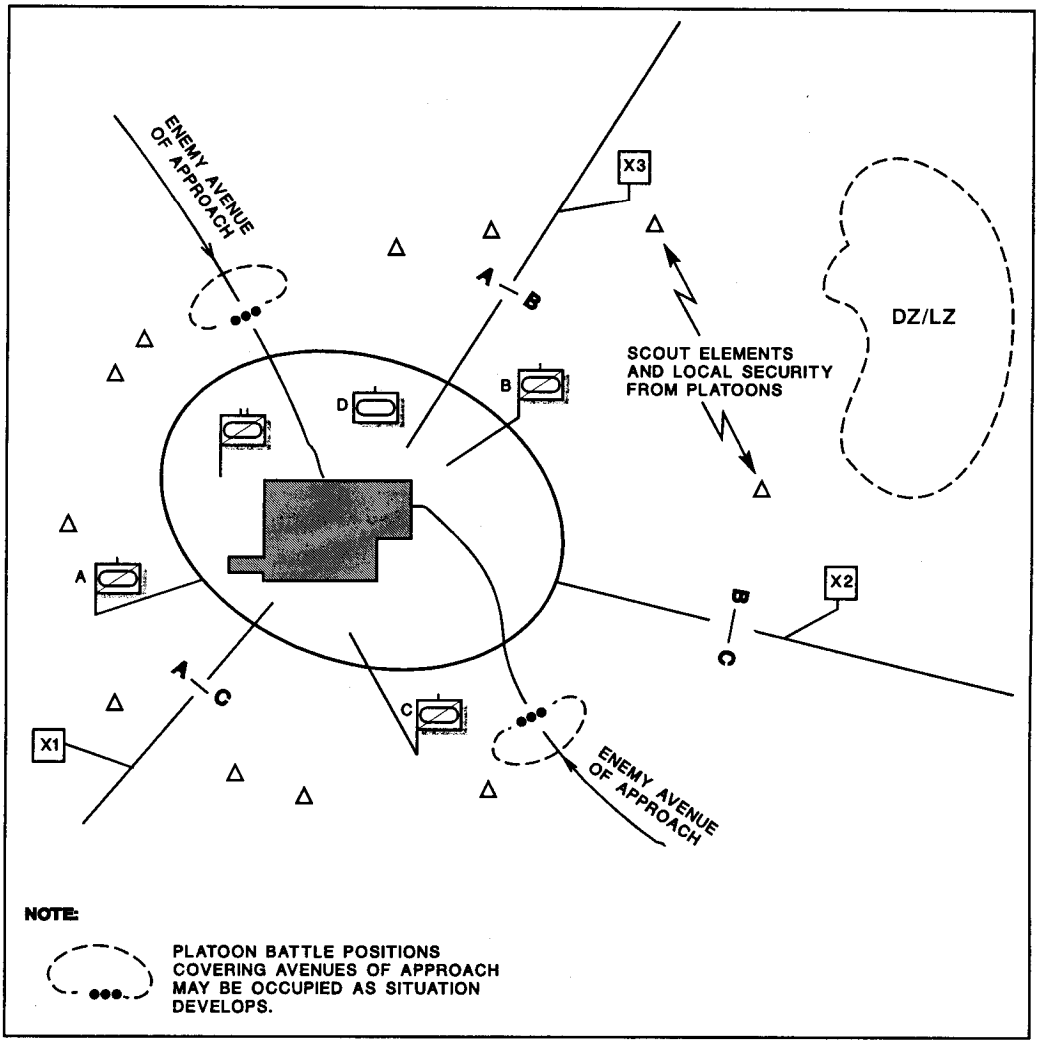


Figure 4-23. Cavalry squadron conducting area security.

Depth is provided through the use of subsequent fighting positions and mobile reserves. The mobility and firepower of armored forces will allow for rapid traverse of large areas and the ability to quickly mass to destroy any enemy penetration. The size of the reserve depends on the size of its parent unit and the tactical situation. Immediate reaction to intelligence information or any type of attack is vital. This reaction to accurate and timely intelligence may permit destruction of enemy elements prior to an attack on the area being secured. Reaction operations or commitment of the reserve is simple, planned, and rehearsed day and night.

Combat support and combat service support elements may support from within the area being secured or from another location, depending on the mission and status of the unit, the type of transport available, the weather, and the terrain.

Area security missions are conducted by platoons, cavalry troops, squadrons, and regiments who employ the techniques of screen, guard, offense, and defense, depending on the nature and purpose of the mission.

ROUTE SECURITY

Cavalry squadrons and regiments conduct route security missions to prevent enemy ground maneuver forces or insurgents from coming within direct fire range of the protected route. A route security force operates on and to the flanks of a designated route. Route security operations are defensive in nature and, unlike guard operations, are terrain oriented. A route security force prevents an enemy force from impeding, harassing, containing, seizing, or destroying traffic along the route. To accomplish this task, the force will perform the following functions:

- Conduct continuous mounted and dismounted reconnaissance of the route and key locations along the route to ensure the route is trafficable.
- Conduct sweeps of the route at irregular intervals to prevent emplacement of enemy mines along the route.
- Cordon sections of the route to search suspected enemy locations.
- Establish roadblocks/checkpoints along the route and lateral routes to stop and search vehicles and persons on the route and those entering the route.
- Occupy key locations and terrain along or near the route. If possible, establish a screen line oriented to prevent enemy direct fire weapons and observation from influencing the route.
- Aggressively conduct ground and aerial patrols to maintain route security.

While route security is a mission commonly associated with environments of conflict or peace, it may be executed under the environmental conditions of war as well. Usually due to the distances involved in securing a route, squadrons and regiments will be assigned route security missions. Subordinate ground troops could conduct the following missions:

- Screen.
- Zone, area, and route reconnaissance.
- Cordon and search.
- Establish traffic control points.
- Defend.
- Hasty attack.
- Raid.

Air troops in the regiment or squadron could conduct the following missions:

- Screen.
- Zone, area, and route reconnaissance.
- Hasty attack.
- Raid.

Enemy forces may try to sever supply routes and lines of communications by various methods. Roads, waterways, and railways may be mined; ambush sites can be located adjacent to the route being secured; or bridges and tunnels can be destroyed by demolitions. Due to the nature of this mission, very long routes may be extremely difficult to secure; however, measures can be enforced to reduce the effect of enemy forces. Figure 4-24 depicts an armored cavalry squadron conducting a route security mission.

Patrolling the route, mounted and dismounted, greatly increases the chances of detecting enemy forces before they can effectively emplace mines or demolitions, or establish ambushes or roadblocks. Patrolling is performed regularly, but patrols should not establish a routine. This helps avoid possible enemy ambushes and aids in detection of enemy forces. Patrols must be aware of probable ambush sites and choke points where roadblocks or mines and demolitions would be effective. Personnel conducting patrols must be trained in detecting mines and booby traps.

Patrols are organized with enough combat power to survive initial enemy contact. Recent enemy activity provides guidance on the organization of patrols. Patrols can be augmented with combat engineers, infantry (both light and mechanized forces), military police, or other assets, when available, to increase their combat capability. Usually, lack of combat power prohibits a patrol's ability to deal with large enemy forces; therefore, indirect fire plans and air cavalry assets should be integrated into the patrol plan at all times when available.

Roadblocks, checkpoints, and guard posts may be placed at crucial choke points (such as bridges and tunnels) to effectively prevent acts of sabotage to keep the route open and available to friendly forces. Forces stop and search vehicles and persons before they proceed. Forces do not allow vehicles to stop on or under bridges or in tunnels. Personnel maintain constant surveillance over critical checkpoints at night by use of night vision equipment integrating ground surveillance radars and sensors to cover the immediate and surrounding areas. Mining indirect approaches to sensitive areas may help lessen the chances of a ground attack. Artillery fires are planned to assist in defeating enemy attempts to influence the critical areas. Personnel construct bunkers to protect observation posts and to provide positions from which to fight until reinforced.

Air cavalry assets can assist in securing the route by conducting patrols, effectively covering large areas in a short time. Additionally, air cavalry troops can assist in maintaining the screen line or perimeter securing the route. Attack helicopter troops can be used as a quick reaction force to move rapidly to destroy enemy ground forces or to cut off enemy escape routes.

Engineers help keep the route open. Engineers assist in locating and clearing mines, clearing terrain at potential ambush sites, and repairing damage to roads and trails. Engineers can also assist in preparing defensive systems around critical areas and choke points.

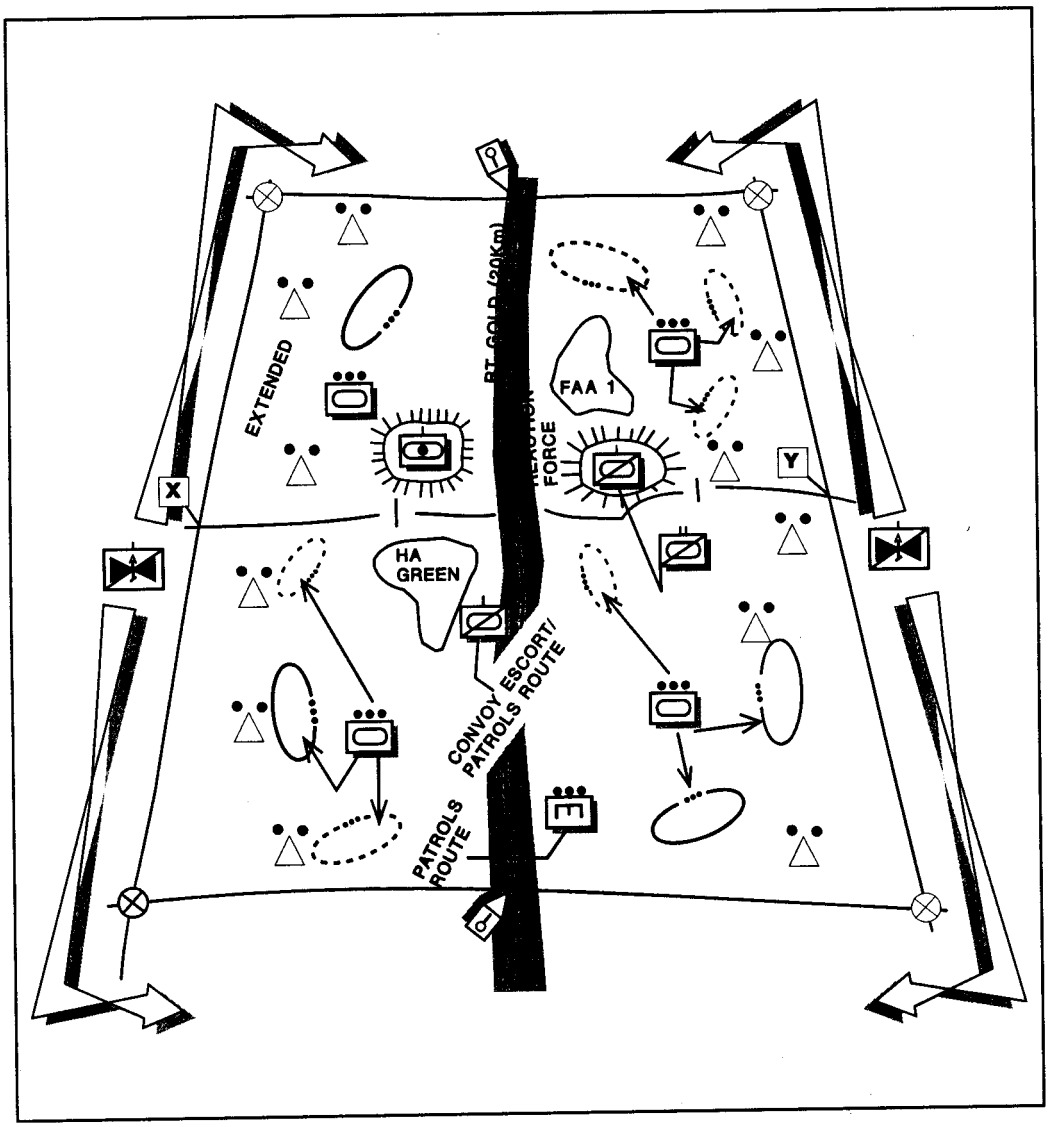


Figure 4-24. Cavalry squadron conducting route security.

CONVOY SECURITY

"No matter whether we travel in big parties or little ones, each party has to keep a scout twenty yards ahead twenty yards on each flank and twenty yards in the rear, so the main body can't be surprised and wiped out."

Major Robert Rogers, 1759
Standing Order #12
Rogers Rangers

Convoy security operations are conducted when insufficient friendly forces are available to continuously secure lines of communication in an area of operations. They may also be conducted in conjunction with route security operations. A convoy security force operates to the front, flanks, and rear of a convoy element moving along a designated route. Convoy security operations are offensive in nature and orient on the force being protected.

A convoy security mission has certain critical tasks that guide planning and execution. To protect a convoy, the security force must accomplish the following critical tasks:

- Reconnoiter the route the convoy will travel.
- Clear the route of obstacles or positions from which the enemy could influence movement along the route.
- Provide early warning and prevent the enemy from impeding, harassing, containing, seizing, or destroying the convoy.

Convoy security operations are performed as a minimum by a cavalry troop. Cavalry troops are well suited to the requirements of protecting a convoy due to their organic reconnaissance capability and combat power. The cavalry troop may be reinforced with engineers and military police. METT-T considerations, such as restrictive terrain and limited time, may dictate a coordinated effort with air cavalry assets.

The convoy security force is organized into three or four elements (see Figure 4-25):

- Reconnaissance element. The reconnaissance element performs tasks associated with zone and route reconnaissance forward of the convoy.
- Screen element. The screen element provides early warning and security to the convoy's flanks and rear.

- Escort element. The escort element provides close-in protection to the convoy. May also provide a reaction force to assist in repelling or destroying enemy contact.
- Reaction force. Provides firepower and support to the elements above in order to assist in developing the situation or conducting a hasty attack. May also perform duties of the escort element.

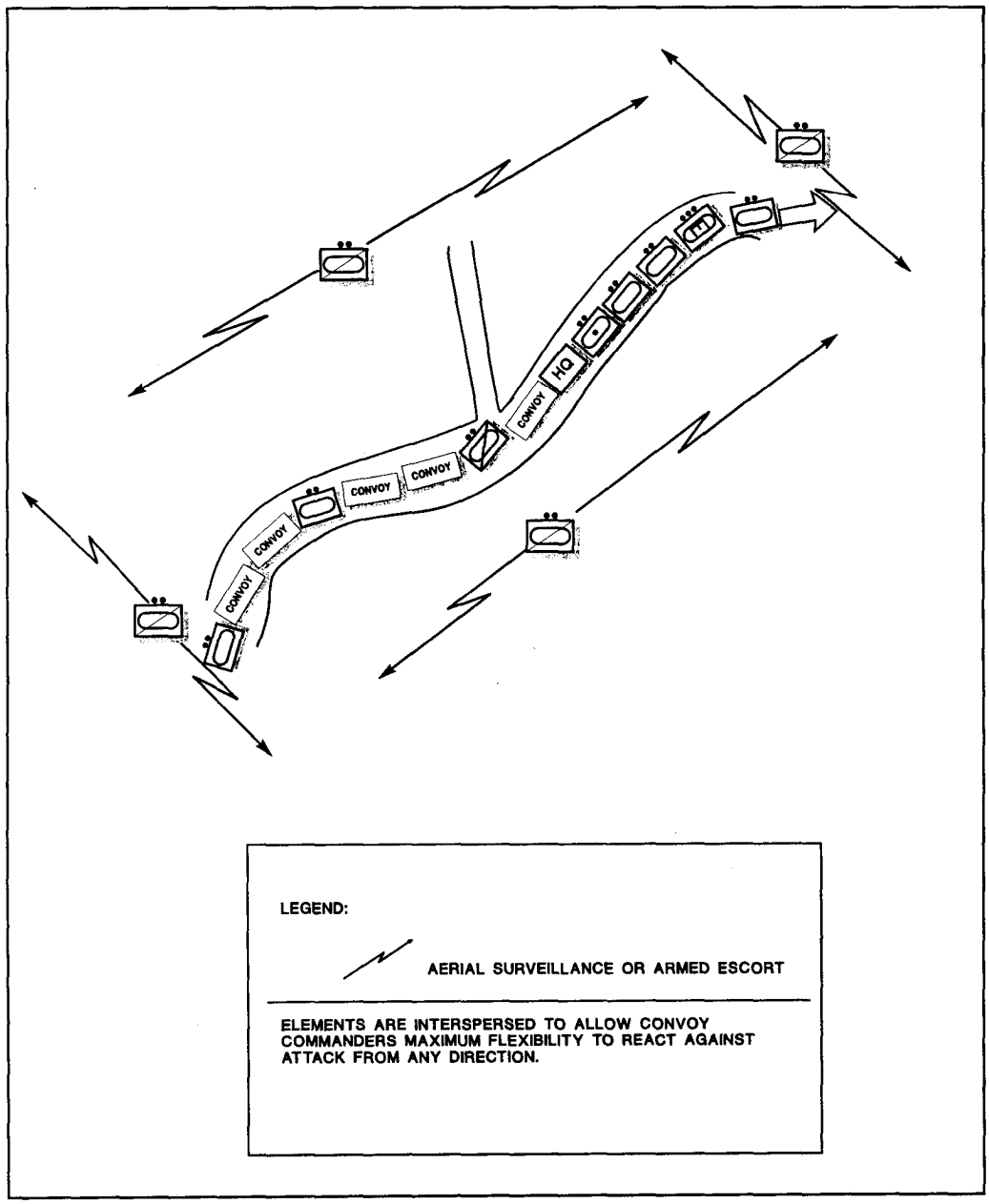


Figure 4-25. Cavalry troop conducting convoy security.

Commanders plan and execute all movements of troops and supplies as tactical operations. Convoy security operations are conducted in high risk areas that are not controlled by friendly forces; medium risk areas where friendly forces operate but have been frequented by insurgents; and low risk areas where the friendly forces have control of the area. Due to the inherent dangers of convoy operations, emphasis is on extensive security measures. These security measures include the following:

- Secrecy when planning and disseminating orders, strict noise and light discipline during movement, and varying routes and schedules.
- Coordination with supporting air units to ensure an understanding of air support used to assist the movement, both in enforcing preventive measures and in conducting close combat operations.
- Fire support elements that provide close and continuous fire support for the movement.
- Maneuver for counterambush actions. This includes contingency plans for immediate actions against an ambush and use of formations, which allow part of the column to be in position to maneuver against an ambush force.
- Communications and coordination with supporting units and units along the route, adjacent host-nation forces, and higher headquarters, to include airborne radio relay.
- Various locations for leaders, communications, medical support, and weapons systems within the movement formation.
- Questions asked of the local civilians along the movement route for intelligence information, to include possible enemy ambush sites.

Convoy security missions generate unique requirements that the commander and staff must take into account when formulating a plan. The convoy security commander and his subordinates are briefed on the latest information regarding the enemy situation and the area through which the convoy will pass. The commander formulates his plans and issues his orders, to include formation, intervals between echelons and vehicles, rate of travel, and detailed plans for actions if an enemy force is encountered. Since there is seldom time to issue orders during an ambush, leaders plan the escort element and reaction force element actions should an ambush occur. These actions should be rehearsed prior to movement and executed as drills in the event of enemy contact.

A quick reaction force may be maintained by the higher headquarters command. The quick reaction force will remain at REDCON 1, monitoring the progress of the convoy and ready to respond if the convoy encounters an enemy unit that is greater than the security element's capability. Enemy forces must be convinced that ambushes will produce a fast, relentless, hard-hitting response. The ready reaction forces may have to be moved forward so they can respond quickly if the convoy is moving a long distance.

Communications are vital to the success of movements. Leaders plan radio communication and ensure availability between convoy elements and indirect fire support assets, air cavalry assets, and with units and population centers in the areas along the route of movement. Visual and sound signals are prearranged. These signals include colored smoke, identification panels, and whistles or horn signals. While limited, these communications means are effective when prearranged signals and responses are understood and rehearsed.

Units must ensure artillery and mortar support is planned to support the entire route of movement. Units may have mortars integrated into the escort element itself or may have indirect fire support provided by artillery elements that are positioned along the route. Coordination with fire direction centers (FDC) that can provide fire along the route of movement ensures that FISTs can enter the FDC net, send routine location reports, and request and adjust fires. Leaders must coordinate call signs, frequencies, areas of employment, schedules of movement, and target numbers prior to the convoy movement.

Air cavalry assets, if available, can participate in the convoy security operation by screening the convoy movement as the element moves along the route of march or by assisting in clearing the route ahead of the convoy in conjunction with the route reconnaissance element. Air cavalry can also assist by controlling indirect fire and directing on-call close air support. The support air cavalry unit must know the maneuver intentions of the ground element should contact with the enemy occur.

Convoy security operations in an urban environment or built-up area require different emphasis and techniques than those in rural areas. The population density and characteristics of the area require the use of nonlethal weapons and the careful application of weapons of destruction. When applying minimum-essential force to minimize loss of life and destruction of property, leaders must conduct detailed planning, coordination, and control. Convoys, whenever possible, should move through populated areas during times that these areas are least congested and therefore less dangerous to the security of the convoy. Convoy operations may require assistance from military police or local police and other government agencies to secure the route prior to the convoy entering the built-up area.

The squadron S4 and unit commanders must carefully plan for combat service support in convoy security operations. Fuel and maintenance elements should be included in the convoy itself or prepositioned in secure areas along the route. A detailed precombat inspection must be performed to ensure that vehicles are full of fuel, PMCS have been performed, and potential maintenance problems are eliminated before the convoy starts movement. Casualty evacuation must be planned in detail along the entire movement route. Coordination must occur and be maintained between the convoy security force, the squadron aid station, the squadron command post, the CTCP, and designated units along the route to ensure immediate medical support is available. Due to the possibility of operating over extended distances from the squadron aid station and regimental clearing facility, aeromedical evacuation is the preferred means of evacuation and must be planned and rehearsed in detail.

Chapter 5

OFFENSIVE OPERATIONS

"I approve of all methods of attacking provided they are directed at the point where the enemy's army is weakest and where the terrain favors them the least."

Frederick the Great

Offense is the decisive form of war. The main purpose of the offense is to defeat, destroy, or neutralize an enemy force. Army doctrine emphasizes the necessity to quickly seize the initiative. The commander uses initiative to select the time and place to concentrate and synchronize his combat power to overcome the enemy defense; destroy his command, control, and communications system; and to defeat him in detail. Initiative is used at lower echelons to achieve the commander's intent. Brigades and battalion task forces are the principal offensive force in the corps and division. Cavalry units normally perform reconnaissance and security missions in support of corps and division offensive operations. Cavalry units may also perform certain offensive operations. These are normally performed during the conduct of reconnaissance or security missions. If required, cavalry units may perform offensive operations as an economy of force for the corps or the division. The ability of cavalry units to find the enemy, to develop the situation, and to provide the commander with reaction time and security make them ideal for economy of force. The armored cavalry regiment normally requires little augmentation to perform missions as an economy of force. The division cavalry squadron often requires augmentation with additional combat, combat support, and combat service support assets. Augmentation requirements are based on the organization and status of the squadron and the situation.

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Section I. Purpose and Characteristics

PURPOSE

Offensive operations are designed primarily to defeat, destroy, or neutralize the enemy. They may be undertaken to secure key or decisive terrain, to deprive the enemy of resources or decisive terrain, to deceive and divert the enemy, to develop intelligence, and to hold the enemy in position. Offensive operations include deliberate attack, hasty attack, movement to contact, exploitation, pursuit, and other limited objective operations. The offense is undertaken to seize, retain, and exploit the initiative.

The objective of any particular offensive operation is to defeat an enemy force or to destroy his will or ability to continue the fight. Terrain serves to support this objective but is seldom an objective in itself. The concept of any offensive operation includes the following actions:

- Conduct reconnaissance.
- Identify or create a weak point.
- Suppress enemy fires.
- Isolate the enemy and maneuver against the weak point.
- Exploit success.

CHARACTERISTICS

Successful offensive operations have four characteristics:

- Surprise.
- Concentration.
- Tempo.
- Audacity.

Surprise

Surprise is a product of striking the enemy at a time or place, or in a manner, for which he is unprepared. Surprise delays enemy reactions, overloads and confuses his command and control, reduces the effectiveness of his weapons, and induces psychological shock in soldiers and leaders. The effect of surprise is temporary and a capable enemy will recover from the initial shock. The attack must exploit the initial shock of surprise ruthlessly, allowing the enemy no time to recover. Surprise may be achieved by—

- Thorough reconnaissance and surveillance.
- Employing deception.

- Striking the enemy from an unexpected direction, at an unexpected time, or at an unexpected place.
- Integrated air and ground operations.

Concentration

Concentration is the ability to mass effects without massing large formations and is therefore essential for achieving and exploiting success. Commanders must mass available forces, weapons, and firepower. With concentration, however, the force becomes vulnerable. To overcome this vulnerability, the attacking commander must manipulate his own and the enemy's concentration of forces through a combination of dispersion, concentration, deception, and attack. Dispersion stretches the enemy's defenses and denies lucrative targets to deep fires. By concentrating forces rapidly on converging axes, the attacker overwhelms enemy forces at the point of attack by massing the effects of combat power. Concentration requires flexible leaders, agile units, and synchronized combat, combat support, and combat service support. Concentration is how the commander achieves decisive combat power. The commander must rapidly concentrate and disperse to preclude becoming a lucrative target. Concentration is achieved by—

- Designating a main effort and a decisive point.
- Allocating adequate combat power to the main effort.
- Ensuring commanders simultaneously retain centralized control of sufficient assets to shift the main effort to a supporting attack if it appears more advantageous.
- Thorough planning modified by reconnaissance information.
- Rapid and accurate maneuver.
- Fixing the enemy to prevent his reaction to maneuver.
- Rapidly massing the effects of combat power to overwhelm the enemy.
- Synchronizing combat support with maneuver.

Tempo

Tempo is the rate of speed of a military action; controlling or altering that rate is essential for maintaining the initiative. Tempo is a combination of speed and mass that creates pressure on the enemy. Tempo can be fast or slow. Units may go slow at one point in order to go fast at another. Commanders must plan and, if necessary, adjust tempo to ensure synchronization. Tempo is achieved by—

- Identifying the best avenues of attack.
- Planning the operation in depth.
- Planning for a quick transition to other phases of the offense.
- Concentrating and combining forces effectively.

- Aggressive, stealthy reconnaissance.
- Synchronizing all combat support and combat service support functions.

Audacity

Audacity is the willingness to risk bold action to win. The audacious commander is quick, decisive, and willing to take prudent risks. He bases his decisions on sound tactical judgment, personal observation of the battlefield, and first-hand knowledge of the battle. He constantly seeks to attack the enemy from a position of advantage and is located at the critical place on the battlefield.

ECONOMY OF FORCE

Offensive missions may be assigned to cavalry as an economy of force by the corps or division commander. Economy of force is a principle of war that means the allocation of minimum essential combat power to secondary efforts so that forces may be concentrated in the area where a decision is sought. The commander assumes risk when assigning an economy-of-force role to have decisive combat power elsewhere. Cavalry is a natural organization around which to build an economy of force. This allows the commander to preserve the combat power of divisions, brigades, and battalion task forces for the main effort. As an economy of force, cavalry may attack; perform movement to contact and spoiling attack; raid; defend; delay; or conduct deception operations.

To the commander executing a mission, economy of force is the intent. These missions are performed in the same manner as any other offensive mission, but often entail greater risk and intensity. When assigned a mission as an economy of force, cavalry loses its ability to perform reconnaissance and security in support of the corps or division. The risk entailed in the mission may result in a long-term loss or reduction of unit capability as well. These considerations are weighed against the requirement to perform the mission in an economy-of-force role.

ARMORED CAVALRY REGIMENT ROLE

The ACR performs a variety of offensive operations in support of the corps scheme of maneuver. The primary missions of the regiment are reconnaissance and security operations. During these missions, especially offensive cover, the regiment may perform movement to contact and hasty attacks to destroy enemy reconnaissance, security, and main body forces.

The regiment is also frequently assigned offensive missions as an economy of force for the corps. The regiment requires only minimal reinforcement with combat, combat support, and combat service support assets to perform in an economy-of-force role. This minimal diversion of corps assets allows the corps commander to preserve the combat power of his divisions for use in the main effort. The specific mission the corps commander assigns will determine the amount of reinforcement

the regiment requires. The regimental commander must assess the mission to determine the minimum reinforcement required and request this reinforcement if it has not been provided.

In some situations, the regiment may be retained as a reserve initially, to exploit penetrations achieved by other units in the corps. The regiment's combined arms nature and its ability to operate independently make it highly suitable for exploitation or pursuit operations.

SQUADRON ROLES

The following paragraphs address the roles of three different squadron organizations in offensive operations: the regimental armored cavalry squadron, the regimental aviation squadron, and the division cavalry squadron.

Regimental Armored Cavalry Squadron

This organization performs its missions as part of the regiment, in support of the overall regimental mission. Its primary missions are reconnaissance and security. During the conduct of these operations, the squadron can conduct hasty attacks throughout its zone to destroy enemy reconnaissance and security elements.

Offensive missions may be assigned to the squadron to support the regimental mission. The type of mission assigned to the squadron depends on the needs of the regimental commander. These missions may include the full range of reconnaissance and security operations, attack, movement to contact, spoiling attack, raid, feint, or demonstration. The squadron may require augmentation with additional combat, combat support, and combat service support assets to accomplish certain offensive missions.

An armored cavalry squadron may be required to perform in an economy-of-force role in support of the regiment. Squadrons within the regiment may not have the same missions. For example, in a regimental movement to contact two squadrons may be performing a movement to contact, while the third squadron may be performing a security mission along one of the regiment's flanks.

Regimental Aviation Squadron

This organization is the fourth maneuver squadron of the armored cavalry regiment, and enhances the regiment's ability to conduct all types of missions. During offensive operations, the aviation squadron may be called upon to perform reconnaissance and security operations, attack, and movement to contact. During offensive operations, the regimental commander may employ the squadron across the regimental zone or task organize its elements with the ground cavalry squadrons (see FM 1-114). If the regimental commander chooses to task organize, he will normally place one air cavalry troop with each ground squadron and retain the attack helicopter troops as part of the reserve. In some situations, he may assign the

aviation squadron a zone and reinforce it with elements of a ground squadron. The speed and mobility of the aviation squadron also make it an ideal force for quick reaction to contingencies in the regimental zone.

Division Cavalry Squadron

During reconnaissance operations, the squadron may conduct hasty attacks to destroy enemy reconnaissance and security forces encountered. Hasty attacks may also occur during security missions. These hasty attacks are part of actions on contact. During an advance guard, the squadron commander may assign movement to contact to subordinate troops or attached maneuver companies to focus the effort on finding and defeating the enemy.

The squadron can perform offensive operations as an economy of force for the division commander. The specific situation may require, however, that the squadron be reinforced to perform the mission desired by the division commander. The squadron commander makes this assessment and recommends the minimum additional combat power required to perform the mission if none is already provided. These missions may involve decisive engagement that the squadron will have to fight to a conclusion with the forces available. FM 71-2 provides a detailed discussion of offensive operations that may be referred to when performing missions as an economy of force.

TROOP AND TEAM ROLES

Ground troops may perform zone or route reconnaissance during a squadron offensive operation. A troop may perform movement to contact as part of a squadron advance guard mission or offensive operation. They conduct hasty attacks as required during all missions. During the squadron's attack on an objective, the troop may provide the supporting attack, security along an exposed flank, or reconnaissance to guide the main attack.

Air cavalry troops perform reconnaissance, provide security along exposed flanks, or serve as part of the reserve. Attack helicopters may be used in the attack role. Weather and limited visibility considerations are weighed when designating an aviation-only reserve. Attack helicopters are highly effective against exposed enemy forces on the move, but are less effective against enemy forces in prepared positions. The following situations support commitment of attack helicopters:

- Enemy forced out of their positions.
- Bypassed enemy security forces attempting to move back to the main defensive area.
- Commitment of the enemy reserve.
- Contact made with a moving enemy force.

Attached company teams form an ideal reserve force for division cavalry. They provide the assault force to attack the objective. This causes the least disruption to the operational teamwork of the squadron prior to the attack. If the enemy forces are already clearly identified on the objective, the company team may conduct the main attack for the squadron.

The tank company of the regimental cavalry squadron also serves in this role. The squadron commander normally retains the tank company as his reserve force during most missions.

BATTLEFIELD FRAMEWORK (OFFENSE)

Offensive operations are organized into three complementary elements: deep, close, and rear operations.

Deep Operations

In critical parts of the attack zone, deep operations contribute to the success of the regiment's close fight. Deep operations limit the enemy's options and disrupt its coordination and synchronization. Deep operations are conducted against enemy forces out of contact using indirect fires, electronic warfare, air interdiction, Army aviation, deception, and maneuver forces. These operations are performed by corps and division commanders and by the regiment to a limited extent. Identification of corps and division operations assist the regiment in targeting units and setting priorities for regimental deep operations.

Close Operations

The main attack, with supporting attacks as necessary, is identified. The commander designates the main effort and allocates the necessary combat power and combat support assets to ensure its success. Reconnaissance and security operations are conducted forward and to the flanks and rear of the main and supporting attacks. The reserve force and potential missions are clearly designated and available for commitment at the decisive point and time.

Rear Operations

Rear operations are necessary to maintain offensive momentum. Rear operations ensure freedom of action of committed and uncommitted forces and protect the means necessary to sustain offensive operations and support the force. Lines of communications, reserves, and displacing support elements are logical targets for enemy deep operations. Commanders protect them by planning for and remaining capable of quick reaction to any posed threat.

FORMS OF MANEUVER

Forms of maneuver are the general orientation of a force approaching an enemy. Commanders determine which form of maneuver to use by careful analysis of METT-T. However, this is an art—not a science—and more than one form of maneuver may apply. Forms of maneuver include envelopment, the turning movement, penetration, frontal attack, and infiltration. Frequently, an attack will use more than one form of maneuver. Not all forms of maneuver are appropriate for squadrons or troops. They are the basis for the scheme of maneuver used during any operation when the commander decides to attack the enemy force.

Envelopment

An envelopment uses movement and fires to put greater relative combat power against the defender and strip him of his advantages. To use this form of maneuver, commanders must find or create an assailable flank. Cavalry commanders locate an assailable flank through aggressive reconnaissance. Sometimes the enemy will expose his flank by his own forward movement, unaware of his opponent's location. In a fluid battle involving noncontiguous forces, the combination of air and indirect fires may isolate the enemy on unfavorable terrain and establish the conditions for maneuver against an assailable flank. The attacker may develop the assailable flank by arriving from an unexpected direction. He may also fix the defender's attention forward through a combination of fires and supporting or diversionary attacks while he maneuvers his main effort to strike at the enemy's weak flanks or rear. The attacker must be agile enough to concentrate his forces and mass his combat power effects before the enemy can reorient his defense. (See Figure 5-1.)

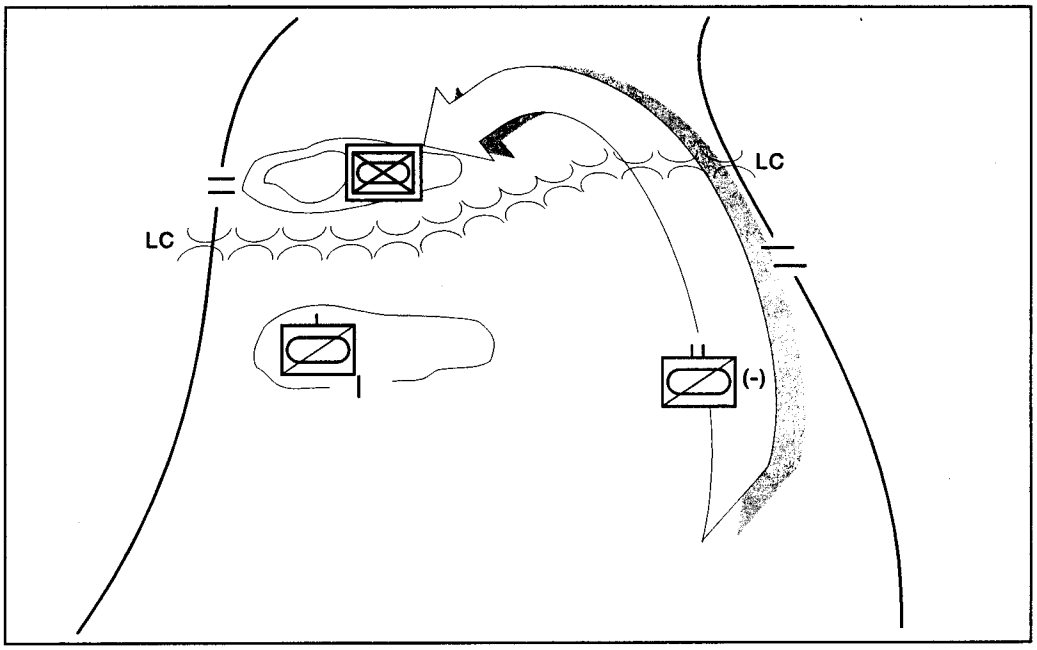


Figure 5-1. Squadron conducting an envelopment.

The enveloping force may be air cavalry or mounted or dismounted ground cavalry. It must have the mobility and enough combat power to achieve its purpose. The surprise achieved by an envelopment often allows a smaller force to defeat a larger one.

Variations of the envelopment include double envelopment and encirclement. These forms of maneuver may occur at regimental level but seldom at squadron level. Squadrons participate as part of a larger force.

An encirclement is an extension of either an envelopment or a pursuit. A direct pressure force maintains contact with the enemy, preventing his disengagement and reconstitution. It attempts to inflict maximum casualties. Meanwhile, an encircling force maneuvers to envelop the enemy, cutting off his escape routes. If necessary, the encircling force establishes a hasty defense behind the enemy, synchronizing fires to complete the destruction of the encircled force.

In the double envelopment, the attacker seeks to pass simultaneously around both flanks of the enemy. This requires two assailable flanks. Precise coordination, sufficient combat power, and detailed timing are required.

Turning Movement

The turning movement is a variation of the envelopment in which the attacker seeks to pass around the enemy, avoiding his main forces, to secure an objective deep in his rear. Faced with a major threat to his rear, the enemy is forced out of his defensive positions to attack rearward at a disadvantage. Cavalry normally conducts a turning movement as part of a larger force. Bypassing security zone forces during reconnaissance achieves this effect as the enemy seeks to fall back to the main defensive area.

Penetration

In the penetration the attacker concentrates his forces to rupture the defense on a narrow front. The gap created is then widened and used to pass forces through to defeat the enemy in detail and to seize objectives in depth. A successful penetration depends on surprise and the attacker's ability to suppress enemy weapons, to concentrate forces and weapons effects at the point of attack, and to quickly pass sufficient force through the gap to destroy the enemy's defense.

A penetration is normally attempted when enemy flanks are unassailable, or when the enemy has a weak or unguarded gap in his defense. A penetration is planned in three phases:

- Isolation of the site selected for penetration.
- Initial penetration of the enemy position.
- Exploitation of the penetration.

The penetration of a well-organized position requires a quick rupture and a rapid destruction of the continuity of the defense to deny the enemy time to react. Without rapid penetration, the enemy can reposition forces to block or counter the maneuver.

A penetration normally requires substantial combat power and dismounted infantry to make the initial penetration. Cavalry seldom conducts a penetration of a prepared enemy position, but may participate in a penetration as part of a larger force.

Frontal Attack

The frontal attack strikes the enemy across a wide front and over the most direct approaches. It is normally used when commanders possess overwhelming combat power and the enemy is at a clear disadvantage. Commanders mass the effects of direct and indirect fires on enemy positions, shifting indirect and aerial fires just before the assault. The frontal attack is the least preferred and may be the most costly form of maneuver since it exposes the attacker to the concentrated fires of the defender while limiting the effectiveness of the attacker's own fires. As the most direct form of maneuver, however, the frontal attack is useful for overwhelming light defenses, covering forces, or disorganizing enemy defenses. This attack is an appropriate form of maneuver to be employed when the mission is to fix the enemy in position or to deceive him. Although the frontal attack strikes the enemy's entire front within the zone of the attacking force, it does not require that the attacker do so on line or that all subordinate unit attacks be frontal. Frontal attacks, unless in overwhelming strength, are seldom decisive. The attack is conducted as an attack by fire or assault.

Infiltration

Infiltration is a form of maneuver where combat elements move by stealth to objectives to the rear of the enemy's position without fighting through prepared defenses. All or part of the unit may move by infiltration. Infiltrations are slow and are often conducted during reduced visibility. Cavalry seldom conducts a large scale infiltration. Scouts may infiltrate at times to conduct stealthy reconnaissance of enemy forces in depth.

SEQUENCE OF OFFENSIVE OPERATIONS

Generally, the following sequence is executed in an offensive operation:

- Reconnaissance. Reconnaissance begins as soon as possible after receipt of the mission and continues throughout the attack.
- Rehearsal.

- Movement to a line of departure. When the attack is not made from positions in contact, the unit moves from an assembly area in the rear, through an attack position behind the line of contact, conducts a forward passage of lines, and begins the attack.
- Maneuver. Once the forward passage of lines is complete, the unit maneuvers to accomplish the commander's intent, which may include breaching operations and changes in formations and movement techniques. Reconnaissance elements report changes in the enemy situation and FRAGOs are issued to ensure units respond to the changing situation.
- Deployment. The unit deploys to attack the enemy or to fix the position for bypass. The unit may briefly occupy an assault position while other units occupy attack-by-fire positions. At this point, final adjustments and instructions are executed to maximize unit effectiveness during the attack. Because of the proximity of the enemy during the attack, the time spent in the assault position is minimal. If the unit mission is to fix and bypass, similar measures must be taken to ensure the enemy cannot respond to friendly maneuver. Enemy handover to follow-on forces must occur with minimum confusion.
- Attack. The attack consists of the break-in and fight-through phases. The break-in phase begins with the approach to the objective. This includes the isolation of the objective by indirect and direct fires-artillery fires and smoke missions to isolate the objective from the supporting fires and observation of adjacent positions. Artillery and mortars provide suppression of the objective in support of the assault. Once the objective is isolated, the unit begins the actual penetration of the enemy defensive position. It is the responsibility of the breach force commander, who has been task organized with specific breaching equipment, to accomplish the obstacle breaching. The support force continues to suppress the enemy position and the assault force prepares to move through the breach. Once the breach is completed, the assault force begins the actual assault on the enemy position. After the assault force is on the enemy position, the fight-through phase begins. Scouts may suppress and destroy enemy bunkers and infantry fighting vehicles (IFV). Tanks concentrate on the ground fight by destroying hard targets and enemy antitank systems. Tanks also assist in sealing off the objective, suppressing adjacent enemy positions, and preparing to defeat enemy counterattacks. Fire support teams (FIST) continue to keep the objective isolated by shifting suppressive fires and smoke missions to other enemy positions. The commander positions himself where he can best control the operation. He must be prepared to commit the reserve, while also protecting the objective from the influence of other enemy positions.
- Reorganization and consolidation or continuation. The attacker eliminates remaining enemy resistance and prepares for further operations or continues the previous operation.

MOVEMENT TECHNIQUES AND FORMATIONS

The three movement techniques of traveling, traveling overwatch, and bounding overwatch are used as in reconnaissance or security operations. Troop or squadron formations may differ to provide for the required degree of concentration. Techniques and formations may change during the mission as terrain conditions or enemy situations change. FM 17-97 and FM 17-98 provide detailed discussion of movement techniques and formations.

Section II. Planning Offensive Operations

The planning process for all operations is outlined in Chapter 2. When planning offensive operations, certain considerations apply as the scheme of maneuver is developed. The scheme of maneuver is the central expression of the commander's concept of the operation and describes the movement, positioning, and tasks of subordinate units from the line of departure through actions on the final objective.

INTELLIGENCE PREPARATION OF THE BATTLEFIELD

IPB is the first essential step of planning. Terrain is analyzed from both friendly and enemy perspectives. Enemy avenues of approach are defined. The situation template indicates how the enemy can use the terrain and how he may deploy along the avenues of approach. Named areas of interest identify critical decision points where enemy action indicates his intent. Decision support templates aid critical maneuver or fire support decisions. Terrain analysis also provides information the S3 and commander can use to plan the scheme of maneuver. Additional information on the IPB process is in FM 34-35 and FM 34-130. Additional information on terrain analysis can be found in FM 5-33.

OBJECTIVE

An objective is assigned to orient the efforts of the attacking force. The objective may be either terrain or force oriented. Terrain oriented objectives require the attacker to seize or secure the designated terrain feature. If the mission is to destroy an enemy force, an objective is assigned for orientation and control, but the effort is focused on the enemy's actual location. Intermediate objectives may be assigned when necessary to control a critical piece of terrain. Objectives are easily identifiable terrain features and should facilitate consolidation, reorganization, and continuation of the mission. During reconnaissance and security operations, objectives are normally force oriented and are frequently assigned by FRAGOs as the situation is developed.

MAIN AND SUPPORTING ATTACKS

The main and supporting attacks are designated. The main attack is the principal attack into which the commander places the bulk of the offensive capability at his disposal. It is assigned to a ground maneuver unit. The main attack is directed against the objective of the mission. As the battle develops, the commander may change or redirect the main effort. To weight the main attack, he will perform the following actions:

- Allocate resources in task organization. Unlike reconnaissance or security operations, squadron commanders may task organize the cavalry troops to provide adequate combat power where required.
- Position overmatching elements.
- Assign priority of fires and priority targets.
- Assign priority of combat service support assets.
- Position and determine priorities for the reserve.

The supporting attack is the secondary effort designed to hold the enemy in position, deceive him as to where the main attack is being made, prevent him from reinforcing the elements opposing the main attack, and cause him to commit his reserves prematurely at an indecisive location. Supporting attacks should come from a different direction than the main attack. This forces the enemy to defend in two directions and avoids masking friendly fires as the main attack closes on the objective. At troop level, the supporting attack may be the base of fire element. The supporting attack contributes to the success of the main attack by accomplishing one or more of the following:

- Occupy terrain to support by direct fire.
- Attack by fire and movement to seize or secure terrain dominating the objective.
- Control indirect fires on the objective.
- Isolate the objective.
- Prepare to assume the main attack or reserve, or assist in final clearing of the objective.

RESERVE

A reserve is normally designated at squadron and regiment level. Troops seldom have adequate combat power to do so. The reserve is that portion of the force withheld from action at the beginning of an engagement so it is available for commitment at a decisive moment. The reserve should receive contingency missions to provide the commander planning focus and to accelerate execution on commitment. Several considerations guide organization and employment of the reserve.

Size

In a vague enemy situation, such as a movement to contact, the commander may organize a strong reserve. With a well-defined situation, a smaller reserve may be adequate.

Composition

The reserve is normally structured around a ground maneuver unit. In division cavalry, this may be a cavalry troop or an attached company team. An attached company team is appropriate as a reserve when the squadron is performing a movement to contact. The reserve may also be an air and ground team under control of the S3 or the XO.

In the armored cavalry regiment, squadron commanders normally retain their tank companies as a reserve. The regimental commander has the option of retaining a reserve of ground units, air units, or a combination of both. He may choose to retain the attack troops of the aviation squadron as part of the reserve, in order to take advantage of their speed and firepower. A ground reserve may consist of an attached task force, companies, teams, or units organic to the regiment. If the reserve is composed of units organic to the regiment, the regimental commander must weigh the size of the reserve force against the degradation of the overall regimental mission that retaining a reserve would cause. In the absence of a dedicated ground reserve, the regimental commander may place constraints on the use of squadron tank companies or attack helicopter troops. He may assign contingency missions to the tank companies or attack helicopter troops to facilitate planning and execution by the commanders.

Location

The reserve follows the main effort at a distance sufficient to keep it from interfering with the movement of the main effort and to maintain its own freedom to maneuver. The reserve remains flexible to shift if the main effort changes. The reserve may move on order, at a prescribed distance behind the main effort, or triggered by the main effort crossing predetermined control measures. When not moving, the reserve occupies blocking or hide positions. An air cavalry troop reserve occupies a series of holding areas.

Commitment

The reserve commander must understand the squadron commander's intent, particularly the decision points for commitment. The reserve remains abreast of the developing situation by eavesdrop. The decision to commit the reserve is a critical command decision. In the absence or loss of the commander, the reserve is

committed according to the intent. When committed, the commander reconstitutes or redesignates a reserve as soon as possible. The reserve is used to—

- Exploit success.
- Assume the mission of a committed unit.
- Maintain the momentum of the attack.
- Destroy bypassed elements that remain a threat.
- Hold key terrain seized by the attacking force.
- Defeat or block counterattacks.
- Block enemy escape routes.

SYNCHRONIZATION

The commander synchronizes combat support and combat service support assets with the scheme of maneuver. These assets build combat power and the concentration necessary for a successful attack.

Fire support is used to destroy, suppress, or neutralize enemy direct-fire weapons and to obscure unit maneuver. Fires support breaching operations, soften enemy forces on the objective before the assault, and suppress the objective area. Fires are shifted as the attack progresses through the enemy defense. The commander and his staff develop the scheme of maneuver and supporting fires concurrently. The fire support officer plans, prepares, distributes, and continually updates the fire support plan. The fire support officer recommends and the commander chooses the fire support tasks that contribute most to the attack.

Fire support available to cavalry normally includes artillery, troop mortars, and close air support. Naval gunfire may also be available. The commander may task organize troop mortars into a platoon to provide more effective massed fire support. Fire support tasks in the attack include the following:

- Suppressing antitank systems that inhibit maneuver.
- Preparation fires. Preparation fires are delivered on targets before an assault. The preparation is planned by a direct support artillery battalion or higher echelon. It is an intense volume of fire delivered in accordance with a time schedule. The fires may start at a prescribed time or be held on-call. The duration of the preparation is influenced by factors such as the fire support needs of the entire force, number of targets and firing assets, and available time. The value of preparation fires is weighed against the potential loss of surprise. Preparation fires are normally associated with a deliberate attack, seldom conducted by cavalry.

- Obscuration and screening fires. Fires using smoke assist breaching efforts, conceal friendly maneuver, and aid in deception efforts.
- Illumination fires. Illumination fire is always planned for night attacks, but is usually held on order of the squadron commander.
- Priority targets. Priority targets are normally allocated to weight the main attack.
- Fires during the assault. These assault fires are usually executed in the following sequence:
  - Suppression fires to prevent the enemy from observing and engaging friendly elements and to conceal the movement of troops and teams.
  - Destruction fires to destroy enemy fighting positions near the initial objective.
  - Suppression or neutralization fires that concentrate on deeper objectives.
- Fires during consolidation. The unit places fires on retreating enemy forces and on deeper positions. Targets are planned on likely enemy counterattack routes or placed on enemy withdrawal routes to force his destruction or capture.

Ground surveillance radar supports offensive operations by supporting reconnaissance or providing surveillance along an exposed flank or during limited visibility. Radar is kept as far forward as the tactical situation and terrain permit.

Mobility is normally the priority of support by engineers in offensive operations. Engineers reduce or eliminate obstacles as part of combined arms breaching operations, bridge dry or wet gaps, and improve routes for maneuver and supply forces. Combat engineer assets are normally located well forward in the unit formation to provide responsive support. Family of scatterable mines (FASCAM) is planned by the regimental and squadron engineers in conjunction with their S3 and fire support counterparts. FASCAM may be used to—

- Isolate the objective.
- Fix enemy reserves.
- Block avenues of approach into the squadron flank.

Combat service support functions are performed as far forward as the tactical situation permits. Class III and Class V are pushed forward to subordinate units at logistical release points. The combat trains move with the main body of the squadron. FARPs normally remain to the rear until consolidation on the objective occurs; then they may displace forward.

NIGHT AND LIMITED VISIBILITY ATTACKS

An attack at night or during limited visibility provides several advantages to the attacker. Surprise and deception are enhanced. Opportunities that are impractical during daylight conditions may succeed. Night attacks compensate for inadequate combat power during an economy-of-force mission. Concentration and movement of forces are more difficult to detect and remain concealed longer. In division cavalry, the availability of the air cavalry troop is carefully weighed during consideration of these attacks. Air cavalry troops are more survivable at night due to the reduced effectiveness of enemy direct fire weapon systems.

Planning for a night attack begins as early as possible to allow daytime preparation. Sleep plans are adjusted and commanders ensure leaders are rested before the attack begins. The plan should be simple to facilitate execution. These attacks are planned basically the same as a daylight attack. Night-vision devices and thermal imaging sights facilitate controlled but rapid execution.

Night attacks are frequently made by dismounted infantry. If a squadron has infantry attached, this method is considered. A mounted attack should be planned to support the dismounted effort. A mounted attack may also serve as the supporting effort or a deception. SOPs provide guidance for marking vehicles and positions and for signaling at night.

Control measures at night are usually more restrictive than those used during daylight conditions. All control measures must be easily identifiable on the ground. The commander should impose only those control measures necessary for effective control. Route reconnaissance and marking of the direction of attack facilitate rapid execution. This reconnaissance may begin in daylight. The intent and concept must be well understood to prevent confusion and engaging each other during execution of the mission. Leaders at all levels are well forward to maintain unit orientation during the attack. Indirect illumination is planned, but used only as necessary.

ACTIONS ON THE OBJECTIVE

Actions on the objective consist of the attack on the objective, consolidation, and reorganization. The attack may be by fire or by assault. Both methods of attack may involve fire and movement to position forces on advantageous terrain. Attack by fire is used when the objective can be secured by direct and indirect fires without requiring an assault. This method is particularly appropriate for a force oriented objective. It is advantageous when a squadron is attacking with organic troops and reduces the risk to the attacking force. An assault closes with the enemy by fire and movement to overrun and seize a position occupied by the enemy. This method is used when attack by fire is unsuccessful or the objective must be physically occupied. Infantry may be required. In division cavalry, an attached company team is the best force to assault. The unit making the assault is the main effort of the squadron.

An assault may be mounted or dismounted. During either type, the attacking force executes a rapid, violent, but well-ordered attack. The supporting attack or base of fire provides direct fire support, controls indirect fires, and on order, shifts fires across and beyond the objective. Techniques for conducting an assault should be well rehearsed and part of the unit SOP.

A mounted assault is more rapid, provides greater shock action, and provides protection against small arms and artillery fires. It may be conducted under or closely following friendly indirect fires. Following the mounted assault, infantry may be required to dismount and sweep the objective to clear remaining resistance. A mounted assault is appropriate when—

- Inadequate infantry is available for dismounted assault.
- Enemy positions are weak or hastily prepared.
- A meeting engagement with a moving enemy force is in progress.

A dismounted assault provides greater security for the attacking force, but it is slower. To maintain maximum speed, to gain maximum protection against small arms fire and indirect fires, and to conserve the strength of the infantry, the assaulting force dismounts as close as possible to the objective. A dismounted assault is appropriate when—

- The enemy is in well-prepared positions.
- Tanks are not available to lead a mounted assault.
- Terrain favors a dismounted assault.
- Obstacles prevent maneuver across the objective.
- Stealth is required to close on the objective.
- A mounted assault stalls.

Consolidation will organize and strengthen the seized objective against enemy counterattack. The attacking force also prepares for follow-on operations or to continue the previous operation. The unit that provided the supporting effort during the assault may or may not join the assault force on the objective. Consolidation emphasizes speed, security, and dispersal. These actions are part of the unit SOP. If an attack by fire is successful, scouts should subsequently sweep the objective for remaining forces and combat information. During reconnaissance and security operations, consolidation is a rapid process allowing the cavalry unit to return to the mission as soon as possible.

Reorganization occurs on the objective as necessary to prepare the unit to continue the mission. Continuing the mission is not delayed to conduct service support operations or to wait for a LOGPAC, unless the unit is incapable of further action. Squadrons push emergency resupply forward based on reports or assessment of the nature of the fight. Combat service support operators do not wait for a request.

Hasty reorganization actions are part of the unit SOP and are the responsibility of NCO leaders. The following reorganization actions typically occur:

- Collect and forward combat service support reports.
- Cross-level ammunition and other critical supplies.
- Treat and evacuate casualties and prisoners of war.
- Repair or evacuate damaged equipment.
- Reorganize combat crews.

Section III. Forms of the Offense

There are four general forms of offensive operations. These are movement to contact, attack, exploitation, and pursuit. Although it is convenient to think of these actions as sequential, they may not be. Offensive operations are fluid; they ebb and flow from one form of maneuver to another.

MOVEMENT TO CONTACT

A movement to contact gains initial ground contact with the enemy or regains lost contact. Cavalry performs the movement to contact like a zone reconnaissance. Unlike a zone reconnaissance, the effort focuses on finding the enemy force, developing the situation early, and preventing the premature deployment of the main body following the cavalry. Terrain reconnaissance is conducted as necessary to support the intent of locating the enemy. As a result, movement to contact proceeds much faster than a zone reconnaissance. The division cavalry squadron frequently performs this mission when serving as the advance guard during a division movement to contact. The squadron assigns this mission to troops during a squadron advance guard or movement to contact.

The armored cavalry regiment may assign the movement to contact mission to one or more of the squadrons during the conduct of offensive operations, advance guard, advance covering force, or a regimental movement to contact. The squadron may assign movement to contact to its troops during the conduct of any of these missions.

The armored cavalry regiment may be given the mission to conduct a movement to contact, allowing the corps commander to mass divisions on an enemy force. The armored cavalry regiment, when conducting a movement to contact as an independent force, task organizes to provide a security force (forward to the main

body and to the flanks and rear), an advance guard, and a main body. Figure 5-2 depicts a reinforced armored cavalry regiment conducting a movement to contact.

The division cavalry squadron, conducting a movement to contact as an independent force, organizes itself similarly with security forces, an advance guard, and a main body. The division cavalry squadron will normally use the air cavalry troops, with their increased speed and mobility, as security forces. Figure 5-3 depicts a reinforced division cavalry squadron conducting a movement to contact.

The movement to contact terminates when the unit reaches the objective or limit of advance without enemy contact or upon contact with an enemy force. Actions on contact occur at this point and the unit attempts to defeat the enemy force within its capability. Each successive cavalry commander attempts to defeat the enemy as subordinates report the situation. The organization of the cavalry unit is the major factor in determining the size of an enemy force that can be defeated at platoon, troop, squadron, and regiment level. Should the enemy prove to be too strong, the cavalry establishes a hasty defense, delays, or conducts close reconnaissance as appropriate within the intent of the higher commander. Follow-on main body forces then deploy, conduct battle handover, and assume the fight. In a division movement to contact, these actions by the squadron are frequently the opening phase of a division meeting engagement.

A movement to contact is characterized by rapid, aggressive action. The commander rapidly develops the situation and may be permitted, particularly in division cavalry, to bypass enemy forces to maintain momentum. Main body forces subsequently relieve squadron elements left in contact and eliminate the bypassed force. Relieved elements rejoin the squadron to avoid dissipating its strength. Increased consumption of Class III and vehicle maintenance requirements are anticipated.

Critical Tasks

During a movement to contact, certain critical tasks are accomplished. Unless the higher commander gives guidance otherwise, the unit will perform the following actions:

- Reconnoiter and determine the trafficability of all high-speed routes within the zone.
- Inspect and classify all bridges, culverts, overpasses, and underpasses along high-speed routes. Identify all bypasses and fords that cannot support rapid, heavy movement.
- Clear all high-speed routes of mines and obstacles within its capability, or locate bypasses.
- Find and report all enemy forces within the zone and determine their size, composition, and activity.

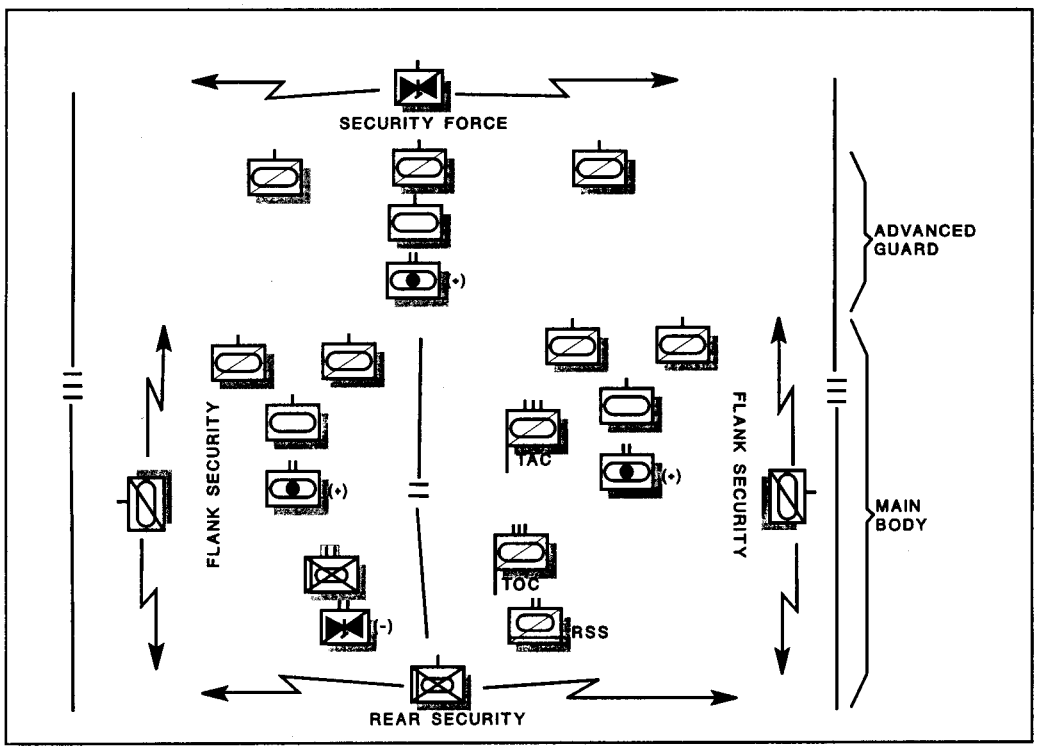


Figure 5-2. Reinforced armored cavalry regiment conducting movement to contact.

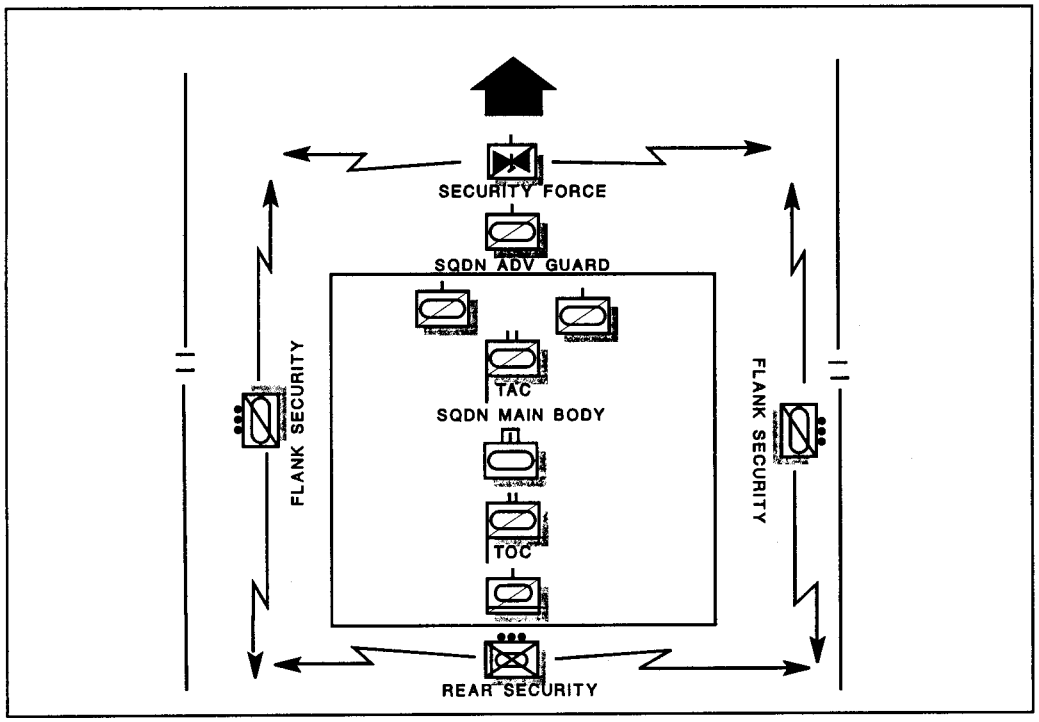


Figure 5-3. Reinforced division cavalry squadron conducting movement to contact.

Planning Considerations

While similar to a zone reconnaissance, the requirements of a movement to contact pose some differing planning considerations (see Figures 5-2 and 5-3).

A movement to contact is normally performed in a zone narrower than that assigned for zone reconnaissance. This gives the cavalry unit adequate combat power to develop the situation on contact and to maintain the required momentum. Necessary reconnaissance may proceed faster, scouts are readily available to remain in contact with bypassed enemy, and troop and squadron commanders have uncommitted forces available. Required route reconnaissance for main body movement is a specified task for a troop.

The squadron gains contact with the smallest element possible. This is normally scouts or aeroscouts performing reconnaissance for their troop. Actions on contact occur rapidly at platoon and troop level to prevent unnecessarily deploying other squadron assets.

Division cavalry facilitates speed by using air cavalry to reconnoiter forward of the ground troops or to screen along exposed flanks. The reserve allows flexibility on contact and rapid resumption of movement by the troops. Engineers are well forward to facilitate obstacle reduction. NBC reconnaissance elements are well forward to conduct area reconnaissance of a known or suspected contaminated area, allowing troops to bypass and continue movement. Command posts and trains travel along good routes in zone and occupy hasty positions.

Combat formations at troop and squadron level are chosen to provide efficient movement and adequate reserves. These formations are part of the unit SOP.

Speed increases risk. A thorough IPB enhances security by indicating where greater risk is acceptable and more deliberate movement is required. Rapid movement techniques and continuous air and ground surveillance provide security as well.

Combat service support assets are tailored to the mission. Combat trains move with the squadron. Field trains may move in depth, with a forward support battalion in the main body of the division, or with the regimental support squadron. Minimum essential assets move in the combat trains to prevent unnecessarily slowing the squadron. Prepackaged LOGPACs heavy on Class III and Class V may move with the combat trains. If the division cavalry squadron is well forward of the division, a FARP may move with the squadron to reduce aircraft turn-around time. In the regiment, the aviation squadron establishes its FARPs far enough forward to support deployed air cavalry assets. Alternatively, the squadron coordinates with a follow-on force to integrate a FARP into its zone of action. Main supply routes frequently become extended as the operation proceeds.

Meeting Engagement

A meeting engagement occurs when a moving force, incompletely deployed for battle, engages an enemy at an unexpected time and place. The enemy may be either stationary or moving. Cavalry units frequently participate in meeting engagements when acting as the main body security force or during a movement to contact. As such, they are already deployed and are the force that develops the situation for the main body commander. If contact is made while moving in a nondeployed formation, cavalry units immediately execute actions on contact. This response during a tactical road march is an established part of unit SOP.

ATTACK

There are two types of attack: hasty and deliberate. A hasty attack most often follows a movement to contact. (However, a movement to contact may terminate in a hasty defense, a deliberate attack, or even a retrograde. Commanders direct the appropriate action based on their analysis of the situation.) In combat, the force that first deploys and assaults its enemy with maneuver and fires normally gains an initial advantage.

Commanders launch hasty attacks with minimum preparation. Hasty attacks are used to seize an opportunity or destroy an enemy before he is able to concentrate forces or establish a coordinated defense.

Deliberate attacks involve much more detailed planning. Deliberate attacks fully synchronize the support of every available asset to defeat an enemy force. Detailed reconnaissance, thorough planning and rehearsal, violent concentration of combat power, rapid exploitation of enemy weaknesses, and positive, aggressive leadership at all echelons of command characterize the deliberate attack.

Hasty Attack

A hasty attack is an attack for which a unit has not made extensive preparations. It is conducted with the resources immediately available to maintain momentum or to take advantage of the enemy situation. A hasty attack is a course of action available during actions on contact; it may occur during reconnaissance, security, or movement to contact missions. A counterattack is normally conducted as a hasty attack, although prior rehearsal is sometimes possible. The enemy force attacked may be moving or stationary. A hasty attack is characterized by rapid, immediate action without elaborate planning or orders. Normally, only limited intelligence information about the enemy force is available. The attack terminates with destruction of the enemy force, disruption of his movement forcing him to employ larger forces, or lack of success. The troop or squadron subsequently prepares to continue the original mission, if possible, or establishes a hasty defense. If hasty defense is required, the force in contact continues close reconnaissance and prepares to conduct a battle handover with a following force as the higher commander continues to develop the situation.

Time is the critical factor in a hasty attack. A rapidly executed attack before the enemy can act often spells success even when combat power is not as favorable as desired. Detailed planning and orders are not possible. The unit plans and rehearses maneuver techniques and drills as part of the SOP to execute the attack rapidly and with minimum FRAGO guidance. Flexible control measures provided in the original operation are essential. They facilitate clear and simple orders and rapid execution (see Figure 5-4).

The attack is not launched blindly at the enemy upon receipt of a contact report from a scout. The commander does not violate the fundamentals of offensive operations in the haste to begin the attack. Adequate reconnaissance, especially of a stationary force, allows the commander to reach a sound decision on a scheme of maneuver. Stealth prevents the scouts from being discovered by the enemy and forcing more abrupt action. Aeroscouts may detect the enemy early, allowing more time for the squadron commander to make a decision. If the enemy discovers elements of the squadron first, those elements may be forced into a hasty defense while other assets develop the situation.

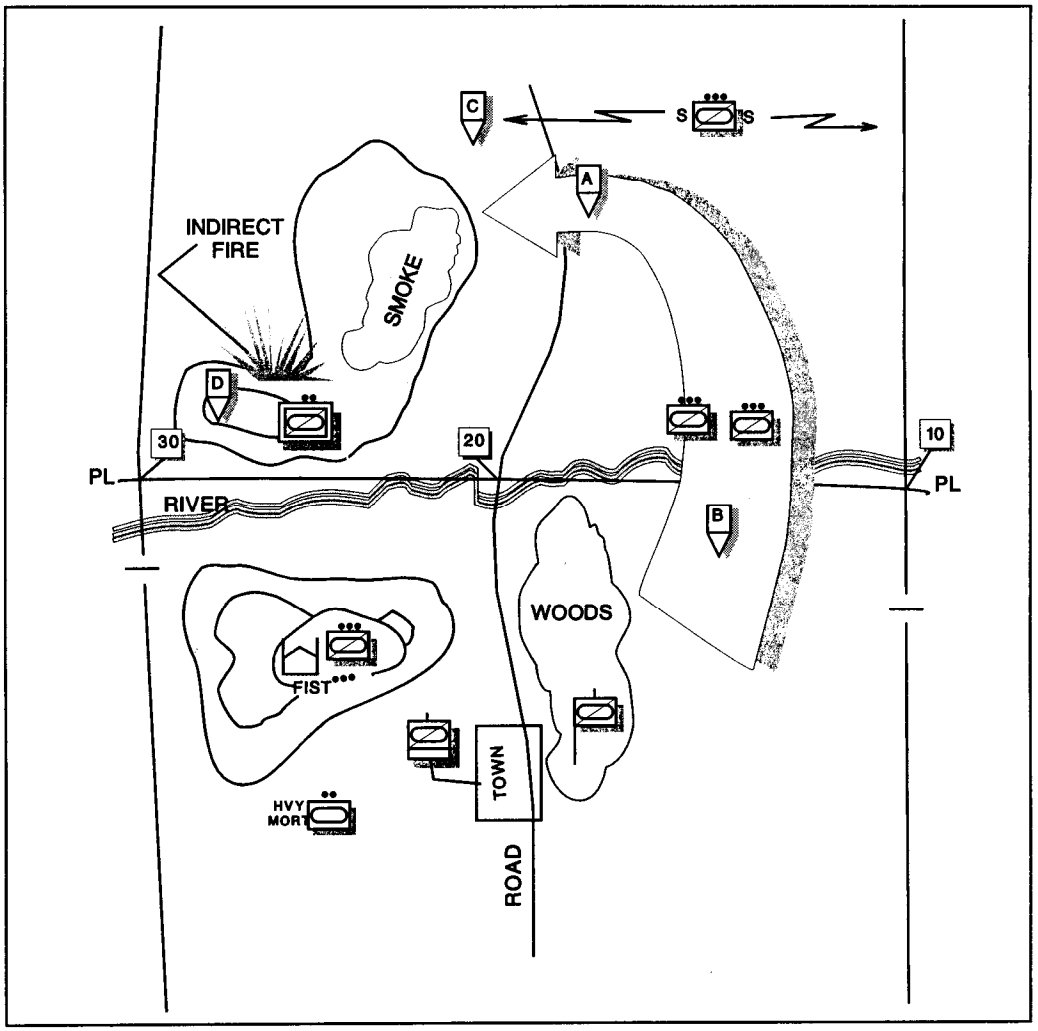


Figure 5-4. Hasty attack.

A simple scheme of maneuver forms a framework for the attack. A base of fire or supporting attack is designated. This is often the element that first makes contact. Other platoons or troops continue reconnaissance to a designated limit of advance to provide more maneuver space and security, and to determine if other enemy forces are present. A maneuver force is designated and assumes the main effort to destroy the enemy. This may be a tank platoon, squadron reserve, or attack helicopters. Attack helicopters are especially effective against a moving enemy. An envelopment of an exposed flank or rear of the enemy is preferred. The commander moves with the main effort. Task organization is not changed, unless absolutely necessary, to preclude delay and confusion.

Available fire support is massed to support the attack. Other missions may be terminated if necessary. Troop mortars assume hasty firing positions if moving. Mortars displace, if time permits, to provide adequate fire support. The FIST moves to a position where he can observe the objective and personally control fires.

Trains and command posts deploy to hasty positions, if moving. Local defensive measures may be necessary for adequate security. By eavesdropping, combat service support executors monitor the developing fight to determine what support is required.

Deliberate Attack

A deliberate attack is planned and carefully coordinated with all concerned elements based on thorough reconnaissance, evaluation of all available intelligence and relative combat strength, analysis of various courses of action, and other factors affecting the situation. It is generally conducted against a well-organized defense when a hasty attack is not possible or has been conducted and failed. Deliberate attacks normally include large volumes of supporting fires, main and supporting attacks, and deception measures. Cavalry units seldom conduct deliberate attacks. They may be the force maintaining contact and performing close reconnaissance after attempting a hasty attack or upon identifying a strong enemy position. Cavalry performs reconnaissance, security, or deception operations as part of a corps or division deliberate attack. If cavalry units are in contact, they prepare to conduct a battle handover with the force designated to conduct the deliberate attack. Regimental or division cavalry squadrons must receive substantial reinforcement if required to conduct a deliberate attack.

EXPLOITATION

Exploitation is an offensive operation that usually follows a successful attack to take advantage of weakened or collapsed enemy defenses. Its purpose is to prevent reconstitution of enemy defenses, to prevent withdrawal, and to secure deep objectives. Exploiting forces may receive a mission to secure objectives deep in the enemy rear area, cutting lines of communication, surrounding and destroying enemy forces, denying escape routes to an encircled force, and destroying enemy reserves. Terrain is secured only as necessary to accomplish the mission. Aggressive

reconnaissance to the front and flanks of the exploiting force maintains contact, assists in locating enemy strongpoints, and avoids ambush.

The armored cavalry regiment may be designated as an exploitation force. Normally, the squadrons of the regiment perform exploitation as a rapid movement to contact. All squadrons may not have the same mission. For instance, one squadron may be given a security mission on one of the regiment's flanks while the other two squadrons and the aviation squadron perform movement to contact. The regiment may also participate as part of a larger exploiting force. In this case, the regiment may be called upon to perform reconnaissance or security missions in support of the main exploiting force, or to act as part of the main exploiting force.

The division cavalry squadron does not have the organizational depth for a sustained exploitation. However, it may be part of a larger exploiting force. This exploiting force may be a brigade or the division. The squadron will normally perform reconnaissance or security operations for the main exploiting force.

In any exploitation operation, planning is hasty, FRAGOs are the rule, and orders and control measures are simple and flexible. Exploitation is characterized by decentralized execution, rapid movement, deep penetration, and increased consumption of Class III. The regiment or squadron must tailor its combat service support assets to sustain this effort.

PURSUIT

Pursuit is an offensive operation against a retreating enemy force. It follows a successful attack or exploitation and is ordered when the enemy cannot conduct an organized defense and attempts to disengage. Its objective is to maintain relentless pressure on the enemy and destroy him. It differs from the exploitation in that its primary function is to complete the destruction of the enemy force. While a terrain objective may be designated, the enemy force itself is the primary objective. The pursuit usually consists of direct pressure and encircling forces (see Figure 5-6). Command and control is the same as in the exploitation. Like exploitation, combat service support must be mobile and tailored to support rapid movement and increased consumption of Class III and Class V.

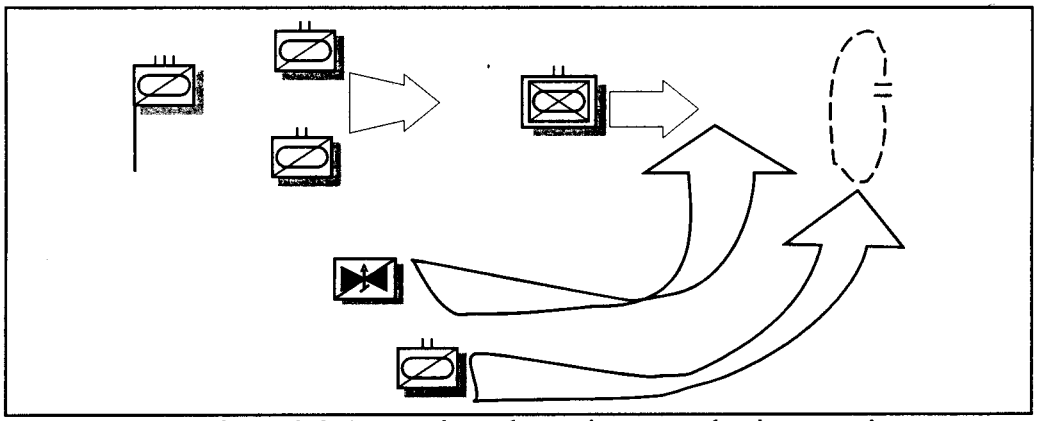


Figure 5-6. Armored cavalry regiment conducting pursuit.

The direct pressure force orients on the enemy main body to prevent enemy disengagement or defensive reconstitution prior to envelopment by the encircling force. It normally conducts a series of hasty attacks to slow the enemy's withdrawal by forcing him to stand and fight. It does this by attacking constantly. The enemy is denied any opportunity to rest or reconstitute. Lead elements of the direct pressure force move rapidly along all available routes, containing or bypassing small enemy pockets of resistance that are reduced by follow-and-support units.

The encircling force envelops an enemy force that has lost its ability to defend or delay in an organized fashion. The encircling force cuts off escape routes and, with direct pressure forces, attacks and destroys the enemy force. The encircling force penetrates the rear of the enemy and blocks his escape so that the enemy is destroyed between the two attacking forces. The encircling force advances along parallel routes to the enemy's line of retreat to reach defiles, communications centers, bridges, and other key terrain ahead of the enemy main force. If the enemy cannot be outdistanced, he is attacked on the flank. Speed is paramount. Hasty attack and hasty defense frequently occur.

The armored cavalry regiment is an ideal pursuit force. Ground squadrons can operate as the direct pressure force or encircling force, performing these missions without any task organization. Squadrons perform these tasks as movement to contact, culminating in successive hasty attacks. The aviation squadron gives the regiment a high-speed force that is an ideal encircling force, or as the air element of a larger encircling force. It can move rapidly to cut off enemy routes and fix the enemy force until ground units can close with it. The aviation squadron may also be used as part of the direct pressure force, but using it in this manner does not take complete advantage of its speed and maneuverability.

The division cavalry squadron normally performs pursuit as part of a larger force. The squadron may be part of or form the direct pressure or encircling force. It may be required to perform reconnaissance, security, movement to contact, hasty attack, and hasty defense in the conduct of pursuit operations.

Section IV. Other Offensive Operations

Cavalry units may perform, or participate as part of a larger force, in other operations such as raids, spoiling attacks, and search and attacks.

RAID

A raid is a small scale operation involving a swift penetration of hostile terrain to secure information, to confuse the enemy, or to destroy his installations. It ends with a planned withdrawal to friendly lines upon completion of the assigned mission. It is not intended to hold ground. The armored cavalry regiment is uniquely

organized and equipped to conduct raids. Its combined arms nature makes it an effective force to conduct raid operations with little or no reinforcement. The division cavalry squadron may perform a raid as organized, be reinforced. or participate as part of another force. Armored cavalry troops may also be designated to conduct the raids. Air cavalry can increase the speed of the raid by performing reconnaissance in advance of the raiding force. The regimental aviation squadron may be designated to conduct a raid if the target is not emplaced in prepared positions. Raids may be conducted to—

- Capture prisoners.
- Capture or destroy specific command and control installations.
- Destroy logistical installations.
- Obtain information concerning enemy locations, dispositions, strength, intentions, or methods of operation.
- Disrupt enemy plans.

An objective is normally assigned to orient the unit during the raid. It should be very specific in nature. It should define the target and the desired effects upon the target. Other enemy forces are avoided en route to the objective to maintain surprise (See Figure 5-5.)

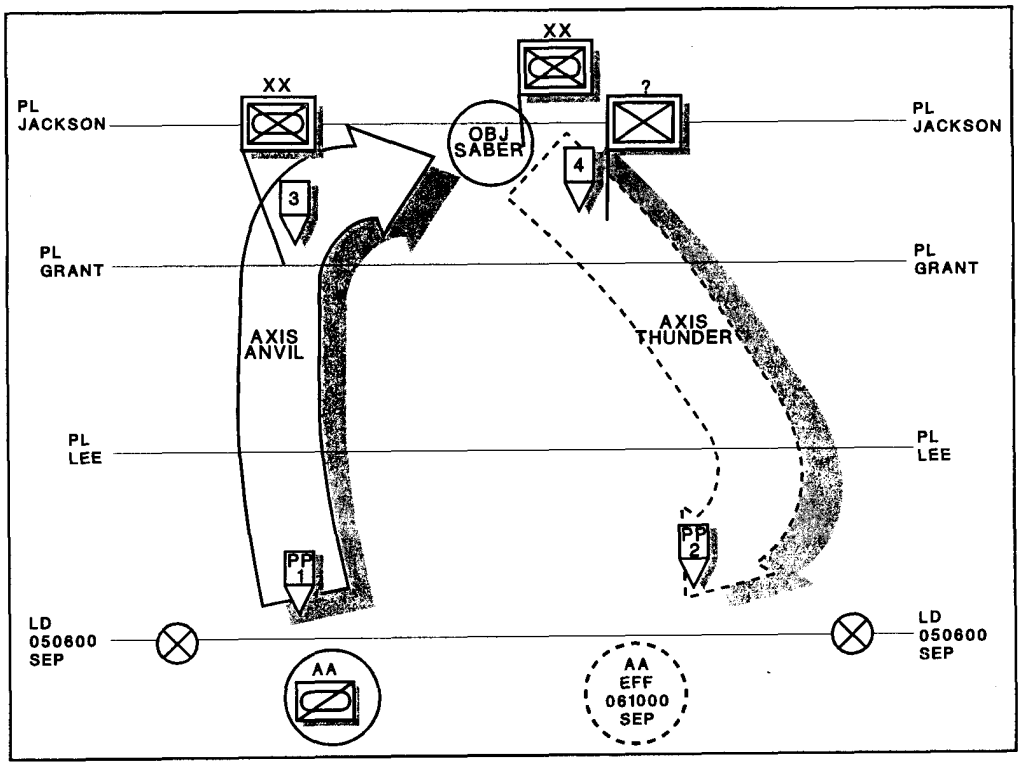


Figure 5-5. Raid.

Raids may be conducted in daylight or darkness, within or beyond supporting distance of the parent unit. When the area to be raided is beyond supporting distance of friendly lines, the raiding party operates as a separate force.

Security is vital because the raiding force is vulnerable to attack from all directions. Speed, stealth, limited visibility, and gaps in enemy lines are capitalized upon during the raid. During movement in daylight, the raiding force uses covered routes of approach. During reduced visibility, reconnaissance precedes the force to prevent premature discovery of the raid by locating enemy forces and directing the raiding force around them. Raids are timed so the raiding force arrives at the objective area at dawn, twilight, or during other low-visibility conditions.

The raiding force conducts the attack on the objective like a hasty attack.

The withdrawal is usually made over a different route from the one used to approach the objective. Reconnaissance ensures that the routes of withdrawal are open. Protective fires are planned along the axes of advance and withdrawal.

Rally points are planned for units to assemble to prepare for the attack on the objective or to reassemble after they have completed the mission and are ready to withdraw.

Logistical considerations in raids include the type and number of vehicles and weapons that the raiding force will have, movement distance, length of time the raiding party will operate in enemy territory, and expected enemy resistance. Usually, the raiding force carries everything required to sustain itself during the operation. Resupply of the raiding force, if required, is by aircraft.

SPOILING ATTACK

A spoiling attack is a limited objective attack made to delay, disrupt, or destroy the enemy's capability to launch an attack. The spoiling attack is normally associated with defensive operations and attempts to strike the enemy when he is most vulnerable during preparations in an assembly area or moving to his line of departure. Usually, circumstances preclude full exploitation, and the attacking force halts on its objective or withdraws to its original position.

SEARCH AND ATTACK

Search and attack operations may be conducted by air cavalry units. They may be conducted by an individual air troop or as a squadron-level operation. The purpose of these operations should be to destroy enemy forces, protect the force, or deny an area to the enemy.

Commanders use search and attack when the enemy is dispersed in an area of close terrain that is unsuited to heavy forces, when they cannot find enemy weaknesses, or when they want to deny enemy movement in an area.

Search and attack missions are performed much like area security missions. The difference is the commander's intent for the operation and the aggressive execution of the mission.

Chapter 6

DEFENSIVE OPERATIONS

"Never depend completely on the strength of the terrain and consequently never be enticed into passive defense by a strong terrain."

Clausewitz, 1812

The defense is not the decisive form of war. While the defense can deny success to the enemy, it seldom assures victory. The defense, however, is the stronger form of war because of the advantages to the defender. Army doctrine recognizes the strength of the defense but emphasizes the necessity to quickly transition to offensive operations after a successful defense. A defender cannot be purely passive. Depth, flexibility, and retaining an offensive capability are all part of the defense. The defender seizes every opportunity to go over to the offensive. Brigades and battalion task forces are the principal maneuver elements of the corps and division defense. Cavalry units normally perform security missions for the defense or reconnaissance missions to support attacks. Cavalry units frequently perform defensive operations as a part of these security and reconnaissance missions, or when they are required to defend as an economy of force. The armored cavalry regiment normally requires little augmentation to perform missions as an economy of force. Division cavalry may require augmentation with additional combat, combat support, and combat service support assets based on the organization and status of the squadron and the situation.

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Section I. Fundamentals of the Defense

Defensive positions are usually nonlinear and the battle is planned and fought in depth. Supporting fires and reinforcing obstacles are planned to assist in shaping the battlefield, to slow and confuse the enemy, and to destroy the continuity of his

formations. The battle starts forward of the FLOT. Supporting indirect fires are planned and used as early as tactically feasible. The initiative must be taken from the attacking enemy. He may be attacked before he closes on the security area or main battle area. A reserve should be available to counterattack at the critical point to destroy the enemy. The defense orients on defeating the enemy, not on maintaining the initial defensive trace.

PURPOSE OF DEFENSE

Defensive operations are conducted with the immediate purpose of defeating an enemy attack. Defensive operations may also achieve one or more of the following:

- Gain time.
- Concentrate forces elsewhere.
- Wear down enemy forces as a prelude to offensive operations.
- Control key or decisive terrain.
- Retain tactical, strategic, or political objectives.

CHARACTERISTICS OF DEFENSIVE OPERATIONS

Successful defensive operations are defined by five characteristics:

- Preparation.
- Security.
- Disruption.
- Mass and concentration.
- Flexibility.

Preparation

The defender has significant advantages over the attacker. In most cases, he not only knows the ground better, but having occupied it first, he has strengthened his positions. He is relatively stationary in carefully selected positions, with prepared fires and obstacles. Cover and concealment mask his dispositions and provide protection. The defender uses all available time to prepare fighting positions and obstacles, to rehearse counterattacks, and to plan supporting fires and combat service support in detail.

Operations security (OPSEC) is the defender's first requirement to defeat an attack. Units must maintain OPSEC, avoid patterns, and practice deception to hide their dispositions. Defeating enemy reconnaissance is critical and inherent when cavalry is conducting security missions, but must be planned when conducting a defend mission in an economy-of-force role.

The attacker, however, has the initiative to choose the time and place of battle. The attacker tries to shatter the defense quickly and prevent its reconstitution by continuing the attack at a fast pace into the defender's rear areas. The attack will be preceded and accompanied by massed supporting fires. To win, the defender must be prepared.

Security

Defending forces provide security. Since a force defends to conserve combat power for use elsewhere, or at a later time, commanders must provide protection for their force. They do this principally through deception and physical means in the defended area. Defending units want to deceive the enemy as to their strengths and weaknesses. Normally a security area is designated with a covering force. Cavalry units at all tactical echelons perform security missions to coordinate and synchronize the defense, to provide early warning, and to begin disrupting the integrity of the enemy attack early and continuously.

Disruption

The defender disrupts the attacker's tempo and synchronization. An attacker's strength comes from momentum, mass, and mutual support of maneuver and combat support elements. The defender must slow the attack, disrupt the attacker's mass, disrupt his command and control, and break up the mutual support between his combat and combat support elements. This results in a piecemeal attack that can be defeated in detail. A general aim is to force the attacker into a nonlinear battle, fighting in more than one direction. The attacker is never allowed to get set. His vulnerable flanks and rear should be attacked. He is hit with spoiling attacks before he can focus his combat power and is counterattacked before he can consolidate any gains. This makes it more difficult for him to concentrate forces and fires, and to isolate and overwhelm the defender.

Mass and Concentration

The defender seeks to mass the effects of overwhelming combat power where he chooses and shifts that mass in accordance with the point of his main effort. To gain the advantage at decisive points the defender is often forced to economize and accept risks elsewhere. The defender retains, and when necessary, reconstitutes a reserve and maneuvers to obtain local superiority at the decisive point. Reconnaissance and security enable him to "see the battlefield," and thereby reduce risk. Obstacles, fires, deception, and concealment can also assist in reducing these risks. The defender rapidly concentrates forces, massing combat power to defeat an attacking force, then disperses and prepares to concentrate again. The defender assigns the main effort to one subordinate unit. All other elements and assets support and sustain this effort. The commander should shift his focus by designating a new unit to be the main effort when the situation dictates.

Flexibility

Defensive operations are characterized by flexible planning and agile execution. The attacker initially decides when and where combat will take place. A flexible defender counters or evades the initial attack in order to strike back effectively. The plan enables commanders to shift their point of main effort quickly without losing synchronization. Commanders designate reserves and deploy forces and logistic resources in depth to ensure continuous operations and to provide options for the defender if forward positions are penetrated. The reserve is the most decisive force the commander can use to take the initiative from the enemy. Reserve commanders prepare for movement. They formulate counterattack plans that address their on-order and be-prepared missions and likely contingencies.

Understanding the commander's intent facilitates initiative and flexible execution by subordinate commanders. Contingency planning permits rapid action and allows subordinate commanders to rapidly exploit enemy weaknesses.

Flexibility also requires that the commander "see the battlefield" to detect the enemy's scheme of maneuver in time to direct fires and to maneuver against it. IPB determines likely enemy actions while security elements verify which actions are actually taking place. The commander does not limit his intelligence-gathering efforts to only the forces in contact, but also concentrates on formations arrayed in depth. The enemy may attempt to bypass areas where the defense is strong. Hence, the defending commander ensures he is able to detect and react to enemy movement along all possible avenues of approach throughout the course of the battle. The defender must never allow the attacker to gain tactical surprise.

BATTLEFIELD ORGANIZATION FOR THE DEFENSE

The defensive framework within which corps and divisions fight is generally organized into three interrelated but equally important operations (see Figures 6-1 and 6-2). These operations are as follows:

- Deep operations (operations forward of the FLOT).
- Close operations, consisting of security force operations, main battle area operations, and reserve operations.
- Rear operations.

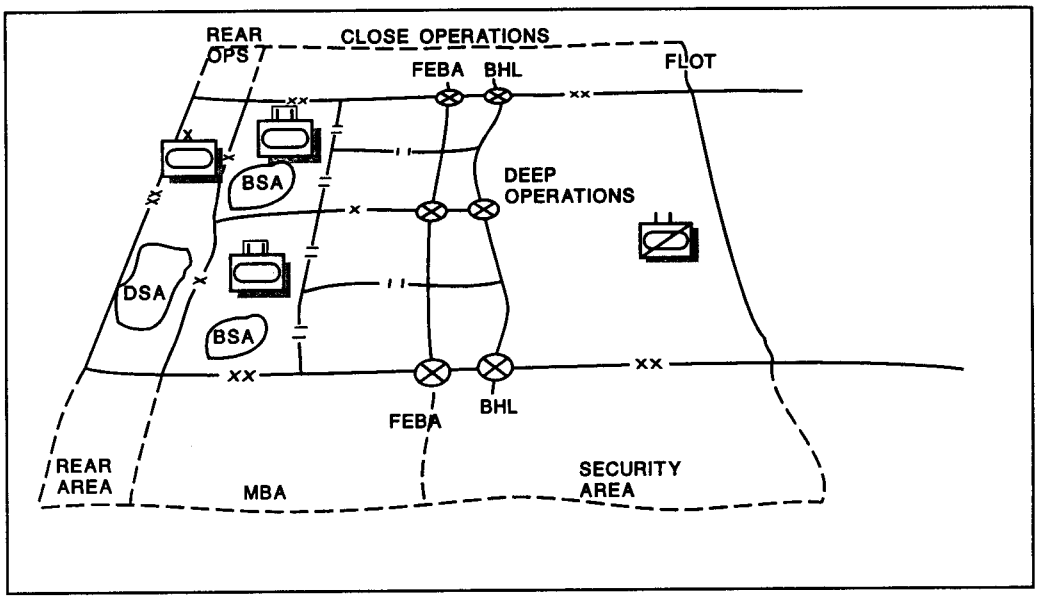


Figure 6-1. Organization of the division defensive battlefield.

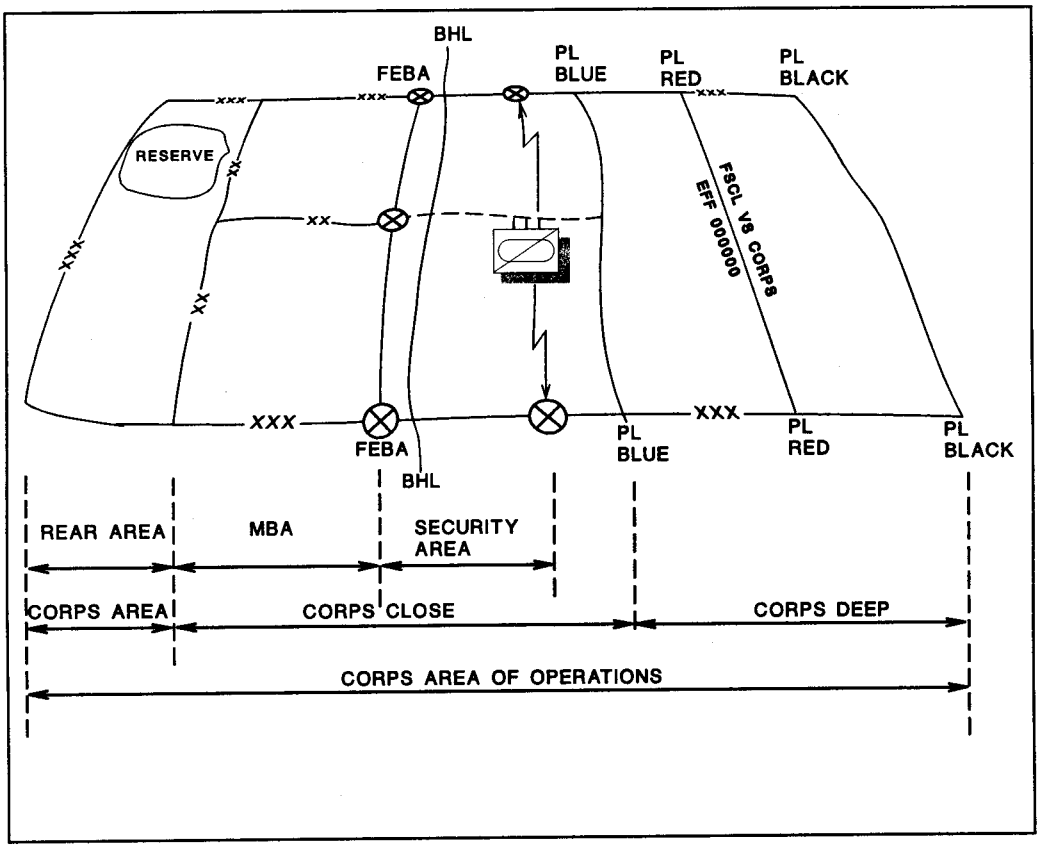


Figure 6-2. Battlefield organization for the defense.

Deep Operations

Deep operations create opportunities for offensive action by reducing the enemy's closure rates, separating attacking echelons; disrupting his command and control, combat support, and combat service support; and by slowing the arrival times of succeeding echelons. Deep operations are conducted against forces not in contact using indirect fires, electronic warfare, air interdiction, Army aviation, deception, and maneuver forces. These operations are performed by corps and division commanders and by the regiment to a limited extent. Deep reconnaissance forces provide combat information on enemy actions at named areas of interest and along avenues of approach.

Close Operations

Close operations include security force operations, main battle area operations, and reserve operations.

SECURITY FORCE OPERATIONS

The security force normally established by the corps is the covering force. It begins the fight against the attacker's leading echelons in the security area. In the absence of the corps covering force, divisions may establish the security force. Main battle area forces assume control of the battle at the battle handover line and assist covering force units in breaking contact and withdrawing. Cavalry units, when defending, establish a security area at all tactical echelons.

Corps and divisions perform security operations to the front, rear, and flanks to protect their freedom of action by reducing vulnerability to hostile acts, influence, or surprise. Cavalry is the primary force for these operations.

MAIN BATTLE AREA OPERATIONS

The main battle area is the critical area for the defeat of assaulting enemy forces. Division and corps commanders synchronize and integrate the fight. Brigade commanders fight the battle. They assign sectors or battle positions to task forces based on their estimate of the situation and intent. Assigned sectors coincide with avenues of approach. The commander designates and sustains the main effort by giving priority of artillery, engineer, air defense, and close air support assets to the force responsible for the most dangerous avenue of approach into the sector. Alternatively, the enemy may be allowed to penetrate and the main effort rests with a reserve force to attack and destroy the enemy from the flanks or rear. The commander can strengthen the effort along the most dangerous avenue of approach by narrowing the sector of the unit astride it.

Task force commanders structure their defenses by deploying units in depth. A mounted reserve of one-quarter to one-half of the task force strength provides additional depth and gives the commander a maneuver capability against the enemy. A commander can create a reserve by taking risks on less likely enemy avenues of approach into his sector.

Penetration by enemy forces must be anticipated and provided for in the plan. Separation of adjacent units is likely, especially if the enemy is conducting nuclear and chemical operations. Main battle area forces continue to strike at the enemy's flanks and counterattack across penetrations.

RESERVE OPERATIONS

The primary purpose of the reserve is to provide flexibility to seize the initiative through offensive action. The commitment of reserve forces at the decisive point and time is key to the success of a defense. The reserve becomes the main effort upon commitment. The reserve force can expect to receive one or more of the following missions upon commitment:

- Counterattack.
- Spoiling attack.
- Block, fix, or contain.
- Reinforce.

The squadron-level reserve's most common use is in the counterattack role. The composition, location, and mission of a reserve are based on the commander's estimate of the situation and intent.

Rear Operations

Rear operations assure freedom of maneuver and sustained operations. Rear operations must not divert forces from the main effort. Rear operations are discussed in greater detail in Chapter 8.

FORMS OF DEFENSE

Defensive patterns follow two broad categories: mobile and area. The mobile defense focuses on destroying the attacking enemy force. It permits the enemy to advance into a position that exposes him to counterattack and envelopment by a mobile striking force. The area defense focuses on retaining terrain by absorbing the enemy into an interlocked series of positions from which he can be destroyed largely by fire. Smaller mobile reserves are used.

The mobile defense employs a combination of offensive, defensive, and delaying actions over great depth to defeat the enemy attack. The minimum force possible is committed to pure defense; maximum (two-thirds) combat power is placed in a mobile striking force that attacks the enemy as it attempts to overcome that part of the force dedicated to the defense. The mobile defense is normally conducted by division and larger forces.

The area defense is usually conducted to deny the enemy access to specific terrain or facilities for a specific time. Area defense does not normally result in decisive defeat of the enemy. Other simultaneous or subsequent action achieves this objective. The bulk of the defending forces is deployed to retain ground, using a combination of defensive positions and small mobile reserves. Commanders organize the defense around a framework provided by defensive positions, seeking to destroy the enemy forces with interlocking fires. Commanders also employ local counterattacks against enemy units penetrating between defensive positions. Area defenses may be conducted in varying depth. Less flexibility in this defense requires early identification of the enemy's main effort to allow for concentration.

SEQUENCE OF THE DEFENSE

A defense is often conducted in a sequence of integrated and overlapping steps.

Occupation

During this phase, the scouts are usually the first to clear the proposed defensive position. They check for enemy observation posts and NBC contamination. Leaders then reconnoiter and prepare their assigned areas. Security (scout screen) is established forward of the defensive area to allow occupation of positions and preparation of obstacles without compromise. During occupation, movement is minimized to avoid enemy observation. Units initiate deception plans.

Security Force Fight

The security force makes initial contact with the approaching enemy. Depending on the mission, organization, and size of the security force, it may do anything from providing early warning to defeat of the enemy's lead echelons. Main battle area forces eavesdrop on the security force fight to remain abreast of the situation.

Passage of the Security Force

The main battle area force establishes contact with and assists the disengagement and passage of the security force. Chapter 8 discusses battle handover and passage of lines.

Defeat of Enemy Reconnaissance and Preparatory Fires

The enemy will attempt to discover the defensive scheme using reconnaissance elements and attacks by advance guard elements. The enemy will also attempt to breach the defender's obstacles. Consistent with the requirement to maintain security, units should remain in defilade, hide, and prepared positions to avoid the casualties and shock associated with indirect fires.

Approach of the Enemy Main Attack

The defender's security elements observe and report enemy movement during the security force fight. The main battle area commander repositions or reorients his forces to mass against the enemy's main effort. Enemy formations are engaged at maximum range by supporting fires and close air support to cause casualties, to slow and disorganize formations, to cause the enemy to button up, and to impair his communications. Obstacles and lanes are closed. Direct fire weapons are repositioned as required, or maneuvered to attack the enemy from the flank. The commander may initially withhold direct fires to allow the enemy to close into an engagement area where decisive concentrated fires destroy him.

Enemy Assault

As the enemy deploys, he becomes increasingly vulnerable to obstacles, blocking positions, and fires intended to break up the assaulting formation. Continued maneuver to enemy flanks and rear is used to destroy him and to increase the number of directions in which he must react. Some security elements may stay in forward positions to monitor enemy second-echelon movement and to direct supporting fires on these forces as well as on his artillery, air defense, supply, and command and control elements.

Counterattack

As the enemy assault is slowed or stopped, the commander will launch his counterattack forces to complete the destruction of the enemy. In some cases, the opportunity to counterattack can occur before the enemy is slowed or stopped. The counterattack may be by fire or by fire and movement.

Reorganization and Consolidation

The defender must quickly reorganize to continue the defense. Attacks are made to destroy enemy remnants, casualties are evacuated, and units are shifted and reorganized to respond to losses. NCO leaders cross-level ammunition and other critical items. Emergency resupply is conducted if necessary. Commanders reestablish security and obstacles and submit reports.

ARMORED CAVALRY REGIMENT ROLE

In support of corps defensive operations, the armored cavalry regiment is normally assigned security missions or ordered to defend as an economy of force.

The regiment is normally the foundation around which the corps covering force is built. As a covering force, the regiment is expected to destroy a significant number of enemy forces in the corps security area. This will require attacking, defending, and delaying as necessary to accomplish the corps commander's intent. Following security area operations, the regiment may become part of the corps reserve or perform rear area operations.

The regiment is also an ideal force for use in an economy-of-force role. The corps commander may assign the regiment a defend mission to allow him to concentrate forces at the decisive point on the battlefield. The regiment requires minimum augmentation with combat (normally infantry), combat support (artillery, engineer), and combat service support assets if it is assigned a defend mission. The regiment's commitment to this mission normally requires other corps assets to assume the corps security function.

REGIMENTAL ARMORED CAVALRY SQUADRON ROLE

Squadrons within the regiment can expect to conduct hasty defensive operations in the conduct of reconnaissance and screen missions. Squadrons conduct more deliberate defensive operations in the conduct of guard missions, when acting as part of a covering force, or performing as part of a defensive economy of force.

Hasty defensive operations are normally the rule in the conduct of reconnaissance missions. The squadrons may establish a hasty defense when contact is made with an enemy force too large to attack or bypass. During the conduct of security missions, as the degree of security required by the higher commander increases, so does the likelihood of the squadron performing deliberate defensive operations.

The squadron may be assigned a defensive mission in the main battle area as part of a defensive economy of force. It may require reinforcement to accomplish this mission. When performing in this role, the squadron can expect to conduct attack, defend, and delay operations as necessary to accomplish this mission.

REGIMENTAL AVIATION SQUADRON ROLE

The regimental aviation squadron is normally assigned security missions in conjunction with regimental security or defensive operations, or it may be used as part of the regimental reserve in these operations. The regimental commander will normally retain the attack troops as part of the reserve initially, and assign security or reconnaissance missions to the air cavalry troops. The regimental aviation

squadron does not defend as does the armored cavalry squadron. The aviation squadron reconnoiters, screens, and attacks during a regimental defense.

DIVISION CAVALRY SQUADRON ROLE

The division cavalry squadron performs a role in support of the division similar to the role the regiment performs for the corps. The division cavalry squadron may conduct hasty defensive operations during reconnaissance and screen missions. The squadron conducts more deliberate defensive operations in the conduct of guard missions, when acting as part of a covering force, or performing as part of a defensive economy of force.

During reconnaissance operations, the squadron may establish a hasty defense upon contact with an enemy force too large to attack or bypass. This is part of actions on contact. During a guard mission, the squadron may be required to defend and accept decisive engagement to provide the time and space required by the division commander. The squadron may be part of a covering force and receive a defensive mission. Following security area operations, the squadron may become part of the division reserve, or it may perform rear operations.

Defensive missions in the main battle area may be assigned to the squadron as an economy of force for the division commander. The same considerations guide this role as in offensive operations. Reinforcements are normally required. Commitment of the squadron to this role normally requires other division assets to assume the division security function. As an economy of force, the squadron may defend in sector, delay, counterattack, or perform deception operations. FM 71-2 provides a detailed discussion of defensive operations that may be referred to when performing missions as an economy of force.

TROOP AND COMPANY ROLES

Ground troops prepare to establish hasty defenses during reconnaissance operations as part of actions on contact. During security missions, the troop may defend in sector, defend a battle position, or delay. These same missions apply when the squadron is performing in an economy-of-force role.

Air cavalry troops perform reconnaissance or screen along exposed flanks, between troops, or forward of the ground troops. Attack helicopters may form part of the reserve and are highly effective against moving enemy forces.

The tank company in the regimental armored cavalry squadron is normally employed as the squadron reserve. In the division cavalry squadron, attached company teams may form the reserve. If there is a major avenue of approach into the squadron sector, a company team may be placed astride it, while a ground troop forms the reserve.

Section II. Planning Defensive Operations

Chapter 2 outlines the decision-making process for all operations. When planning defensive operations, certain considerations apply as the scheme of maneuver is developed.

INTELLIGENCE PREPARATION OF THE BATTLEFIELD

IPB is the first essential step of planning. Terrain is analyzed from both friendly and enemy perspectives. Enemy avenues of approach are defined. The situation template indicates how the enemy can use the terrain and how he may deploy along the avenues of approach. Named areas of interest identify critical decision points where enemy action indicates his intent. Decision support templates aid critical maneuver or fire support decisions. Terrain analysis also provides information the S3 and commander can use to plan the scheme of maneuver. Additional information on the IPB process is in FM 34-35 and FM 34-130. Additional information on terrain analysis can be found in FM 5-33.

UNIT POSITIONING CONSIDERATIONS

The commander and staff develop courses of action and determine tentative unit positions. The regimental commander arrays his squadrons against regimental-size avenues of approach. He determines squadron sectors by considering the positioning of troops. The squadron commanders array troop-size forces against battalion-size avenues of approach. In doing this, he considers the positioning of platoons. The positions must provide for an integrated defense so that all available weapon systems can be effectively used. Positioning should allow shifting of fires and forces to meet enemy actions during the battle. Once this is completed, the commander considers the formation of teams. Available maneuver space and subordinate combat power are considered when forming teams.

Regimental cavalry troops are already combined arms organizations and seldom need further task organization. Division cavalry commanders must consider task organizing organic ground cavalry troops and attached companies.

Commanders organize and assign missions in the defense based on the considerations described in the following paragraphs.

Dispersion

Commanders disperse units and weapons laterally and in depth to reduce the enemy's ability to suppress. This also allows the unit to engage the enemy from multiple directions.

Cover and Concealment

Elements are placed in positions where cover and concealment are available; obvious terrain is avoided. Hide positions are used. To check the adequacy of concealment, leaders travel approaches to their units from the enemy's direction of movement. Covered routes must be available to allow movement in and between positions and for maneuver against the enemy.

Flanking Fire

Flanking fires are far more effective than frontal fires. Initial positions for antiarmor weapons may maximize long-range engagements, but primary positions are normally picked to maximize flanking fires from defilade positions.

Security

Battle position security includes patrols, observation posts, and other measures to provide security from enemy attacks, mounted or dismounted, along covered routes.

Ability to Maneuver

Units must be able to concentrate on the avenues of approach being used by the enemy. To do this, plan and rehearse routes between on-order positions with sectors of fire and positions in depth.

Range of Weapon Systems

When selecting tentative positions for weapon systems, the commander considers the effective range and acquisition capabilities of each system. Weapons are positioned to engage out to maximum effective range and to provide an increasing volume of massed fires. Tanks have a fast rate of fire and short engagement time. Antitank missiles provide long-range fires but are limited by rate of fire and time of flight.

Transition to Limited Visibility

An attacker uses night, bad weather, smoke, and suppressive fire to limit the defender's visibility. The defender anticipates this problem and prepares to occupy predetermined, limited visibility fighting positions. Limited visibility capabilities of fire control systems are a key factor in determining the amount of adjustment required.

Dismounted Infantry

Battle positions or sectors for dismounted infantry are chosen to hold or deny mounted and dismounted avenues of approach to key terrain. Positioning dismounted infantry on forward slopes may needlessly expose them to long-range direct and observed indirect fires. Positions to the flanks or on reverse slopes that deny approaches to key terrain avoid exposing dismounted infantry and provide cover and concealment. Dismounted infantry is best suited to close-in fighting on restrictive terrain with limited fields of fire. Dismounted infantry should be positioned so they can only be threatened inside the ranges of their antitank weapons. When good infantry terrain is not available, construction of obstacles and time to construct strong fighting positions are required to allow infantry to hold terrain and defeat armor.

Based on the reconnaissance and security plan, infantry units provide observation posts and patrols between battle positions to augment the efforts of the scouts. Infantry can be used to provide manpower for constructing obstacles, clearing fields of fire, securing obstacles, and closing lanes and gaps in obstacles. When assigning infantry additional tasks outside their battle positions, the time for movement as well as time to construct their fighting positions must be considered.

Positions for subordinate troops or companies may be designated by battle positions or sectors. The considerations listed in Figure 6-3 guide planning.

FACTOR	BATTLE POSITION	SECTOR
Avenues of approach	Well defined; enemy can be canalized	Multiple avenues prohibit concentration
Terrain	Dominates avenues of approach	Dominating terrain not available
Areas of operation	Narrow	Wide
Mutual support	Achievable	Cannot be achieved
Squadron commander's ability to see and control	Good	Degraded
Enemy situation	Known/clear	Unknown/unclear/ vague
Troops available	Attached infantry	Pure or attached armor

Figure 6-3. Positioning considerations.

RESERVE

A reserve is normally designated at regimental and squadron level. Troops seldom have adequate combat power to do so. Troop commanders prepare contingencies for platoons that allow them to rapidly shift or assume new missions. As in offensive operations, the reserve commander is assigned missions as contingencies to provide planning guidance and to ensure timely execution on commitment. Considerations that guide organization and employment of the reserve are explained in the following paragraphs.

Size

With a vague enemy situation, multiple avenues of approach, force oriented mission, or narrow sector, the regiment or squadron can organize a strong reserve. A delay mission also normally requires a strong reserve. With a well-defined enemy situation, few avenues of approach, or terrain-oriented mission, a smaller reserve may be adequate. An economy-of-force role or wide sector may not afford the luxury of a large reserve.

Composition

The reserve is normally structured around a ground maneuver unit providing speed and firepower. Tanks are normally a key element. Attack helicopters are also ideal as a reserve, and an air and ground team offers advantages. The reserve must not be dependent on the availability of aircraft. In the armored cavalry regiment, the reserve may be composed of an attached battalion task force, attached/OPCON attack helicopter battalion, attack helicopter troops of the aviation squadron, or a tank company or companies from the cavalry squadrons. A mix of air and ground assets is the most effective. In the regimental cavalry squadron, the tank company normally serves as the squadron reserve. A ground troop or attached company team normally forms the reserve in the division cavalry squadron.

Location

Positioning the reserve is critical to effective employment. It is positioned in adequate depth to have a degree of protection and to prevent inadvertent commitment too early in the fight. However, the reserve must be close enough that it can rapidly enter the fight when committed. The reserve can occupy battle, blocking, or hide positions.

Commitment

The same considerations apply that govern commitment of the reserve in offensive operations. The reserve can be used for—

- Counterattack.
- Spoiling attack.

- Blocking, fixing, or containing enemy forces.
- Reinforcing committed forces.
- Supporting disengagement of troops.

The counterattack is the most frequent mission executed by the reserve. Normally, more than one counterattack option is planned for and rehearsed. Counterattacks may be conducted to block an impending penetration of the forward edge of the battle area (FEBA), to stop a force that has penetrated, to attack through forward defenses to destroy an enemy force, or to attack enemy forces from the flank and rear. Counterattacks may be conducted by fire or by fire and movement. Combat power is increased by using surprise, flanking attacks, speed, and violent execution.

The counterattack begins movement early to launch before the enemy has time to consolidate any local gains made. Units other than the reserve may also be tasked to carry out local counterattacks. The counterattack is conducted like a hasty attack. The execution of the counterattack is based on decision points developed during the construction of the decision support template.

Regardless of the type of counterattack being conducted, the following basic considerations apply:

- Attack one objective at a time, and weight it with all available fire support. Once committed, the counterattack becomes the main effort.
- Plan the battle. Determine movement times and probable lines of departure/lines of contact before committing the force to the counterattack. Rehearse to learn routes, objectives, and time requirements.
- Defeat the enemy before subsequent echelons close. Even for a force oriented counterattack, use an objective to orient the counterattacking force.
- Attack the enemy's flanks and rear, taking advantage of protection offered by terrain and limited visibility.

The regimental or squadron commander may designate on-order battle positions from which the reserve can conduct counterattacks by fire. The reserve commander conducts a reconnaissance of the battle positions and assigns his subordinates battle positions from which they can fire into engagement areas to stop enemy forces. Since those on-order battle positions are often close to occupied battle positions, or are in other unit sectors, close coordination is required for—

- Routes from the reserve position to the battle position.
- Fire coordination measures.
- Tie-in of fires with forward units.
- Supplementary positions for flank units.
- Completion of the counterattack by fire and movement if necessary.
- Continuation of attacks beyond the FLOT.
- Coordination of the limit of advance.

The commander coordinates direct fire and indirect fire control measures to protect the reserve from both enemy and friendly fire. A restricted fire area around the counterattack axis of advance or direction of attack and its objective can be established. Fires are planned along the flanks of the axis, on the objective, and to separate enemy echelons. Clear recognition signals are used to prevent engagement by friendly ground or air units. The actual attack executed seldom mirrors what is planned. The control measures used for the defense must be flexible enough to facilitate a rapid FRAGO, changing a counterattack while retaining a synchronized fight.

BATTLE COMMAND

Battle command in defensive operations involves the use of fire control measures to help the commander mass fires on the enemy while providing adequate distribution. Combined with a well-planned obstacle system, fire control measures allow the defender to fully exploit the effects of organic and supporting weapons.

Engagement Priority

Fires can be distributed by assigning each weapon or section a type of vehicle to engage first. Generally, the most dangerous targets are shot first.

Trigger Line or Point

A trigger line or point is readily identifiable on the ground and indicates the location at which engagement of the enemy force is to begin. It allows for massed opening volleys, desired surprise, and prevents wasting ammunition. It may be indicated graphically as a phase line or target reference point on either fire plans or the operations overlay.

Sector of Fire

A sector of fire is an area required to be covered by an individual weapon or a unit. Primary and secondary sectors may be assigned. Sectors of fire are used to orient the fires of the designated force. This is not a restrictive fire control measure. Dangerous targets or targets of opportunity outside the sector should be engaged.

Disengagement Criteria

Disengagement criteria provide guidance to the unit commander or leader on the decision point at which displacement to subsequent positions is to occur. Execution of the mission without delay is the benefit. The commander may designate a break line or point to begin disengagement. The operation can proceed in the absence or breakdown of communications. Disengagement is not rote execution. The commander or leader of the unit weighs the criteria against the commander's intent.

Disengagement criteria are defined in recognizable terms. They must allow time for the unit to successfully disengage once the decision has been made. Based on the commander's intent, they may be established as destroying a certain number. They may not be established as a percentage of enemy vehicles or a percentage of friendly unit losses. Rather, they should be defined in terms of enemy unit actions, such as—

- Penetrating an obstacle.
- Crossing a phase line.
- Effective suppression on the position.
- Specified maneuver action of an enemy unit (flanking move by advance guard battalion against a position).

Backbrief and Rehearsal

Backbriefs and rehearsals are particularly valuable while preparing for defensive operations. They allow the commander to ensure that his concept is understood, problems are resolved, and details are coordinated. Rehearsals are critical for movements and coordinated engagements. Backbriefs should occur at the location of the subordinate.

Engagement Area

An engagement area is an area in which the commander intends to trap and destroy an enemy force with the massed fires of all available weapons (see Figure 6-4). The destruction of the enemy in an engagement area is frequently the critical part of the battle or phase of the operation. Engagement areas are routinely identified by a target reference point in the center of the area or by prominent terrain around the area. They are not intended to restrict or cause operations to become static or fixed. Defensive systems are not designed around engagement areas, but rather around avenues of approach. Do not use an engagement area when less restrictive fire control measures are appropriate. An engagement area may be developed through terrain analysis determining locations along avenues of approach where the enemy can mass, presenting a lucrative target. A defensive plan to destroy the enemy at this location is designed using the engagement area as a critical component.

Engagement areas are normally terrain dependent and must be recognizable on the ground. They are open areas. To mass fires, the engagement area is structured. Obstacles canalize the enemy into the area, and once there, slow his progress, providing extended engagement times and massed targets. Indirect fires are planned on the obstacles, in the area, and in depth to suppress the attacker and to separate echelons. Troops are positioned, frequently in battle positions, to mass their fires. Sectors of fire within the engagement area may be designated. Counterattacks are planned to hit the enemy on a flank or his rear. These counterattacks are controlled by use of a direction of attack and possibly on-order battle positions to prevent squadron units from engaging each other. Counterattacks are planned both deep and

shallow. Air and ground assets are most effective when used together, forcing the enemy to fight in multiple directions. A joint air attack team may be part of the attack. (For further discussion of engagement area preparation, see FM 90-7.)

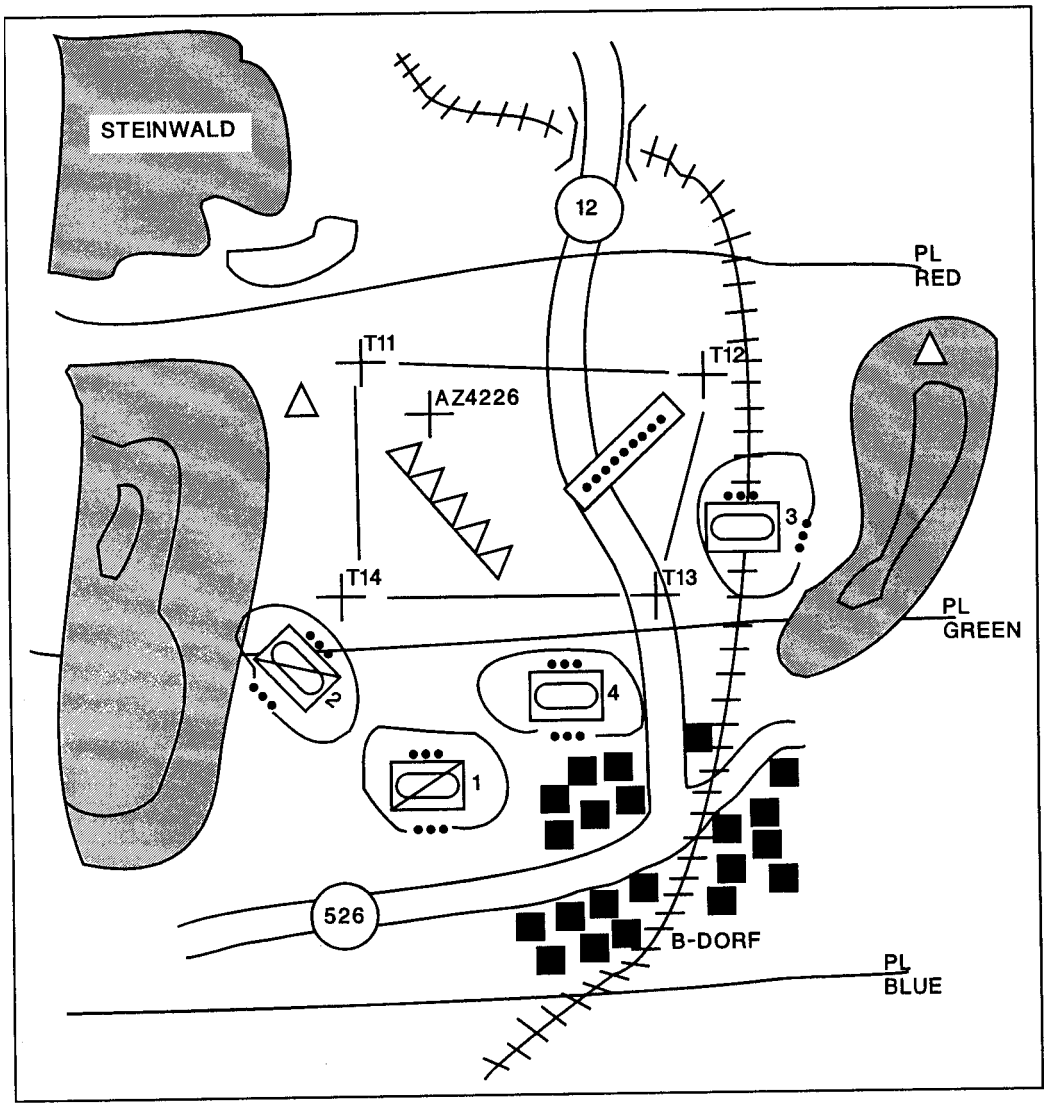


Figure 6-4. Engagement area.

Ambush

During a security mission, the scheme of maneuver may be an ambush of a moving enemy force in depth as it passes the screen line. An ambush is a surprise attack by fire from concealed positions on a moving or temporarily halted enemy. An air and ground team is especially effective for an ambush. Hasty obstacles stopping or slowing the enemy provide increased effectiveness of the ambush. (See Figure 6-5.)

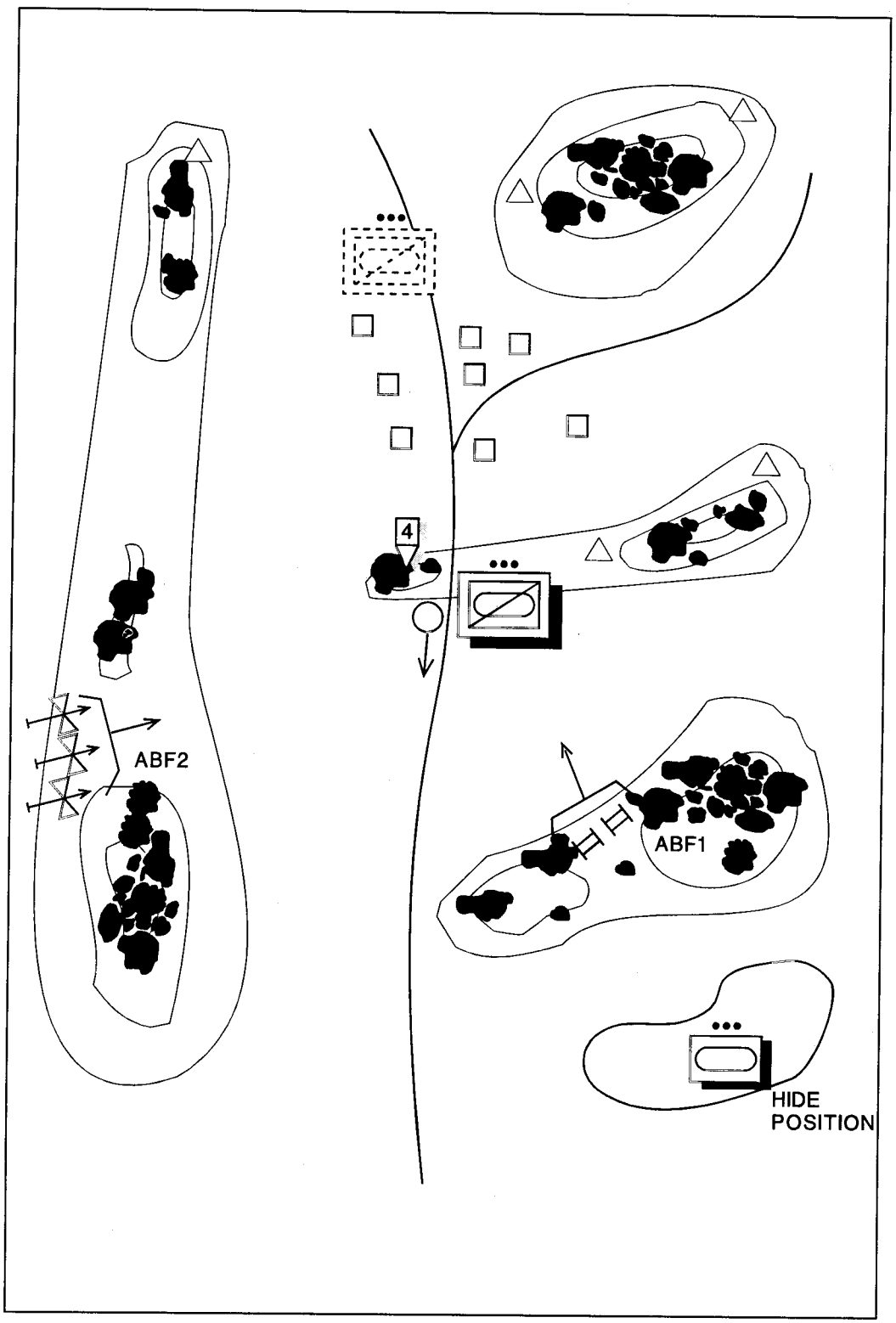


Figure 6-5. Ambush.

SYNCHRONIZING OPERATIONS

Fire Support

Supporting fires are planned and used in the following situations:

- At long-range to disrupt, slow, and disorganize the enemy and force him to button up.
- On likely enemy overwatch positions.
- To provide illumination.
- To cover disengagement, movements, and counterattacks.
- Along covered and concealed avenues of approach to destroy enemy dismounted infantry. Mortars and field artillery are particularly effective against dismounted infantry. Final protective fires used to destroy assaulting infantry are planned close-in to battle positions and are fired to break the assault.
- To defeat dismounted breaching attempts.
- To provide smoke for disengagement.
- To deliver FASCAM on avenues of approach where movement is choked, and to close lanes, gaps, or enemy breaches in obstacles. FASCAM is most effective when tied in with other obstacles and covered by observation and direct fire. The delivery of ADAM/RAAMS must be synchronized to ensure its delivery does not interfere with the requirement to deliver indirect fires when needed.
- To suppress enemy forward air defense.

The squadron commander develops the scheme of maneuver and his intent for fire support concurrently. The fire support officer must know when and where the commander wants fire support. In addition, he must fully understand what the commander wants in the way of effects, duration, and timing. The fire support officer then coordinates with the air liaison officer and engineer to develop an initial fire plan. This plan is refined based on input from troop commanders and fire support officers. The troop fire support officer and scouts execute fires. The squadron commander and fire support officer may orchestrate this by establishing an event-oriented scheme of fire support.

In the regimental armored cavalry squadron, the fires of the howitzer battery are integrated into the scheme of maneuver. The commander of the howitzer battery serves as the squadron fire support coordinator, and works in conjunction with the squadron commander and fire support officer in developing the fire support plan.

Squadron priority targets are planned on the most dangerous enemy avenues of approach. They may be suballocated to units covering these approaches. The designated priority targets are shifted as the battle develops. The commander also designates priority of fires, normally to the unit designated as the main effort.

Mobility and Survivability

The commander establishes a general priority of engineer tasks to be accomplished. Priority of effort is normally to countermobility, survivability, and mobility. In the armored cavalry regiment, the regimental commander determines priority of engineer support and allocates his assets accordingly. These assets will always consist of the regimental engineer company, and may include other engineer units. The division cavalry squadron relies on attached engineer assets for engineer support. At squadron level, the commander determines the priority of engineer tasks to be accomplished.

Priorities may be further assigned to key pieces of engineer equipment. Priority tasks and allocation of engineer assets must support the main effort and work must begin as soon as possible. The squadron may provide manpower, additional equipment, and supplies to support the engineer effort.

Mobility tasks are performed to develop covered and concealed routes into and out of battle positions along critical displacement routes in sector. Emphasis is on improving or maintaining existing routes rather than constructing new ones.

Survivability positions are prepared in battle positions to protect dismounted troops, weapons, and vehicles. Individual and crew-served weapons positions are constructed to provide protection against shrapnel from air burst, but not direct hits. Fighting positions for vehicles are constructed with both hull-down and turret-down locations.

Obstacles support the commander's intent and are fully integrated into the concept of the operation. Obstacles are grouped into two general categories: existing and reinforcing.

OBSTACLE INTEGRATION

Obstacle integration is the process of ensuring that the obstacle effects are integrated into the scheme of maneuver. Obstacle integration cuts across all functional areas and all echelons. Commanders at all levels must integrate existing and reinforcing obstacles in their engagement area as part of their planning considerations. An understanding of the basic principles behind obstacle integration is essential for commanders and staffs at all levels. These principles are the cornerstone for obstacle planning discussed in FM 90-7. Commanders and staffs consider the following to ensure that obstacles have the desired impact on the battle:

- Intelligence.
- Obstacle intent.
- Fires and obstacle effects.
- Obstacles and operations in depth.
- Obstacle control.
- Echelons of obstacle planning.

Obstacles are used by defending forces to canalize the enemy into areas where he is most vulnerable to concentrated direct fires and to hold him there as long as possible. At regimental level, obstacles are planned in belts, and squadrons emplace the obstacles within those belts. Additionally, squadrons emplace reserve obstacles that are typically directed by higher headquarters.

The following are guidelines for obstacle employment:

- Obstacles are continuously observed and covered by direct and indirect fires. A specific unit is assigned responsibility for protecting each obstacle. This includes protecting the obstacle during limited visibility and checking it at first light to ensure that it has not been breached.

- Point obstacles placed at irregular locations are used along secondary, restrictive approaches to slow rapid movement. These might not always be covered by direct fire.

- Emplacement time is reduced and effectiveness increased when emplaced obstacles reinforce existing obstacles. The combined effect produces a substantial barrier that may form a key part of the defense.

- Obstacles must not hinder planned friendly movement. Lanes and gaps through obstacles may be needed to allow movement. If so, a plan prescribes who closes the lane or gap. Troop commanders usually control and close gaps and lanes in their areas.

- Obstacles are employed in depth. Obstacles must be far enough apart so that each one will require a new deployment of the enemy's counterobstacle force and equipment.

- Hasty protective minefields are used for short periods or for specific missions. They are emplaced at troop level without regard to any standard pattern or density. Mines must be readily detectable and removable by the installing unit. Normally, mines carried on fighting vehicles are used for hasty protective minefield. The Volcano mine system installed on a UH-60 is capable of emplacing hasty minefield.

- Obstacles are emplaced to surprise the enemy. Security forces must be forward to deter enemy observation of obstacle construction. Obstacles should be in defilade and camouflaged if possible. Dummy obstacles are used to confuse the enemy.

- The exact position of each obstacle is coordinated between the engineer, troop commander, and the fire support officer to ensure adequate coverage. Since planned obstacle sites are often adjusted on the ground to accommodate direct fire coverage, the fire support officer must reconfirm target locations after obstacles are emplaced.

- Situational obstacles allow the commander to shift scarce assets to the location he needs them most, based on the situation. The commander can use situational obstacles to-
  - Attack an enemy vulnerability.
  – Exploit success.
  - Separate follow-on enemy forces.
  - Provide flank protection.

- The design components of the situational obstacles are intent, target, location, and effect. Situational obstacles can be made of both conventional mines and FASCAM. Further information on situational obstacles can be found in FM 90-7.

NBC CONSIDERATIONS

Throughout the planning process, the regimental commander plans for possible enemy use of NBC weapons and for employment of NBC defense units. The commander also determines decontamination priorities. The S3 and the chemical section analyze all plans and operations of forces and installations to determine their vulnerability to NBC weapons. The commander specifies the degree of risk he is willing to accept. The regimental chemical section can suggest changes to the concept of the operation if the concept involves unacceptable risks from enemy weapons.

Regimental NBC reconnaissance operations in the defense normally focus on identifying clean areas, battle positions, movement routes, decontamination sites, and contaminated areas that directly affect operations. The information gathered from the reconnaissance effort is immediately passed to higher, lower, and adjacent units.

Air Defense Artillery

During preparation of the defense, ADA priority goes to units preparing positions and obstacles. Once positions are prepared, priority goes to critical assets or locations. These may include command posts, trains, the reserve, choke points, river-crossing sites, or other high payoff targets. IPB determines the air avenues of approach into and through the defensive sector. ADA assets may be positioned along these avenues of approach to provide area coverage or at critical locations to provide point defense.

Intelligence

The military intelligence (MI) company in the armored cavalry regiment provides intelligence and electronic warfare (IEW) support to regimental operations. The division cavalry squadron relies on support from the division MI battalion.

The regimental MI company conducts surveillance and collection and jamming (C&J) activities in support of regimental operations. In some situations, the corps may provide additional IEW assets. In defensive operations, ground surveillance radars (GSR) are positioned well forward to provide early detection and location of enemy elements. They may also be positioned along flank avenues of approach. GSRs are very effective during limited visibility and may be used to vector maneuver units, particularly in the reserve, during limited-visibility operations. C&J assets are positioned to detect enemy activity as far forward as possible and to employ electronic countermeasures (ECM) against enemy communication nets as early as possible. The regimental commander will normally designate priorities for the C&J effort. The jamming effort is usually directed against enemy reconnaissance, command and control, or fire control nets. Enemy reconnaissance can be jammed initially while command and control nets may be jammed at critical points of the battle, such as during the destruction of an enemy force in an engagement area.

The division cavalry squadron employs IEW assets in the same manner. The amount of IEW support it receives from the division MI battalion is METT-T dependent, but could include an attachment of GSRs, as a minimum.

The regimental MI company also contains a counterintelligence team, an interrogation team, and a technical control and analysis element. FM 34-35 contains a detailed description of IEW operations in the regiment and the functions performed by the regimental MI company.

Combat Service Support

Combat trains are positioned well forward to provide rapid support during preparation and at the start of the battle. They are positioned out of range of enemy direct fire weapons and make use of available cover and concealment. Positions are prepared for defense against enemy attack. Subsequent positions are planned and reconnoitered to maintain survivability without degrading support. Class IV and Class V are normally the most critical logistical considerations. Movement of support traffic along main supply routes must not interfere with movement of maneuver units, especially the reserve.

NIGHT AND LIMITED VISIBILITY PLANNING

The commander can expect an attacker to use night and limited visibility conditions to—-

- Reconnoiter the defender's weapons, obstacles, and positions.
- Move assault overwatch elements into position.
- Infiltrate infantry.
- Breach obstacles.
- Move elements through gaps in the defender's coverage caused by reduced ranges of weapons.

Defending during limited visibility, especially at night, will be a normal condition. The defender must be able to rapidly modify or design the defense to negate the impact of limited visibility on the operation. Squadrons establish signals that initiate direct fire and indirect fire engagements, lift and shift fires, and initiate movement. The following considerations apply to limited visibility operations:

- Use long-range detection equipment (radar, sensors, night observation devices) on well-defined avenues of approach.
- Increase surveillance of obstacles, potential enemy overwatch and assault positions, and routes into them.
- Redeploy some units and weapons along avenues of approach that the enemy will likely use during limited visibility.
- Use more scouts, observation posts, patrols, and infantry (if available) on secondary avenues of approach and between positions to detect and slow enemy infiltration.
- Use point obstacles and early warning devices along likely night approaches to slow the enemy and to alert defenders to enemy presence.
- Plan and rehearse the required movement of weapons and units and the massing of fires.
- Plan illumination on or behind likely engagement areas to silhouette enemy while leaving defenders in shadows and darkness. While illumination is not needed with thermal sights, it may be needed for dismounted infantry.
- Movement to night defensive positions should begin just before dark, and the return to daylight positions should be completed before dawn.

Section III. Defend in Sector

Defend in sector requires the defending unit to prevent enemy forces from passing beyond the rear boundary of the sector, while retaining flank security, and ensuring integrity within the parent unit's scheme of maneuver. Initial positions are generally established as far forward as possible, but a commander may use any

technique to accomplish the mission. This is the least restrictive defensive mission and is the most common mission assigned to cavalry. The sector is defined by boundaries that enclose the area of responsibility.

The commander is expected to defeat the enemy within his assigned sector boundaries. No cohesive enemy combat force may penetrate the rear boundary. This is essentially a force-oriented defensive mission. Terrain is used to structure the battle and position unit assets advantageously. If a piece of terrain is considered key or decisive, a subordinate troop or attached company team can be given a battle position mission. The regiment, squadron, or troop may defend in sector. This mission may be performed as follows:

- During reconnaissance when a large enemy force is encountered.
- During guard missions for both a stationary and a moving force.
- During covering force operations or when operating as part of the covering force.
- When defending as an economy of force.

Unit commanders are given maximum freedom of action within the intent of the higher commander. Sectors are generally deeper than they are wide to permit the defending unit to fight the battle in depth and to provide sufficient space for combat support and combat service support assets. Coordination on the flanks is critical. Command and control must ensure this occurs.

PLANNING CONSIDERATIONS

The regimental commander will normally assign squadron sectors based on enemy regimental avenues of approach. Troops are then oriented on battalion-size avenues of approach. Depending on the regimental scheme of maneuver and the frontage of the defense, the armored cavalry squadron is usually deployed abreast. The aviation squadron may be assigned its own sector, but it normally works in conjunction with the ground squadrons, maintaining surveillance of suspected enemy avenues of approach.

The fundamentals of a defense in sector at squadron level are the same for both the regimental and division cavalry squadrons. However, since the organizations are different, there are some differences in planning for a defense in sector. The size of the squadron sector is a factor of the type squadron, reinforcements available, enemy threat, and terrain.

The squadron commander must perform the following actions:

- Allocate maneuver space to subordinate troops.
- Control direct fires by use of fire control measures.
- Maintain flank coordination internally and externally by use of control measures, liaison officers, and other techniques.

- Integrate obstacles, fire support, and air defense into the maneuver plan. If supporting artillery is operating in sector, it is placed forward to fire beyond the initial scout screen line. The regimental squadron commander must also ensure the fires of his howitzer battery are planned to provide support beyond the initial screen line. Subsequent positions are planned in depth to continue uninterrupted support. Coordination with main battle area units behind the squadron may be required for artillery firing positions to continue support as the squadron fights back through the sector. Priority of fire is initially designated to the troop astride the most dangerous avenue of approach.

- Position security forward and to the flanks and rear as necessary. This task is normally performed by air and ground scouts.

- Integrate limited visibility positions or actions into the plan.

- Clearly define the intent of the higher commander and his own to subordinates so they can execute in the absence of effective communications.

- Define limits of subordinate action to include movement, engagement, disengagement, and counterattack.

- Set priorities for movement on routes during repositioning, disengagement, or counterattack.

The squadron plans the defense in depth all the way to the rear of the sector. Preparations are normally conducted from front to rear. The defense may hinge on several succeeding key terrain features. They are used to structure the defense in depth or by phases and can be prioritized for preparation. Combat support assets are synchronized with the defense. The squadron must be ready to fight throughout the assigned depth of the sector.

Combat service support is planned in depth as well. Initial and subsequent positions are defined and coordinated with troop commanders. Combat trains are well forward and field trains are well to the rear or out of sector, collocated with a brigade forward support battalion or in the regimental support area. Class III and Class V can be pre-positioned in depth at subsequent positions or at logistics release points for pick up by unit first sergeants. Combat service support prepares to support forward, but remains mobile to rapidly displace as the battle develops. Battle damage assessment and repair and evacuation of combat vehicles must be done efficiently and by priority to preclude leaving valuable assets in the hands of the enemy. Combat service support operators must monitor the progress of the battle to remain abreast of the developing situation.

SCHEME OF MANEUVER

Schemes of maneuver center on the use of battle positions, sectors, or a combination of battle positions and sectors for subordinate troops or platoons. Figure 6-3 lists considerations for each. As stated earlier, the regimental commander normally assigns squadrons sectors to defend. His assigned sector is normally too wide to do otherwise. He may assign a battle position to a squadron or an attached battalion task force if there is decisive terrain he feels is absolutely necessary to control. At squadron and troop level, commanders have the flexibility of defending in troop sectors, from battle positions, or a combination of both. These basic schemes of maneuver can be used in designing a course of action.

The squadron or troop can defend using sectors (see Figure 6-6). Sectors are used when the enemy situation is vague, avenues of approach are numerous, or troops require greater freedom of action. The commander delegates much of the responsibility for conducting the fight to the troop commanders or platoon leaders. He maintains control through effective control measures and a clearly understood intent. In the regimental cavalry squadron, the squadron commander retains control of the tank company, and positions his howitzer battery so it can effectively support the squadron sector.

The squadron or troop can defend using battle positions (see Figure 6-7). This method is used when the enemy situation is clear, avenues of approach are few, or the commander must coordinate subordinate fires. In this scheme of maneuver the commander retains most of the authority for fighting the battle. The squadron commander and the S3 are positioned well forward, perhaps along two major avenues of approach, to control execution of the battle. Troop commanders must understand their authority to execute the concept in the absence of communications to prevent the squadron holding in place and risking destruction. Troop commanders will normally use this method for subordinate platoons when assigned a sector.

The squadron or troop can defend using a combination of sectors and battle positions (see Figure 6-8). This is considered the most common occurrence for the squadron. Ground troops can be assigned sectors, while air cavalry troops and the reserve are assigned battle positions to mass their fires at critical points. Ground troops can also be assigned battle positions for occupation at critical points or as contingencies. This approach can be used when changes in terrain, weather, or enemy situation throughout the depth of the sector dictate. It may also be used if squadron command and control is degraded during the course of the battle, making more centralized control necessary. These shifts can be planned in advance or ordered during the fight. Control measures and techniques used are a combination of the other two methods.

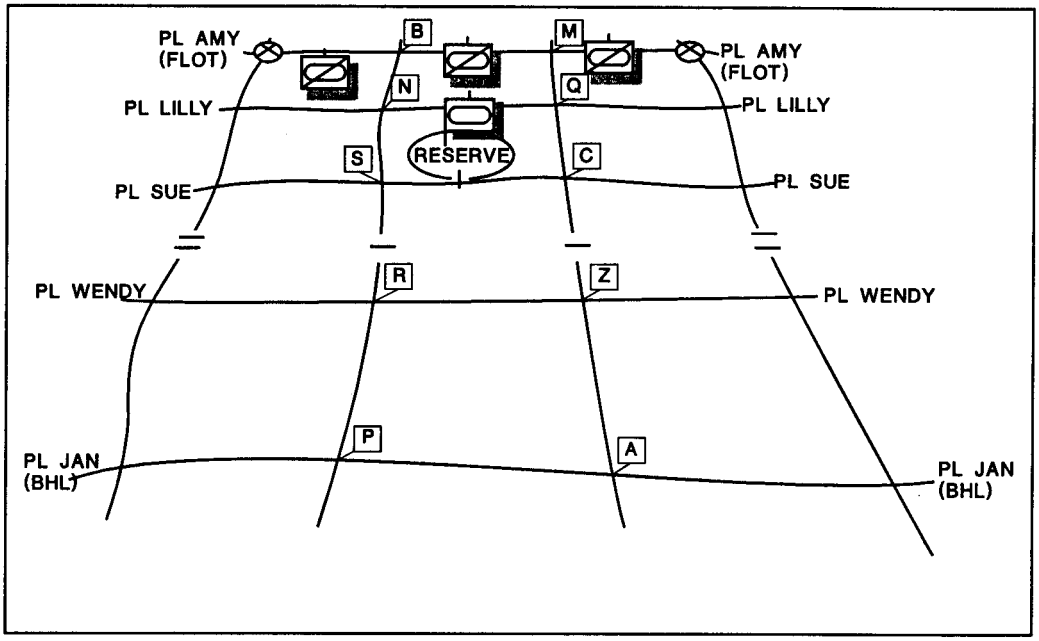


Figure 6-6. Defend using sectors.

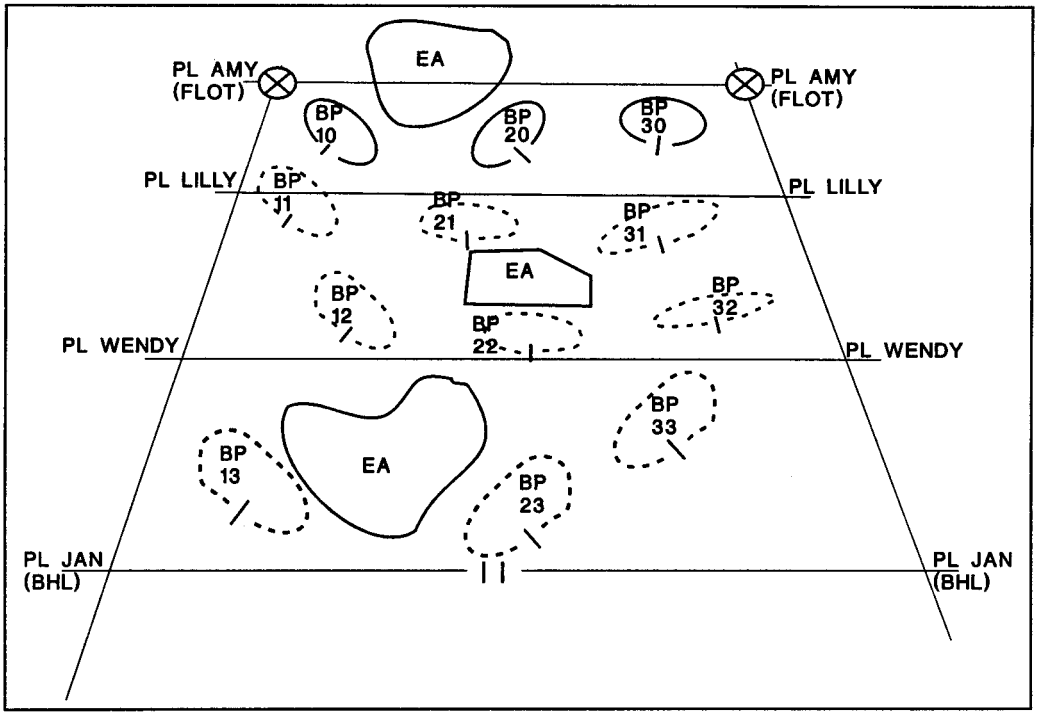


Figure 6-7. Defend using battle positions.

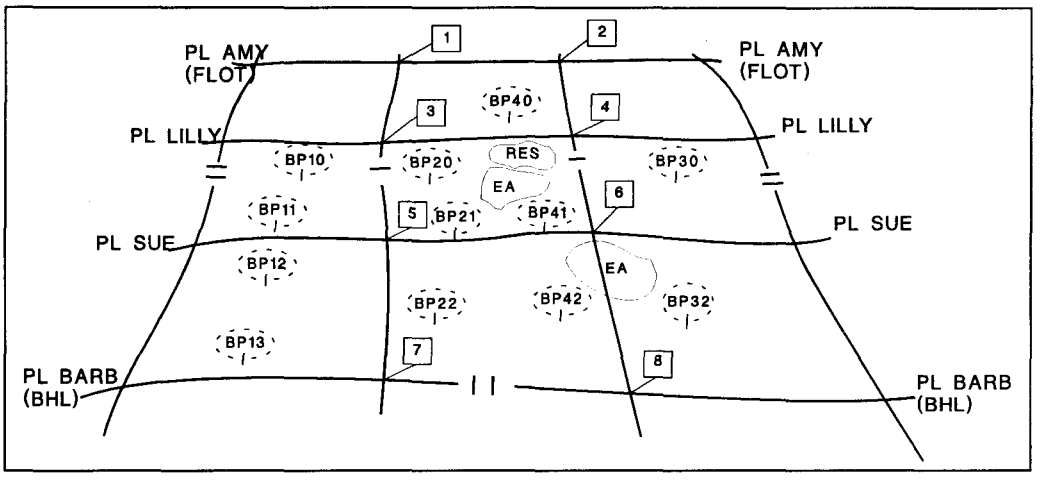


Figure 6-8. Defend using a combination of sectors and battle positions.

Section IV. Defend a Battle Position

This mission places a unit in a battle position to concentrate its fires, to limit its maneuver, or to place it in an advantageous position to counterattack. The battle position is a general location on the ground. The commander positions his forces on the best terrain within and in the vicinity of the position. Security forces may be positioned forward of and about the position. He can also locate combat support and combat service support elements outside the battle position. The commander or leader can maneuver his forces freely within the battle position and seize the initiative to maneuver outside the position to attack the enemy.

Squadrons normally do not defend battle positions. They are seldom assigned sectors that allow for defense from a battle position. Regimental squadrons at full strength generally have too much combat power to organize a single battle position. The air and ground troop mix in division cavalry does not lend itself to fighting from a squadron battle position. The regimental commander normally assigns this mission to an attached battalion task force and assigns sectors to his squadrons. Situations may occur where a squadron is required to defend a battle position (such as a squadron being committed to block a penetration). In these situations, the squadron uses those techniques outlined in FM 71-2. Troops and companies often defend from battle positions. They do so under the following conditions:

- During reconnaissance when stopped by a large enemy force.
- As part of guard missions for a moving or stationary force.
- During a squadron defend in sector mission.
- As part of a squadron economy-of-force mission.

The tank company of the regimental cavalry squadron, in its role as the squadron reserve, may defend from a battle position initially. This battle position may be oriented on a major engagement area, or it may be a position from which the company will perform counterattacks.

The squadron normally specifies tasks for troops assigned a battle position. The troop is generally required to orient its weapon systems on an enemy avenue of approach using target reference points or engagement areas. Specific tasks can include the following actions:

- Destroy a certain enemy force from the battle position.
- Control key terrain or block an avenue of approach by holding the battle position against a determined assault.
- Reorient weapon systems on a secondary avenue of approach from supplementary positions.
- Disengage and displace to a subsequent battle position when certain criteria have been met.

PLANNING CONSIDERATIONS

In selecting a battle position for subordinate troops, the squadron commander thinks two levels down in terms of platoons. He considers the type of platoons required to defend the terrain. This helps to determine task organization within the squadron and positioning of available troops or attached company teams. He must provide sufficient space in each battle position to allow dispersed primary and alternate firing positions. Room for limited visibility, supplementary, and hide positions, and locations for combat trains are also considered.

The commander can vary the troop's degree of maneuver by the size of the battle position. A small battle position tends to mass the fires more and limits the use of alternate and supplemental positions. A larger battle position facilitates alternate and supplemental positions, use of overwatch to support maneuver in depth, and execution of local counterattacks. Larger battle positions also reduce the necessity for coordination to move outside and increase dispersion in a nuclear and chemical environment. A battle position need not be a standard oval shape that suggests a linear defense, but should conform to the terrain and requirements of the defensive tasks assigned.

The ground troop commander normally assigns platoon battle positions within the troop battle position (see Figure 6-9). He considers the same factors discussed above. Alternate and supplementary platoon positions can be designated as separate battle positions to keep each position small and orientation clear. In the regimental cavalry troop, tank platoon battle positions are oriented on the engagement area the troop will execute from that position. Scouts are normally positioned on the flanks to provide security and to harass the enemy with indirect fire and long-range missile fires. Scouts may also be used to augment the fires of the tank platoons in the execution of the troop engagement area.

Air cavalry troops and attack troops use battle positions primarily to orient the fires of attack helicopters. Concealed routes in and out and concealed firing positions oriented on the flank of the anticipated enemy force characterize these battle positions. These positions can be located over ground totally unsuitable for ground forces as an added surprise to the enemy. Adequate space must be provided for scout helicopters and alternate firing positions.

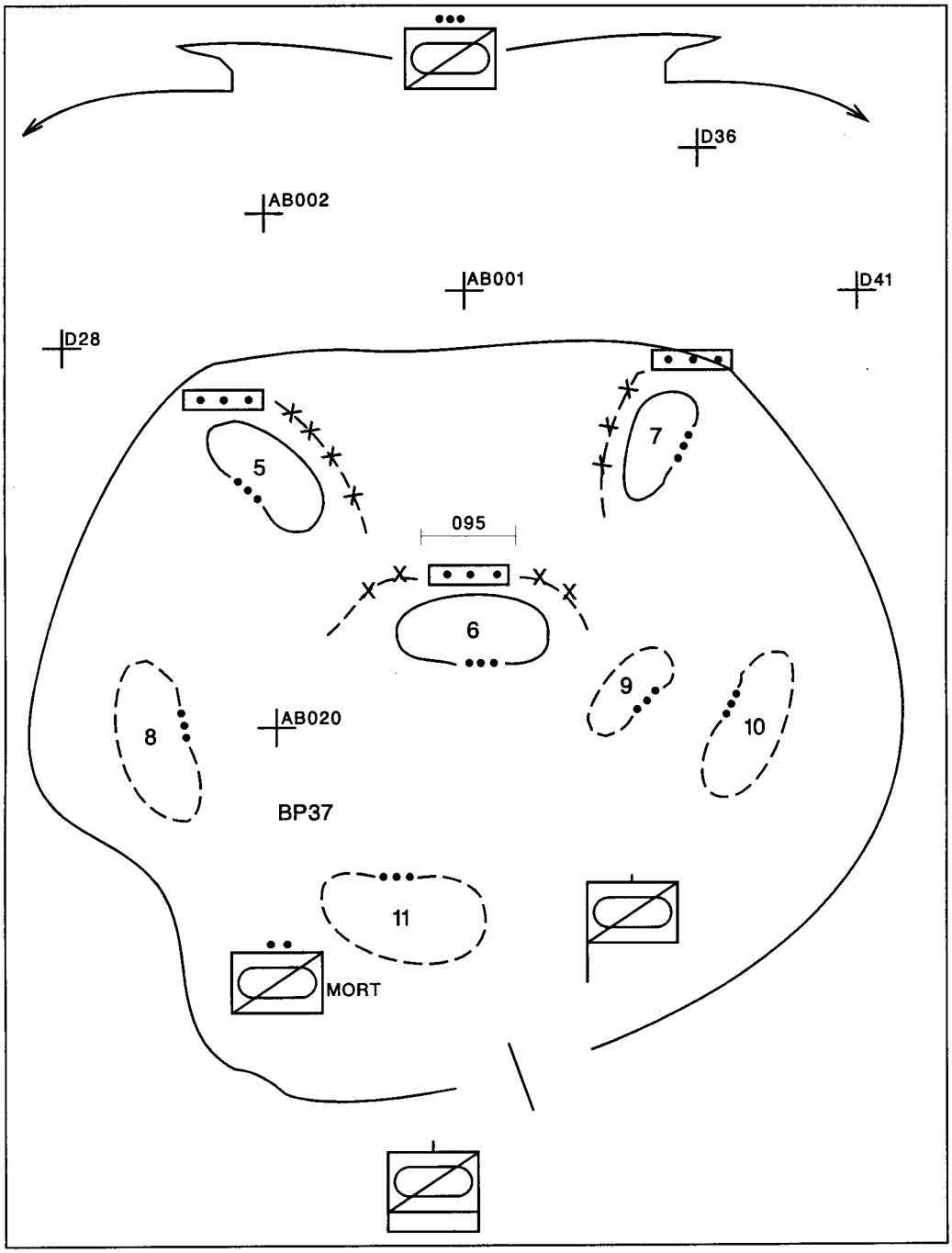


Figure 6-9. Troop battle position.

Positioning outside the battle position is often necessary. Security forward or to the flanks may be required. This is normally a screen mission assigned to a scout platoon. Space within the battle position is allocated to the scout platoon if it is to displace inside during the fight. The commander plans withdrawal routes that preclude masking the fires of platoons in the battle positions. Scouts may also be required to maintain flank contact or to reconnoiter subsequent battle positions during a hasty defense. Coordination with flank units and the squadron is essential when moving forward of or to the flank of the battle position. Mortars, command posts, and combat trains often are stationed outside the battle position, normally behind it where they can provide responsive support. If the mission requires displacement to a subsequent battle position, the command post can initially occupy that position to provide continuity of command and control.

OCCUPYING A BATTLE POSITION

Occupation of a battle position can occur as a deliberate or hasty defense. Figure 6-10 summarizes actions taken in each case.

WORK	DELIBERATE DEFENSE	HASTY DEFENSE
Leaders reconnaissance	Physical reconnaissance by CO, XO, platoon leaders, FSO	Map reconnaissance
Chemical reconnaissance	Troop quartering party (chemical detection team)	Platoon chemical detection teams
Security	Scout platoon security force with reconnaissance/quartering party	Platoon OPs
Occupation of initial positions	Troop quartering party (platoon guides)	Platoon leaders using visual signals, messengers, and FM radio
Establish communications	Troop wire net established	FM radio/messengers
Confirm fields of fire	Platoon fire plan confirmed and sent to troop commander	Sectors of fire assigned and confirmed using cardinal direction, clock method, TIRS, and other existing graphics
Battlefield preparations	Preparation of positions, obstacles, and routes IAW OPORD or SOP	Preparation of positions and obstacles IAW SOP as time permits

Figure 6-10. Deliberate versus hasty preparation.

WORK	DELIBERATE DEFENSE	HASTY DEFENSE
CSS	Resupply and prestock Class III and V. Service station and tailgate techniques can be used	Use service station resupply technique to accomplish resupply as time and enemy situation permit
Crew rest	Commander determines stand-to times and REDCON status. Platoons establish sleep plans IAW REDCON status.	Governed by SOP. Commander determines current REDCON status and level of alert
Coordinate with higher, adjacent, and supporting units	Extensive face-to-face coordination IAW SOP and OPORD - Confirmation of fire plans - Coordination of flanks - Obstacle coordination (handover, execution, positioning) - Indirect fire planning - Passage of lines	Coordination via available communications means (radio/messenger) in accordance with SOP as time permits

Figure 6-10. Deliberate versus hasty preparation (continued).

Chapter 7

STABILITY AND SUPPORT OPERATIONS

"Peace is not only better than war, but infinitely more arduous."

George Bernard Shaw

The Army's primary focus is to fight and win our nation's wars. However, forces may operate around the world in various environments other than war. The makeup of cavalry organizations gives them the versatility and the flexibility to conduct stability and support operations. The majority of missions given to regiments and squadrons will conform to standard reconnaissance and security roles. The planning and training for these missions obviously must conform to the immediate environment in which the missions will be performed.

Stability and support operations missions and scenarios are not new to the cavalry. For many years cavalry units have been involved in these types of missions: from securing the nation's frontiers during the westward expansion, to border surveillance in Europe, to peace operations missions in Haiti. The scope of the different missions varies significantly from unit to unit and from mission to mission.

Stability and support operations apply capabilities developed for warfighting to the political-military environments of peace and conflict. The warfighting doctrine described elsewhere in this manual is used, with suitable modification, to accommodate the situation. Army policy does not prescribe modifying the warfighting mission-essential task list (METL) unless and until a unit is selected for stability and support operations. Only then should a unit train for the specific mission-related tasks. Chief among these are operations with very restrictive rules of engagement and orientation on the area, its culture, and the nature of the conflict.

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Section I. Principles of Stability and Support Operations

The principles of stability and support operations, defined in FM 100-20, are paraphrased in the following paragraphs.

PRIMACY OF THE POLITICAL INSTRUMENT

Stability and support operations are conducted with political goals as the number one priority. Units conducting stability and support operations are always part of a larger operation that has political implications and will almost always limit the standard combat missions of that unit. The units conducting stability and support operations must remember that the political instrument of national power dominates every aspect of the operation.

UNITY OF EFFORT

Stability and support operations require working closely with other state and/or federal agencies, civilian agencies, and host-nation governments if the operation is outside the United States. There must be a determined effort on the part of all agencies to ensure mutual cooperation is the rule and not the exception. The immediate development of liaison with the appropriate agencies is necessary to ensure successful operations. Commanders must ensure they are working within the framework of the overall mission, and remember that the military mission is not the primary focus of stability and support operations.

ADAPTABILITY

Army commanders and their forces must be able to adapt mentally from their wartime missions to the constraints and limitations that will be imposed upon them during stability and support operations. Units must realize their potential for many useful, but nontraditional activities in support of an integrated national or multinational level. Each participating organization must learn to accommodate the culture, values, and methods of operations of the other participants.

LEGITIMACY

Legitimacy refers to the exercise of governmental powers by the controlling organization. It also refers to the international legitimacy of the mission that is being accomplished. Legitimacy is often safeguarded on an international level by having a coalition of nations or their forces to accomplish missions or by a United Nations (UN) mandate.

PATIENCE AND PERSEVERANCE

Conflict may endure for years, and the military must be prepared to carry out its portion of the stability and support operations mission for as long as necessary. Success depends on changing people's attitude, beliefs, and behavior. This change usually does not come about quickly. It takes time for people or organizations to adjust to the presence of US Army forces or other aid organizations. It takes time for organizations to establish their legitimacy. Time may have little relevance to the people or the organization the US is trying to assist, or even to other coalition members. This aspect is very hard for US Army leaders to abide by, given their action-oriented training and the impatient nature of American culture. It also may conflict with the domestic political requirement for a quick solution to a problem.

RESTRAINT

The military's job in stability and support operations is to ensure a relatively small or regional conflict does not escalate and spread. Patience should substitute for violence whenever possible. Collateral damage, the injury or death of noncombatants, and the destruction of property caused by the military erode the sense of legitimacy for the stability and support operations mission.

SECURITY

Security is a top priority in all phases of a stability and support operations mission. Stability and support operations environments may lull a unit into complacency about its security efforts. Lower security postures and lack of active security measures put US forces at risk for attack from terrorists or revolutionaries.

Section II. Stability and Support Operations Activities

The stability and support operations activities listed below are established in FM 100-5 and discussed in detail in FM 100-20. As seen in the list, stability and support operations cover a wide spectrum of environments and scenarios. This chapter deals mainly with peacekeeping and peace enforcing, the two types of operations with significant military participation.

- Deterrence.
- Noncombatant evacuation operations.
- Arms control.
- Support to domestic civil authorities.

- Humanitarian assistance and disaster relief.
- Security assistance.
- Nation assistance.
- Support to counterdrug operations.
- Combating terrorism.
- Peacekeeping.
- Peace enforcing.
- Show of force.
- Support for insurgences and counterinsurgencies.
- Strikes and raids.
- Quick reaction force.

Section III. Peacekeeping

Peacekeeping is a military operation conducted with the consent of the belligerent parties to maintain a negotiated truce and to facilitate a diplomatic resolution. Consent of the belligerents is a necessary condition of peacekeeping. Peacekeeping operations are sometimes known more realistically as "truce-keeping operations." Peacekeeping operations cannot solve the political problem; they merely aid the diplomatic process.

The US participates in peacekeeping operations under the auspices of an international organization, such as the UN, in cooperation with other countries, or unilaterally. Peacekeeping takes many forms of supervision and monitoring in such actions as listed below.

- Withdrawals and disengagements.
- Cease fires.
- Prisoner of war exchanges.
- Arms control.
- Demilitarization and demobilization.

The greatest military consideration in peacekeeping is the political objective of the operation. During peacekeeping operations cavalry forces must operate within clearly and carefully prescribed limits established by agreement between the belligerents and the UN or other political agencies. The use of force is not required to carry out the assigned tasks, except in self-defense. Extreme restraint in both appearance and application of force is crucial to maintain a posture of impartiality and neutrality toward the former belligerents.

Peacekeeping operations may result in cavalry units conducting operations similar to traditional military police missions in addition to the traditional reconnaissance and security missions. Specific missions and training and preparation considerations are addressed in Section V.

Section IV. Peace Enforcing

Peace enforcing entails the use of armed forces to separate combatants and to impose a cease-fire. Force may also be used to establish other peaceful ends such as safe havens for victims of the hostilities. The UN also uses the term to refer to forceful actions to prevent cease-fire violations or to reinstate a failed cease-fire.

Consent distinguishes peacekeeping from peace enforcing. This means that, unlike peacekeepers, peace enforcers are not welcomed by one or more of the belligerent groups. The difference in peacekeeping and peace enforcing has important implications in the way US forces must operate to accomplish their missions and provide for their security. Peace enforcing attempts to reduce the level of violence among the belligerents through negotiation and actions to prevent their engagement with one another. Peace enforcers must interpose themselves between belligerent units to prevent one from attacking the other. They establish and supervise neutral or buffer zones and prevent belligerent maneuver to the disadvantage of another party.

Peace enforcers observe the activities and dispositions of the belligerents and report any conflict-aggravating activity, such as reinforcement, fortification, maneuver, or firing incidents, to the political authorities. If violence occurs, peace enforcers take effective counter-action to bring it to an early halt. They determine the cause and aid in negotiating a cease-fire. When peace enforcers have to use force, either in self-defense or to stop violence among the belligerents, they always leave the door open to termination.

Peace enforcers use the minimum coercion necessary to bring conflict to a halt. They focus their military attention narrowly on the smallest identifiable offending unit. They immediately initiate communication with the belligerents at local and higher military level and at the political level as well. Communication with the belligerents is the peace enforcer's most important tool. To use it effectively, peace enforcers must strive to preserve their neutrality by treating all parties even handedly.

Peace enforcing is difficult and demanding as well as dangerous. It can easily escalate to war. Units assigned to peace enforcing duties must be fully prepared to transition to war or, at least, to extricate themselves from a violent situation, as policy may require.

Cavalry units can expect to conduct the missions of route and zone reconnaissance, screen, and guard during peace enforcing operations. These missions will require special planning considerations based on the current status of the operation, the rules of engagement, and other political and military constraints.

Section V. Training and Preparation

To accomplish peace operations, individuals and units need training in various skills and techniques before deployment to change their focus from combat-warriors to soldiers who may use force only in self-defense. The urgent need to deploy forces often precludes a complete and lengthy training program; however, with prior planning, a training program can be developed that will assist commanders to prepare for these missions.

Training and preparation for peace operations should not detract from a unit's primary mission of training soldiers to fight and win in combat. The first requirement for success in peace operations is the successful application of warfighting skills learned through normal military training. Peace operations are not a new mission and should not be treated as a separate task added to a unit's METL.

Units selected for a peace operations mission normally require 4-6 weeks of specialized training. The unit tailors its entire training methodology towards the tasks required to be effective. The unit training program depends on whether the primary mission is peacekeeping or peace enforcing. Key subjects to include in unit training for a peace operations mission are as follows:

- Peacekeeping.
  - – Rules of engagement and rules of interaction.
  - – Nature of peacekeeping.
  - – Establish a lodgment.
  - – Perform a relief in place.
  - – Establish a buffer zone.
  - – Supervise a truce or cease-fire.
  - – Monitor boundaries.
  - – Negotiating skills.
  - – Mine/booby trap training and awareness.
  - – Checkpoint operations.
  - – Investigation and reporting.
  - – Information collection.
  - – Patrolling.
  - – Media interrelationships.
  - – Demilitarize forces/geographical areas in a permissive environment.
  - – Observation post duties.

– Small arms marksmanship.
– Use of interpreters (if appropriate).
– Graduated response techniques.
– Cordon and search.
– Non-governmental organization (NGO) escort.
– VIP security.
– Weapons buy-back operations.
– Humanitarian relief operations.
– Civilian interaction.
– Crowd control.
– Route clearance.

- Peace enforcing.
  – Rules of engagement.
  – Fight a meeting engagement.
  – Conduct a movement to contact.
  – Enforce UN sanctions.
  – Protect humanitarian relief efforts.
  – Disarm belligerents of heavy offensive weapons.
  – Demilitarize forces/geographical areas in a nonpermissive environment.
  – Open secure routes.
  – Use of search dogs.
  – Base cluster operation.
  – Field sanitation.
  – Combat lifesaver/first aid.
  – Traffic control points.
  - Quick reaction force.
  – Riot control techniques.

Section VI. Intelligence Preparation of the Battlefield

Intelligence preparation of the battlefield (IPB) is the first step in developing a successful operation. IPB analyzes the enemy, weather, and terrain to graphically depict the intelligence estimate and to present decision options for the battlefield commander. IPB is not an end product or a solution, but rather a process to stimulate thought on the application of doctrine to a particular, often unique, situation facing the commander.

The IPB process starts with the mission. IPB integrates threat doctrine (if applicable) and operational patterns with weather and terrain data. It also covers available information on the political, economic, and social situations, including

demographics of the population. The complex military, political, social, and economic situations in stability and support operations complicate intelligence requirements that support the mission. Ethnic diversity, numerous factions, the changing threat, and terrorist tactics constitute an intelligence-intensive environment.

Stability and support operations can occur unilaterally or with other military operations. It is possible that cavalry forces can be involved in stability and support operations while the host-nation is at war. Stability and support operations can evolve into war; units should be prepared for that transition in their IPB process. The primary differences between IPB for conventional war and stability and support operations are focus and the demand for demographic analysis required to support the decision-making process.

Units deployed into undeveloped theaters and their subsequent employment against ambiguous threats makes IPB planning, along with intelligence dissemination, critical. IPB reveals threat capabilities, vulnerabilities, and methods of operation. It allows the intelligence officer to predict enemy courses of action and enables the commander to better understand the theater of operations and synchronize his operating systems for maximum effect.

The steps of the IPB process remain constant regardless of the mission, unit, staff section, or echelon: define the battlefield environment, describe the battlefield effects, evaluate the threat, and determine threat courses of action. The art of applying IPB to stability and support operations is in the proper application of the steps to specific situations.

This section focuses on peacekeeping and peace enforcing operations while developing the IPB process. Other operations and more detail on IPB are covered in FM 34-7 and FM 34-130.

IPB FOR PEACEKEEPING OPERATIONS

Peacekeeping operations support diplomatic efforts to maintain peace in areas of potential conflict. They stabilize conflict between two or more belligerent nations, and as such, require the consent of all parties involved in the dispute. Cavalry units may participate in peacekeeping operations under a variety of conditions.

Define the Battlefield Environment

Identify and locate all outside influences on the operation. Consider political groups, media, and third-nation support to the belligerents of the conflict. The following are types of activities to consider:

- Identify the legal mandate, geographic boundaries, and other limitations upon both the peacekeeping forces and the belligerent forces.

- Identify the pertinent demographic and economic issues. These might include living conditions, religious beliefs, cultural distinctions, allocation of wealth, political grievances, social status, or political affiliations.
- Identify the best case and worst case timelines of the operation.

Describe the Battlefield Effects

- Demographics.
  - What are the root causes of the conflict? Analyze this from the perspective of all belligerents.
  - What would cause (or caused) each side to agree to peace?
  - Are there any new issues that have increased tensions since peace was initiated?
  - How committed is each belligerent to keeping the peace? How much trust and faith do the belligerents have in each other to keep the peace?
  - How capable is each belligerent of keeping the peace? Can the leadership that negotiated the peace enforce discipline throughout the belligerent parties?
  - How do these factors affect the courses of action (COA) of each belligerent? How do they affect the COAs available to the peacekeeping force?

- Legal.
  - What legitimate COAs are available to the belligerents and to the peacekeeping force?
  - How likely is each belligerent to obey the laws and provisions of treaty agreements?

- Terrain.
  - Does terrain lend itself to military operations? Conduct terrain analysis. Identify good infiltration lanes, engagement areas, defensive positions, attack routes, and staging areas.
  - Does the terrain lend itself to peacekeeping operations? Can the peacekeepers see and be seen? If so, the belligerents may be less likely to violate the peace. If necessary, where can the peacekeeping force establish blocking positions to blunt possible violations of the peace?
  - Identify the terrain that allows all belligerents equal access to the peacekeepers.
  - Analyze the terrain to identify likely current dispositions of belligerent forces.
  - Analyze the terrain to identify unobservable areas “dead space” between checkpoint and observation points that allow the belligerents the ability to move undetected.

- Weather.
  - – Analyze the effect of weather on visibility among all parties, including the peacekeepers.
  - – Consider the influence of weather on mobility and operations.
  - – Consider the effect of weather on the turnout at activities such as demonstrations.
- Other. Identify and analyze government, military, and agency support available to the peacekeeping force.

Evaluate the Threat

- Identify all factions involved in the peacekeeping operation. Which are likely to violate the peace and why?
- What are the political organization and the military order of battle of each belligerent group? Who are the key personnel that control the rank and file of each faction?
- Identify the political and religious beliefs that directly affect or influence the conduct of the belligerents.
- Identify belligerent tactics for offense and defense. Use this as the basis for doctrinal templates.
- Identify local support to all belligerent parties.

Determine Threat Courses of Action

- Template or describe the actions of belligerents that would violate the peace. Crossing borders, entering demilitarized zones, and initiating hostilities are examples of violations.
- Template or describe the actions associated with violations of the peace, such as occupation of assembly areas; training; logistics activity; and command, control, communications, and intelligence (C3I) facilities.
- Template or describe the response of all belligerents to violations of the peace.
- Template or describe the reactions of all belligerents to US actions within the area of operations and area of interest.
- Identify the possible actions of the belligerents to the peacekeeping mission. Consider acts of terrorism.
- How will the local populace react to friendly COAs?
- How will the host-nation government and military react to friendly COAs?

- During wargaming, designate staff members to role-play belligerents.
- Wargame each COA.
- Wargame terrorist actions and other activities that belligerents could reasonably avoid claiming responsibility.

IPB FOR PEACE ENFORCING

Peace enforcing operations are military operations in support of diplomatic efforts to restore peace between hostile factions who may not consent to intervention and may be engaged in combat activities. Peace enforcing implies the use of force or its threat to coerce hostile factions to cease and desist from violent actions.

Define the Battlefield Environment

Significant characteristics of the battlefield include almost every demographic factor (religion, politics, ethnic differences).

- Identify third-nation support for any of the belligerent parties.
- Identify other outside influences, such as world organizations and news media.

Describe the Battlefield Effects

- Legal.
  - Identify the legal limits of friendly use of force in the area of operations.
  - What COAs does this allow, and under what conditions?
- General demographics.
  - A comprehensive and continuing demographic study is required to support peace enforcing operations. The symptoms, causes, and aggravations of the conflict should be defined in terms of the population and economics.
  - Identify and study obstacles to resolutions in detail.
  - Identify how demographics allow for, encourage, and discourage belligerent COAs. For example, an historical feud between two religious sects might designate certain monuments or other icons as key terrain.
  - Also identify which friendly COAs will be tolerated, encouraged, or discouraged given the demographic situation. Consider the balance of forces in the area.
- Terrain.
  - Conduct a standard OCOKA analysis to determine where the terrain lends itself to offensive and defensive operations for all belligerents.
  - Identify the terrain that is best suited for police action to support friendly patrols.

Evaluate the Threat

- Fully identify all belligerent groups. If the relationship between two groups is in question, consider them distinct even if their political objectives are the same.
- What is the relationship of each group (allied, neutral, or hostile) to the others?
- What is the political organization of each group? What are the political objectives of each group? How strong are their convictions?
- How much discipline can the leadership of each group expect from their followers? How likely are rank and file members to violate a truce negotiated by their leaders?
- Fully identify the military capability of each group. Start with traditional order of battle factors to develop doctrinal templates.
- What friendly COAs would induce the belligerents to obey the law? The following are some options to consider:
  - Show of force.
  - Defensive measures for key facilities, patrols, cordon and search operations.
  - Designated territorial boundaries.
  - Established demilitarized zones.

Determine Threat Courses of Action

- Template or describe the belligerent actions, such as raids, ambushes, occupation of contested areas, that prevent peace or other desired end states.
- Template or describe the supporting functions associated with the belligerent actions of the warring groups, such as massing at assembly areas, logistics, finance, and C31.
- Template or describe the responses of belligerent groups to US actions within the area of operations and area of interest. Consider terrorist actions.
- During wargaming, designate staff members to role-play the belligerent parties.

Section VII. Missions

Doctrinal cavalry missions remain the basis for the operations cavalry regiments and squadrons conduct in the stability and support operations environment. The area of operations will probably be noncontiguous, and the IPB process will have significantly different planning aspects from those for a conventional fight. The stability and support operations environment will require the regiments and squadrons to focus on the local population as a vital planning consideration.

The majority of operations will be conducted at troop level and below during stability and support operations. The most important command-related function will be to ensure the coordination for individual missions is accomplished. This coordination may include other military organizations, both US and foreign, as well as other governmental agencies and civilian aid organizations. Most missions will require cavalry units to coordinate with one or more sides in conflict if they are operating as peacekeepers or peace enforcers.

Cavalry units can expect to execute the following missions in stability and support operations:

- Secure a lodgment area.
- Secure an airfield.
- Separate belligerents.
- Secure border.
- Secure route.
- Secure a facility.
- Secure an urban area.
- Escort a convoy.
- Secure a checkpoint.
- VIP security.
- Quick reaction force.
- Route clearance.
- Expand a lodgment area.

FM 17-97 and FM 17-98 provide greater detail of troop and platoon responsibilities during these missions.

Section VIII. Planning Considerations

Stability and support operations missions have some similarities to combat operations in planning and preparation; however, additional planning considerations should be included for stability and support operations. Some significant planning considerations for stability and support operations missions are listed below.

- Clear, understandable mission and commander's intent.
- Increased reliance on nonorganic personnel for assistance (NGO, civil affairs, counterintelligence).
- Nondoctrinal service and support requirements (increased distances, special supply packages).
- Nondoctrinal communications requirements (AM, land-line).
- Flexibility for junior leaders to plan and execute missions independently from higher headquarters.

Based on the nature of the operation and the estimate the situation, units may develop their own list of special planning considerations.

Section IX. Rules of Engagement

Rules of engagement (ROE) dictate the extent to which force may be used during operations mandated by the UN, NATO, or the US. ROE may be as restrictive or permissive as necessary, based on the mission. It is imperative that all soldiers know and understand how to enforce the ROE to protect themselves, their unit, and their mission. A good technique is to develop vignettes based on the ROE and the area of operations, then train soldiers by putting them in a position to enforce the ROE.

Rules of engagement are usually an annex to a much larger mandate or operations order. It is important that at least the critical portions of the ROE are distributed to each soldier. By developing a card and issuing it to each soldier, the critical information from the ROE gets to the lowest level. See Figure 7-1 for a sample generic ROE card.

ROE CARD

Nothing in these ROE limits your right to take all necessary and appropriate actions for your personal and your unit's self-defense.

Our mission is to enforce the peace plan. We are not at war. In all situations you are to use the minimum force necessary. Fire arms must be used only as a last resort.

Know and follow the tactical control measures in effect each day.

RULES FOR LEADERS AND INDIVIDUALS

1. CHALLENGING PROCEDURES
   a. You must give a challenge before opening fire unless—
      (1) To do so would increase the risk of death or grave injury to you or others.
      (2) You or others in your immediate vicinity are under armed attack.
   b. Use the following challenging procedure except in those cases described in paragraph 1 above:
      (1) Warn aggressor to stop by shouting (in native language) "Stop or I will fire."
      (2) Repeat warnings as many times as possible to ensure that the aggressor has understood the situation.
      (3) Charge weapons, if not already authorized.
      (4) Fire aimed warning shots into the ground, if safe to do so; otherwise fire into the air.
      (5) If the warnings are ignored, open fire initially with single aimed shots until the protection task is complete.

2. OPENING FIRE (USE OF DEADLY FORCE)
   You may open fire against a person only if he/she is committing or about to commit an act *likely to endanger your life or another's life* and there is no other way to stop the hostile act.

3. EXAMPLES OF HOSTILE ACTS THAT AUTHORIZE YOU TO OPEN FIRE
   a. A person fires or is about to fire a weapon at you.
   b. A person plants, throws, or detonates an explosive device.
   c. A person deliberately drives a vehicle at you and there is no other way of stopping him/her.
   d. You may open fire against a person who attempts to take possession of or tries to destroy or damage property or installations you are guarding, if you are authorized use of deadly force by your special guard orders and there is no other way to prevent this.

4. IF YOU HAVE TO OPEN FIRE YOU SHOULD—
   a. Fire only aimed shots.
   b. Fire no more rounds than necessary.
   c. Take all reasonable precautions not to injure anyone other than your target.
   d. Upon cease firing, secure the area and assist any injured.

5. OTHER COMMAND GUIDANCE
   a. Treat ALL persons, including civilians and detainees, with respect and dignity.
   b. Do not seize private property to accomplish your mission without your commander's permission.
   c. Looting and the taking of war trophies are prohibited.
   d. Prevent and report to your superior(s) any crime committed under the laws of war.

Figure 7-1. Sample rules of engagement card.

Chapter 8

OTHER OPERATIONS

"In no other profession are the penalties for employing untrained personnel so appalling or so irrevocable as in the military."

Douglas MacArthur, 1933

This chapter addresses several combat operations that cavalry may be required to perform. These operations are considered a routine part of the combat operations discussed in preceding chapters; however, they are no less important.

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Section I. Retrograde Operations

A retrograde operation is an organized movement to the rear or away from the enemy. The decision to conduct a retrograde operation may be forced by the enemy or made voluntarily. The basic reason for conducting a retrograde operation is to

improve a tactical situation or to prevent a worse one from occurring. Other reasons for conducting a retrograde operation are listed below.

- To gain time.
- To preserve forces.
- To avoid combat under undesirable conditions.
- To draw the enemy into an unfavorable position,
- To reposition forces on the battlefield.
- To shorten lines of communication.
- To permit the withdrawal of a force for use elsewhere.

REQUIREMENTS OF RETROGRADE OPERATIONS

Most retrograde operations are difficult and inherently risky. Retrograde operations are characterized by emphasis on the following requirements during planning and execution:

- Maintain morale and leadership.
- Preserve freedom to maneuver.
- Conserve combat power.
- Slow the enemy's rate of advance.
- Ensure unity of effort.

These requirements take on varying degrees of significance depending on the type of retrograde mission performed.

Maintain Morale and Leadership

Maintenance of morale among soldiers is critical during retrograde operations. Soldiers can quickly perceive movement to the rear in the face of the enemy as defeat or abandonment. Rumors can start easily and must be suppressed. Leaders must be physically present, display confidence in the plan, be in control on the battlefield, and thoroughly brief subordinates on the plan and their role. Particular attention must be paid to evacuation of casualties. Soldiers will not stay long on the battlefield if they think they will be left to the enemy.

Preserve Freedom to Maneuver

When executing these operations, cavalry must retain its ability to maneuver. While a portion of the unit may become decisively engaged, the commander cannot allow the entire unit to do so. He must be prepared to free squadrons or troops that can no longer extricate themselves.

Conserve Combat Power

Frequently, the purpose of a retrograde is to conserve combat power for use elsewhere. Commanders must strike a balance between caution in preserving the force and risk-taking to delay the attacker. IPB provides analysis to determine where opportunities to strike the enemy exist and what the associated risks are. The commander then structures the battlefield to reduce risk to an acceptable level.

Slow the Enemy's Rate of Advance

This task is inherent when in contact. A squadron will normally be delaying the attack of a regiment. Threat forces train to execute battle drills rapidly from platoon to regiment level with minimum command and control effort. The threat can quickly move from march formations to attack formations and back again. The delaying or withdrawing force must do more than just cause the enemy to initiate this process. Early destruction of reconnaissance elements is critical to blind the enemy commander. The enemy forward security element and advance guard battalion must be fought and defeated to achieve an effective delay. The commander does this by structuring the battlefield to take advantage of terrain that affords opportunities to mass destructive fires on the enemy. Effective integration of obstacles and fires will disrupt, turn, fix, or block the enemy's ability to advance.

Ensure Unity of Effort

The commander develops a simple plan. Retrograde operations are characterized by fluid, rapidly changing situations. A series of independent small unit actions occur simultaneously across the front. Subordinate commanders must have freedom of action. Regimental and squadron commanders ensure unity of effort through a clear intent, graphic control measures that are not overly restrictive, and personal presence at the decisive point.

TYPES OF RETROGRADE OPERATIONS

There are three types of retrograde operations: delay, withdrawal, and retirement. Figure 8-1 illustrates the relationships between them.

OPERATION	INTENT	ENEMY CONTACT
Delay	Trade space for time Economy of force	In contact Avoid decisive engagement
Withdrawal	Disengage force Free unit for use elsewhere	In contact Break contact
Retirement	Move a force away from the enemy	Not in contact

Figure 8-1. Types of retrograde operations.

Delay is the retrograde operation most frequently assigned to cavalry units, although the squadron or regiment may participate in a withdrawal or retirement as part of a larger force. During withdrawal and retirement, cavalry units may be performing a rear guard mission to protect the force. A withdrawal may conclude a security mission during battle handover to the main body forces.

Withdrawal or retirement may be conducted internally by a cavalry unit. In such cases, the mission normally covers a relatively short distance. This can occur as part of screen or guard missions as squadrons or troops displace to subsequent positions.

Security is paramount to prevent the enemy from detecting the movement of the unit. Counterreconnaissance is vital. As the force moves, rear security is maintained to prevent surprise from a pursuing enemy. Security is inherent in a delay. In other retrograde operations, it must be planned.

Deception is necessary to hide that a retrograde is taking place. This is achieved by maintaining normal patterns of physical and electronic activity. The nature of the operation is not discussed on an unsecure radio net. Additionally, the enemy can be distracted by dummy positions, decoys, feints, or demonstrations. OPSEC and security are aspects of successful deception.

For a withdrawal and retirement, limited visibility is used, if possible, to mask the movement of the squadrons or troops.

Delay

Delay is a retrograde operation normally performed as part of a defensive battle. It is usually conducted when the commander needs time to concentrate or withdraw forces, to establish defenses in greater depth, to economize in an area, or to complete offensive actions elsewhere. In the delay, the destruction of the enemy force is secondary to slowing his advance. The delay is normally a series of defensive

actions over successive positions in depth that trade the enemy space for time while retaining freedom of action.

The delay may be conducted under the following circumstances:

- During reconnaissance after making contact with a large attacking enemy force.
- During a guard mission for a moving or stationary force.
- When the assigned sector is too wide for an effective defense in sector.
- As an economy of force for a larger force when inadequate combat power is available for a defense.

The higher commander can direct a delay as part of the intent of an operation. As such, the delay may proceed despite apparent success achieved against the enemy and the natural desire to retain terrain. Division cavalry normally requires reinforcement to perform a delay.

The armored cavalry regiment may perform delay operations during the conduct of covering force or in an economy-of-force role for the corps. Within the concept of the regimental commander, some squadrons may delay while others perform other missions.

There are two basic types of delay that differ largely in the intent of the assigning commander and the degree of decisive engagement that may be required:

- Delay in sector.
- Delay forward of a specified line for a specified time or event.

A delay in sector mission requires a unit to slow and defeat as much of the enemy as possible without sacrificing tactical integrity. This is the mission normally assigned to the regiment or squadron.

A delay forward of a specified line for a specified time or event entails more risk. The unit is required to prevent enemy forces from reaching the specified area or penetrating a specified line earlier than the specified time or event, regardless of the cost. Decisive engagement may be required.

While a delay is similar to a defense in sector, it is characterized by requirements that make this mission extremely demanding. The unit must repeatedly fight the enemy, disengage a part of the force, conduct internal battle handover, and move rapidly to reposition and resume the fight. The commander finds himself performing conflicting tasks in a fast-paced environment, which places a premium on decentralized execution.

PLANNING CONSIDERATIONS

The delay is planned like a defense in sector. Execution reflects the different intent of the mission. When the regiment receives a delay mission, the regimental commander normally assigns each of the ground squadrons a sector. Generally, the squadrons are abreast. The commander normally retains the attack helicopter troops of the aviation squadron as his reserve. The regiment directs the squadrons during the delay and coordinates combat support and combat service support assets. The commander decides when and where to commit the reserve.

In any case, the burden of fighting the delay falls upon the squadron. The squadron must fight hard and move fast while dictating the pace of the battle to the enemy. A delay cannot revert to a reactive battle. Commanders at all levels must keep the operation on track. The situation often changes faster than status reports to the command post or TOC can convey. Commanders position themselves well forward to personally see the battlefield, make immediate decisions, and sustain subordinates. Commanders anticipate events by assessing the intent of the enemy commander and evaluating the actions required to thwart his efforts. Accurate reporting is emphasized. Flank coordination is enforced.

Integration of air cavalry is crucial to successful delay operations. In division cavalry, air cavalry troops can fill gaps within the squadron, provide depth during the movement of ground troops, and help the commander see the entire battlefield. In regimental cavalry, the aviation squadron provides a fourth maneuver squadron. During delay operations, the aviation squadron may be assigned its own sector (with augmentation), may operate in conjunction with the ground squadrons under control of the aviation squadron commander, or may have its air troops placed under operational control of ground squadrons. Additionally, the attack troops of the aviation squadron provide the regiment with a highly mobile reserve force. This force may be required to support the armored cavalry squadron disengagement.

The squadron must maintain a mobility advantage over the enemy to accomplish the frequent repositioning required. Mobility advantage is tactical mobility greater than the enemy. The larger this advantage becomes, the greater the chance for success and ability to dictate terms of the battle to the enemy. Mobility advantage is achieved by enhancing the mobility of the squadron and degrading the mobility of the enemy.

Squadron mobility is enhanced by using every advantage of the defender. Knowledge of the terrain, preparation of positions, reconnaissance of routes, rehearsals, and improving existing routes all contribute to increased mobility.

Degrading the enemy's mobility entails using the following methods:

- Effectively using terrain to control high-speed avenues of approach.
- Emplacing obstacles and barriers that impede the enemy's advance.

- Using dynamic obstacles.
- Identifying their command and control early and destroying it.
- Disrupting communications.

The scheme of maneuver will normally reflect freedom of action for subordinate commanders. Control measures must also allow the squadron to exert the degree of control necessary, ensure unity of effort, and order changes to the plan when required. The squadron delays by fighting troops and platoons through a series of battle positions or phase lines. Troops and platoons fight the position, disengage, and bound rapidly to subsequent positions. They do not fight a running delay to the next position. There are two basic methods of executing the delay:

- Delay from successive positions or phase lines.
- Delay from alternate positions or phase lines.

Delay from successive positions or phase lines is normally used when the squadron is committed on a wide front (see Figure 8-2). All subordinate units are committed on each of the delay battle positions or across the sector on the same phase line. The delay from one phase line to the next is dictated by the mission and is normally staggered.

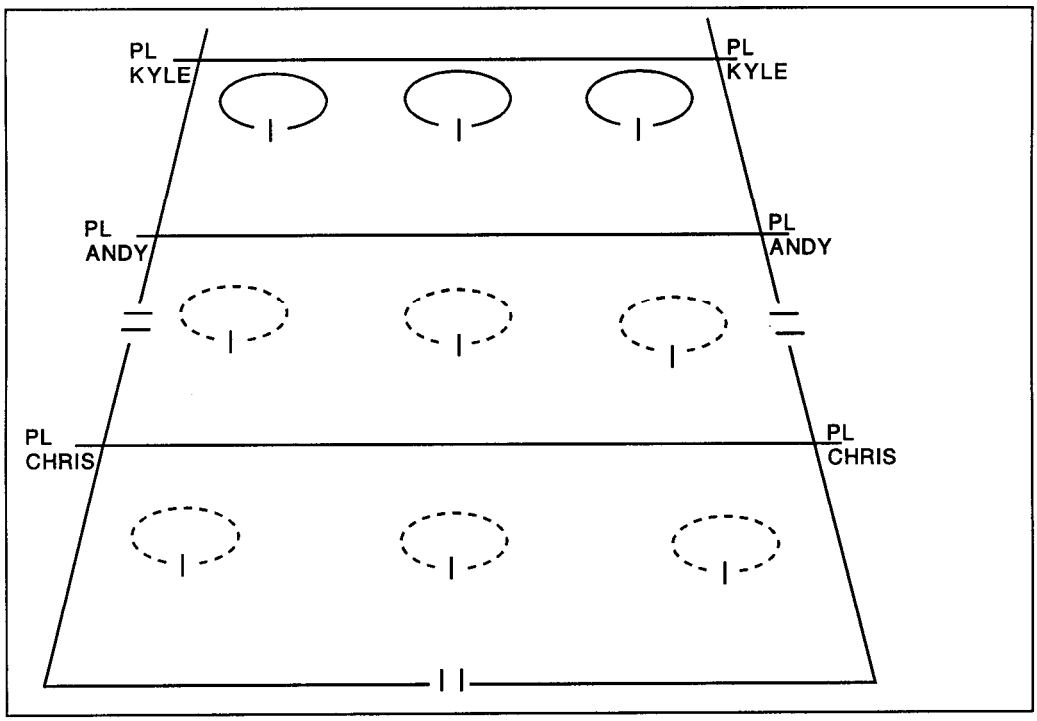


Figure 8-2. Delay from successive positions.

When operating on a narrower front, the commander may elect to delay from alternate positions or phase lines (see Figure 8-3). When using this technique, the unit is divided into at least two elements. The first element occupies the initial battle

position or phase line and engages the enemy. The second element occupies and improves the second delay position or phase line.

Delay methods are summarized in Figure 8-4.

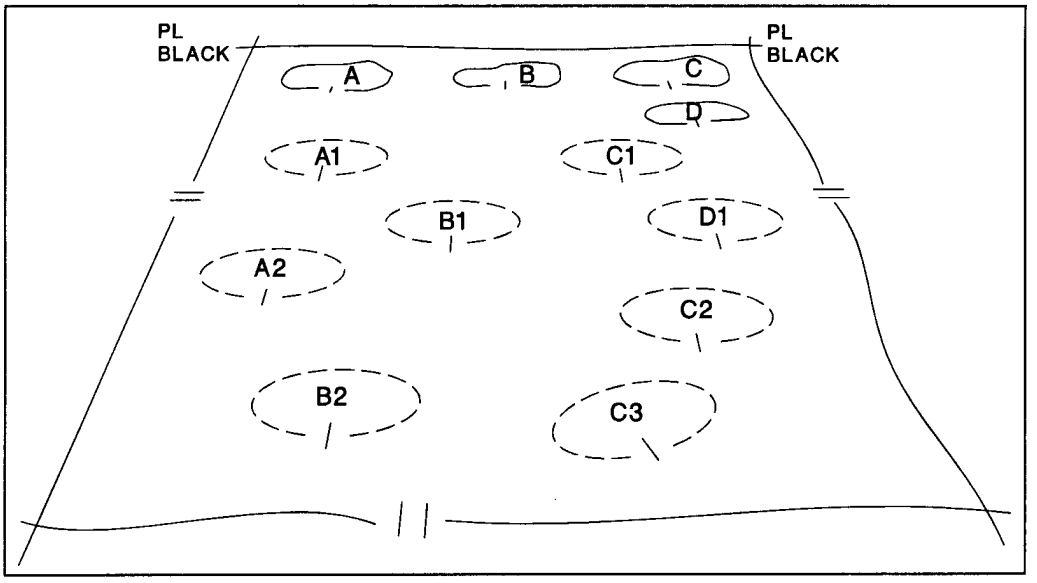


Figure 8-3. Delay from alternate positions.

METHOD OF DELAY	USE IS FAVORABLE WHEN...	ADVANTAGES	DISADVANTAGES
Delay from successive positions	Sector is wide. Forces available do not allow split.	Increased ability to mass fires.	Limited depth to the delay positions. Less time available to prepare each position. Less flexible.
Delay from alternate positions	Sector is narrow. Forces are adequate for split positions.	Allows positioning in depth. Allows more time for equipment and soldier maintenance. Increased flexibility.	Requires continuous coordination. Requires passage of lines.

Figure 8-4. Summary of delay methods.

COMBAT SUPPORT AND COMBAT SERVICE SUPPORT IN DELAY OPERATIONS

During a delay, combat support units may be at a premium. Synchronizing their efforts is critical to mission success. IPB helps the commander determine how to structure the battlefield. Fire support, engineer support, and electronic warfare support are integrated with fires and maneuver of the squadrons to shape the battlefield for success. Division cavalry relies on augmentation from division combat support assets. The degree of augmentation received will be largely determined by METT-T factors, and the division commander's intent. Regimental cavalry has organic combat support assets (engineer, electronic warfare, air defense artillery, and NBC at regiment, artillery in each squadron). In addition, the regiment will normally be augmented with additional combat support assets from corps, again depending on METT-T factors and the corps commander's intent. The regimental commander employs these combat support assets to best support his intent. The squadron commanders integrate and synchronize their organic assets and the combat support assets provided by the regimental commander.

The fluid nature of the delay requires combat support units to monitor the situation closely and remain mobile. Combat service support assets and command posts also remain mobile. Passage of lines through a force to the rear may begin early for combat service support and be staggered throughout the battle. Units massing at passage points late in the battle must not occur. Massing provides the enemy a lucrative target and can quickly lead to a breakdown in command and control.

Withdrawal

Commanders conduct withdrawals to extract subordinate units from combat, adjust defensive positions, or relocate the entire force. A withdrawal occurs when a force in contact with the enemy frees itself for a new mission. This can be to continue the defense in depth or to perform a different mission. There are two types of withdrawal:

- Under enemy pressure. The unit depends on fire and movement to break contact with an attacking enemy force, and then withdraws.
- Not under enemy pressure. The unit depends on speed of execution and deception. If the unit is not under attack then the withdrawal is not under pressure.

Preferably, the withdrawal is not under heavy pressure. Heavy pressure may force the unit to transition into a delay.

Withdrawals may be assisted or unassisted. An assisted withdrawal uses a security force provided by another headquarters to assist in breaking contact and to provide overmatching fires. The withdrawing unit may then disengage and conduct a rearward passage of lines. This is the case when conducting a battle handover. The squadron or regiment may be tasked to provide security for other withdrawing units. In an unassisted withdrawal, the unit provides its own security.

A withdrawal is planned in the same manner as a delay, particularly if the commander expects it to occur under pressure. It is accomplished in three overlapping phases:

- Preparatory.
- Disengagement.
- Security.

PREPARATORY PHASE

Planning, reconnaissance, and quartering party actions are initiated. Critical planning concerns are forming the security force, designating subsequent positions or assembly areas, and designating withdrawal routes (see Figure 8-5). Leaders conduct reconnaissance of routes and subsequent positions. Movement can begin early for trains and command posts.

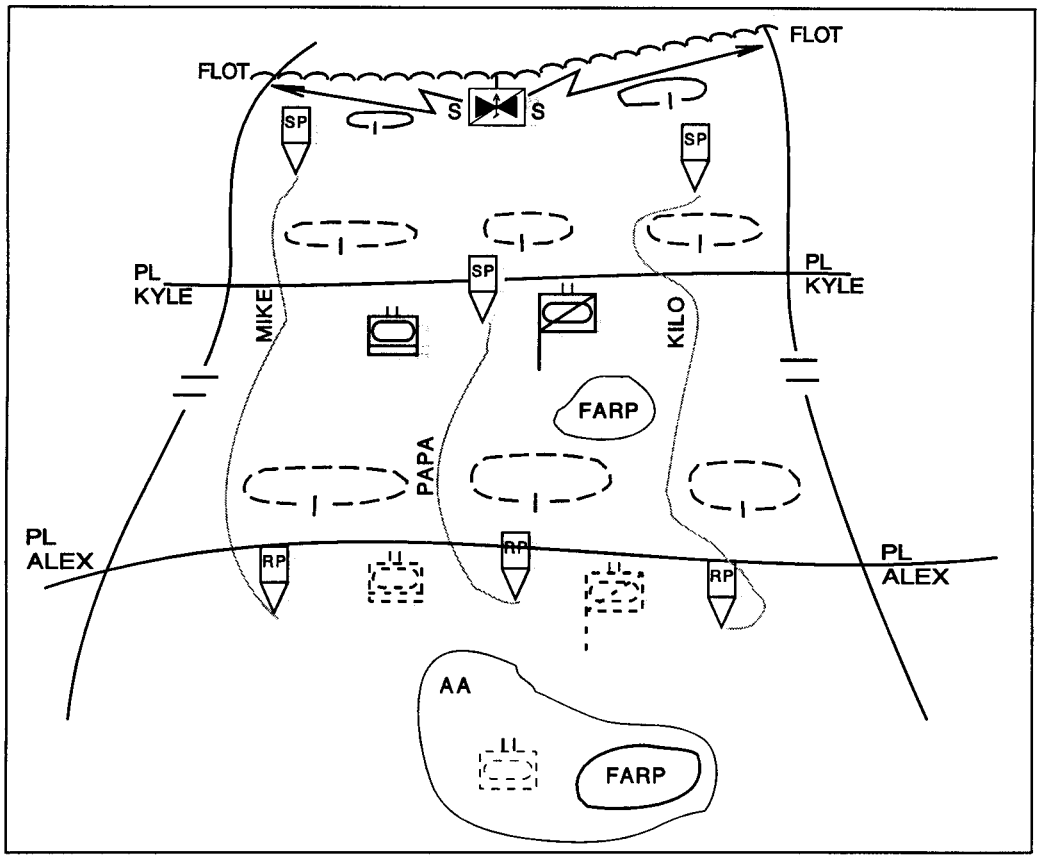


Figure 8-5. Planning withdrawal.

DISENGAGEMENT PHASE

Disengagement is breaking contact with the enemy and moving to a point where the enemy can neither observe nor engage the unit by direct fire. Subordinate elements of the withdrawing unit break contact and move to the rear. Combat support, combat service support, and reserve elements normally move first (see Figure 8-6). Fire support assets cannot displace out of supporting range. All units move on assigned routes within designated time windows to preclude congestion. Movement must be rapid since the detachment left in contact does not possess sufficient combat power to conduct a defense against an attack. Use radio listening silence. Units can occupy either new positions in depth or designated assembly areas. As this movement occurs, the security force is activated.

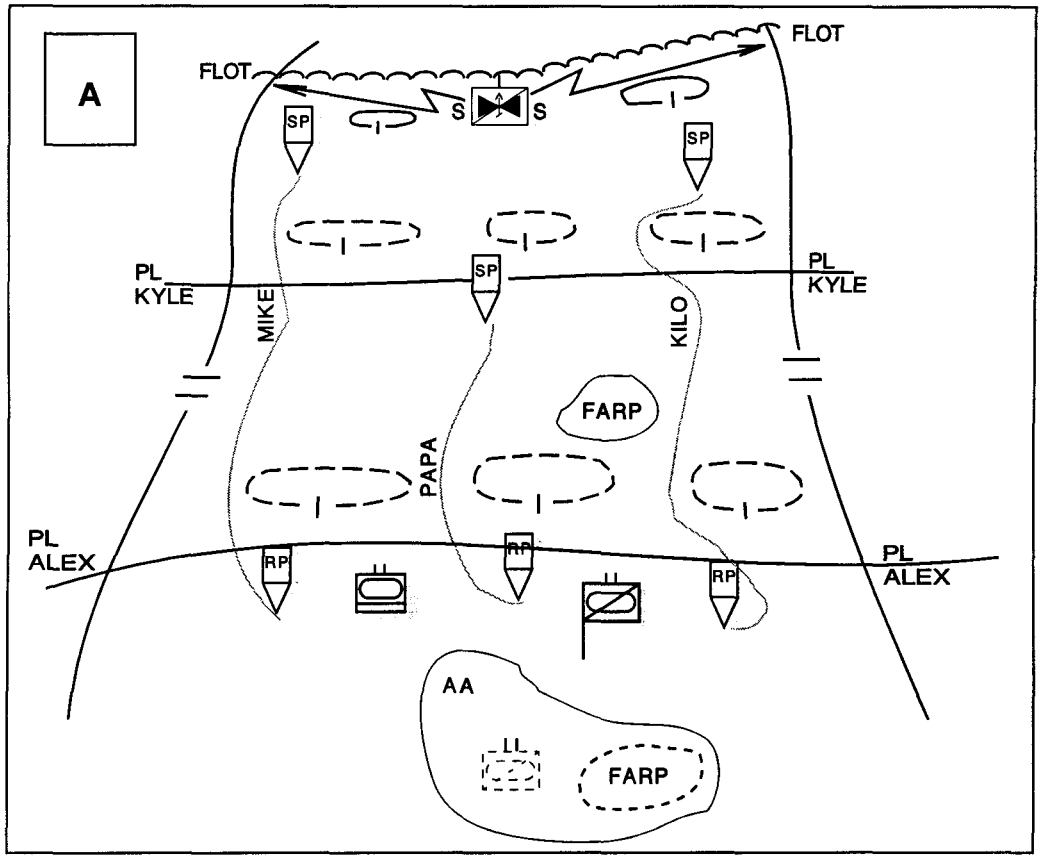


Figure 8-6. Executing withdrawal.

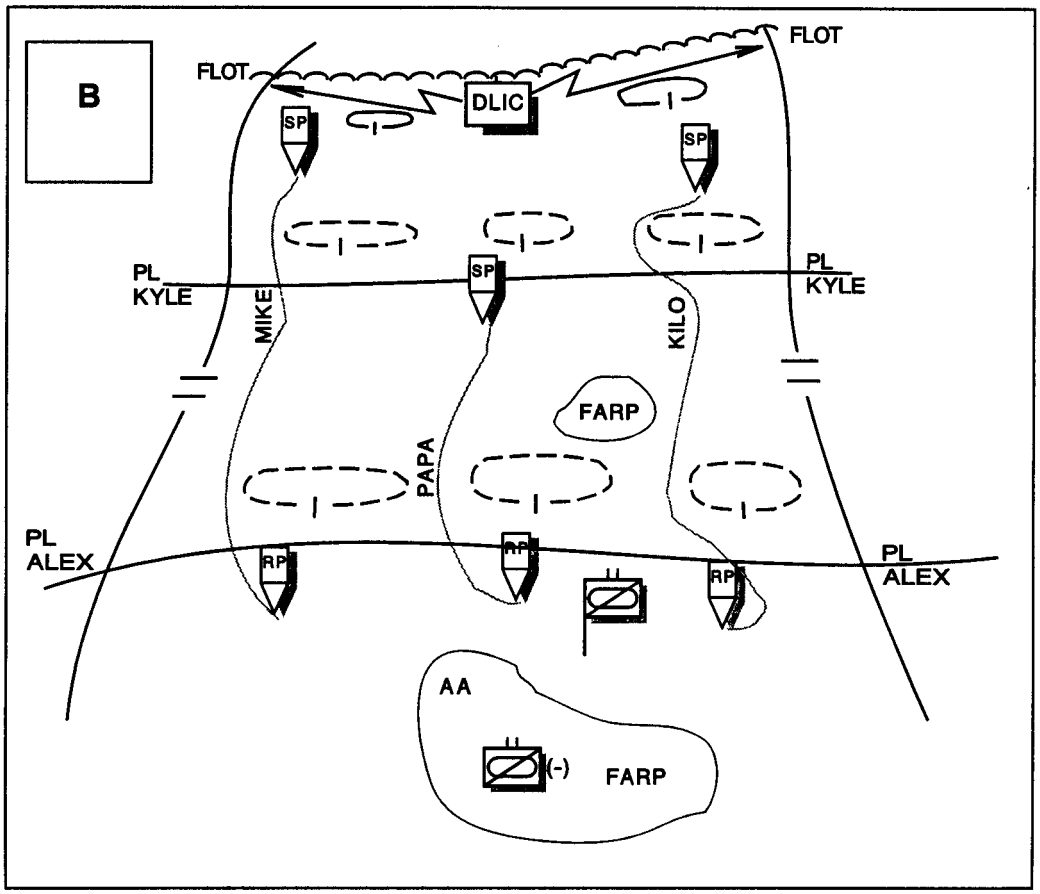


Figure 8-6. Executing withdrawal (continued).

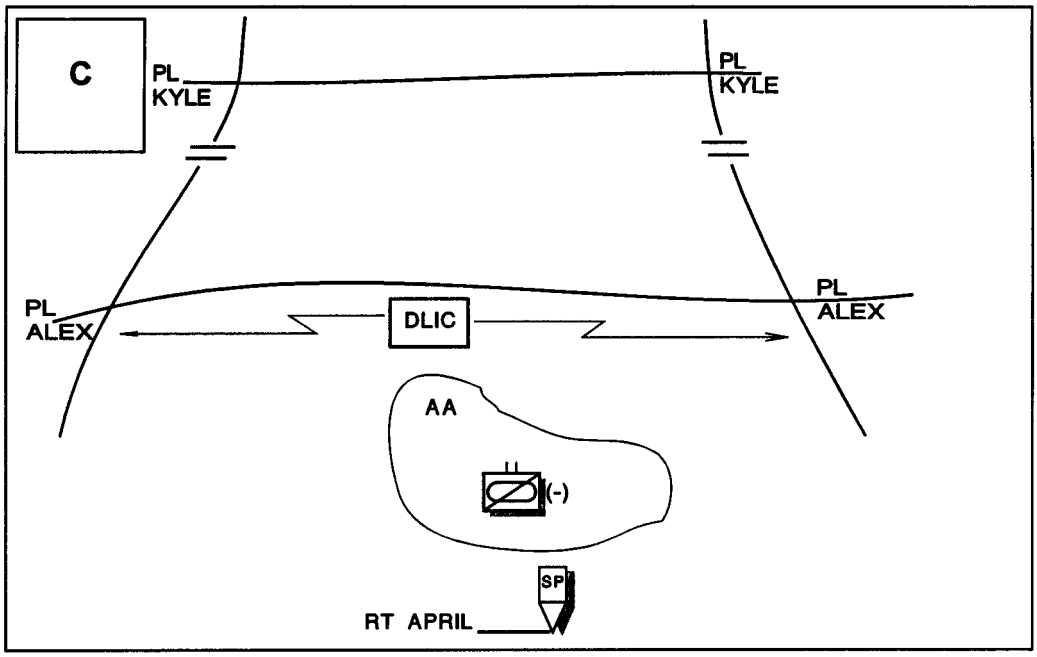


Figure 8-6. Executing withdrawal (continued).

SECURITY PHASE

In an unassisted withdrawal, the security force is formed as a detachment left in contact (DLIC). The commander determines the size and composition of the detachment. It must be able to detect, deceive, and engage the enemy on all avenues of approach with direct and indirect fires. The DLIC performs the mission like a screen. As the main body disengages, the DLIC shifts positions as necessary to accomplish its tasks. It is frequently composed of a platoon-size force from each forward troop. Mortars and other combat support and combat service support assets are part of the DLIC, as necessary. Air cavalry is included, both for deception and enhanced security. The DLIC as a composite force is normally commanded by the S3 and troop detachments by the XOs. If the greatest threat lies on a single avenue of approach, the unit on that avenue may be left in place and augmented with small security elements from other units. The DLIC assists the disengagement of other elements moving to the rear, assumes responsibility for the entire sector, and performs deception tasks as designated. When the rest of the force is set, the DLIC disengages and moves to the rear to join the main body.

Retirement

Retirements are rearward movements conducted by units not in contact. Movement to the rear is conducted in an organized fashion. For planning, considerations for the withdrawal are used. A retirement may be a continuation of a withdrawal. A detachment left in contact is not necessary since there is no contact. Movement is tactical and conducted at night or in limited visibility. Daylight movement should be conducted only if necessary or if the enemy is incapable of interfering. Contingency missions are assigned to the squadrons or troops in case the enemy makes contact. Security and speed are important considerations when planning a retirement. Commanders conducting a retirement must emphasize OPSEC during movement.

Section II. Rear Operations

The primary purposes of rear operations are to sustain the current close and deep fights and to posture the force for future operations. Successful rear operations assure freedom of maneuver and continuity of operations, including continuity of sustainment and command and control. The intent of rear operations is to protect the commander's freedom of action by preventing disruption of command and control, fire support, logistical support, and movement of reserves. Rear operations are part of the framework of both offensive and defensive operations. The rear area extends from the subordinate unit's rear boundaries to the unit's own rear boundary. The corps and division normally have a designated rear area. The regiment may have a rear area when performing missions as an economy of force.

REAR AREA THREAT

The threat emphasizes integrated operations throughout the depth of friendly force formations. They conduct deep operations to disrupt the synchronization of operations and sustainment efforts. Additionally, the threat attempts to seize or maintain the initiative while preventing the friendly force from doing so. To accomplish these objectives, the threat will target key rear area facilities such as the ones listed below.

- Nuclear weapon storage sites and delivery systems.
- Key command and control elements.
- ADA sites.
- Airfields.
- Critical support facilities.
- Main supply routes.

The threat will employ tactics ranging through the full spectrum of activity (see Figure 8-7).

THREAT	ACTIVITY
Hostile Indigenous Population	Espionage, Theft, Limited Sabotage
Enemy Controlled Agents	Espionage, Interdiction, Subversion
Sabotage by Enemy Sympathizers	Arson, Assassination, Sabotage, Theft, Political Demonstrations
Terrorist Organizations	Terrorist Acts
Diversionary and Sabotage Operations by Unconventional Forces	SPETSNAZ; Attack Specific High-Priority Targets
Raid, Ambush, and Reconnaissance Operations by Combat Units	Penetrating Reconnaissance Units, Raid, Ambush, Stay Behind
Special or Unconventional Warfare Missions	Small Unit Heliborne/Airborne Operations; Reconnaissance, Raids, Sabotage, Attack High-Value Targets
Heliborne Operations	Company/Battalion Size; Terrain Oriented, Ambushes, Raids, Rear Area Threat Activities
Airborne Operations	Battalion to Division Size Forces; Terrain or Specific Targets, Await Linkup with Ground Forces
Amphibious Operations	Small Unit/Battalion to Division Size; Terrain/Specific Objective, Raid, Sabotage, Reconnaissance
Ground Force Deliberate Operations	MBA Penetrations, OMG, Exploitation, Linkup with Other Forces, Regiment and Larger
Infiltration Operations	Battalion or Larger Unit Infiltration by Small Elements

Figure 8-7. Rear area threat activities.

These threat activities will not occur in any specified order. Multiple threats of various kinds may occur simultaneously and may or may not be interrelated. In addition, the threat integrates tactical air, attack helicopters, long-range indirect fires, and radio electronic combat into their deep operations plans.

Three levels of response to threat activity serve as a guide for planning rear operations. Rather than focusing on the size or type of threat, these levels focus on the nature of the friendly response required to defeat the threat.

- Level I threats are those that can be defeated by base or base cluster self-defense measures.
- Level II threats are those that are beyond base or base cluster self-defense capabilities, but can be defeated by response forces.
- Level III threats are those that require the command decision to commit the tactical combat force.

FUNCTIONS OF REAR OPERATIONS

Rear operations integrate and synchronize the functions of terrain management, security, sustainment, and movement with the commander's concept of operations. The assistant division commander for support commands the division rear area. The deputy corps commander is normally the corps rear operations commander. They control the planning and execution of rear operations. Both operate through the rear command post, normally collocated with or in close proximity to the support command's command post. The rear command post has a headquarters cell, an operations cell, and a combat service support cell.

When the regiment operates with a rear area, the regimental support squadron commander is the rear area commander. Unless the regiment designates otherwise, his command post serves as the rear command post. Elements of the regimental staff may augment his staff as necessary, but the regiment normally does not have the depth to provide a full rear command post staff. However designated, the regimental rear command post is responsible for the four rear area functions.

Terrain Management

The rear command post positions those units in the rear area that have not been positioned by the G3. Once positioned, units located in the rear area become either bases or base clusters. A base is a unit or multiunit position that has a definite perimeter. A base cluster is a grouping of bases organized by mission and security requirements lacking a clearly defined perimeter. Base clusters are established due to the proximity of bases to one another and to meet the need for mutual support. Both are controlled by the rear command post for positioning, security, and movement within the rear area.

The regiment or squadron occupies an assembly area as a base while in the corps or division rear area. This frequently occurs after performing some other

mission. In this assembly area, the regiment or squadron conducts reconstitution, performs designated rear area tasks, and prepares for subsequent combat operations. The G3 frequently positions the cavalry unit based on requirements for future operations. The rear command post, in coordination with the G3, controls any subsequent movement of the regiment or squadron required by rear operations tasks or ongoing corps and division operations. See Section V for assembly area actions.

Security

Rear security assists corps and division freedom of maneuver and continuity of operations. The rear command post operations cell plans and executes rear security operations. The four components of rear security are intelligence, base and base cluster self-defense, response operations, and combined arms tactical combat force.

The operations cell performs IPB for the rear area using information from the all-source intelligence center and combat information reported by units in the rear area. As a rear area base, the regiment or squadron interfaces with the operations cell for IPB products.

All base and base cluster commanders are responsible for developing defense plans designed to detect, defeat, and minimize the effects of enemy attacks on the base and base cluster. The focus of base and base cluster self-defense is Level I and limited Level II response. These designated reaction forces are always the first to be committed when contact is made. They execute defensive and limited offensive missions as directed in the base and base cluster defense plan. IPB and intelligence summary updates determine the level of readiness maintained by the unit.

The regiment or squadron as a base cluster in the rear area submits its defense plans to the rear command post for integration into the overall defense of the rear. Its defense plans are integrated into the rear counterreconnaissance/reconnaissance and surveillance plan. In the corps rear area the regiment coordinates with the rear area operations center (RAOC). In the division the squadron coordinates with the rear command post through continuous communication and liaison officers.

Response operations return base and base cluster units rapidly to their primary support missions after contact with the enemy. The nature of the rear area facility under attack and the level of threat against the facility are critical factors in determining the level of response required. The rear operations cell designates the response force, normally military police (MP) units, to counter a Level II threat. Division and regimental MPs may be reinforced by corps MP assets. These forces may be committed when a base or base cluster commander requires support. The MP response force's task is to eliminate a threat without requiring the premature commitment of the tactical combat force.

A designated tactical combat force will respond to a Level III threat. The tactical combat force may be a dedicated force, but is more often a contingency mission assigned to a unit. At division level, it is normally a combined arms battalion-size force, composed of ground maneuver, attack helicopter, and field

artillery under a designated headquarters. The corps tactical combat force is a similarly organized brigade-size force. Once designated or committed, the tactical combat force comes under the operational control of the rear command post. Commitment of the tactical combat force is a decision of the corps or division commander on the recommendation of the rear area commander.

Cavalry units are responsible for their own Level I response in the rear area assembly area. The combat power of cavalry units allows them to normally perform their own Level II response as well. The regiment or squadron may be designated as the tactical combat force or form part of it upon arrival in the rear area.

Sustainment

The combat service support cell of the rear command post plans and directs sustainment operations. The corps support command and division support command execute the sustainment plan. The regiment or squadron does not become involved in this rear area function.

Movement

Movement control includes the planning, deconfliction, and execution of movement plans, both internal and external to the corps or division. The G3 is responsible for directing the movement of tactical units through or within the area of operations. The rear area commander is responsible for deconflicting other movements and planning security and sustainment of tactical movements within the rear. Division cavalry may support the tactical movement of major combat units in the division or units of other divisions in transit.

ROLES PERFORMED IN REAR OPERATIONS

Division cavalry may perform a number of roles when operating in the rear area (see Figure 8-8). These roles are normally assigned only when existing MP support is insufficient, or based on METT-T, to perform the required rear area functions. Cavalry units assigned these roles coordinate closely with the MP headquarters to preclude duplication of effort. Roles are not assigned or effective until sufficient reconstitution has occurred. These roles may not be performed solely in or be restricted to the rear area. Specific missions may take the squadron out of the division rear area. These roles are largely performed as reconnaissance and security operations.

The regiment's roles in the rear area most often include tactical combat force or reserve operations. The other roles listed in Figure 8-8 may be performed as necessary.



Figure 8-8. Rear operations roles.

Tactical Combat Force

As part of the overall task organization and based on an anticipated threat to the rear area, the G3 designates a tactical combat force as the Level III response force. Upon arrival in the rear area, cavalry may receive this mission to free other maneuver forces. Division cavalry requires reinforcement to perform this mission. These reinforcements are dictated by IPB and factors of METT-T. Because rear area threats are often infantry heavy, the squadron requires infantry. If facing a threat equipped with heavy armored vehicles, the squadron may require an attached tank company or company team reinforcement. Additional aviation units may be placed under operational control upon commitment. Field artillery may be task organized as part of the tactical combat force or provide fire support for overall rear operations. The regiment normally has sufficient combat power to serve as a corps tactical combat force, but may require reinforcement with infantry in some cases.

The requirements of the tactical combat force or nature of the threat may be more than the division cavalry command and control structure can handle. These situations may require a larger headquarters to effectively integrate all assets involved. In such a case, the squadron may serve as part of the tactical combat force performing reconnaissance and security missions.

The tactical combat force is normally committed after the rear area commander determines that both the Level I and II response forces have failed, or would fail, and the enemy continues to pose a risk to corps or division rear operations. Once the commander decides to commit the tactical combat force, the rear operations cell designates an area of operations (AO) for it. All units within the AO are under operational control of the tactical combat force until the enemy is eliminated. Combat actions of the tactical combat force and other units in the area directed by it take priority over all other activity.

PLANNING CONSIDERATIONS

Upon receipt of the mission, the regiment or squadron enters the rear operations net. The commander receives planning guidance from the operations cell. The

relationship of the cavalry unit with the rear command post is the same as with the main command post. The rear operations cell provides rear IPB, friendly unit disposition, existing defense plans, fire support plans, priorities for protection, and the rear area commander's concept.

The operations cell may task the tactical combat force to coordinate and provide fire support to Level II response forces when committed. This frequently occurs when artillery is task organized as part of the tactical combat force. The operations cell provides the rear area fire support plan to the tactical combat force and coordinates with the main command post for additional fire support as necessary. Base and base cluster commanders normally do not receive fire support for Level I responses. If artillery remains under control of the operations cell, the tactical combat force receives guidance on priority of fires. Normally the tactical combat force receives direct support of rear area fire support when committed.

The rear operations cell assigns specific reconnaissance and surveillance tasks to the MP response force and cavalry in the rear area to preclude duplication of effort. The cavalry unit staff coordinates directly with MPs and other Level II forces regarding the exchange of reconnaissance information, contingency plans, and operation plans. Battle handover, when in contact, is performed the same as for any other mission. Following handover, the MP response force may be placed under operational control of the cavalry unit or released for other missions.

When designating the area of operations for the tactical combat force, the rear operations cell provides boundaries that completely define the area. Any special control measures or restrictive fire measures around friendly units are also provided. The operations cell can seldom provide more detailed graphics.

METHODS

There are two basic methods that cavalry may use to accomplish the mission. In the first method, the squadron remains in an assembly area until committed by the rear command post (see Figure 8-9). The unit monitors the rear operations net and moves to a higher state of readiness as indicators warrant. The staff conducts hasty movement planning and develops contingency plans for likely enemy actions. This planning facilitates rapid execution. Air cavalry is most responsive and can be sent forward to perform reconnaissance, coordination, and liaison tasks. This serves to speed the subsequent assumption of the fight. The commander designates a line of departure, zones for subordinate units and objectives, or a limit of advance. Additional control measures are used as in an area reconnaissance or movement to contact. Movement to the line of departure is performed as a tactical road march to get there as rapidly as possible. The rear command post is responsible to clear all other traffic off the route of march used by the tactical combat force.

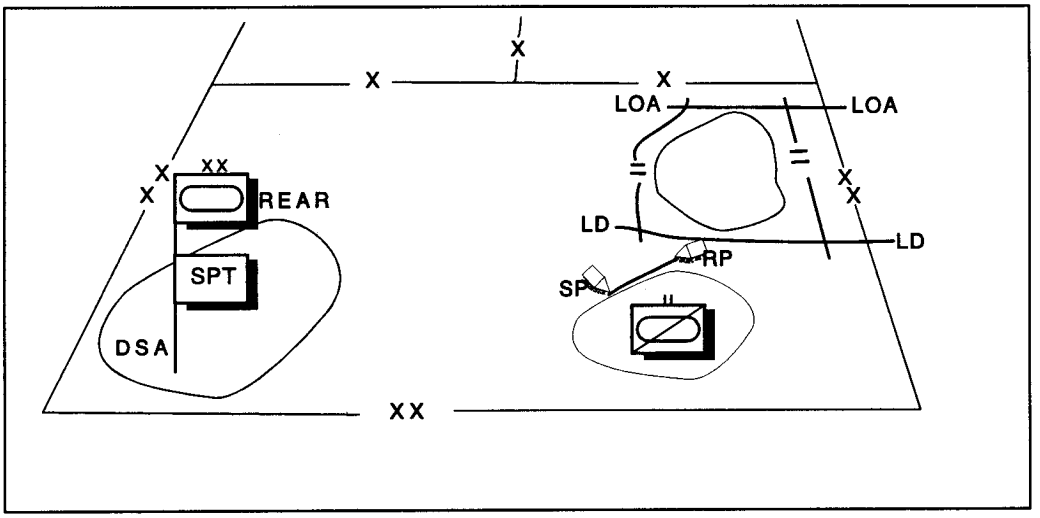


Figure 8-9. Tactical combat force (method one).

Subordinate units are assigned missions depending largely on information known. If little is known, squadrons and troops perform zone reconnaissance and the commander may retain a large reserve. If the friendly and enemy situations are better identified, subordinates perform movement to contact and the commander may retain a smaller reserve. The mission will most often culminate in a hasty attack to destroy the enemy force.

Speed of execution will catch an enemy, especially air landed or airborne, before he becomes fully organized. This method provides the most rapid response of massed combat power by the tactical combat force and is preferred when other rear area assets provide adequate surveillance of the rear area.

In the second method, the commander designates subordinate units to perform surveillance of likely enemy entry points for forces requiring a Level III response (see Figure 8-10). These positions focus on the priority of protection established by the rear operations cell. Based on IPB, these positions include ground and aerial avenues of approach, drop zones, and landing zones. The subordinate ground units are best suited for this task. Depending on the location of the surveillance area, squadrons or troops can operate out of the parent unit assembly area or establish a separate assembly area. A separate assembly area requires coordination with the rear command post. Troops perform this task largely as a screen. The squadron retains a reserve to rapidly reinforce a unit that gains contact. Air cavalry can serve as part of the reserve or screen large areas that would overextend the ground troops. The cavalry should avoid duplicating the efforts of the division MPs in performing area security and concentrate on high priority areas.

Units must rapidly respond to contact to prevent an enemy force from becoming too organized. The unit gaining contact develops the situation as much as possible for the squadron. Air cavalry may reinforce the element in contact until the arrival of the squadron main body. The squadron commander masses the remainder of the squadron to attack and destroy the enemy based on the information provided by the element in contact. The regimental commander may or may not commit other squadrons based on the assessment of the situation. The commander uses simple but clear control measures as in a movement to contact. Troops and company teams perform movement to contact and hasty attack missions. The response in this scheme of maneuver may be slower because of the necessity to mass the squadron. The commander must be careful about piecemeal commitment of subordinate troops or company teams into the attack as they arrive. This concern should not outweigh the advantage of attacking the enemy before he becomes organized and poses a greater threat.

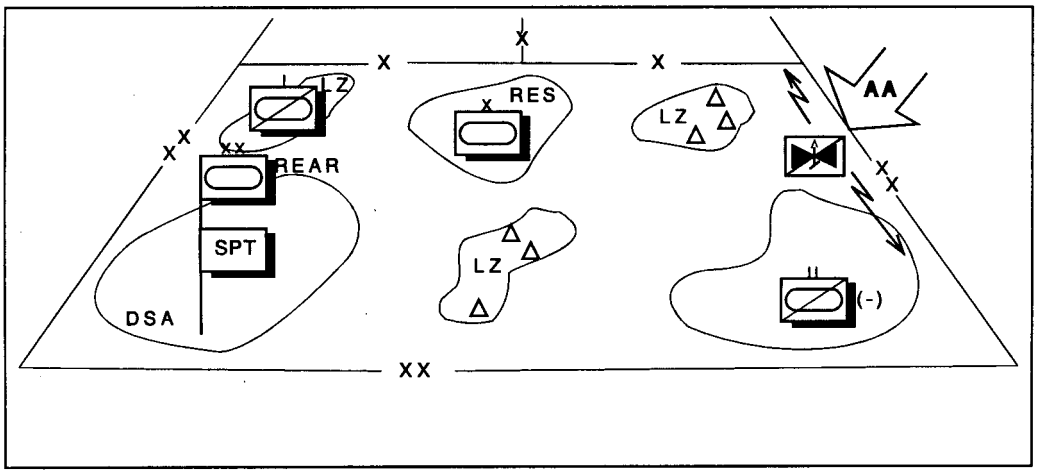


Figure 8-10. Tactical combat force (method two).

When the squadron has direct support artillery, it is positioned where it can best range likely enemy targets and where it can support subordinate elements in surveillance positions. In some cases, troops may initially rely exclusively on their mortars until artillery can be repositioned. When artillery is retained in general support to the rear area, the fire support officer plans fires to support the squadron in its various contingency missions. Liaison and communications with the artillery unit are established in advance. Clear procedures establish quick assumption of a direct support mission when the squadron is committed.

The regiment and squadron command post is established in the assembly area and operates on the rear operations net as well as internal nets. The TAC CP may be positioned forward to retain effective communications with widely dispersed subordinate elements. Service support is based in the assembly area and standard LOGPAC operations used to support dispersed units in their surveillance positions.

Restore Command and Control

Command and control within the corps and division areas of operation is subject to disruptions of physical contact and communications. Cavalry may be tasked to restore these links for the commander. This is particularly a mission for division cavalry. The squadron is not a substitute for the division command aviation section or unit liaison officers. Rather, the squadron performs this task when the situation is critical, enemy contact is possible, or terrain must be held. The squadron may be tasked to restore contact with a maneuver brigade or rear area unit, or to fill gaps that have developed between units. This task often takes the squadron out of the division rear area for extended periods.

The squadron performs this role primarily as reconnaissance. If the mission is to restore a link with a subordinate command, the squadron performs route and area reconnaissance to locate the command post or commander, and may initially maintain communications links with the division for the subordinate command until theirs is restored. An air cavalry troop is ideal for this mission because of its ability to rapidly transit cluttered rear areas and gain a broad perspective of the subordinate unit's situation. The area reconnaissance focuses on the last known location of the command post or commander.

In fluid offensive or defensive operations, gaps may develop between subordinate brigades of the division or between divisions. The regiment or squadron may be assigned the mission to fill the gap. The regiment may do this as a whole or assign the task to a reinforced squadron. Cavalry performs this mission as a zone reconnaissance or movement to contact (see Figure 8-11). A tactical road march, coordinated with the rear command post, is conducted to rapidly clear the rear area. A line of departure is designated where the gap appears to begin and a limit of advance is designated along the FLOT. Lateral boundaries may be difficult to define, but are the known trace of organized friendly units at the start of the mission. As friendly units are located during reconnaissance, boundaries are modified. The regiment or squadron must establish contact with both friendly units to preclude engaging each other. Liaison officers are critical in this task and air cavalry may also serve in this capacity. Contact is established with both units along the line of departure and a passage of lines may be required. During the reconnaissance, both friendly and enemy units may be encountered in the zone. These units may or may not be organized. Identification of friend from foe is critical. Friendly units will be directed to return to their parent unit through the rear area, remain in place until consolidated by their parent unit, or move with the cavalry. An organized unit moving with the cavalry may provide the squadron commander with additional combat power. Upon reaching the limit of advance, or an adjusted one along a new FLOT, the regiment or squadron screens or guards until receipt of other orders.

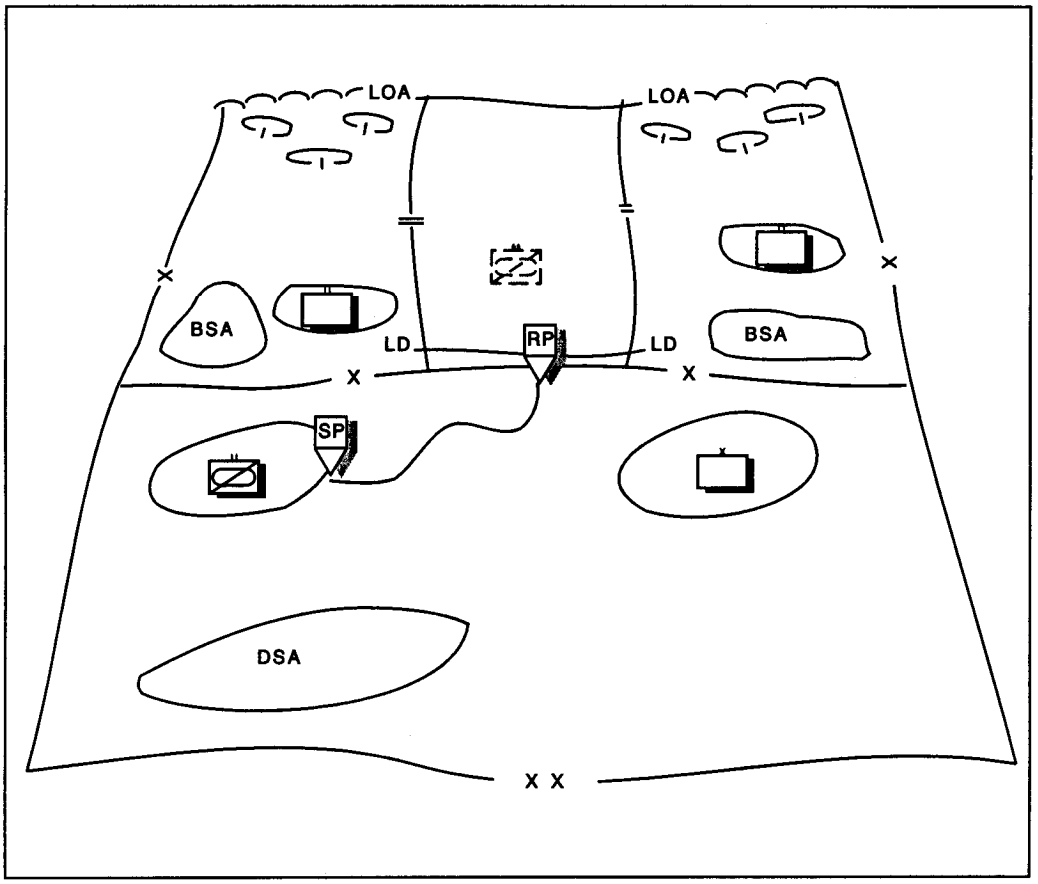


Figure 8-11. Filling a gap.

Facilitate Movement

Movement of combat forces across the battlefield is essential to successful execution of the commander's concept. Effective movement control is not a new battlefield requirement. Napoleon recognized its critical role when stating "aptitude for war is aptitude for movement." This is especially the case when sufficient MP support is not available. The difficulty of this requirement is compounded when the battlefield has been fought across or when moving through other units. Movement control reduces these problems and provides a system that accurately plans major unit movements.

When the division or a major subordinate element is involved in a tactical move that requires timely execution, the squadron may be assigned tasks to support the movement. If another division is transiting the division area of operations, the squadron can support the movement. Regimental cavalry supports its own movement. It is normally performing other missions when major elements of corps combat power move. These paragraphs focus on division-level movement, but the techniques apply to regimental movement as well.

The squadron frequently continues with another mission after providing movement support, such as zone reconnaissance or advance guard. If so, the squadron planning for movement support is integrated into the concept for the follow-on mission. If the squadron is only tasked to support the movement of a major subordinate unit through the division area, the squadron may delegate subordinate troops to perform the mission. This method lends itself to formation of air and ground teams.

The squadron receives orders from the movement control officer responsible for the move. This is normally a designated senior leader of the moving unit. The squadron or troop performs route reconnaissance of the designated route or routes for the movement. Engineers may be attached to reduce obstacles, emplace tactical bridging, and conduct detailed evaluations of roadways and bridges. The squadron reconnoiters from the unit start point to the release point and may be tasked for a subsequent area reconnaissance of an assembly area or attack position. The squadron is followed on the route by other movement advance parties, to include movement control teams, quartering parties, engineers, and maintenance and logistics support teams. Route information must be continuously reported so that these follow-on elements are informed.

The squadron may also provide movement control teams. This task precludes the ability of the squadron to transition easily into follow-on missions. The squadron is suited to perform this task when the division movement is into or out of an area of operations as opposed to tactical battlefield movements. Movement control teams use three measures in accordance with STANAG 2025. In coordination with MP and echelon transportation headquarters, they establish traffic control points, perform mobile patrols, and erect temporary road signs. Traffic control points provide control at critical points. Mobile patrols travel an assigned segment of the route looking for and eliminating movement problems. Temporary signs are used to regulate, guide, and control movement along the route.

Movement control teams are structured around the scout platoon to maintain a cohesive chain of command. These teams provide control in accordance with the movement order. Each movement control team consists of at least one scout squad and the squads of a platoon are positioned consecutively along the route. The platoon headquarters can provide the mobile patrols along the platoon segment of the route. The troop commander, in turn, controls the troop route segment. Troop combat trains are positioned to support the troop and the unit movement. Air cavalry troops can provide wide-ranging mobile patrols, search for misdirected march elements, and rapidly move to a problem area along the route. Observation aircraft are best suited for this task to conserve attack helicopters for subsequent missions. Pilots may frequently be required to set down and conduct coordination with units on the route.

Temporary signs are traffic signs erected to regulate the flow of traffic along the route. Movement control personnel place temporary signs where hazards exist or where traffic must be regulated. The signs show drivers the location of detours, key units, and facilities; give directions, distances, and general information; and identify routes. Temporary sign use is governed by STANAG 2174. In addition to the

planned use of temporary signs, movement control personnel should be prepared to use temporary signs during emergency situations.

Use of signs reduces the number of movement control personnel needed along the route. Signs can replace manned positions. Patrols, however, must continually check the signs to detect tampering.

Area Damage Control

Area damage control is the measures taken before, during, and after hostile actions, or natural or man-made disasters, to reduce the probability of damage and minimize its effects. Area damage control is decentralized at the lowest level. All base and base cluster commanders plan for damage control to ensure continuous support and the immediate restoration of operations. The extent of destruction may be greater than the base and base cluster commander can handle or effective command and control may be disrupted. In such cases, other units may need to assume the damage control mission. Area damage control may be part of another rear area mission, such as tactical combat force operations, or performed as a mission itself.

When an area damage control mission is assigned, the rear operations cell provides much the same planning guidance as in tactical combat force operations. This guidance is broad, but normally includes the following:

- Defined area of operations. The area is normally defined by boundaries. All units within the area are under operational control of the area damage control force until the mission is complete.
- Information on enemy forces in the area.
- Nature of damage that has occurred. Of particular concern is destruction caused by nuclear or chemical weapons. Known or estimated ground zero and fallout predictions are critical to plan areas to be avoided. The assigned area of operations may be shaped by the requirement to perform radiological monitoring and chemical agent detection.
- Task organization. The size of the area, extent of damage, or nature of damage dictate support that the cavalry unit requires. This is particularly the case for division cavalry. Assets provided may include medical personnel or units, engineers, maintenance contact teams, MPs, NBC reconnaissance and decontamination units, and host-nation personnel.

Cavalry performs this mission like an area reconnaissance. Specific tasks include the following:

- Reconnoiter to determine the extent of damage. Clear obstacles and debris that block critical routes or facilities.
- Locate and report the condition of units or civil population in the area.

- Assume control of survivors. Host-nation support personnel, when available, assume control of the civil population.
- Establish communications between units and the rear command post.
- Assemble combat-capable elements and pass them instructions from the rear command post on movement, area damage control support, or resumption of their primary mission.
- Establish casualty collection points and evacuate and treat casualties as appropriate. Civilian casualties may be treated based on space available or in agreement with host-nation support personnel.
- Establish maintenance collecting points and evacuate vehicles and equipment for classification and repair.
- Perform NBC reconnaissance and decontamination.

The severity of damage requiring commitment of outside forces for support normally takes a squadron-size force to perform the mission. Ground troops perform reconnaissance. Air cavalry troops perform reconnaissance and liaison tasks. Headquarters troop and attached special support units establish and operate collecting points. Attached units also support the squadron in obstacle reduction, survivor control, casualty and equipment evacuation, and NBC reconnaissance. In-place units are used to the extent possible to provide additional support.

Section III. Deception Operations

Deception operations are military operations conducted to mislead the enemy. The target of the deception is the enemy commander who can make decisions about the actions of his forces. A unit conducting a deception operation may or may not make contact with the enemy. A sound deception plan is simple, believable, and not so costly that it diverts resources from the main effort. The corps or division G3 assembles the deception plan, making use of every unit and asset available to protect the deception story and elicit the desired enemy response. The tactical deception plan of the division is coordinated with the operational deception plan of the corps.

Regimental and division cavalry units are practical forces around which to build a deception plan. Deception is inherent in reconnaissance and security missions by denying the enemy information about friendly activities. Deception is also important when performing missions as an economy of force. With minimal reinforcement, the division cavalry squadron can assume the appearance of a battalion task force. Adequately supported by other division assets, a cost effective deception can be developed. The squadron commander may serve as the deception force commander or be subordinate to another commander. With little or no reinforcement, the cavalry regiment can easily depict a brigade, and its squadrons can portray battalion task forces. With adequate reinforcement from corps, the regiment can depict a division.

If the corps commander decides to use the regiment in a deception role, he must weigh this against the loss of the regiment in its normal role of reconnaissance and security.

The corps and division can establish recognizable patterns of activity by repeatedly using its cavalry for specific reconnaissance and security missions associated with offensive or defensive operations. Deception may occur by using cavalry units on such missions to intentionally mislead the enemy. In this case, no augmentation would be needed.

TACTICAL DECEPTIONS

Tactical deception operations include feints, demonstrations, displays, and ruses.

A feint is an offensive operation intended to draw the enemy's attention away from the area of the main attack. The objective is to induce the enemy to move his reserves or to shift his fire support in reaction to the feint. Feints must appear real; therefore, some contact with the enemy is required. It is usually conducted as a limited objective attack ranging in size from a raid to a supporting attack. The divisional cavalry squadron may be reinforced with tanks or infantry to conduct a feint or to participate as part of a feint by a larger unit. Regimental cavalry requires no reinforcement to conduct a feint.

A demonstration is an attack or show of force on a front where a decision is not sought. It is similar to a feint except that no contact with the enemy is sought. The division cavalry squadron may conduct a demonstration reinforced with adequate combat or combat support assets to portray the desired unit signature. A demonstration normally involves less maneuver assets than a feint.

A display is conducted to mislead the enemy's visual senses, including his observation by radar, camera, and infrared or thermal devices. A display includes simulations, disguises, portrayals, or some combination. Displays can be very effective during economy-of-force missions.

The additional combat and combat support assets organic to the armored cavalry regiment provide additional capabilities in performing demonstrations and displays. The military intelligence (CEWI) company and aviation squadron, in particular, are very useful in portraying unit signatures and activity, and can be quickly withdrawn from the area for use elsewhere after the desired enemy response has been achieved.

A ruse is a trick designed to deceive the enemy, thereby obtaining an advantage. It is characterized by deliberately exposing false information to the collection means of the enemy.

A deception plan normally includes aspects of all four types of deceptions. The regiment and squadron may form the maneuver force and be tasked to perform specific deception tasks. Combat support units, such as signal, PSYOP, and CEWI units, are well suited to perform displays and ruses supporting the maneuver units. FM 90-2 provides a detailed discussion of tactical deception operations.

PLANNING CONSIDERATIONS

Regimental or squadron planning is governed by the plan developed by the corps or division G3. This plan may be highly detailed or general in nature. Tasks given to the regiment and squadron may be very detailed or provide greater freedom of action. The commander analyzes the plan as he would the receipt of any other mission. The intent of the deception must be clearly understood. Task analysis determines the mission and the extent of deception preparations required. Deception preparations can add substantially to the time required to prepare for the tactical mission. The tactical mission is frequently a movement to contact and hasty attack.

When the divisional squadron is required to conduct a feint, the commander determines the extent of contact required with the enemy. He ensures he is adequately reinforced to accomplish the mission and the intent of the deception. Regimental cavalry requires little reinforcement to perform a feint. However, the regimental commander must ensure he has the assets necessary to accomplish the feint. This may require reinforcement with additional assets (such as infantry, if a deliberate attack is conducted).

Feint and demonstration are the most likely missions assigned to armored cavalry units. Both may require the regiment or squadron to portray itself as a division or brigade (regimental cavalry) or battalion task force (division cavalry). The commander task organizes his squadrons, troops, and company teams to appear that way when maneuvering. Squadrons must maneuver as battalion task forces while performing the mission. Mortars may be consolidated into a platoon, scouts maneuver as infantry, and command and control structure reorganize as necessary.

Displays and ruses may be in the form of altering vehicle and unit identification markings, portraying notional command and control nodes, conducting false radio net traffic, and dropping misleading documents where the enemy can recover them. Elaborate ruses generally require substantial preparation time.

The regimental or squadron commander coordinates closely with other units involved in the deception to ensure that actions are fully integrated, do not needlessly overlap, and do not give away the deception.

Commanders should consider the use of simple deception measures in the performance of all missions.

Section IV. Movement

Movement across the battlefield can be complex to execute when considering heavy route congestion, battlefield debris, limited route priority, converging forces, crossing unit boundaries, impassable routes, enemy ground or air interdiction, and civilian refugees. Army doctrine requires units to rapidly move on the battlefield to concentrate combat power when and where needed. The successful accomplishment of a mission is directly related to the cavalry unit's ability to arrive in effective fighting condition at the proper place and time. Section II discussed movement support provided by the division cavalry to other units of the division to facilitate their movement. This section discusses organizing and controlling movement of the regiment or squadron. Movement control involves the planning, routing, scheduling, and control of unit movement over lines of communication.

Movements may be classified as administrative or tactical. Administrative movements occur in the communications zone to deploy or reposition forces. The S4 is responsible for planning these nontactical movements. These movements are normally controlled closely by and coordinated with a movement control center responsible for the communications zone. The armored cavalry regiment has an organic movement control center in the regimental support squadron, which controls and coordinates movements with the movement control center responsible for the communications zone.

Movement in the combat zone of the corps or division is tactical. This movement is planned by the S3 and often precedes a combat operation. In rear areas these movements are also coordinated with movement control centers. A higher degree of security is maintained during tactical movement because of the increased risk of enemy attack.

Movements are normally conducted as road marches. A road march is characterized by the following factors:

- Unit relocation, not making contact with the enemy.
- Prescribed rates of march and intervals.
- Rapid movement.
- Security.

Movement may also be conducted by air, rail, or water. For discussion of these means, see the references listed below.

- Air movement—FM 55-9, FM 55-12, and FM 100-27. Air movements are discussed in detail in FM 90-4 and FM 100-103.
- Rail movement—FM 55-20.
- Water movement—MTMC Report TE 80-01-46.

ORGANIZATION

Successful movements are well organized. The organization of the unit for a road march is suited for inclusion in the unit SOP to delineate tasks and responsibilities.

Movement control is a key consideration in planning. The commander and staff are involved in planning, supervising, and refining execution of the movement. Both the commander and S3, however, will also be concerned with plans for the tactical commitment of the unit once the march objective is reached. The details of movement planning and supervision are largely the responsibility of the XO who serves as the movement control officer.

Units organize into march columns to conduct movement. A march column includes all elements of a force using the same route for a single movement under the control of a single commander. Whenever possible, a force marches in multiple columns over multiple routes to reduce closing time. A large column may be composed of a number of subdivisions, each under the control of a subordinate commander. March columns are composed of four elements:

- Reconnaissance party.
- Quartering party.
- Main body.
- Trail party.

The reconnaissance party is normally a scout platoon. Aeroscouts can also be used. The reconnaissance party moves out as early as possible to reconnoiter the assigned route or routes and any designated holding areas along the route. The reconnaissance party is not considered part of the main body and moves by infiltration. The designated reconnaissance party may be reinforced with engineers to assist in minor mobility tasks. The party is under the control of the movement control officer. Route trafficability and choke points are determined or confirmed. Bypasses around obstacles are found and marked. The movement control officer instructs the reconnaissance party on information required, report times, and mission upon completion of the reconnaissance. The movement control officer must coordinate bypasses located by the scouts as necessary.

The quartering party is normally a composite squadron organization consisting of the quartering parties of the troops. The quartering party is used if the squadron is going to occupy an assembly area upon arrival at the march destination. An assembly area is often used after long marches to provide time for the squadron to resupply, perform maintenance, and complete preparations for the subsequent mission. Unit first sergeants normally control troop quartering parties, and the

command sergeant major controls the squadron party. En route refuel points may be required for a long march. Vehicles comprising these points can move with the quartering party and drop off along the route at holding areas or halt locations. The quartering party normally follows the reconnaissance party and also moves by infiltration.

The main body is composed of the bulk of the regiment or squadron organized into serials and march units. A serial is a major subdivision of a march column organized under a single commander for planning, regulation, and control. The squadron is normally considered a serial, even if moving by itself. A march unit is a subdivision of a serial and is normally a platoon- or troop-size unit. It moves and halts under the control of a single commander using voice, visual signals, or radio when no other means of communication can be used. March units move as task organized for the follow-on mission whenever possible.

The trail party is the last march unit in the squadron serial. It is composed of elements of the combat trains under the squadron maintenance officer. The trail party is prepared to conduct repair and recovery of vehicles, medical aid and evacuation, and unscheduled refueling. If a vehicle cannot be repaired or towed, it is moved off the route and reported. The crew remains with the vehicle with sufficient food and water. The squadron must subsequently return to recover or coordinate for another unit to recover the vehicle. Vehicles and soldiers are not abandoned along the route.

PLANNING CONSIDERATIONS

Movement may be considered as either deliberate or hasty. Deliberate movement occurs when plenty of time is available to plan and prepare, resulting in a detailed and well-coordinated plan. This typifies administrative movements or long tactical movements. Hasty movement occurs when time is short. This typifies tactical movements, often when the regiment or squadron is in receipt of a FRAGO for a combat operation. Hasty movement normally does not involve crossing corps or division boundaries, although the cavalry unit can find itself moving across the parent unit area of operations.

Movement planning employs a backwards planning process. The mission following the movement drives the planning, which includes establishment of movement completion times, pass times, start point times, and organization of the unit for the march.

The march discipline necessary to execute a road march with routine precision can only be attained by strict adherence to SOP. This is particularly true for hasty movements. The unit SOP must provide for the following:

- Reconnaissance party.
- Quartering party.
- March rate factors.
- Vehicle intervals.
- March unit gaps.
- March unit organization and order.
- Actions on contact.
- Actions at halts.
- Security.
- Contingency plans for vehicle breakdowns, breaks in columns, and lost vehicles.
- Communications.
- Trail party.
- Control measures.
- Road march tables and movement planning guides.

Planning for a road march is conducted like any other mission. As the XO develops the concept he considers the following:

- Time available.
- Distance of the move.
- Current situation.
- Follow-on mission.
- Availability and condition of routes.
- Squadron task organization.
- Types, numbers, and characteristics of vehicles to move.

When possible, road marches are conducted at night to reduce vulnerability. Planning for night or limited visibility moves must consider the varying capabilities of night observation equipment. Radio listening silence is normally imposed. Coordination for moving air cavalry is made through the A2C2 system. Normally, the division cavalry squadron secures the airspace over the ground route as the air route. The regiment may do the same or coordinate a separate route for the aviation squadron. Using the same route facilitates movement control and aviation service support. The mobility advantage of air cavalry allows them to leave with and arrive ahead of, or leave after and arrive with the main body. Reconnaissance, quartering, and trail party considerations and airspace clearance influence this decision.

Relationships between time and distance are the basis for march planning (see Figure 8-12). The planner must determine how far the column is to travel (distance) and how long it will take to make the move (time). He must know the space (length of column) the column will occupy on the route as well as the time (pass time) it will take to pass a point from the beginning to end of the column. He must also include in his computations, the safety factor of distance (road gap) or time (time gap) that must separate march columns and their elements. Each term used for distance has a corresponding term for time.

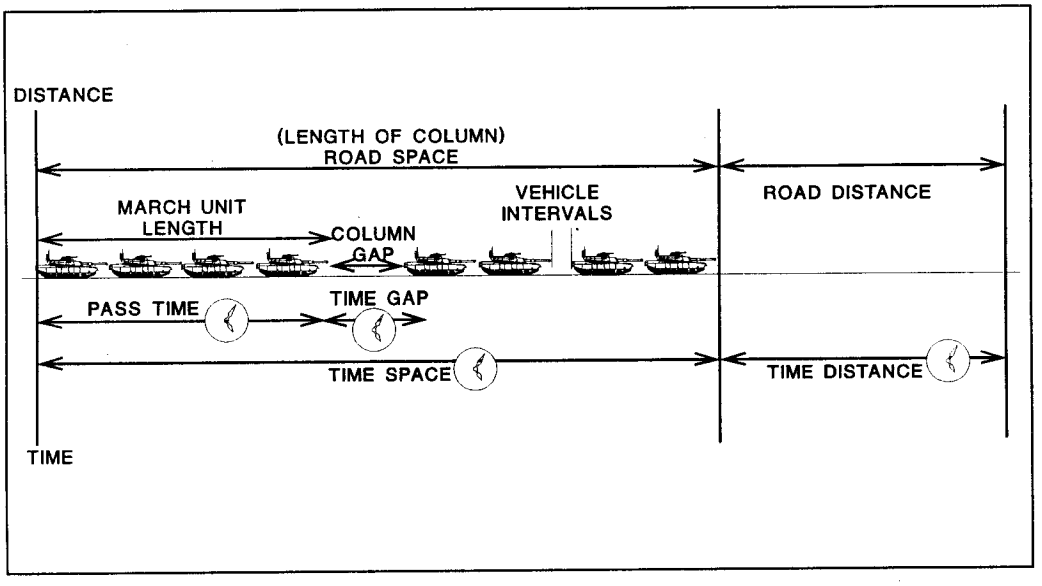


Figure 8-12. Time and distance relationship.

It is not always possible to conduct deliberate planning prior to executing a unit move. The regiment and squadron must be able to plan and execute a move based on verbal orders and adherence to SOP. A hasty movement may reduce the opportunities for reconnaissance and quartering party action. The unit may pass through an attack position instead of moving to an assembly area. The XO's planning time is driven by the mission execution time. He can quickly estimate the movement time by using a movement planning guide and distance of the move (see

Figure 8-13). Backward planning determines how much time is available for planning and preparation for the move.

The movement planning guide is a valuable tool to use when standardized movement factors must be altered to meet mission requirements. The regiment or squadron prepares a series of tables for subordinate march units, both organic and normal attachments. These tables reflect the most common task organization to provide a ready reference. The tables provide pass times based on different column intervals, rates of march, and time gaps. These three variables provide the most flexibility in adjusting movement times.

COLUMN (OPEN/CLOSED) UNIT/NUMBER OF VEHICLES	TIME GAP (MINUTES)	RATE (KMPH)				
		PASS TIMES (MIN)				

$$\text{PASS TIME} = \frac{\text{NO. OF VEH. X 60}}{\text{DENSITY X SPEED}} + \text{EXTAL} + (\text{GAPS X NUMBER OF GAPS})$$

Figure 8-13. Movement planning guide.

Section V. Assembly Areas

An assembly area is an area in which a force prepares or regroups for further action. As a rule it is secure from interference by enemy light artillery. Preparations can include reorganization, resupply, planning, issuing orders, and maintenance. Even though a degree of security is provided by being behind friendly lines, the unit always occupies the assembly area in a manner to defend itself if attacked.

The nature of any particular assembly area is a reflection of the tactical situation in which it occurs. Occupation may be hasty or deliberate, duration long or short. Occupation can occur after a long move to complete preparations for combat. It can be very hasty after a passage of lines to regroup. During rear operations,

cavalry occupies an assembly area as a base in the division rear area. Occupation may be directed by a higher commander or determined by the unit commander. Location and dimensions of the area can also be dictated or left up to the commander.

TASKS

Certain tasks are associated with planning, occupying, and operating an assembly area. These tasks are largely a matter of SOP. The circumstances in which the assembly area is occupied dictate to what extent these tasks are performed. The tasks are as follows:

- Site selection.
- Quartering party.
- Occupation.
- Security.
- Internal activity.
- Departure.

Site Selection

Site selection of assembly areas is governed by specific unit requirements. In division cavalry, the squadron can occupy one assembly area, operate a separate assembly area for the air cavalry troops, or operate out of separate troop-level assembly areas. Regimental cavalry may occupy one assembly area, but will normally assign separate assembly areas for each squadron. The regiment's size and the diversity of the units require that specific unit needs be carefully considered in assembly area site selection. For instance, trafficability for wheeled vehicles may be more of a concern for the support squadron than for a line squadron. An assembly area should have the following characteristics:

- Concealment from air and ground observation.
- Cover from direct free.
- Openings for positioning aircraft.
- Space for dispersion of vehicles, aircraft, personnel, and equipment.
- Good entrances and exits and adequate internal road or trail network.
- Good drainage, slope, and soil conditions to support vehicles, aircraft, and equipment.

The longer that occupation of the assembly area is planned or anticipated, the more important these characteristics become.

Quartering Party

Quartering parties are formed at troop level and at squadron level when appropriate. They are a composite of subordinate unit representatives. The squadron party also includes medics, communications, and staff representatives. The first sergeants control troop-level parties and the command sergeant major controls the squadron party. The quartering party provides for its own security. Quartering parties have three responsibilities: reconnaissance, organizing the area, and guiding arriving units. During tactical unit movement, area reconnaissance can be performed as a follow-on mission by the reconnaissance party. Air cavalry can perform reconnaissance of the assembly area early as part of the reconnaissance party. Area reconnaissance is performed to determine suitability of the area. Organizing includes selecting and marking unit and vehicle positions, improving and marking routes, and marking or removing obstacles. Guide duties include meeting units at the release point and leading them to positions.

Occupation

A squadron assembly area can be organized by assigning troops to sectors of the perimeter or by dispersing troops in their own assembly area within the squadron area. As units arrive, guides move them, without stopping, to unit locations and vehicle positions. Organization of the area based on unit order of march precludes congestion at the release point. Once in positions, units and vehicles make adjustments. Positioning considerations are as follows:

- Dispersion and hide positions.
- Vehicles and aircraft oriented out to facilitate defense.
- Command posts and trains centrally located for security, ease of support, and road access.
- Mortars sited to provide fire support.
- Communications by wire and messenger established within troops and with squadron.

Security

An assembly area is not designated as a defensive position, but the squadron or troop organizes it to detect and defeat an enemy ground attack. Security against air attack is best provided by passive measures designed to conceal the unit from detection. Guards at all entrances and exits control the flow of traffic. Observation posts cover key terrain features and likely avenues of approach. Platoons prepare fire plans and coordinate on the flanks. Security is augmented by patrols, sensors, and surveillance devices. Contact points for units assist in coordination. Roads are the specific responsibility of subordinate units. Fire support plans are prepared by the fire support team and fire support element. Minimal use of radios reduces electronic signature. Movement is confined to roads to preclude needless surface disruption, leaving a visible aerial indicator. Unnecessary vehicle movement is restricted. Noise and light discipline is enforced.

Internal Activity

Actions in the assembly area follow SOP and requirements of the situation. Planning, orders, resupply, reorganization, vehicle and aircraft maintenance, weapons maintenance, and rest occur. For pending combat operations, precombat checks and inspections occur. Reconnaissance of routes out of the area is made to prepare for departure and initiation of the follow-on mission.

Departure

Departing the assembly area is the first step of a mission and is just as important as the mission itself. A progressive system of increasing readiness, such as REDCON levels, ensures units are ready to move when required without needlessly tiring soldiers and wasting fuel for long waits. The assembly area is occupied with the follow-on mission in mind to preclude congestion on departure. Routes from subordinate unit locations are reconnoitered and timed. Subordinate units designate a linkup point and units move to and through that point based on their reconnaissance. Departure is conducted under radio listening silence.

AIR CAVALRY ASSEMBLY AREAS

The air cavalry and attack helicopter troops normally operate out of either a rear or a forward assembly area. All troops are usually consolidated in the rear assembly area while a forward assembly area is occupied by only one troop at a time.

In the armored division cavalry, the two air troops and aviation unit maintenance (AVUM) consolidate to form their own air assembly area. Flight operations deploys with the air assembly area. and acts as its communications post. The air troop assembly area is either located in the vicinity of the squadron field trains as part of the base cluster or may operate away from the field trains but still outside of medium artillery range. Flight operations assist the air troops by tracking the battle and providing flight information. It is run by the flight operations officer or NCOIC.

The regimental aviation squadron normally establishes a squadron assembly area in the rear. The squadron command post, the bulk of the HHT and AVUM troops, and the assault helicopter troop operate out of this assembly area. The bulk of planning, maintenance, and service support takes place here. Troops rest here as well. The HHT provides support in the assembly area and establishes forward area rearm/refuel points (FARP) to support forward operations. The AVUM troop organizes contact teams to provide forward support at FARPs.

The forward assembly area is small and normally occupied for short periods by air cavalry and attack helicopter troops. It is used as a holding area where aircraft can shut down while waiting to be committed or to relieve another team or troop on station. This allows the troop to remain forward for rapid response when required while preserving fuel. Activities here are limited to minor maintenance by contact

teams, battle damage assessment and repair, and crew maintenance. The forward assembly area is usually located near a FARP to accommodate combat service support. Air crews in the assembly area must monitor squadron nets on aircraft radios to eavesdrop on the situation and respond when needed. Maintaining communications may require keeping an aircraft operating. Security from attack by medium-range artillery may be achieved by distance or cover afforded by terrain masking. The forward assembly area may be located in an urban area where aircraft can be hidden behind or in the shadows of buildings. It should not be located along high-speed ground or air avenues of approach. If the assembly area is positioned outside the regiment or the squadron's area of operations, coordination with the unit owning the ground is made. Troop operations cannot be restricted by this arrangement.

Section VI. Battle Handover and Passage of Lines

Battle handover is a coordinated operation between two units that transfers responsibility for fighting an enemy force from one unit to the other in the close-in battle. It is designed to sustain continuity of the combined arms fight and protect the combat potential of both forces involved. Battle handover is usually associated with conducting a passage of lines.

A passage of lines is a tactical operation designed to pass one unit through the positions of another unit without interference. A passage may be designated as a forward or rearward passage of lines. Passage may occur when security forces withdraw through the forward edge of the battle area (FEBA) or when an attacking or exploiting force moves through forces in contact.

Reconnaissance and security operations frequently begin or end with a passage of lines. Battle handover and passage of lines are inherent aspects of transferring responsibility for the battle between commanders while maintaining continuity of the fight. Cavalry can be either the passing or stationary force.

Battle handover may occur during both offensive and defensive operations. During defensive operations, it is normally coordinated in advance so that it requires only minimum coordination when ordered to occur. In the offense, it is often initiated by a FRAGO based on the situation at hand. Clear SOP allows units to quickly establish the necessary coordination to preclude a loss of momentum in the attack. The control measures used are simple and standardized.

In the conduct of air and ground operations, air and ground troop commanders often pass an enemy force in contact to one another. Battle handover governs this process in term of close coordination, fire support, and mutual understanding of responsibilities. The troops do not go through the structured process discussed in this section. This internal handover is established in regiment and squadron SOPs for rapid execution with minimum additional coordination.

BATTLE HANDOVER

Three key players are involved in a battle handover: the stationary commander, the passing commander, and their common commander. Each commander has certain responsibilities. The common commander defines the location and time for the handover, identifies any specific tasks, and monitors the execution. The passing and stationary commanders coordinate according to SOP and execute the handover. Until handover is complete and acknowledged by the two commanders, the commander in contact is responsible for the fight. Once battle handover is executed in a forward passage of lines, the passing commander assumes tactical control over the stationary force until passage is complete. In a rearward passage, the stationary commander assumes tactical control over the passing force until passage is complete.

Opportunities for a staggered handover that are advantageous for the corps or division may occur. These opportunities are seized when possible. The common commander specifies where the handover occurs and defines the resulting responsibility for the zone or sector. Generally, the commander in contact remains responsible for the zone or sector where handover did not occur.

Handover occurs along a line defined as the battle handover line. This line is a phase line recognizable on the ground forward of the stationary force. The line is established by the common commander in consultation with both commanders. The stationary commander has the major determination in the location of the line. This line is forward of the FEBA in the defense or the FLOT in the offense. It is drawn where elements of the passing unit can be effectively overmatched by direct fires of the forward combat elements of the stationary unit until passage of lines is complete. The area between the battle handover line and the stationary force belongs to the stationary force commander. He may employ security forces, obstacles, and fires in the area.

While a line defines the battle handover, seldom do events allow this to happen cleanly. Battle handover is a physical as well as command process. Physical handover should be viewed as a transition that occurs in the zone of the battle handover line. Events may dictate that a force break contact forward of or behind the line, as in the gap between echelons of an attacking enemy force. Close coordination, physical and by radio, between the two units involved in the handover allows those at the small unit level to coordinate and execute this process. The stationary unit is just as active as the passing unit.

Battle handover begins on order of the common commander of both units involved. Defensive handover is complete when the passing unit is clear and the stationary unit is ready to engage the enemy. Offensive handover is complete when the passing unit has deployed and crossed the handover line. The battle handover line is normally considered the line of departure for the attacking unit.

Coordination for battle handover normally flows from the commander out of contact to the commander in contact. This coordination overlaps with the

coordination for the passage of lines and the two should be conducted simultaneously. This coordination is best established as SOP to facilitate rapid accomplishment. Coordination normally includes the following requirements:

- Establishing communications.
- Providing updates on both friendly and enemy situations.
- Coordinating passage.
- Collocating command and control.
- Dispatching representatives to contact points.
- Recognition signals.
- Status of obstacles and routes.
- Fire support and combat service support requirements.

For the engaged force, the most important task is to maintain contact and continue the fight. The enemy must continue to see the level of activity that has been established. The enemy who perceives that the handover is occurring will attempt to seize the opportunity to destroy the friendly unit at a vulnerable moment.

In the regiment, passage of lines normally occurs at squadron level. The regiment monitors progress and coordinates with the higher headquarters of the other unit involved. The squadron is required to conduct detailed coordination and to execute the passage. This section discusses passage of lines at squadron level. The same considerations apply to the aviation squadron, combat support, and combat service support units of the regiment. The separate troop-size units of the regiment often conduct passage with a squadron, but may do so on their own or under regimental control.

REARWARD PASSAGE OF LINES

Passage of lines is the physical process conducted during the battle handover. The squadron is required to break contact and move through the defender to the rear. Breaking contact is supported by massed indirect fires, smoke, close air support, and assistance of the stationary unit. This can be difficult when facing an enemy who is attacking. The commander must structure the fight to allow the squadron to wrest the initiative from the enemy at least temporarily to permit the passage. The best opportunity for the squadron to pass lines is in the gaps between echelons of the attacking enemy formation when one has been stopped and the next has not closed. During a guard mission, this gap is frequently between the advance guard battalion and the regiment main body. During a cover mission, this gap is frequently between regiments. These gaps can be measured in terms of both time and distance. Executing a passage of lines while engaged in a major fight may well result in the loss of part or all the squadron.

A passage of lines is a complex operation requiring detailed coordination, extensive planning, and close supervision between units. As such, the conduct of a

passage of lines is a command and control challenge. On receipt of a warning order that directs an operation requiring a passage of lines, the passing unit commander and his staff establish liaison with the unit in contact or being passed. Normally the passing unit collocates its TAC or main CP with the TAC or main CP of the unit being passed. Certain basic considerations and coordination must be integrated/conducted at all levels in the planning process:

- Exchange of intelligence information.
- Exchange of tactical plans.
- Exchange of standing operating procedures.
- Arrangements for reconnaissance by elements of the passing units.
- Security measures during passage.
- Selection of areas of passage and provisions for guides.
- Priorities for use of routes and facilities and provisions for movement control. The passing unit must have priority.
- Time or circumstances when all responsibility for control of the area of operations will be transferred.
- Fire support and other combat support to be provided by the unit being passed.
- Exchange of liaison personnel at all levels.
- Collection and exchange of information on friendly minefield and obstacles.
- Command relationship between passing unit and the unit being passed concerning CS and CSS units, facilities, and locations.
- Tactical cover and deception plans to retain secrecy and to aid in maintaining and/or gaining surprise.
- Establishment of graphic control measures to ensure a smooth and well-coordinated passage.

One of the most critical aspects of a passage of lines is terrain management. The passing unit's S3 coordinates with the stationary unit's S3 to exchange information concerning the disposition of friendly forces within the stationary unit's area of operations. Stringent graphic control measures must be established and coordinated with all units involved in the passage to ensure success. The following graphic control measures are used in the planning and execution of passage of lines.

- Battle Handover Line (BHL). This line is established by the common commander in consultation with both commanders. The stationary commander has the major determination in the location of the BHL, as his force must be able to overwatch the BHL with direct fires.

- Contact Points. These are established forward of the BHL, on identifiable terrain (if available) and normally in the vicinity of the passage point.

- Passage Points (PP). Passage points should be concealed from enemy observation. Stationary unit guides may meet the passing unit at the passage point.

- Passage Lanes. These are established by the stationary unit to move the passing unit quickly through the defending unit's positions. Lanes are restrictive. They permit the movement of the passing unit through the battle position of the defending unit. This could include passing through gaps in friendly obstacles and moving near friendly engagement areas. The passage lane begins at the passage point and ends at the rear of the stationary unit battle positions. The passage is considered complete when the moving unit exits the lanes.

- Passage Routes. Routes are not as restrictive as lanes. Routes allow a passing unit to move more rapidly through the stationary unit area. If a passage route is used in conjunction with a passage lane, it begins where the passage lane ends. The number of lanes/routes designated will vary based on METT-T considerations, but as a general rule, multiple lanes/routes should be planned to facilitate the rapid passage of the moving units and to avoid unnecessary massing of units. The stationary unit may escort the passing unit along the lane/route.

- Release Point (RP). A well-defined point on a route at which the elements composing a march column return under the authority of their respective commanders, each one of these elements continuing its movement toward its own appropriate destination.

- Assembly Area. An assembly area in the rear area of the defending unit allows the passing unit to conduct hasty reorganization and emergency CSS actions. This assembly area is temporary in nature.

- Infiltration Points. Units should plan infiltration points for personnel not able to complete the passage with the unit. The passing unit's liaison officers may remain located with stationary unit's command posts to serve as a point of contact for infiltrating personnel/equipment. The key is that personnel attempting to infiltrate must have some way of contacting the stationary unit prior to attempting to cross into friendly territory.

Control measures used for the passage are integrated with the battle handover line as illustrated in Figure 8-14.

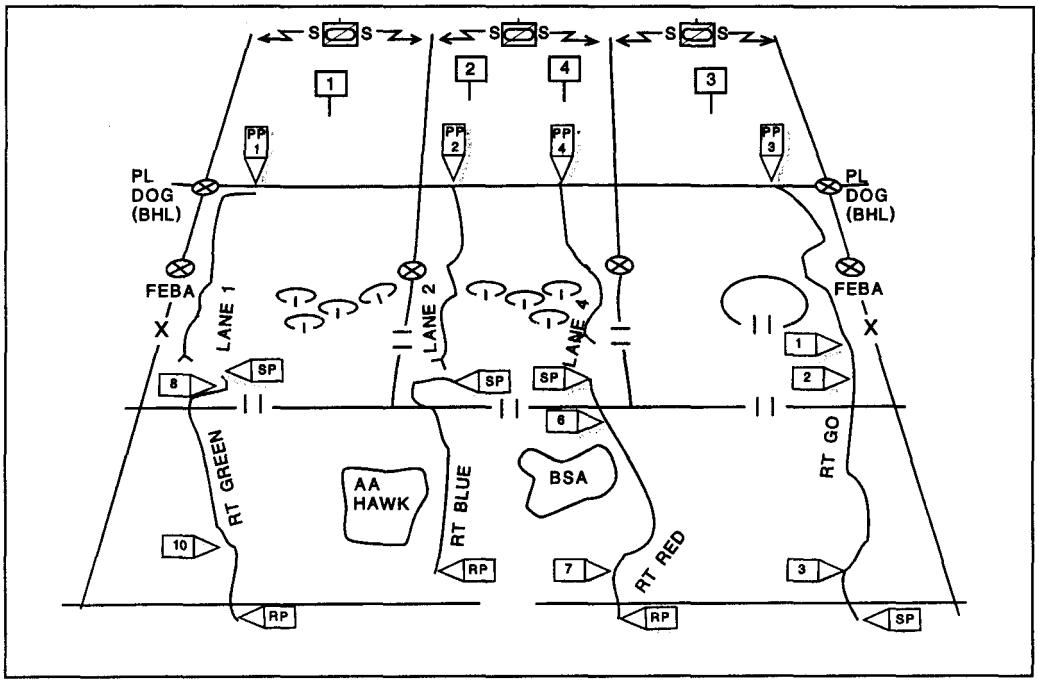


Figure 8-14. Rearward passage of lines.

Combat support and combat service support elements of the passing unit can initiate passage before it is actually ordered in order to assist as necessary during the actual conduct of the passage. This is most often the case with trains and fire support units. Locations for those assets where they can continue to conduct support operations are coordinated with the passing unit.

The force being passed should be prepared to fire supporting fires for the passing force as it crosses the BHL. Passing force artillery units may locate firing units in the stationary unit's area to assist in supporting fires or continue to move with their units. In either case, fire support plans must be integrated. Units should take advantage of the TACFIRE system to speed coordination of the fire plans.

The unit conducting the passage of lines may designate forces as a DLIC to maintain pressure on the enemy while the bulk of friendly forces break contact and withdraw. The DLIC may be a unit designated by the higher command, or it may be made up of elements from each troop/squadron. Mortars and other CS/CSS assets are part of the DLIC as necessary. Air cavalry may be part of the DLIC to increase the capability of the DLIC to accomplish its mission. If the greatest enemy threat lies on a single avenue of approach, the unit on that avenue may be left in place and augmented with elements from other units.

Due to their mobility advantage, air cavalry units will probably be the last units remaining in contact with the enemy before the battle handover is complete. The rearward passage of aircraft is coordinated the same as that of ground units. Aircraft may use the same passage points as ground units, and air corridors may follow the same routes used by ground units. Different passage points and air corridors may be coordinated with the stationary unit as necessary.

FORWARD PASSAGE OF LINES

A forward passage of lines is normally conducted to maintain the movement or offensive operation of a unit. This operation is necessary when the factors of METT-T do not permit one unit the freedom of bypassing another friendly unit and, therefore, must pass through it. As such, a forward passage of lines may be conducted to—

- Continue the attack or counterattack.
- Envelop an enemy force.
- Pursue a fleeing enemy.

Many of the planning procedures for elements executing a forward passage of lines is similar to those outlined for a rearward passage of lines. Control measures are simply reversed (see Figure 8-15). Attack positions can be used in the stationary unit rear area as necessary and should be coordinated whether or not they are actually used.

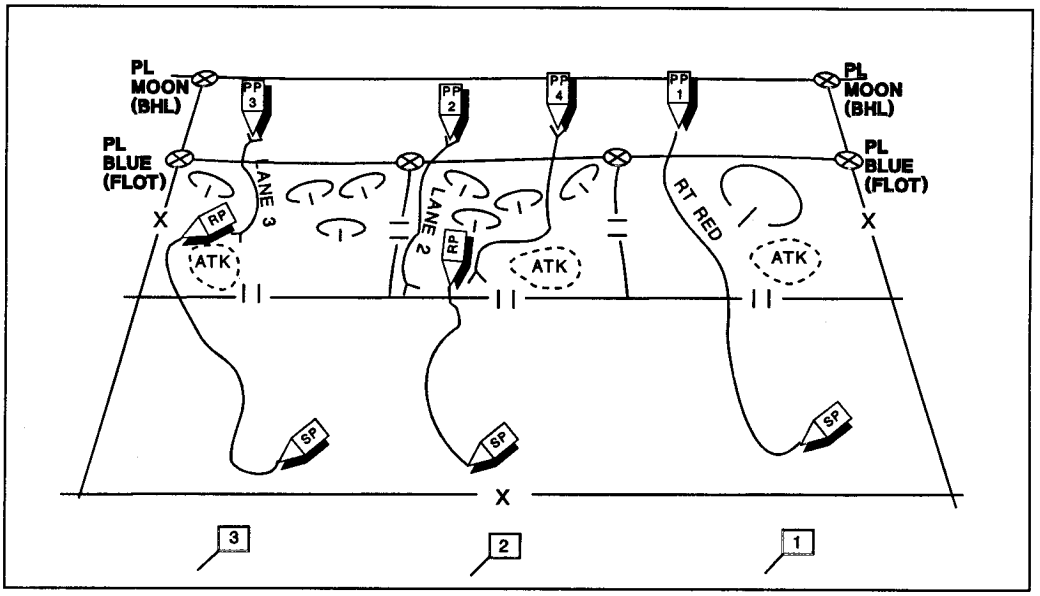


Figure 8-15. Forward passage of lines.

There are basically two techniques of passing the passing force. In the first technique, the passing force deploys in its attack formation in the attack positions to the rear of the FLOT and crosses the FLOT in attack formation. This technique is appropriate if there is adequate maneuver space for the passing force to deploy effectively, and to deploy without disrupting the stationary force defensive positions (such as desert operations). This technique also allows the passing force to rapidly attack once it crosses the FLOT.

In the second technique, the passing force may deploy after crossing the FLOT. Using this technique, the passing force crosses the FLOT in march column and then deploys into attack formations prior to crossing the BHL. This technique may be

required in more restrictive terrain. If this technique is used, the FLOT should be outside direct fire range of the enemy to allow the moving force to deploy without being fired upon.

In either of the techniques described, there will be stationary unit scouts on or near the BHL. The passing unit may have their scout platoon link up with stationary unit scouts and continue the mission, or may have combat units deploy along the BHL to overwatch movement of other units. The units on the ground at the BHL must know the scheme of maneuver of the passing force so they can act accordingly.

If the unit being passed identities a gap or weak point in the enemy's deployment, it should go about identifying axes of attack for the passing force that will take advantage of that weakness (recon pull). The premiere consideration is that the stationary force should not pass the moving force into the teeth of the enemy defense. The passing force must be flexible enough to modify its scheme of maneuver, if necessary, to take advantage of weaknesses in the enemy's defense.

LEADERS

The commander of the unit in contact is responsible for maintaining the fight with the enemy. His XO is the best choice to serve as the unit representative to establish contact with the unit out of contact. He has a clear picture of the entire unit situation and battle status. Coordination for the passage is normally conducted at the lowest level possible. Several troop XOs can be coordinating passage at different contact points simultaneously. The squadron XO coordinates their efforts and coordinates with the battalion or brigade command post. If the XO is unavailable or a troop has more than one passage point, SOP identifies other leaders who conduct this coordination. The troop first sergeant remains focused on combat service support and, in particular, recovery of battle damaged equipment and evacuation of casualties when in contact. He also begins coordination for combat service support requirements for subsequent operations.

Section VII. Relief in Place

A relief in place is an operation in which a unit is replaced in combat by another. Responsibilities for the combat mission and the assigned sector or zone of action of the replaced unit are assumed by the incoming unit. Reliefs may be conducted during offensive or defensive operations. They are normally conducted during limited visibility to reduce the possibility of detection.

The purpose of the relief is to maintain or restore the combat effectiveness of the committed unit. A relief can be conducted for the following reasons:

- Reconstitute a unit that has sustained heavy losses.
- Decontaminate a committed unit.
- Rest a unit that has been in prolonged combat.
- Conform to a larger tactical plan.
- Assign a new mission to the relieved unit.

Introduce a new unit into combat.

Defensive relief is conducted to continue the defense. Cavalry can relieve a larger force when assigned an economy-of-force defensive mission. Task organization normally does not resemble the force very closely. This is considered in determining the method of relief.

Offensive relief is normally conducted as a forward passage of lines to maintain the momentum of the attack.

METHODS OF RELIEF IN PLACE

There are three basic methods of conducting a relief in place:

- One unit at a time.
- All units simultaneously.
- Occupying in-depth or adjacent positions.

Relieving one unit at a time is the most time consuming but secure method (see Figure 8-16). Relief proceeds by troop or company team. Units are normally relieved in place with the relieving unit assuming the relieved unit's positions and missions. This method is most common when units have similar organizations or when occupied terrain must be retained. Subsequent to relief, the assuming unit makes adjustments to positions. The relieved units withdraw once they are relieved without waiting for other units. This method requires detailed planning and coordination. Most of the planning considerations discussed here apply to this method.

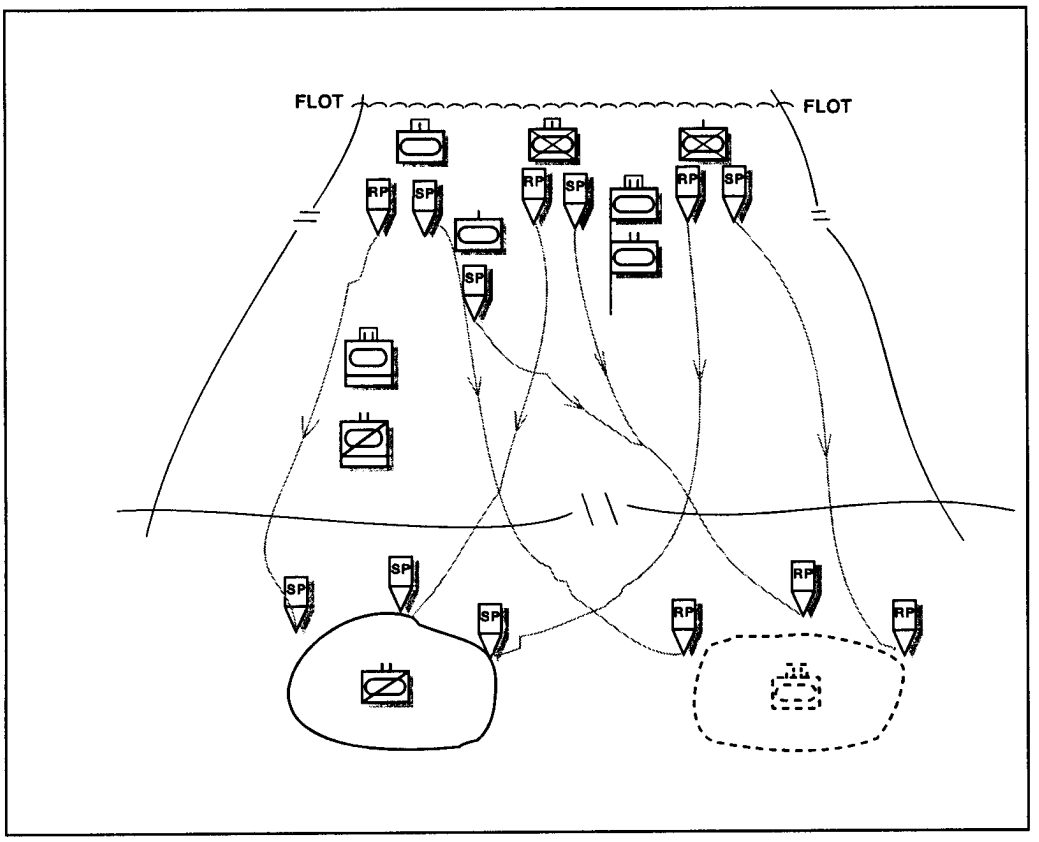


Figure 8-16. Relief in place.

Relieving units simultaneously is a variation of the first method. It is faster but less secure as all units are moving simultaneously. Close coordination is required to prevent congestion. Once command groups and combat trains are collocated, troops move forward at the same time along designated routes. Relief occurs simultaneously at each location. Relieved units withdraw immediately upon relief. The withdrawing unit does not wait to form up battalion or squadron march columns, but normally forms up at rally points behind the FEBA in platoon or company team columns before moving out.

Relief by occupying positions in depth or adjacent to the relieved unit is considered an area relief (see Figure 8-17). It is appropriate when units are dissimilar, when the relieving unit performs a different mission, or when improved defensive terrain is away from the line of contact. This method is also appropriate when the unit being relieved has been chemically or radiologically contaminated. Cavalry may frequently conduct this type of relief. When possible, the relieving unit should be able to place direct fires on the other unit's fire control measures. The relieved unit withdraws one unit at a time or simultaneously and conducts a rearward passage of lines through the relieving unit, if appropriate.

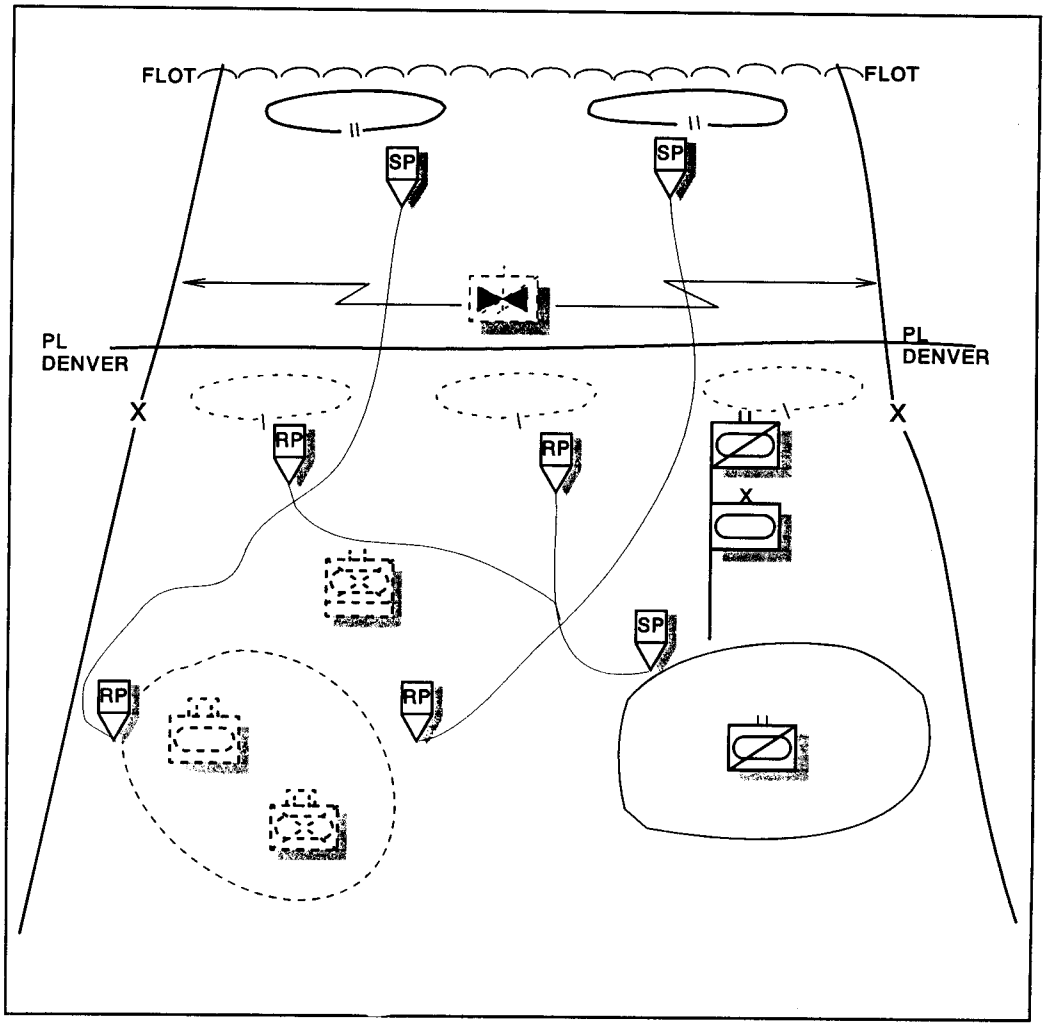


Figure 8-17. Area relief.

In all three methods the normal sequence of relief is from rear to front. Overlap always occurs with the relieved unit maintaining communications, fire support, and positions until relieved.

PLANNING CONSIDERATIONS

The relieving unit establishes continuous liaison with the relieved unit immediately upon receipt of the order. Liaison occurs down to troop and company level. Personnel from the outgoing unit remain with the incoming unit throughout the relief until the incoming unit is familiar with the situation. The squadron command group moves to the command post of the unit being relieved to coordinate the Operation. Combat trains are collocated to facilitate coordination and transfer of equipment, excess ammunition, fuel, water, and medical supplies. Liaison includes coordination of the relief, the relieved unit's scheme of maneuver and fire support plan, and intelligence updates.

The command net of the relieved unit is entered and monitored by the relieving unit. Troops and company teams of both units remain on their internal and parent unit nets. The relieving unit maintains radio listening silence on all nets until the relief is complete. The sudden increase in radio traffic is a quick indicator to the enemy that a relief is occurring. Upon passage of command, the relieving unit returns to its command net and lifts listening silence as necessary. The relieved unit should maintain radio listening silence during its withdrawal.

Normal reconnaissance and surveillance activity is continued. Surveillance teams and radar equipment of the outgoing unit remain in position until the relief is completed. If time is available and the situation permits, leaders down to troop and platoon level conduct a reconnaissance prior to the relief. Reconnaissance should be conducted during daylight and darkness as the incoming unit must know the location of individual and vehicle positions, weapons, communication centers, command posts, aid stations, and all other essential facilities. This reconnaissance should also include all routes for vehicle and foot traffic, the specific location of assembly areas, and locations for service support units. Reconnaissance parties in the forward areas should be small.

Deception plans aid secrecy and surprise. The normal patterns of activity must be maintained by the relieved unit. The relieving unit must, at least initially, conform to this pattern. The outgoing unit's radios are manned until the relief is completed to prevent the enemy from detecting a change. As a ruse, the relieving unit may replicate the relieved unit's radio nets as it departs to mask movement and preclude a detectable drop in established electronic signatures for the area.

The relief at troop level includes receiving the relieved unit's range cards, fire plans, and indirect fire plans. During a relief in limited visibility, ground crew-served weapons may be exchanged since re-laying them is difficult. The following equipment may be exchanged to the extent that commonality exists:

- Machine gun tripods and other supports for crew-served weapons or equipment.
- Bulky or excess supplies.
- Target reference point markers.
- Wire and hasty protective minefield.
- Emplaced sensors.
- M8 alarms.

Unit obstacle locations are identified, minefield are recorded and verified, and minefield records are transferred.

Fire support coordination and liaison are conducted between the units. If field artillery units are to be relieved, they are the first to collocate and the last to leave. Range cards, target lists, and overlays should be given to the incoming unit to ensure the effective delivery of fire. Fire support assets of the relieved unit remain in position throughout the relief of maneuver units and are prepared to support both units. Fire support assets of the relieving unit move into positions as quickly as possible so they can support both units during the relief. The howitzer battery of the regimental armored cavalry squadron may have to relieve a unit of larger size (such as artillery battalion).

If the outgoing artillery and its supported command are relieved at the same time, responsibility for fire support passes at the time of that relief. If the command of the field artillery and the supported maneuver units are passed at different times, the passing of fire support responsibilities is mutually agreed upon by the two fire support coordinators, unless otherwise directed.

Movement control is maintained by designating and ranking routes in priority. The squadron XO supervises unit movement. Rally points for the relieved unit are used at company level to quickly organize the unit for withdrawal. Guides are positioned at critical points along the routes. Assembly areas are designated and activities performed in these areas are specified. Separate assembly areas are designated for the incoming and outgoing units to minimize confusion. Time spent within assembly areas is minimized to avoid possible compromise.

Passage of command may be specified in the division or corps order as a time when relief is to be completed. At unit level, the commanders mutually agree to the sequence for the passage of command. This is physically accomplished when a specified percentage, normally greater than one-half of the relieving units are in position and report relief. Passage of command at squadron and task force level is acknowledged face-to-face by both commanders and passed to subordinates.

When planning and coordination are complete, the squadron commander issues his order. To reduce confusion and maintain secrecy, the relief order should, as a minimum, include the following:

- Time that responsibility for the sector, battle position, or zone is effective.
- Fire support plan.
- OPSEC considerations.
- Deception plans.
- Time, method, and sequence of relief.
- Routes and critical control measures.
- Concept of subsequent mission.
- Plans for additional positions and changes to present concept.

- Contingency plans.
- Location and transfer of responsibility for obstacles.
- Transfer of ammunition; wire lines; petroleum, oils, and lubricants (POL); and materiel.

If either unit gains direct fire contact with an enemy force, it immediately notifies the other unit and the higher headquarters directing the relief. If command has not passed, the relieving unit is immediately under operational control of the relieved unit. The relieving unit performs missions as directed by the commander of the unit being relieved. If command has passed, the relieved unit or portion still forward is under operational control of the relieving unit. The presence of collocated command posts facilitates rapid coordination and action if enemy contact is encountered during the relief. Unity of command is imperative.

Section VIII. Linkup

A linkup is a meeting of friendly ground forces. One or both forces may be moving. The forces are normally separated by the enemy. Cavalry can participate in a linkup as part of a larger force or as one of the forces involved. Linkup can occur in the following situations:

- When an advancing force reaches an objective that has been previously seized by an airborne or air assault force.
- When an encircled element breaks out to rejoin friendly forces.
- When converging friendly forces meet.
- During an encirclement of enemy forces.

As part of a stationary force, cavalry can screen or guard. In these missions cavalry may be the first unit to establish contact with the approaching force. As part of a moving force, cavalry performs zone reconnaissance or movement to contact for the main body to facilitate rapid movement. If conducting the linkup on its own as the moving force, the cavalry unit performs the mission as zone reconnaissance or movement to contact (see Figure 8-18). If speed is paramount in making the linkup, certain reconnaissance critical tasks can be deleted. Using air cavalry troops to reconnoiter routes for advancing units also helps increase the tempo of the reconnaissance.

The regiment may be employed as a linkup force when there is a requirement for overwhelming mobility and firepower to break through enemy forces.

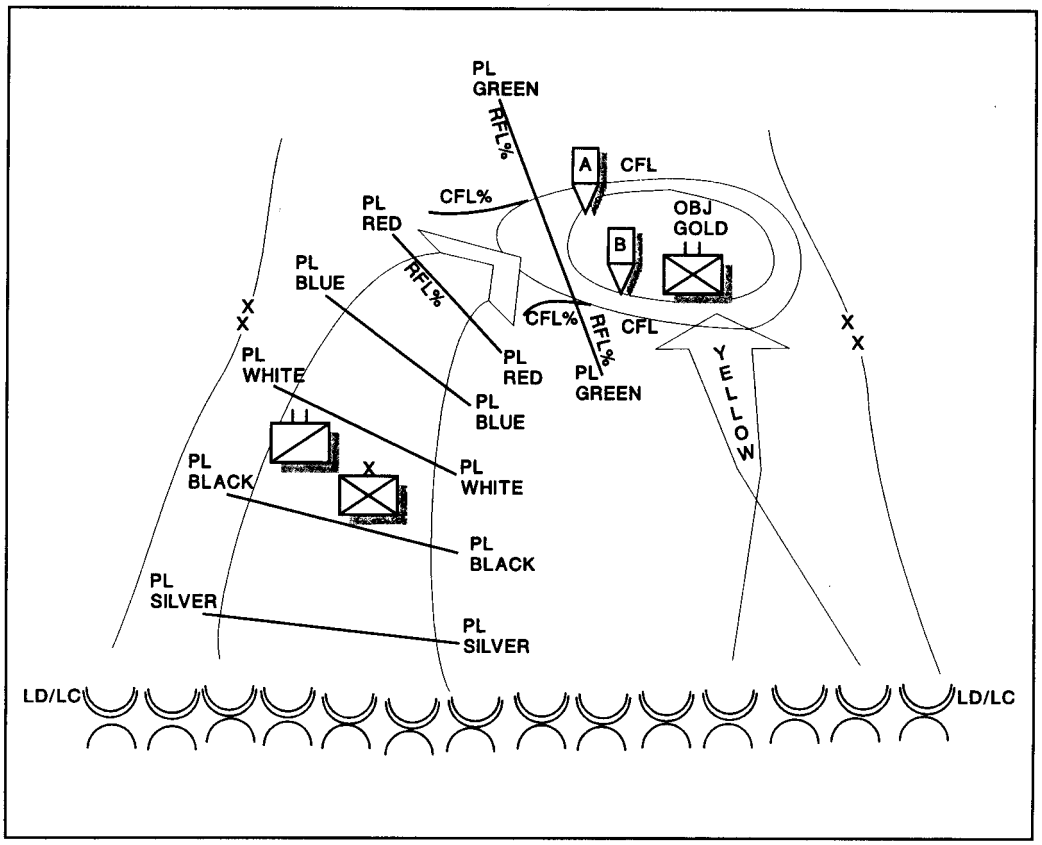


Figure 8-18. Example of a linkup.

The headquarters directing the linkup establishes the command relationship between the forces involved and the responsibilities of each force. Normally both forces remain under the control of the headquarters directing the linkup. If this headquarters cannot adequately control the operation, responsibility is delegated to one of the forces involved. Operational control is the normal command relationship used. Often the moving unit is placed under operational control of the stationary unit, or the unit out of contact is placed under operational control of the unit in contact.

When possible, the commanders of the units involved establish liaison. If the enemy is between the forces conducting a linkup, this liaison may not occur and coordination is then accomplished by radio. The air cavalry troops may be able to perform liaison tasks even when the enemy separates the two forces. During the operation, the two units attempt to maintain continuous radio contact with each other or the higher headquarters. As a minimum, the units exchange the following information:

- Linkup planning.
- Enemy and friendly situations.
- Locations and types of obstacles (existing and reinforcing).

- Fire support plan.
- Air defense control measures.
- Recognition signals.

Communications between the units involved are essential. The headquarters directing the linkup is responsible for ensuring SOI and recognition signals are compatible between the two forces. If the linking units do not have the same SOI, the higher headquarters directs one unit to change, normally the unit not in contact. If the units involved in the operation are not under another unit's operational control, they maintain their parent command nets.

Both units in the linkup coordinate their operation with each other as well as with the directing headquarters. This precludes engaging each other as units close.

Aviation units are helpful in linkup operations. Air cavalry troops can assist in the initial coordination between the forces to be linked up. Air cavalry can assist in route reconnaissance and provide early warning of enemy locations. Aviation can also extend the range of communications. In the armored cavalry regiment, the regimental commander will normally hold the attack helicopter troops in reserve.

Forces plan linkup operations as they would any other operation, with the following additional considerations:

- Restrictive fire lines are used to prohibit fires or effects from fires across the line without coordination with the affected force. They are established by the headquarters directing the linkup or the headquarters with operational control. Restrictive fire lines should not overly restrict the fires of either force. One method is to make phase lines for the moving force on-order restrictive fire lines. As they are crossed, the next phase line becomes the restrictive fire line.
- Linkup points designate where the forces meet. They must be easily recognizable on the ground. When one force is stationary, linkup points normally are established where the moving force's routes of advance intersect the stationary force's security elements. Linkup points for two moving forces are established at points where the two forces are expected to converge. Alternate linkup points are established since enemy action may preclude linkup at the primary points.
- During linkup operations involving aviation units, air defense rules of engagement become extremely important. The higher headquarters directing the linkup and the A2C2 element of the forces involved must ensure timely coordination to prevent engagement of friendly aircraft.
- Actions following the linkup are coordinated. Subsequent operations should be coordinated before the linkup operation and modified, if necessary, when the linkup occurs. The two commanders should collocate near the linkup point, or at a prearranged location. to confirm or coordinate their subsequent operations.

Section IX. Breakout From Encirclement

A breakout is an offensive operation conducted by an encircled force. Encirclement occurs when a unit loses freedom of maneuver resulting from enemy control of all ground routes of evacuation and reinforcement. It does not imply that the unit is surrounded by enemy forces in strength. Threat doctrine stresses bypassing forces that cannot be quickly reduced. An enemy force may be able to influence the unit's subsequent operations while occupying only scattered positions and may not be aware of the unit's location or strength. The encircled unit can take advantage of this by attacking to break out before the enemy is able to exploit the situation.

To breakout successfully, the unit must perform the following actions:

- Deceive the enemy as to friendly composition, strength, and intentions.
- Conduct reconnaissance.
- Concentrate sufficient combat power at an enemy weak point.
- Provide security to the flanks and rear during movement out of the encircled area.

Cavalry units can participate in a breakout as part of a larger force or by themselves. As part of a larger force, cavalry can perform reconnaissance or security missions for the main body.

PLANNING CONSIDERATIONS

Time of Attack

Time cannot be wasted in developing a plan or preparing. Attacking at night or during other conditions of limited visibility is advantageous. However, if waiting for limited visibility risks the destruction of the unit, the attack is executed as soon as possible.

Location of Attack

The unit attacks the enemy's weakest point in the direction of other friendly forces. Against scattered resistance, it attacks through gaps between enemy units. If the enemy is more concentrated, a penetration may be necessary.

Speed of Execution

Successful breakout operations depend largely on speed of execution. Once the penetration is achieved, elements move rapidly, maintaining the momentum of the attack to linkup with friendly units.

Security

As soon as the commander determines that his unit has been encircled, he moves combat support, combat trains, and the command post toward the center of the area to ensure their survival. Additionally, he may have to redeploy some of the maneuver units to provide all-around security. Since the encircled unit concentrates the bulk of its forces to break through enemy resistance, its rear and flanks are vulnerable. A rear guard is organized to protect those areas. A feint may deceive the enemy as to the intentions of the unit.

Evacuation of Casualties

Wounded soldiers are not left behind. Evacuation of severely wounded may be completed by air once the breakout is completed. Less severely wounded soldiers can be evacuated on unit vehicles. Soldiers killed in action are also evacuated on unit vehicles.

Destruction of Equipment and Supplies

Equipment and supplies should be carried out of the encircled area. Some usable equipment and supplies may be abandoned to execute breakout operations quickly. This materiel must be destroyed or disabled.

Combat Support

All available fires are used to support movement. Preparatory fires are normally not fired to retain surprise.

Air Cavalry

Aircraft are extremely vulnerable if they remain with the encircled force. The commander considers displacing them to friendly unit locations as an encirclement appears imminent. During movement, the air cavalry performs reconnaissance to assist the encircled unit in determining the breakout point. They can subsequently perform reconnaissance or security for the force attempting the linkup. If the encircled elements contain a FARP or encompass a large area, critical aviation assets may remain.

ORGANIZATION FOR BREAKOUT OPERATIONS

Regardless of previous command relationships, all elements encircled become attached to the senior tactical commander. The composite task force is then organized into five distinct tactical groups:

- Rupture force.
- Reserve force.

- Main body.
- Rear guard.
- Diversionary/Supporting force (if required).

If possible, the task organization of the force complements both the breakout and subsequent attack or linkup (see Figure 8-19). If a squadron is part of a larger force conducting a breakout it can serve as one of these elements. The reserve force and rear guard are roles a squadron is most suited to perform. The regimental commander assigns squadrons the missions of rupture, reserve, and rear guard forces.

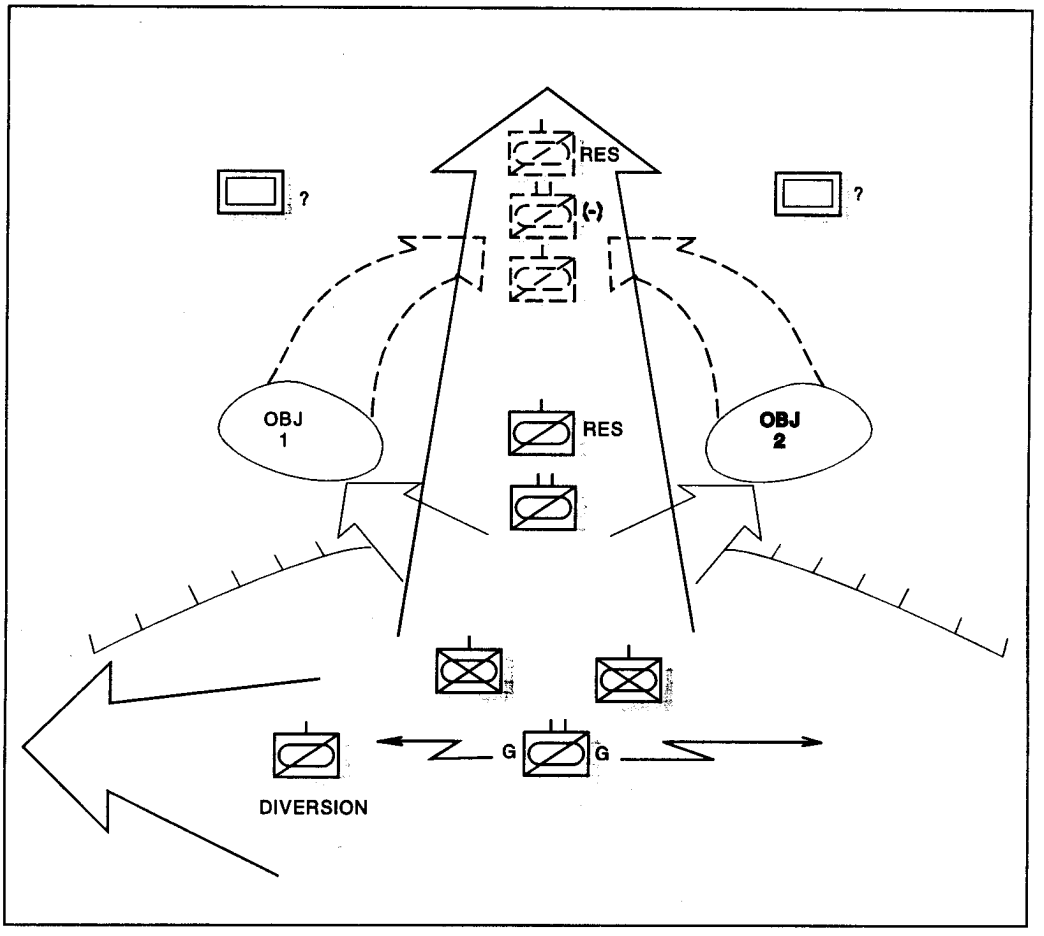


Figure 8-19. Breakout.

Rupture Force

A rupture force penetrates enemy positions and opens a gap for the remainder of the force. Once it has opened a gap, it holds the shoulders until the main body has passed through. Then it either joins the rear guard or becomes the rear guard, depending on the situation. The rupture force should be organized with the necessary combat power to accomplish the initial rupture of the enemy forces.

Reserve Force

A reserve force follows and assists the rupture force. The reserve force normally passes through the rupture force, maintaining the momentum of the breakout operation. In determining the composition of the reserve force, the commander decides how much combat power is needed to make the penetration and how much is required to maintain momentum once the operation has started. Once the reserve passes through the rupture force, it usually leads the force in a subsequent movement to contact.

Main Body

The main body consists of the main command post, combat support, and combat service support elements. Combat support elements are task-organized to support the attack. Combat service support elements move as a single group within the main body. Positive command and control of this element by the S4 or other designated leader precludes unnecessary delay in the movement.

Rear Guard

A rear guard protects the rear of the force as it moves out of the encircled area. The rear guard must be strong enough to delay or disrupt an enemy attack. For a squadron it is normally a troop reinforced as necessary. The rear guard delays during the rupture, follows the main body through the gap, and is joined by the rupture force if so specified. If the rupture force becomes the rear guard, the rear guard can assume another mission, such as flank security.

Diversionary Force

A diversionary force deceives the enemy as to the location of the rupture point by conducting a show of force elsewhere. The diversionary attack should be as mobile as available vehicles and trafficability allow. A cavalry squadron is well suited for the role of diversionary force. The diversionary attack should be directed at a point where the enemy might expect a breakout attempt.

Success of the diversionary force is critical to the success of the breakout. If the diversionary force fails to deceive the enemy as to the location of the main effort, the enemy can focus his combat power on the rupture point. This could lead to the failure of the entire breakout operation. To aid in achieving deception, the commander may elect to use the following measures:

- Smoke-producing assets to deceive the enemy as to the size of the diversionary force.
- Increased radio traffic.
- Available fire support to indicate a false rupture point.
- Maximum mobility and firepower of the diversionary force to deceive the enemy as to its size and strength.

The diversionary force may achieve a rupture of enemy lines. If a rupture occurs, the diversionary force commander must know the intent of the main body commander. The main body commander may exploit this success, or the diversionary force might disengage to follow the reserve force through the planned rupture point.

Since the force will be required to fight in numerous directions during the breakout, control of subordinate elements must be clearly defined. Command of the rupture, reserve, rear guard, and diversionary forces and the combat support and combat service support elements is assigned to maintain the momentum of the attack, even if communications are lost or degraded. The TAC CP is positioned to command and control the rupture operation initially.

Section X. Obstacle Breaching Operations

An obstacle is any physical characteristic of the terrain, natural, man-made, or cultural that impedes the mobility of a force. The effectiveness of an obstacle is enhanced considerably when covered by fire. Obstacles can include abatis, antitank ditches, blown bridges, built-up areas, minefield, rivers, road craters, naturally existing terrain, and wire. They are classified as either existing or reinforcing.

Existing obstacles are any natural or cultural attributes of the terrain that impede a force's movement. Existing obstacles affect ground and some low-level air movement. Existing obstacles are treated as if overmatched when initially encountered until the presence of the enemy is determined.

Reinforcing obstacles are specifically constructed, emplaced, or detonated to tie together, strengthen, and extend existing obstacles. The two categories of reinforcing obstacles are tactical and protective. Tactical obstacles directly attack the ability to maneuver, mass, and reinforce. All tactical obstacles are designed to produce a specific effect such as block, fix, turn, or disrupt.

The threat employs obstacles to slow, disorganize, and canalize the attacker. They may be used alone but are normally covered by preplanned fire concentrations. Existing and reinforcing obstacles are integrated to support the defense. The threat plans obstacles to confine the attacker within fire sacks and to make the employment of the reserve easier. Minefield are laid by an engineer mobile obstacle detachment. Minefield may be used to secure the flanks of a force, or to support a counterattack by the reserve against a penetration.

IPB provides situational templates that indicate known, suspected, and probable locations of obstacles supporting an enemy defense. This information is essential in evaluating the nature of any obstacle encountered during a mission. Effective reinforcing obstacles are often encountered when operating across terrain used in previous operations. IPB may also provide this information.

Obstacle breaching is a combination of tactics and techniques used to project the maneuver forces to the other side of an obstacle. If the mission and situation permit, the first choice of cavalry is to seek a bypass. This is particularly true for large built-up areas that can quickly bog down the unit. Bypassed obstacles are marked and reported for possible later breaching by follow-on engineer units. Bypassing does not relieve responsibility to perform reconnaissance. Cavalry can breach obstacles as necessary or when required to continue the mission.

BREACHING FUNDAMENTALS

The four fundamentals of breaching are suppress, obscure, secure, and reduce (SOSR) as explained below.

- Suppress. Suppression is the focus of all available fires on enemy personnel, weapons, or equipment to prevent effective enemy fires on friendly forces.
- Obscure. Obscuration hampers enemy observation and target acquisition and conceals friendly activities and movement.
- Secure. The force secures the breaching site to prevent the enemy from interfering with reduction of the obstacle and passage of the assault force through the lanes created during the reduction. If the defenders control the breaching site and the force cannot effectively suppress it, then the force must secure the breaching site by occupation before it can reduce the obstacle.
- Reduce. Reduction is the creation of lanes through or over the obstacle that will allow the follow-on attacking force to pass.

BREACHING ORGANIZATION

The commander organizes the force to accomplish SOSR quickly and effectively. This requires him to establish support, breach, and assault forces with the necessary assets to accomplish their missions. These forces are always designated for the deliberate, in-stride, assault, and covert breaches. Usually these forces should be designated for any type mission either in the OPORD or through SOP. Identification of these forces even when obstacles are not expected will aid the force during its transition to breaching operations.

Support Force

The support force's primary purpose is to eliminate the enemy's ability to interfere with the breaching operation. The support force performs the following actions:

- Isolate the battlefield with fires and suppress the enemy force covering the obstacle.
- Mass direct and indirect fires to fix the enemy in position and destroy enemy weapon systems that can influence the breaching force.
- Control the obscuring smoke to prevent enemy observed direct and indirect fires.

Breach Force

The breach force's purpose is to create the lanes that enable the assaulting force and the attacking force to pass through the obstacle and continue the attack. The breach force is a combined arms force that includes engineers, breaching assets, and enough maneuver force to provide local security. The breach force also applies SOSR in the following ways:

- It supplements the suppression of the support force, or engages targets not suppressed by the support force.
- It obscures the breach site with vehicle-mounted smoke or smoke pots.
- It may secure a lodgment on the far side of the obstacle for deployment of the assault force.
- It reduces the obstacle.

Assault Force

The assault force's purpose is to destroy or to dislodge the enemy on the far side of the obstacle. It secures the far side of the obstacle by physical occupation of the terrain. Initially, the assault force may be tasked to assist the support force in suppressing the overmatching enemy. Fire control measures are essential since the breach and support forces will continue to engage the enemy when the assault force is committed. The assault force assumes control for direct fires on the assault objective as the support fires are lifted or shifted. The support force continues to suppress other supporting enemy units not on the assault objective.

DELIBERATE BREACH

The deliberate breach is a scheme of maneuver specifically designed to cross an obstacle to continue the mission. A unit conducts a deliberate breach when the force ratios for support, breach, and assault forces are beyond the capability of a subordinate unit. The deliberate breach is characterized by thorough reconnaissance,

detailed planning, extensive preparation, and explicit rehearsal. One or more subordinate units are tasked to perform the role of support, breach, or assault forces. The deliberate breach is centrally planned and executed.

Units will normally conduct deliberate breaching operations under the following circumstances:

- The unit fails an attempted in-stride breach of enemy tactical obstacles.
- Force ratios indicate that a confirmed enemy situation is beyond the capability of subordinate unit.

A deliberate breach requires detailed reconnaissance, detailed rehearsals, and overwhelming suppression of the enemy's overmatching direct fire weapon systems before the obstacle can be reduced. The breach force is task organized with the bulk of mobility assets and is tailored to counter a specific type of obstacle. Direct and indirect fire systems are massed in the support force to provide the necessary suppression. The required forces are massed into the assault force to seize the initial foothold on the objective. The synchronized actions of the support, assault, and breach forces must be meticulously planned in the scheme of maneuver to achieve synergism at the breach.

Cavalry troops, squadrons, and regiments can conduct a deliberate breaching operation. Normally, a troop executes a deliberate breach because the commander must halt the unit's momentum to maneuver his platoons as support, breach, and assault forces. The regiment is the highest level that conducts a deliberate breach.

The following is an example of a divisional cavalry squadron conducting a deliberate breach during a moving flank guard. The squadron is tasked to cross the line of departure separately from the main body. IPB has indicated the presence of obstacles along the line of contact, so the squadron conducts a deliberate breach as an implied task. An air cavalry troop reconnoiters the flanks and rear of the obstacle and suspected enemy position and begins the reconnaissance of the security zone. A cavalry troop, designated as the support force, is positioned to overwatch the obstacle and to suppress the enemy position. A second troop as the breach force, task organized with engineers and breaching assets, maneuvers to the breach, reduces the obstacle, creates lanes, and secures the far side of the obstacle for the assault force. A third cavalry troop, organized as the assault force, moves rapidly through the lanes and assaults the enemy position. The second air troop may be used as the squadron reserve or could begin screening the flank of the security zone. The support force is responsible for using indirect fires to suppress the enemy and to provide obscuration at the breach site. Once the assault force has destroyed the enemy position and the breach site is secure, the squadron continues with the moving flank guard mission. The support force troop moves through the breach and begins the three-fold mission. The breach and assault forces, after quickly reorganizing and consolidating, move to accomplish their respective missions.

IN-STRIDE BREACH

The in-stride breach is a special type of breaching operation used to quickly overcome unexpected or lightly defended tactical obstacles. An in-stride breach of an obstacle or enemy obstacles is conducted to maintain the momentum of an attack by attempting to breach obstacles as they are encountered in stride. The breach is made without pausing to make elaborate preparations. It can be conducted by a unit of any size, normally by combat elements. In-stride breaches are characterized by speed, surprise, minimum loss of momentum, and minimum concentration of forces.

Regimental or squadron commanders plan and prepare their force for in-stride breaches by task organizing their subordinate units with the forces necessary to conduct independent breaching operations. The actual breach is usually conducted at the troop level. The troop commander designates the specific support, breach, and assault forces based on his task organization. The troop commander is responsible for synchronizing the SOSR through his own detailed breach planning or well-rehearsed breach drills. In-stride breach planning therefore focuses on allocating sufficient assets to the subordinate squadron or troop commanders. This tactic allows the squadron commander to seize and maintain the initiative through simple, decentralized, independent breaching operations under the responsive command and control of troop commanders.

Squadrons prepare as part of SOP to conduct in-stride breaches of obstacles encountered during missions. The SOP emphasizes decentralized breaching or crossing at the lowest unit level possible at each obstacle encountered. Breaching or crossing existing obstacles that are not part of enemy obstacle systems is considered routine and forms part of the standard drills or techniques used by troops and platoons.

IPB products identify existing and reinforcing obstacles. Squadron and troop commanders use this information while developing their plans to integrate obstacle breaching or crossing into the plan. Task organization decisions are made concerning the best use of attached engineer assets. Integrated planning ensures rapid execution without inordinate delay at the obstacle. The regimental commander influences the breaching ability of squadrons by task organizing regimental assets. The commander planning the breach must consider missions for his forces that allow quick transition to a deliberate breach should attempts at in-stride breaching fail.

ASSAULT BREACH

The assault breach allows a force to penetrate an enemy's close-in protective obstacles to assault and destroy the defender in detail. It is normally conducted by armor and infantry conducting a deliberate attack. Cavalry units may conduct an assault breach when conducting missions as an economy of force. It differs from the in-stride and deliberate breaches in that it is conducted by troops and platoons assigned the mission of assaulting an objective as part of the larger force's attack. It provides the force with the mobility it needs to gain a foothold into an enemy

defense and to exploit success by continuing the attack (see Figure 8-20). The nature of the assault phase requires a different application of the SOSR breaching fundamentals than that used during the in-stride and deliberate breaches. The squadron commander still provides the breaching unit with the assets it needs to accomplish the mission. However, he also provides his own support force to assist in the suppression of the enemy on the assaulting unit's objective. The troop executing the assault breach still organizes his platoons into support, assault, and breach forces. The troop commander or platoon leader plans, prepares, and executes the assault breach under the circumstances that follow.

- Enemy has had time to prepare protective obstacles around or within his positions.
- Troop or platoon has been assigned the mission to assault the enemy's defense as part of a larger force's actions on the objective.

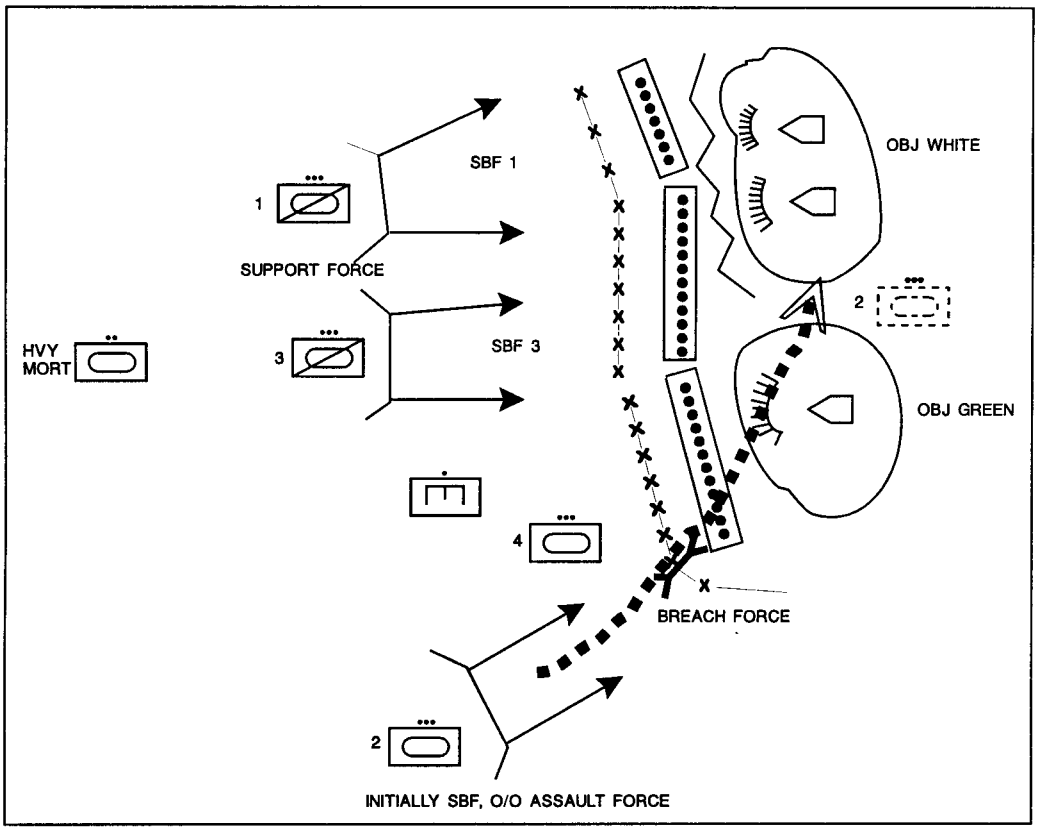


Figure 8-20. Assault breach.

COVERT BREACH

The covert breach is a special breaching operation conducted by dismounted forces (scouts and engineers, or infantry if the unit has been augmented with infantry) during limited visibility. The breach is silently executed to achieve surprise and to minimize casualties. It relies on stealth, quiet lane reduction techniques, and dismounted maneuver. Due to the lack of dismounted capability in cavalry units, commanders must weigh the need for surprise versus overwhelming suppression.

The commander may choose to execute a covert breach when—

- Stealthy reconnaissance is key to infiltrating through enemy tactical obstacles and forward defenses.
- Surprise is essential for breaching enemy protective obstacles and assaulting enemy positions.
- Surprise is essential for breaching enemy tactical obstacles for a follow-on mounted attack.
- Limited visibility and terrain present the opportunity to silently reduce the obstacle.
- Overwhelming combat power is not required to support the breach for an assault.

The main difference between the covert breach and other breaching operations is the execution of the SOSR breaching fundamentals. Suppression is planned but remains on call or until the assault begins. Obscuration is planned but remains on call; it may be used if it enhances limited visibility without causing undue enemy attention to be focused at the breaching site. Security is provided by the security team of the breach force; it provides early warning and covers the withdrawal of the reduction team if discovered. The obstacle is reduced by a reduction team using silent techniques, such as—

- Marking mines.
- Cutting wire.
- Reshaping an antitank ditch with shovels.
- Setting explosive charges and waiting for a signal or trigger to detonate them.

FM 90-13-1 outlines the doctrine for combined arms breaching operations and covers all four types of breaches in explicit detail.

HASTY WATER CROSSING

A hasty water crossing is the crossing of any inland body of water to include rivers, canals, or lakes. The commander develops his concept to ensure that combat support and combat service support assets are on hand and ready to support as the troop approaches the water obstacle. Air cavalry troops and ground teams are ideal to expedite a water crossing because of the terrain independent movement capability of aircraft. Planning ensures that aircraft are available as the ground unit approaches the obstacle.

The first choice of the commander is to seize bridges intact before the enemy can destroy them. This is the quickest and most economical means of crossing, and is used whenever possible. Crossings may also be made by tactical bridging, fording, or swimming.

Reconnaissance

Air or ground scouts normally encounter the obstacle first. They immediately begin reconnaissance to determine the following:

- The width and depth of the waterway.
- Water velocity.
- Possible entry and exit points and their conditions.
- The enemy situation on the far bank. This task is well suited to the air cavalry portion of the team.

Security

Security is established before the troop or squadron begins crossing in force.

- Far bank security by air and ground scouts to provide early warning and to secure the site from enemy observation.
- Local security at the crossing site.
- Overwatch positioned on the near bank as reconnaissance begins.
- Mortars and artillery positioned to provide suppressive and screening fires.
- Commander and fire support officer positioned forward.
- Waiting units dispersed during reconnaissance and the crossing.

Crossing

Upon completion of reconnaissance and establishment of security, the troop begins the crossing. Crossing sites selected must accommodate the least capable vehicles in the troop or the commander runs the risk of separated forces. Scouts may be able to cross by swimming, but will need to reconnoiter for ford or bridging sites for tanks and combat trains. If an armored vehicle launched bridge (AVLB) is available, it is positioned well forward in a hide position, but does not come forward until the scouts have selected the bridging site. The troop does not delay at the crossing site to improve it for other squadron assets. Site capability is reported to the squadron for the commander's decision for continued use or engineer improvement. As the crossing begins, the troop commander staggers movement of subordinate units to preclude bunching up at the crossing site.

Fire Support

Fire support is required to suppress known or suspected enemy overmatching the water obstacle. Mortars are positioned to provide support as the reconnaissance of the obstacle begins. The regimental squadron commander positions the howitzer battery to provide effective fires for the troop or troops facing the obstacle. The fire support officer is positioned to observe the crossing site and to manage the fire support effort. Smoke is planned to screen the crossing, but used only if necessary.

Follow-on Forces

The troop normally is not required to improve a crossing site for follow-on forces of the squadron or main body. Crossing sites that may be used by other forces are marked by the troop. The squadron commander is responsible for crossing site improvement and normally uses attached engineers. The size of the water obstacle and the significance of any particular crossing site to the division or corps commander determines where he places his effort. The squadron commander improves the site only for assault traffic. The regimental commander may elect to improve the crossing site further with his organic engineer assets, depending on the importance of the site to the corps. Engineers moving with the main body are responsible for developing crossing sites for sustained high-volume traffic. Military police assist the forward movement of follow-on forces.

Section XI. Nuclear, Biological, and Chemical Defense

NBC defense is the methods, plans, procedures, and training required to establish defense measures against the effects of an attack by NBC weapons. NBC defense operations are performed to reduce casualties and damage to equipment, and to minimize disruption of the mission. These measures are continuous in nature and integrated throughout all combat operations. They are largely suitable for adaptation into SOP. Three fundamentals guide NBC defense:

- Contamination avoidance (before, during, and after an attack).
- Protection (before, during, and after an attack).
- Decontamination (after an attack).

Avoidance is the most important fundamental of NBC defense. To survive and accomplish the mission, individuals and units must take precautions to avoid or minimize effects of initial and residual NBC hazards. There are four steps to contamination avoidance: passive defense measures, warn and report NBC attacks, locate and identify NBC hazards, and limit exposure to NBC hazards. FM 3-3 discusses chemical and biological contamination avoidance, and FM 3-3-1 discusses nuclear contamination avoidance in detail.

Protection is required when contamination cannot be avoided. Protection is closely linked to avoidance and the techniques of both overlap. There are two types of hazards: immediate and residual. Immediate hazards produce casualties immediately after the attack and are the primary concern. Residual hazards are those that produce casualties over an extended period or have delayed effects. Protection is divided into two broad areas: individual and collective. Individual protection is the measures each soldier takes to survive and continue the mission. Collective protection provides a contamination-free working environment for selected personnel, and allows soldiers relief from continuous wear of MOPP gear. Collective protection is most commonly found in cavalry units in combat vehicle overpressure systems. FM 3-4 discusses NBC protection in detail.

Decontamination is the process of making a person, object, or area safe by absorbing, destroying, neutralizing, making harmless, or by removing chemical or biological agents or radioactive material clinging to or around it. Decontamination stops the erosion of combat power and helps the unit avoid casualties. The three types of decontamination are immediate, operational, and thorough.

Training NBC defense is essential. It must be realistic, reinforced continually, and integrated into every unit exercise. The stress and fear of contaminated environments must be recognized and controlled. Individual endurance, protection discipline, teamwork, and SOP must be developed and reinforced.

RESPONSIBILITIES

All soldiers must understand the concepts of NBC defense and the skills necessary to survive an attack. Individual soldiers must be able to survive in order for the unit to survive and continue operations. Individuals are responsible for—

- Recognizing hazards and taking cover.
- Using protective measures and MOPP gear.
- Knowing avoidance measures, first aid, and decontamination.

Squadron and troop commanders, assisted by NBC defense specialists, assess unit status, integrate NBC considerations in planning, and designate and train special purpose teams. These special purpose NBC teams include the following:

- Chemical agent detection teams.
- Radiological survey and monitoring teams.
- Decontamination teams.

BEFORE THE ATTACK

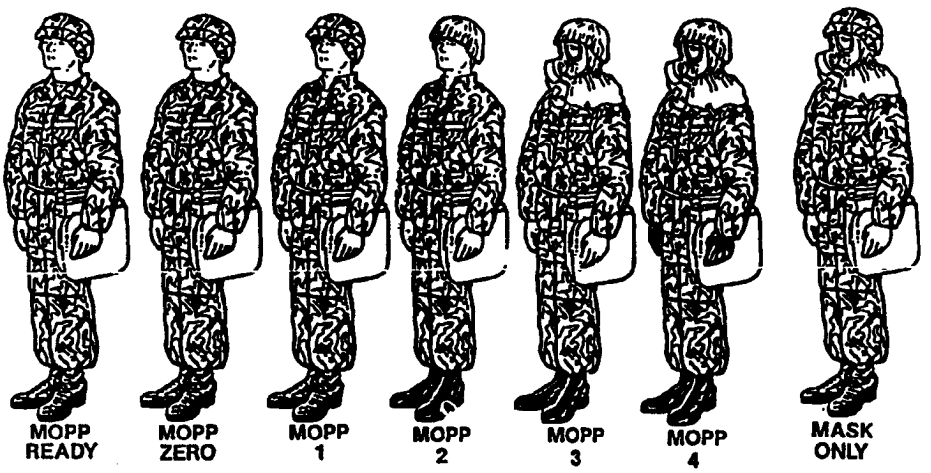
The best defense is to avoid becoming a lucrative target. If contamination cannot be avoided, then its effects must be reduced. Passive avoidance measures are not a direct reaction to enemy NBC attack. These measures listed below are already considered in the course of other operations, but contribute to NBC attack avoidance.

- Dispersion.
- Concealment.
- Camouflage.
- Detection and bypass of contaminated areas.
- Communications security.
- Operations security.

Leaders and NBC personnel conduct vulnerability analysis to determine the risk of attack then incorporate appropriate protective measures. Protective measures must

not unnecessarily degrade the effectiveness of the squadron. Protective measures are also used when contamination cannot be avoided. These protective measures include the following:

- Position improvement.
- Assuming higher MOPP levels (see Figure 8-21).
- Using collective protection systems.
- Protecting equipment and supplies.
- Positioning alarms.
- Alerting unit NBC teams.



MOPP Equipment	MOPP Levels						Command
	MOPP READY	MOPP ZERO	MOPP 1	MOPP 2	MOPP 3	MOPP 4	MASK ONLY
Mask	Carried	Carried	Carried	Carried	Worn[1]	Worn	Worn
Overgarment	Ready[3]	Available[4]	Worn[1]	Worn[1]	Worn[1]	Worn	
Vinyl overboot	Ready[3]	Available[4]	Available[4]	Worn	Worn	Worn	
Gloves	Ready[3]	Available[4]	Available[4]	Available[4]	Available[4]	Worn	
Helmet Protective Cover	Ready[3]	Available[4]	Available[4]	Worn	Worn	Worn	
Chemical Protective Undergarment[2]	Ready[3]	Available[4]	Worn[2]	Worn[2]	Worn[2]	Worn[2]	

[1]In hot weather coat or hood can be left open for ventilation.

[2]The CPU is worn under the BDU (primarily applies to SOF personnel and armor vehicle crewmen).

[3]Must be available to the soldier within two hours. Second set available in 6 hours.

[4]Within arm's reach of soldier.

Figure 8-21. Mission-oriented protective posture.

Protective measures against biological weapons are the most difficult to take. These measures include the following:

- Complete immunizations prior to conflict.
- Proper personal hygiene on a continuous basis.
- Proper field sanitation.
- Proper preparation of foods.
- Avoiding unapproved local foodstuffs and water sources.
- Good physical conditioning.

DURING THE ATTACK

The attack can take several forms. These include direct attack, downwind hazard from attack elsewhere, entering a minefield with chemical mines, or inadvertently entering a contaminated area. Individual soldiers react immediately to protect themselves against contamination or initial nuclear effects. Before chemical weapons usage is confirmed, soldiers will don the mask only when there is a high probability of a chemical attack. High probability chemical attack indicators are as follows:

- Chemical alarms sounding.
- Positive reading on chemical agent detector paper or on chemical agent monitor.
- Soldiers experiencing symptoms of chemical agent poisoning.
- Visual or vocal alarms indicating attack.

Upon initiation of chemical warfare, commanders must decide whether their personnel should automatically mask upon other possible indicators of chemical use. These indicators include enemy artillery or rocket attacks and smoke operations.

If intelligence sources identify possible enemy biological agent use, including toxins, the commander may again institute automatic masking. Troops automatically mask for conditions that may signal biological attack such as smoke, spray, mist, presence of dead animals or insect vectors. Since some toxins will attack the skin, protective clothing should be worn.

Commanders establish and continually assess the automatic masking policy as the situation and mission change. Individual reaction is the first step of unit response. Additional reactions are also standardized in SOP and include the following:

- Sound alarms.
- Assume MOPP 4 as soon as possible.
- Treat casualties.
- Send reports.
- Identify the agent.
- Initiate decontamination.

The mission must continue, even though degraded. The enemy often employs chemicals to disrupt the defense as part of an attack. The troop or squadron cannot become so involved in responding to the attack that it stops the mission underway. Training, SOP, and discipline are the foundation of continued combat effectiveness.

AFTER THE ATTACK

Following the attack or inadvertent exposure, actions initiated during the attack continue. The alarm is passed throughout the squadron with emphasis on units downwind of the attack. Other squadrons react as necessary. NBC-1 reports are prepared and sent. Additional information is sent as updates to avoid delay in the initial report. Perform first aid (self aid, buddy aid, or combat lifesaver). Agent identification is initiated to determine decontamination requirements and to allow unmasking as soon as possible.

Decontamination proceeds as soon as the situation allows (see Figure 8-22). Immediate decontamination is the immediate neutralization or removal of contamination from exposed portions of the skin and critical equipment surfaces. Soldiers perform this decontamination without supervision, using individual equipment and vehicle decontamination apparatus. Operational decontamination is the actions of teams or squads within the squadron to reduce the spread of contamination on people or equipment and possibly allow temporary relief from MOPP 4. Operational decontamination occurs as far forward as the situation allows. Thorough decontamination operations decontaminate clothing and equipment so soldiers can perform their mission with individual and respiratory protection removed. Thorough decontamination takes detailed planning and outside assistance. In the armored cavalry regiment, that assistance is provided by the regimental chemical company, which normally operates a centralized decontamination site. The division cavalry relies on support from the division chemical company.

LEVEL	BEST START TIME	DONE BY	TECHNIQUE	GAINS MADE
IMMEDIATE	BEFORE 1 MINUTE	INDIVIDUAL	SKIN DECON	STOPS AGENT FROM PENETRATING
	WITHIN 15 MINUTES	INDIVIDUAL OR CREW	PERSONAL WIPEDOWN	
			OPERATOR SPRAYDOWN	
OPERATIONAL	WITHIN 6 HOURS	UNIT	MOPP-GEAR EXCHANGE	POSSIBLE TEMPORARY RELIEF FROM MOPP4, LIMIT LIQUID AGENT SPREAD
		SQDN CREW OR DECON SQUAD	VEHICLE WASHDOWN	
THOROUGH	WHEN MISSION ALLOWS RECONSTITUTION	UNIT	DETAILED TROOP DECON	PROBABLE LONG-TERM MOPP REDUCTION WITH MINIMUM RISKS
		DIV/REGT DECON PLT	DETAILED EQUIPMENT DECON	

Figure 8-22. Decontamination techniques.

Operating in a nuclear environment requires continuous or periodic monitoring as necessary. A reconnaissance mission may be assigned for the purpose of conducting a radiological survey. Radiological survey information is forwarded as an NBC-4 report. Exposure must be closely monitored and reported. Radiation exposure is determined by the cumulative dose or radiation history of the unit maintained by platoon or section on a radiation exposure guide. Excessive exposure of units may force commanders to move or relieve units. Acceptable levels of exposure are determined for the operation and expressed as degrees of exposure risk—negligible, moderate, and emergency. Fallout decontamination is accomplished by brushing or wiping the contaminated dust off clothing and equipment. Do not use masks to protect against fallout particles; use a damp cloth held over the nose and mouth. This method is generally preferable to masking to avoid trapping contamination in the mask filter.

When the squadron receives a strike warning (STRIKWARN) message, actions are initiated to minimize the effects of the friendly strike. These actions are established in SOP (and common task manuals) and the warning must be disseminated to every element of the squadron. Each crew prepares its vehicle or position for the attack.

Section XII. Independent Troop Operations

Although the division cavalry squadron is normally employed as a whole, there are exceptional situations when the squadron best accomplishes the mission by employing subordinate troops independently. These situations occur predominantly during rear and contingency operations.

The variety of missions being performed during rear operations lend themselves frequently to performance by troops. If the squadron is covering dispersed areas in the rear as the tactical combat force, ground troops may operate out of their own assembly areas in their specified area of operations. Air cavalry troops may be best suited to reestablish contact with a brigade command post or commander, especially when time is critical. Facilitating the movement of forces through the rear area may require only the support of a troop. If movement is to include support of a subsequent operation, then this becomes a squadron mission. Area damage control likewise can be performed by the ground troop in the area or initially by an air cavalry troop for rapid assessment. When troops are operating independently, they still perform missions according to the principles outlined in Chapters 3 through 6 of this manual. Command and control is still exercised by the squadron and service support is provided to the troops.

When elements of the squadron are task organized with brigade task forces during contingency operations, scout platoons, ground troops, or air cavalry troops may find themselves operating independently of the squadron. They are attached to the brigade and receive missions and service support from the brigade. If the operation is of long duration, the troop is the lowest level that can sustain operations.

Special cases that dictate a temporary detachment of a troop may arise during the conduct of other operations. A ground troop can be placed under operational control or attached to a ground maneuver brigade if the squadron encounters the conditions below.

- Becomes overextended.
- Conducts a staggered battle handover.
- Finds itself facing multiple threats across a broad front.

The air cavalry troop can—

- Be placed under the operational control of an air assault task force,
- Conduct deep reconnaissance for the division, or
- Be placed under the operational control of an attack helicopter battalion for a critical mission.
- Conduct NBC aerial survey.

When supporting an attack helicopter battalion, the air cavalry troop is not used as a substitute for attack helicopter company aeroscouts.

As the exception to the normal employment of the squadron, these independent operations are considered of short duration when performed. These missions are often performed by a troop under squadron control when the commander considers that to be sufficient force. A ground troop may be placed under operational control or attached to another headquarters, but an air cavalry troop is normally only under its operational control. The duration of an independent air cavalry troop operation is normally one to two fuel loads. The squadron commander assesses the degradation to his overall combat power when a troop is detached and he must perform another mission. The division must be appraised of this degradation when directing detachment of a troop.

Section XIII. Contingency Operations

Contingency operations are military actions requiring rapid deployment to perform military tasks in support of national policy. The size of a contingency force, its mission, and its areas of operations vary. These operations provide a show of force in support of a threatened ally to deter aggression, react to the invasion of a friendly government, protect the property of US nationals, rescue hostages, and perform other tasks as directed. Contingency operations normally take place in locations where there are no forward deployed forces capable of immediate reaction. The task organization of the force is threat based. Light forces are quickest and easiest to deploy, but heavy forces may be required to face a mechanized threat or operate over extended distances. These operations are normally joint operations and command and control rests with a joint task force. The light cavalry squadron participates in a contingency operation as part of the division or a brigade task force. Armored cavalry participates when its forces are required to fight a mechanized enemy.

DEPLOYMENT

The unique aspect of a contingency operation is deployment (see Figure 8-23). The division generally organizes brigade-size task forces and deploys by echelon in three phases. The organization of the task forces reflects requirements to meet the contingency. The echelons of the division are assault, follow-on, and rear. The three phases of the operation are deployment, lodgment, and expansion. In a corps level operation, a division may be considered an echelon itself and be introduced during one of the phases of the operation. Cavalry squadrons (regiment or division) are normally introduced in at least squadron size during the lodgment or expansion phase.

PHASE	ECHELON	ACTIVITY	SQUADRON ROLE
Deployment	Assault	Seize/establish lodgment at selected airhead/beachhead; Secure for follow-on forces	Reconnaissance/security beyond lodgment
Lodgment	Follow-on	Follow-on forces arrive; Lodgment expanded; Combat power buildup	Reconnaissance/security beyond lodgment; Support combat operations
Expansion	Rear	Combat power buildup; Logistics base buildup; Expanded combat operations	Reconnaissance/security; Support combat operations

Figure 8-23. Contingency operations.

SQUADRON TASK ORGANIZATION

The squadron is normally task organized with the brigades and deploys by echelon. Requirements for reconnaissance and security forces dictate the manner in which the squadron deploys. A ground troop may be task organized by platoon with the brigades. If the operation involves only a single brigade, the entire troop should deploy. Air cavalry troops are best deployed as a troop because of their size. Aircraft maintenance requirements are considered when deploying an air troop early. The AVUM troop may be required to deploy with the troop, or aviation maintenance is provided by other deploying assets of the aviation brigade. When the squadron command and control structure arrives in the contingency area, the squadron commander assumes control of his already deployed forces and conducts operations as a squadron. If the contingency operation involves extended operations, large areas, major movements, and the potential of facing a mechanized enemy, then the entire squadron should be committed as part of the contingency force.

COMBAT OPERATIONS

Once deployed, combat operations are conducted according to the principles discussed in Chapters 3 through 6. Contingency operations frequently involve fighting irregular forces in a counterinsurgency role.

Chapter 9

COMBINED ARMS INTEGRATION

"I am persuaded that unless troops are properly supported in action, they will be defeated."

Maurice de Saxe, 1732

Combat support is fire support and operational assistance provided to combat units. For division cavalry, most of this support is provided by other units. Regimental cavalry has organic combat support assets and may also be augmented by additional corps combat support units. These support units are combat multipliers that significantly increase the relative combat strength of cavalry without any increase in maneuver strength. These limited assets must be well used to achieve maximum benefit. Knowing combat support unit capabilities, employing them appropriately, and synchronizing their operations are essential if cavalry is to accomplish its many missions on the battlefield.

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Section I. Relationships and Responsibilities

Combat support units support the regiment and squadron under established command or support relationships. These relationships define the responsibilities of both commanders and leaders and the authority of the cavalry unit commander over the supporting unit. Figure 9-1 illustrates these relationships.

UNIT	ATTACHED	OPCON	DS	GS
Under command/control of...	Sqdn/Regt Cdr	Sqdn/Regt Cdr	Parent Unit	Parent Unit
Task organized by...	Sqdn/Regt	Parent Unit	Parent Unit	Parent Unit
Receives missions, tasks, and priorities from...	Sqdn/Regt	Sqdn/Regt	Sqdn/Regt	Parent Unit
Positioned by...	Sqdn/Regt	Sqdn/Regt	DS Unit Cdr*	Parent Unit*
Maintains communications and liaison with...	Sqdn/Regt	Sqdn/Regt and Parent Unit	Sqdn/Regt and Parent Unit	Parent Unit
Receives CSS from...	Regt/Sqdn ***	Parent Unit**	Parent Unit**	Parent Unit

*With specific approval of the squadron commander if within the squadron area of operations.

**CSS requirements beyond the capability of the parent unit are provided by the squadron and regiment after specific request and coordination between the squadron, regiment, and parent unit have been made.

***Attached element will bring an appropriate slice of CSS equipment and personnel to supplement squadron and regiment assets.

Figure 9-1. Command and support relationships.

The regimental commander controls the combat support units organic to the regiment, as well as any attached, operationally controlled, or direct support combat support assets. He is responsible for integrating and synchronizing combat support with the regimental scheme of maneuver. He may retain control of the combat support assets, or place these assets with the cavalry squadrons as attachments, operationally controlled, or direct support. Regardless of the relationship used in a mission, squadron commanders remain responsible for integrating and synchronizing combat support with the scheme of maneuver to accomplish the mission.

The commander or leader of the combat support unit serves in a dual role. He serves as the unit leader and also as a special staff officer. This is especially true in

division cavalry, as the squadron has few organic special staff officers. Commanders of regimental combat support units, however, normally do not serve as regimental special staff since the regiment has field artillery, engineer, air defense artillery, and chemical staff officers assigned. When such expertise is already in place, the combat support unit leader advises the commander and staff about his unit. During planning and preparing for the mission, he provides assistance, advice, and recommendations on the employment of his unit to the commander and staff. During execution, he leads his unit in the assigned mission as directed by the commander while retaining his advisory role.

The squadron commander may retain control of combat support elements at squadron level or delegate support to subordinate troops. He retains control by specifying tasks to these units and by assigning priority of support to subordinate troops and companies. This technique provides centralized control and flexibility when required, and provides clear guidance to the combat support leader. In some circumstances, the mission may be best accomplished by delegating support of the combat support unit to a troop commander. When doing so, the squadron commander cannot designate a more restrictive relationship than that for the squadron itself. The squadron commander should not unnecessarily burden subordinate commanders with additional command and control responsibilities if squadron control is adequate for the mission.

Section II. Fire Support System

Fire support is the collective and coordinated use of indirect fire weapons, armed aircraft, and other lethal and nonlethal means in support of a battle plan. Fire support includes mortars, field artillery, naval gunfire, air defense artillery in secondary mission, and air-delivered weapons. Nonlethal means are electronic warfare capabilities of military intelligence organizations, illumination, and smoke. The force commander employs these means to support his scheme of maneuver, to mass firepower, and to delay, disrupt, or destroy enemy forces in depth.

The fire support system is the collective body of target acquisition; weapons and ammunition; and command, control, and coordination systems, facilities, and personnel required to provide and manage fire support. The fire support system consists of the following:

- Scouts.
- Troop / company fire support team (FIST).
- Fire support element.
- Tactical air control party.
- Combat observation lasing team (COLT).
- Troop mortars.

- Artillery battery (regimental cavalry).
- Supporting fire support assets.
- Target acquisition.
- Electronic warfare.

The fire support systems for divisional and regimental cavalry are similar, especially at troop level. The components of the three systems are illustrated in Figures 9-2, 9-3, and 9-4.

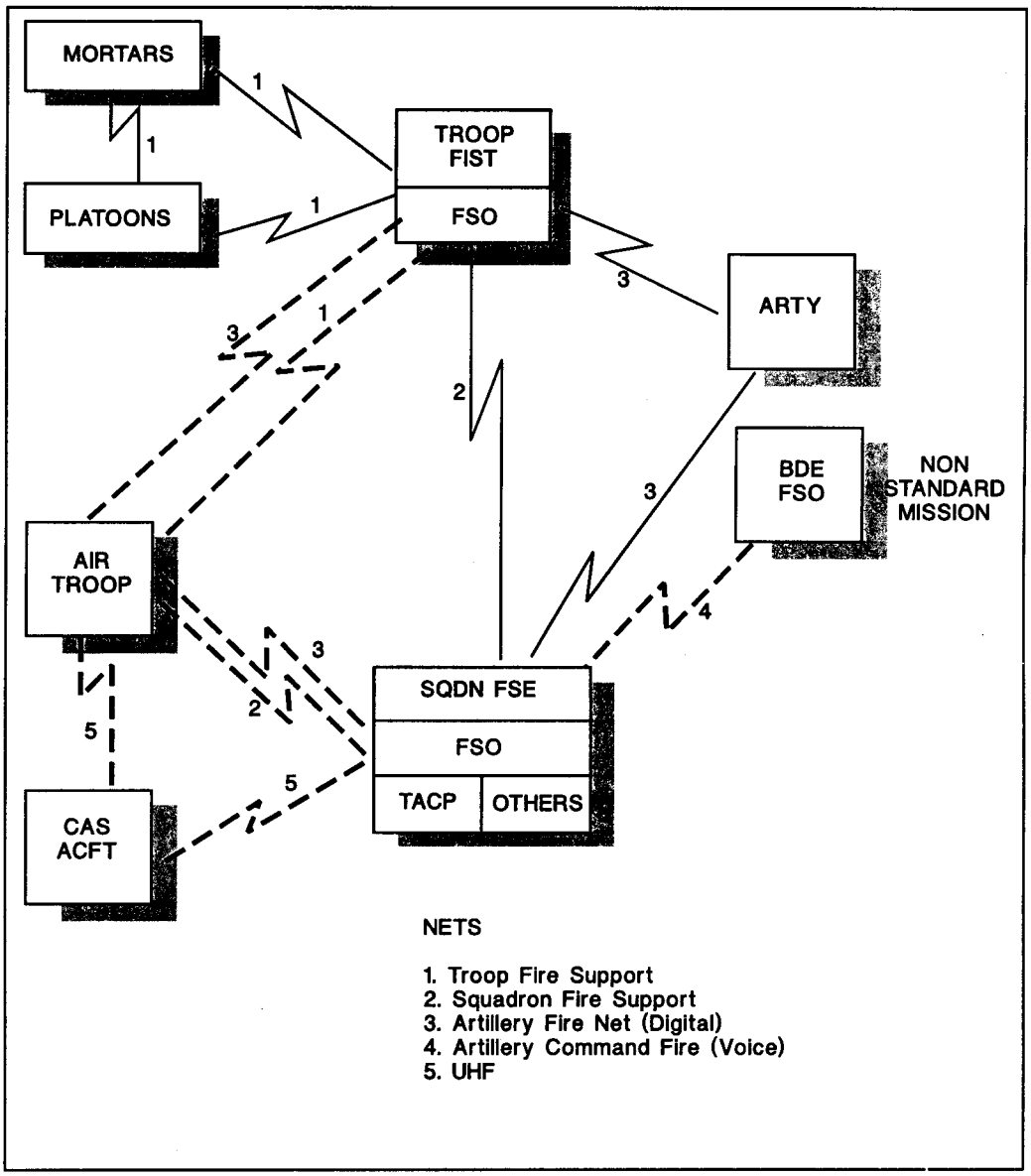


Figure 9-2. Division cavalry fire support system.

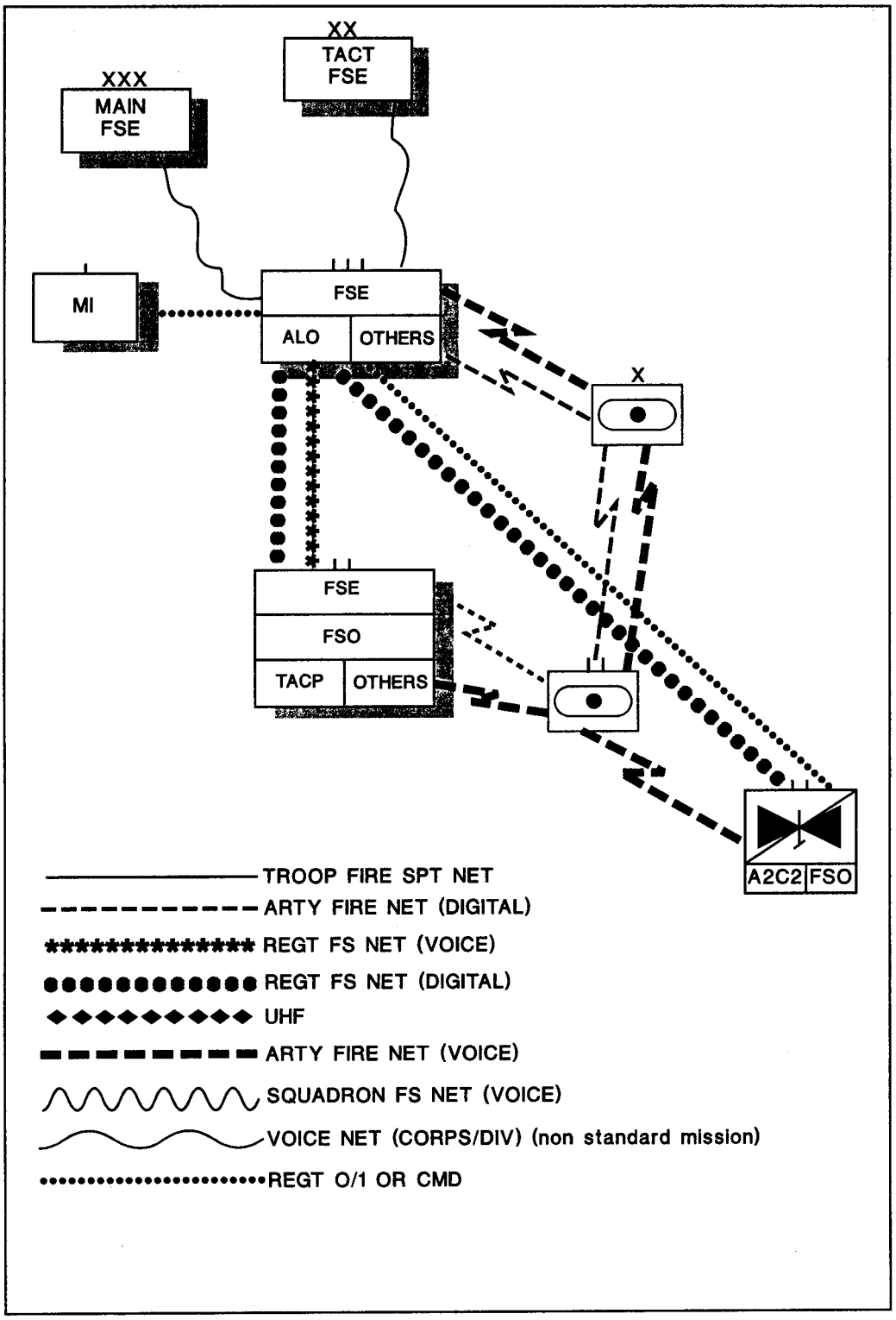


Figure 9-3. Cavalry regiment fire support system.

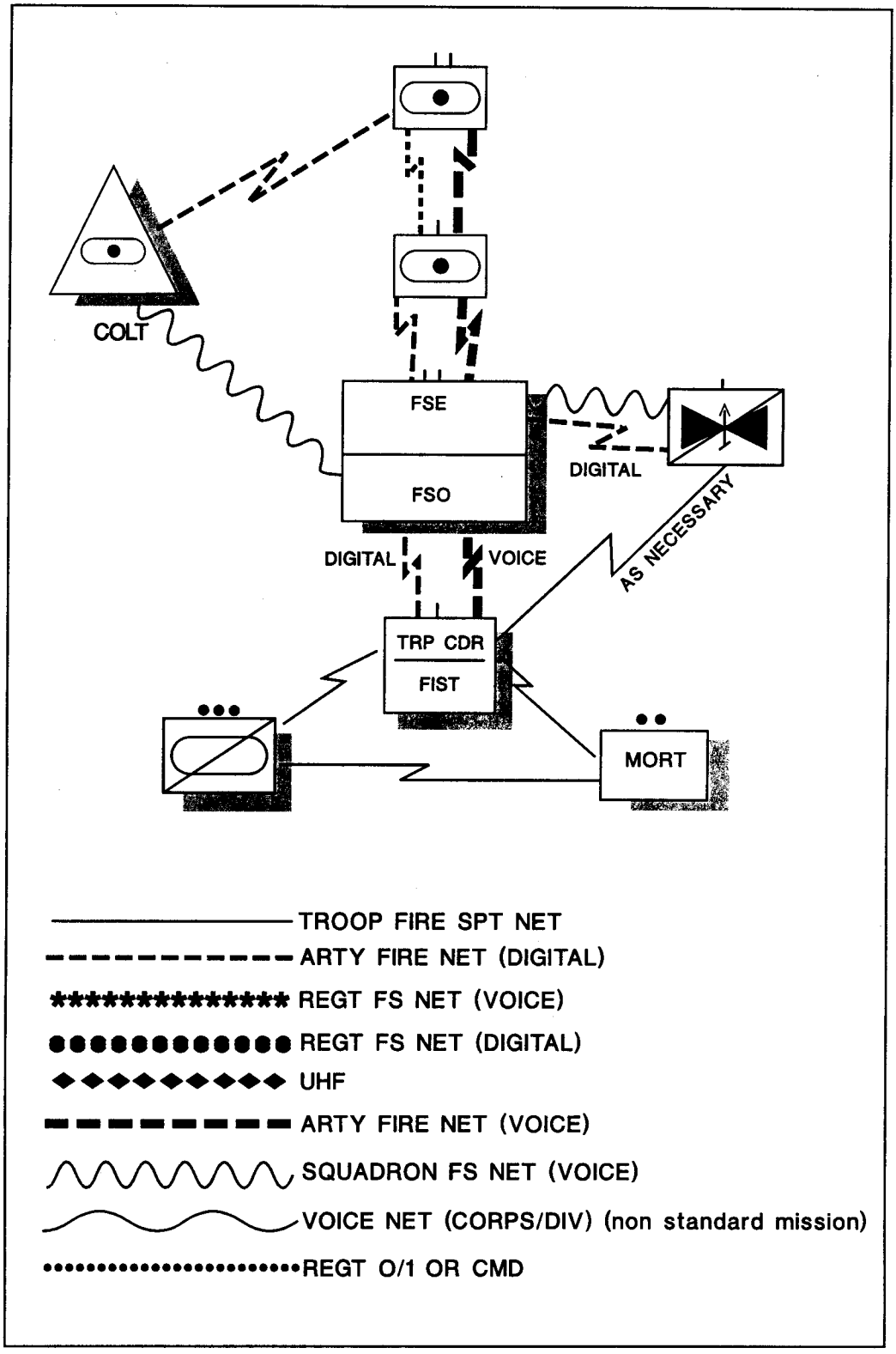


Figure 9-4. Regimental cavalry squadron fire support system.

SCOUTS

Scouts, ground and air, are the primary acquisition element in the system. The FIST or COLT can also acquire targets when so positioned. Additionally, field artillery target acquisition systems and intelligence-gathering systems provide targeting information that the fire support officer (FSO) uses. Information provided by artillery target acquisition systems is often useful to the S2 in preparing and analyzing situation templates. The FSO and the S2 coordinate closely to take advantage of information provided by both systems.

FIRE SUPPORT TEAMS

The troop and company FIST, led by the FSO, coordinates and controls fire support for the troop or company. As the troop commander's fire support coordinator, the FSO is the focal point for planning, integrating mortars and artillery, requesting air and naval gunfire support, and determining the method of target engagement. The FSO can be assigned responsibility for positioning the mortars to support the operation. He has an observation and laser designation capability and communication links to fire support means. The FIST is supported by and provides support to the fire support element in planning and executing fire support. The FIST operates on four nets:

- Troop command net.
- Troop fire support net.
- Supporting artillery digital fire net.
- Squadron fire support net.

Three basic methods of FIST employment are used. These methods are not fixed for the duration of a mission, but change as necessary. Whichever method is used must provide effective fire support. These methods are as follows:

- Accompany the troop commander.
- Position separately on the battlefield to control fires consistent with the commander's intent.
- Position the fire support team vehicle (FISTV) at one location and have the FSO ride with the commander. This is least preferred since the FSO is separated from the bulk of his communications and is limited in what he can do for the commander.

The FIST's capabilities are constrained by its ability to maintain communications with supporting artillery. The FIST should be positioned where it can maintain a digital communications link to supporting artillery. Therefore, the team may not be able to see the battlefield and use the laser designator capability in all situations. When the troop is operating across a large front, the FIST will be able to see only a small portion of the area. In these cases, the FIST may be positioned to observe the most critical area requiring fire support. Therefore, scouts must be proficient in requesting indirect fires. Their calls for fire will be relayed through the FIST to the appropriate fire support unit. When the FSO determines that the mortars will fire the mission, the scout talks directly to the mortar section for the remainder of the mission. When artillery fires the mission, the FSO acts as the middleman.

The FSO is not constrained by the location of the FISTV. Accompanying the commander in his FISTV is preferred since he retains access to all communications. He may ride with the commander when links to the fire support system dictate that the vehicle be positioned for communications, the commander wants the FSO with him to personally control a critical engagement, or when the vehicle must be positioned to control a special fire mission. When he does so, he must take a radio and digital message device to retain communications on the troop fire support and digital nets.

FIRE SUPPORT ELEMENT

The squadron FSO is responsible for directing the activity of the fire support element and for synchronizing the activities of the other fire support agencies. He is the commander's fire support coordinator and is assisted by the fire support section. If there is an artillery unit in direct support, that unit commander becomes the squadron fire support coordinator. The fire support section establishes and operates the squadron fire support element. The fire support element is not a fixed organization. As mission and available fire support assets dictate, other components of the fire support element include the following personnel:

- Representatives of the tactical air control party.
- Navy supporting arms liaison team (SALT) or shore fire control party (SFCP) personnel.
- Squadron chemical officer.
- Supporting engineer leader.
- Squadron flight operations officer (division cavalry).

Like the troop FSO, the squadron FSO is not restricted to the fire support element. The FSO often accompanies the commander as part of the command group.

He maintains communications with the fire support element to monitor fire support actions and to execute missions required by the squadron commander.

The fire support section maintains communications on four nets:

- Squadron command net.
- Squadron fire support net.
- Supporting artillery digital fire net.
- Supporting artillery battalion command net.

Other components of the fire support element maintain communications on their respective fire control nets and the squadron command net. They may also monitor the squadron fire support net when away from the fire support element.

The regimental FSO is responsible for directing the activity of the regimental fire support element, and his duties mirror those of the squadron FSO. If the regiment is augmented with a direct support brigade or battalion, the commander of that direct support unit serves as the regimental fire support coordinator.

The regimental fire support element is organized similar to the squadron fire support element. The only difference is that the regiment has an Air Force liaison officer organic to its fire support element. The members of the fire support element may vary depending on mission requirements.

The regimental fire support element maintains communication on four nets:

- Regimental command net.
- Regimental fire support net.
- Supporting artillery fire direction (digital) net.
- Supporting artillery headquarters command net.

The regimental fire support element must be able to communicate also with the corps or division fire support elements if the mission requires.

FIELD ARTILLERY MISSIONS

Field artillery is controlled through the assignment of standard tactical missions (see Figure 9-5). Tactical missions describe in detail the fire support responsibilities of a field artillery unit. They also establish the fire support relationship to the supported unit or to another field artillery unit. Tactical missions do not affect the organizational structure of the field artillery unit. They are normally assigned to a battalion-size or larger unit. These missions are assigned by the commander who owns the artillery on advice of his fire support coordinator.

INHERENT RESPONSIBILITIES OF FIELD ARTILLERY MISSIONS

AN FA UNIT WITH A MISSION OF–	DIRECT SUPPORT	REINFORCING	GENERAL SUPPORT REINFORCING	GENERAL SUPPORT
1. Answers calls for fire in priority from–	1. Supported unit 2. Own observers* 3. Force FA HQ	1. Reinforced FA 2. Own observers* 3. Force FA HQ	1. Force FA HQ 2. Reinforced unit 3. Own observers*	1. Force FA HQ 2. Own observers*
2. Has as its zone of fire–	Zone of action of supported unit	Zone of fire of reinforced FA	Zone of action of supported unit to include zone of fire of reinforced FA unit	Zone of action of supported unit
3. Furnishes fire support team (FIST/FSS)**	Provides temporary replacements for casualty losses as required	No requirement	No requirement	No requirement
4. Furnishes liaison officer–	No requirement	To reinforced FA unit HQ	To reinforced FA unit HQ	No requirement
5. Establishes communications with–	FIST chiefs, FSOs, and supported maneuver unit HQ	Reinforced FA unit HQ	Reinforced FA unit HQ	No requirement
6. Is positioned by–	DS FA unit commander or as ordered by force FA HQ	Reinforced FA unit or as ordered by force FA HQ	Force FA HQ or reinforced FA unit if approved by force FA HQ	Force FA HQ
7. Has its fires planned by–	Develops own fire plans	Reinforced FA unit HQ	Force FA HQ	Force FA HQ

*Includes all target acquisition means not deployed with supported unit (radar, aerial observers, survey parties, etc.).
**A fire support section (FSS) for each maneuver brigade/battalion cavalry squadron and one FIST with each maneuver company/ground cavalry troop are trained and deployed by the FA unit authorized these assets by TOE. After deployment, FISTs and FSSs remain with the supported maneuver unit throughout the conflict.

Figure 9-5. Field artillery standard tactical missions.

Division cavalry may have an artillery battalion providing direct support for some operations. When this occurs, the artillery battalion commander becomes the squadron fire support coordinator. More often, the squadron receives support as a nonstandard mission. Nonstandard missions are assigned to artillery units when standard missions cannot adequately convey the commander's intent. For example, the squadron may receive priority of fire from a battalion providing general support to the force. When a nonstandard mission is assigned, the FSO ensures that coordination is accomplished. Problems or conflicts must be identified early and rectified to prevent problems in execution.

The regimental cavalry squadron contains an organic howitzer battery. Unless otherwise directed, the battery is in direct support to the squadron. The battery commander employs the battery to best support the squadron commander's intent. If the squadron has an artillery battalion in direct support, the howitzer battery will normally be placed under the operational control of that battalion. In this situation, the howitzer battery will be positioned by and receive its missions from the artillery battalion.

Section III. Fire Support Planning and Coordination

Fire support planning is a continuous process of analyzing, allocating, and scheduling. The goal is to effectively integrate fire support into battle plans to optimize combat power. Fire support coordination is the continuous process of implementing fire support planning and managing fire support assets available to the squadron. Fire support planning determines how to use resources, and coordination is the action needed to make the plan happen. The fire support coordinator is the key player in fire support planning and coordination (see Figure 9-6). The FM 6-series discusses fire support planning and coordination in detail.

PLANNING	COORDINATION
Anticipates mission requirements so he can advise the commander how to best use fire support.	Anticipates changes dictated by the developing battle and recommends revision of the fire support plan.
Assesses fire support means available, and on the basis of that assessment, recommends priorities of fire and allocations of fire support.	Directs the fire support attack of targets in the priority established by the commander.
Ensures that all agencies that can provide target information are used effectively.	Tasks the most effective fire support means to attack targets.
Studies the enemy situation and squadron mission and recommends what targets to attack and how.	Coordinates all fire support in the commander's zone or sector.
Makes necessary plans to offset the unexpected and to expedite changes.	Ensures the safeguarding of friendly elements.
Plans use of all fire support agencies as they contribute to the overall fire support plan.	Ensures continued flow of targeting information.
Determines coordinating measures that will best facilitate maneuver actions and provide safeguards to protect friendly elements.	Remains abreast of the tactical situation.
Develops and coordinates an efficient fully integrated fire support plan.	

Figure 9-6. Fire support coordinator responsibilities.

PRINCIPLES

Fire support planning and coordination are guided by principles to ensure the most effective use of fire support assets. These principles are considered by the regimental, squadron, and troop FSOs:

- Plan early and continuously.
- Exploit all available targeting assets.
- Consider the use of all lethal and nonlethal fire support means.
- Use lowest echelon capable of furnishing effective support.
- Use the most effective means.
- Furnish type of support requested.
- Avoid unnecessary duplication.
- Consider airspace coordination.
- Provide adequate support.
- Provide rapid coordination.
- Provide for flexibility.
- Provide for the safeguarding and survivability of friendly forces and installations.

TARGETING OBJECTIVES

Targeting objectives combined with desired target effects are articulated by the maneuver commander in his intent for fires. Targeting objectives are defined as the desired outcome resulting from the placement of indirect fires on the enemy in terms of his maneuverability and objective. Terms such as disrupt, divert, delay, limit, and isolate are used by the commander to convey his intent and objectives for the use of indirect fires against enemy targets. These enemy targets may be known targets that are identified through IPB and intelligence collection efforts at all levels. Enemy targets may also be unknown until contact is made. This is particularly true during reconnaissance and security operations when information about the enemy is vague. In cases where the intelligence information about the enemy does not identify known targets, targeting objectives allow the commander to clearly articulate how he plans to use artillery once contact is made with a particular enemy force, command and control node, or support system.

TARGET EFFECT

The commander may issue guidance on the target effect desired on designated targets, particularly those that are of higher priority. The effects on a target are expressed, by category as harassing, suppression, neutralization, or destruction.

Harassing

These are fires designated to disturb the rest of enemy troops, to curtail movement, and to lower morale by the threat of losses. The decision to employ harassing fires needs careful consideration. Harassing fires have little effect on the enemy, subjects gun crews to additional workload, and increases the threat of counterbattery fires. However, harassing fires may be a combat multiplier in some situations. Consider their use in stability and support operations, delaying actions, and missions conducted as an economy of force.

Suppression

Suppression of a target limits the ability of personnel in the target area to perform their jobs. The effect of suppressive fire lasts only as long as the fires continue. They are used against known or suspected enemy positions.

Neutralization

Neutralization of a target knocks it out of action temporarily. Ten percent or more casualties is considered neutralizing a target. Neutralization fires are used against accurately located targets unless otherwise specified.

Destruction

Destruction puts the target out of action for a prolonged period of time. Thirty percent or more casualties is normally considered rendering a unit ineffective. Direct hits are required to destroy hard materiel targets. These targets must be accurately located. Destruction requires large quantities of ammunition or special munitions.

FIRE SUPPORT PLANNING

Fire support planning begins upon receipt of the order and is integrated with the development of the scheme of maneuver. The FSO must understand the commander's intent and what targets to attack and when to attack them. At regimental and squadron level, all members of the fire support element are involved in the process. The best use of fire support resources to support the chosen scheme of maneuver is determined by the following considerations:

- Priority of fire for subordinate units.
- What targets to attack.
- What the targeting objective is.
- What target effect to achieve.
- What fire support means to use.
- Priorities for engaging targets.
- Allocating fires.
- Ammunition restrictions.

The fire support plan outlines the way fire support assets will be used to complement the scheme of maneuver, and it provides instructions for executing those fires. It ranks targets in priority order, matches them with the available fire support systems, and eliminates duplicate targets. It allows fires to be executed quickly, without specific direction from the commander, once the operation is underway. The fire support plan may include the following:

- A general concept of how fires will support the battle.
- A target list that includes locations where fires are expected or likely to be used. Known enemy locations should be carefully targeted, but too many targets complicate the fire plan and delay fires.
- A priority of fires that tells which element will receive fire support in case of conflicting needs.
- A priority of targets that tells which type of mission to fire first.
- An allocation of priority targets and final protective fires, if available.
- A fire support execution matrix for indirect fire weapons.
- Informal airspace coordination areas.
- Coordination measures for providing troop safety and synchronizing supporting fires.
- A target overlay.
- An attack guidance matrix.

The fire plan is constantly refined or modified as the operation is underway to continue providing responsive fires wherever they are needed.

The depth and complexity of fire support planning depend on how much time is available and the echelon at which the planning occurs. Formal planning is the deliberate process when adequate time is available and usually flows from higher to lower echelons. Informal fire support planning is a far more dynamic process that responds to the immediate problems on the battlefield and generally flows from lower to higher echelons. Informal planning is common within the squadron and should be facilitated by the SOP.

At squadron level, the FSO disseminates in the OPORD a fire plan to support the squadron. This plan usually contains all the elements listed above, and it is modified as troop fire plans are received. Updated fire plans are sent back to FISTS and disseminated to all concerned elements of the fire support system. During more informal fire planning, the squadron FSO may issue a concept and guidance to the troop FSOs. They in turn develop and submit fire plans. The squadron FSO then integrates them with his plan to produce the final squadron plan.

The regimental FSO consolidates the squadron fire support plans, eliminates duplications, and ensures that targets of interest to the regimental commander are included. He coordinates with the air liaison officer to determine targets appropriate for attack by close air support and with other liaison officers as appropriate.

Hasty fire planning is necessary when the regiment, squadron, or troop commander receives a FRAGO requiring immediate execution. The FSO immediately collocates with the commander, if not already with him, to conduct planning, using the troop-leading procedures. As much of the current fire plan as possible is used. Target effects and priority targets may be redesignated as necessary. Additional targets are designated and orally disseminated through the fire support system.

The fire support plan is tied closely to IPB. IPB identifies critical terrain or avenues of approach that should be targeted, target areas of interest, and risks for friendly fire support assets. It also provides templates of known or suspected enemy positions or likely offensive actions.

Fire planning is accomplished in depth. During both reconnaissance and security missions, the FSO plans fire support throughout the assigned squadron and troop areas of operation. This allows execution with minimal additional coordination, accommodates changing situations, and provides fire support assets a clear concept for planning their internal operations.

Troop FSOs accompany troop commanders to receive the squadron OPORD. This permits the troop FSOs to hear the concept of the operation simultaneously with their commanders. Within minutes after the OPORD is given, they can get together to develop their fire support plans. This arrangement also allows the squadron FSO to brief the troop FSOs on plans the squadron commander wants implemented. Written fire plans are disseminated, questions answered quickly, and conflicts resolved with minimum confusion.

The squadron commander and FSO may develop an event-oriented scheme of fire support in conjunction with developing the selected course of action. This fire support plan will require a specific scout, troop FSO, or other element to fire a specific indirect fire system at a designated target when or if a specific event occurs. Such a fire support plan is ideally suited for inclusion in an execution matrix.

SPECIALIZED CONVENTIONAL MUNITIONS

There are several specialized munitions available that the squadron and troop commanders must understand. These munitions include smoke, illumination, scatterable mines, and laser guided.

Smoke

Artillery or mortar delivered smoke is used to obscure or screen. Either white phosphorous or hydrogen chloride may be used. White phosphorous provides a quick build-up and hexachlorethane chloride provides sustained cover. Because the effectiveness of smoke is subject to weather and wind conditions, it is planned for

probable conditions but adjusted when employed. Use is coordinated with all affected commanders. Troop commanders use mortars for smoke as noted below.

- Obscuration fire uses smoke on or near enemy positions to isolate the enemy and obscure his view. White phosphorous used in this mode blinds the enemy and inflicts damage. Obscuring smoke and high explosive should be planned on known and suspected enemy locations in sector. Obscuration smoke is useful to support a hasty attack on an identified enemy position.
- Screening fire uses smoke to mask friendly maneuvering elements to disguise the nature of their operations. Screening fire has the disadvantage of alerting the enemy to friendly activity, even when he cannot determine exact dispositions. Squadron and troop commanders will seldom use screening fire during reconnaissance, but it is often essential in security missions to assist in disengagement and repositioning. Screening fires used during deception operations create the impression of a greater force or major effort.

Illumination

Illumination can be delivered by artillery and mortars. Illumination fires are planned to assist command and control and target acquisition. Illumination should be considered a supplement to available thermal and night-vision equipment and used to the extent required. It is always planned, especially during security missions, but normally fired only with approval of the squadron commander. The following considerations guide employment:

- Illumination is often limited in basic loads and expenditure is carefully monitored.
- Flares are timed to burn out before hitting the ground to preclude washing out sights.
- Atmospheric conditions can greatly affect illumination, requiring constant adjustment.
- Smoke and dust on the battlefield may still obscure the enemy.
- Illumination is planned to backlight or highlight enemy positions or enemy moving through named areas of interest, target areas of interest, or engagement areas. Ensure friendly positions are not illuminated for the enemy.

FASCAM

Area denial artillery munition (ADAM) and remote antiarmor mine system (RAAMS) are subsets of the family of scatterable mines (FASCAM). The ADAM projectile contains bounding fragmentation antipersonnel mines. The RAAMS projectile contains magnetically fused antitank mines. Self-destruct mines for both types are factory set at either four or forty-eight hours and cannot be changed in the field. Emplacing an ADAM/RAAMS minefield is a resource-intensive operation that can take from 15 minutes for a planned mission up to 30 minutes if unplanned. During this time, the firing unit is not able to provide indirect fire support and the unit must move upon completion of the mission. Emplacement considerations for FASCAM in general are discussed in Section VII, Engineer Support.



Laser Guided

The laser-guided Copperhead round is a precision, point target munition effective out to 7,000 meters from the designator. It is not a very responsive munition. The fire mission takes from 45 seconds to 2 1/2 minutes (plus time of flight), based on whether the target is preplanned or one of opportunity. The designator must also track the target for the final 13 seconds of flight. These and other limiting constraints make this round much less effective against targets of opportunity. The Copperhead round can also be guided using the laser designator on the OH-58D (Kiowa Warrior). Additionally, the ground/vehicle laser locator designator (G/VLLD) can be used to guide Hellfire and Maverick missiles. The troop FIST has a target designation capability, but employment in this role reduces overall troop fire support management during the engagement.

Division artillery may employ COLTS in the divisional squadron's area of operations, particularly during security missions. These teams are best employed attached or under the squadron's operational control for a coordinated effort. In any case, when operating in the squadron area of operations, the COLT must coordinate with the squadron and gain positioning approval.

The howitzer batteries in the armored cavalry regiment have an organic COLT. The squadron commander uses the COLT to support his main effort. He may retain control of the COLT, using it to designate critical targets, or attach the team to one of his armored cavalry troops.

CONTROL MEASURES

The fire support plan is portrayed by and executed off the fire support overlay. FM 101-5-1 and the FM 6-series discuss control and coordinating measures in detail. A fire support execution matrix should be used in conjunction with the overlay.

Every target can be classified as either a target of opportunity or a planned target. A target of opportunity is one that has not been planned, taking longer to fire. Planned targets are ones on which fires are prearranged. Artillery and mortars precalculate firing data to expedite the execution of fires. A planned target may be scheduled or on-call.

- A scheduled target is a planned target on which fire is delivered at a specific time or upon occurrence of a specific event. They are most appropriate during defensive security missions or when assigned missions as an economy of force.
- An on-call target is a planned target to be fired on request rather than according to a time schedule or event. Cavalry will predominantly use this type of target during reconnaissance missions.

Priority targets are planned targets that take priority over other targets. They are normally assigned on the basis of one per mortar section and artillery battery. A

designated firing unit is prepared to engage it whenever the unit is not firing another mission. The maneuver commander designates priority targets, when they change, and guidance on target effect. The final protective fire used in the defense is a form of priority target.

A target overlay shows the locations of friendly artillery units, targets, boundaries, and fire support coordination measures. It enables the fire support coordinator to view graphically all targets planned in support of the squadron and determine the best fire support agency to engage the listed targets. Targets are indicated using a variety of symbols to express the intent of the planned fire. FM 101-5-1 and FM 6-20 discuss target symbols. Target overlays should never be overplanned to the point of clutter, causing needless effort on the part of fire direction center personnel who must precalculate firing data. The FSO, understanding the commander's intent, coordinates higher and lower fire plans with his own to produce an overlay that has only essential targets planned. Targets can be indicated using—

- Target reference points.
- Linear targets.
- Rectangular targets.
- Area targets.
- Groups.
- Series.

Fire support coordinating measures are reflected on operations graphics and on fire support plans. The basic coordinating measure identifies maneuver unit boundaries. Within assigned boundaries, commanders retain complete freedom of action on the employment of fires. No fire support means, however, may deliver fires across a boundary without first coordinating with the responsible ground maneuver unit. Field artillery and naval gunfire units are also assigned zones of fire for the control of fires laterally and in depth. These zones are dictated by the assigned tactical mission (see Figure 9-5). A direct support unit has the zone of action of the supported maneuver unit as its zone of fire.

Additional coordinating measures are considered either permissive or restrictive. Permissive measures require no further coordination and facilitate the attack of targets. Restrictive measures impose specific coordination before targets are engaged and provide safeguards for friendly forces.

Permissive coordinating measures include the coordinated fire line (CFL), fire support coordination line, and free fire area.

Restrictive coordinating measures include the restrictive fire line, (RFL) airspace coordination area (ACA), no fire area, and restrictive fire area (RFA).

Several measures are frequently used by cavalry during combat operations:

- The CFL is a line beyond which conventional surface fire support means may fire at any time within the zone of the establishing headquarters without additional coordination. The regiment and squadron use externally and internally designated CFLs.
- The ACA is a block of airspace in the target area in which friendly aircraft are reasonably safe from friendly surface fires. The purpose of an ACA is to allow the simultaneous attack of targets near each other by multiple fire support means, one of which is air. It may occasionally be a formal three-dimensional measure but more often is informal. The regiment or squadron can establish informal ACAs to facilitate integrated close air support and ground attack. An informal ACA can be established by using a time and distance separation or by designating a specific recognizable terrain feature to separate surface and air-delivered fires. ACAs are coordinated by the FSO, air liaison officer, and commander. They are most easily emplaced when these leaders are together in the command group.

AIR AND GROUND COORDINATION

Coordinating fire support for both air and ground cavalry, especially in division cavalry, is a continuous and essential requirement. This necessity is critical since air cavalry troops are often operating over the assigned zone or sector of ground troops. The coordinating measures used must reduce the risk of engaging each other without unnecessarily restricting engagement opportunities of either troop.

During planning, air cavalry troop commanders and the flight operations officer coordinate targeting to cover the extended distances at which they may operate forward or to the flank of the squadron. The squadron fire support section serves as the planning center for air cavalry fire support. Fires can be planned outside the assigned area of the squadron. Coordination is necessary if there is another friendly unit in the affected area. Normally, there is no friendly unit in the area when the air cavalry is operating at those distances. These targets may be called by both air and ground troops.

During the mission various methods can be used to coordinate fire support. Phase lines can be used as CFLs within the squadron to allow the air cavalry troops freedom of action to engage targets forward of the ground troops. As ground troops move, the CFL is shifted to the next phase line. Priority of fire can be designated to an air or ground troop during a certain period or in a certain area.

When calling for fire, the aeroscouts can call either the squadron FSO or the ground troop FIST. When the air cavalry is operating beyond the ground troop, and a squadron CFL allows engagement, it calls the squadron FSO or the FSE to initiate fires. When the air cavalry is calling fire inside the squadron CFL or in close proximity to the ground troop, the troop FIST is called. The FIST processes the mission like any call for fire after verifying that it does not endanger troop elements. The FIST can support the aeroscout with mortars or artillery.

The regimental aviation squadron has an organic fire support element that plans fires for the squadron. If one of the air cavalry troops of the aviation squadron is OPCON to an armored cavalry squadron (ACS), it may call for fire through one of the following:

- The cavalry troop FIST.
- The ACS fire support element.
- The supporting unit fire direction center (the howitzer battery or field artillery battalion).

The aviation squadron may coordinate for artillery forward observers (FO) for the air cavalry. These FOs are attached to the squadron fire support section. They ride with the air troops to call fires. Aircraft normally require minor modification to mount the digital message device (DMD). This arrangement provides the air cavalry troops with a trained observer and direct access either to the tactical fire direction system (TACFIRE), initial fire support automated system (IFSAS), or advanced field artillery tactical data system (AFATDS). The squadron fire support element monitors and reviews the FO's calls for fire.

SOPs must clearly delineate the procedures to coordinate fire support. The intent is to achieve automatic coordination at the lowest level in a responsive manner.

Section IV. Indirect Fire Support

MORTARS

Mortars are organic to most ground cavalry troops and belong to the troop commander. They provide an immediately responsive indirect fire capability to ground, and in some cases, air cavalry troops. Mortars provide a heavy volume of accurate, sustained fires. Their high angle of fire makes them ideal to attack targets difficult to attack with low-angle direct-fire weapons. They are effective in covering obstacles, engaging dismounted infantry, marking targets for air attack, providing support in urban areas, or conducting reconnaissance by fire. Mortars are limited mainly by their range, ammunition types, and ammunition carrying capacity. Like all indirect fire means, there is a delay between the call for fire and impact of rounds. The scout observer and FIST factor this delay into the target engagement. Engaging moving targets is difficult because of this delay. Mortars are most effective for—

- Obscuration smoke.
- Screening smoke.
- Illumination.
- Harassing.
- Suppression.

The mortar section is employed by the troop commander as a separate element during combat operations. Because of its size and the need to mass fires for effective engagement, it predominantly operates as a section. It moves independently of the platoons, establishing firing positions according to the commander's guidance. (See FM 17-97.)

FIELD ARTILLERY

Field artillery is the principal fire support asset available to the cavalry squadron. It provides accurate fires with a wide variety of munitions. Field artillery adds a powerful dimension to the squadron's direct fire and maneuver capabilities, but its own capabilities and limitations must be understood. The divisional squadron is supported by the artillery assets of its parent division. The regimental squadron is supported by its organic battery and additional direct support assets, normally from a corps artillery brigade. These weapons possess varying capabilities largely dependent upon caliber, range, and munitions.

Artillery has the following capabilities:

- Provide fire support under all weather conditions and types of terrain.
- Shift and mass fires rapidly without the requirement to displace.
- Support the battle in depth with long-range fires.
- Deliver high-angle fires over terrain not covered with flat-trajectory direct fire.
- Provide a variety of conventional shell and fuze combinations.
- Deliver chemical and nuclear fires.
- Provide continuous support by careful displacement.
- Be as mobile as the supported unit.

Artillery has the following limitations:

- Limited capability against moving vehicle targets.
- Limited self-defense capability against ground and air attack.
- Limited ability to destroy point targets (Copperhead is an exception).
- Vulnerability to detection by enemy target acquisition systems.
- Low rate of sustained fire.

The link to effective artillery support for the troop and squadron is the FSO. With TACFIRE, IFSAS, or AFATDS, the digital FM connection between the FIST and the supporting artillery is critical.

Field artillery has a wide variety of munitions tailored for the engagement of different types of targets. The specific type of munitions available depends on the supporting weapon system. The FSO advises the commander on the type of munition most effective to engage a specific target. Scouts, as forward observers, must be

familiar with artillery munitions to call effective fires. The FIST or the fire direction center amends the requested munition, if necessary, based on target description and availability.

The artillery commander, in close coordination with the squadron S3 and the FSO, positions artillery assets in the zone or sector of the squadron. The battery commander positions the howitzer battery organic to the armored cavalry squadron. If the squadron has a field artillery battalion in direct support, the howitzer battery is normally placed under the battalion's operational control. The field artillery battalion commander, as the fire support coordinator, positions the field artillery units in coordination with the squadron S3 and the FSO.

Artillery positions are planned in depth to ensure support is continuous and provided at critical times and to accomplish the squadron commander's concept of fire support. Positioning artillery often involves give and take with other elements of the squadron over available terrain. The squadron S3, as terrain manager, resolves these issues in a way that best supports the commander's intent. Artillery positions, though preplanned, are adjusted as required during the mission.

NAVAL GUNFIRE SUPPORT

Naval gunfire provides large volumes of immediately available, responsive support when cavalry is operating close to coastal waters. Naval gunfire ships are assigned one of two missions-direct support or general support—in much the same way that field artillery is organized for combat. Ships providing these fires are referred to as direct support ships and general support ships. Relationships between assigned ships and supported ground force units are on a basis of limited, delegated responsibility. Support ships provide the requested support within their capability, but ship positioning and method of delivery are left to the discretion of the ship captains. The supported ground unit selects the targets, the timing of fires on the targets, and the adjustment of fires.

A ship in direct support of a ground unit delivers both planned and on-call fires. On-call fires are to the ship what targets of opportunity are to artillery units. General support ships are assigned to support units of regimental size or larger. Normally, their fires are assigned to a shore fire control party for fire missions after which they revert to general support.

Naval gunfire has the following capabilities:

- Mobility to reach best firing position.
- Accurate precision fires.
- Weapon and ammunition variety.
- High muzzle velocity for direct fire and point target destruction.
- High sustained rates of fire.
- Deflection pattern narrow in spread and long in range, permitting very close supporting fires when the gun-target line is parallel to the FLOT.

Naval gunfire has the following limitations:

- Flat trajectory results in large range probable error.
- Hydrographic conditions along the shoreline may result in unfavorable gun-target line or range.
- Accuracy of fixing ship position affects gunfire accuracy.
- Bad weather and poor visibility affect position determination and may force ships out to sea.
- Changing gun-target line during a fire mission if the ship is underway.
- Communications dependent upon radio.
- Vulnerable to enemy air and naval attack.

Army units do not have the organic capability to control naval gunfire. This capability is provided by a US Marine Corps air and naval gunfire liaison company (ANGLICO). Depending on availability, the squadron will be supported by either a shore fire control party or a battalion SALT and firepower control teams (FCT). These ANGLICO elements are responsible for requesting, coordinating, and controlling naval air and naval gunfire. The ANGLICO liaison officer becomes part of the squadron fire support element and FCTs locate with the troops. When an FCT cannot call a fire mission, a troop FIST may do so through the liaison officer.

Section V. Army Airspace Command and Control

A2C2 consists of those actions that ensure the synchronized use of airspace and enhance the command and control of all forces using airspace. The objective of A2C2 is to ensure the most effective employment of combat power by those airspace users whose unrestricted use of airspace might result in the loss of friendly air assets. Conversely, A2C2 must integrate air assets in the ground battle without unduly inhibiting the use of ground-based combat power. JP 3-52, FM 100-103, FM 100-103-1, and FM 100- 103-2 discuss A2C2.

A2C2, from the aspect of planning and coordinating, must ensure the best utilization of airspace assets. To attain this capability, A2C2 elements are required in the special staff sections at the regiment, division, corps, and echelons above corps. Direct information access is required to input and receive information from joint, multinational, and interagency forces contributing to the overall operational effort. A2C2 elements must become more robust and their interests must be integrated into the airspace control authority's decision cycle. Army and joint users of the airspace are subordinate to the joint forces commander. Their requirements, with respect to airspace, are coordinated in the development of the airspace control plan and promulgated in the airspace control order. This coordination ensures an equal footing with other airspace users to accomplish the Army's missions, roles, and functions.

STAFF ELEMENTS

The capability to plan, coordinate, and execute airspace command and control must extend to echelons below the regiment. Therefore, direct interfaces for A2C2 information must exist from the regiment to the squadron TOCs.

Current staffing for the regimental command post may preclude all required staff representation to the A2C2 element. Minimum staffing of this element includes the S3 Air, an aviation officer or NCO, the air liaison officer, the fire support officer or FSE NCO, and a representative of air defense. Other members should include, if available, the air traffic service liaison NCO, the S2, and the S4. This staff allows for the implementation and dissemination of the airspace control order and air tasking order to the lowest levels, a means for planning and deconfliction of airspace measures at the user level, and direct input into the airspace control system for immediate airspace measures.

As there is no formalized A2C2 element at squadron, the squadron staff performs the required A2C2 functions by extracting information from various sources. The A2C2 staff elements include the S2, the S3 Air, the fire support officer, liaison officers from aviation and air defense artillery, and the air liaison officer.

The command post where each of these personnel is located varies according to the tactical situation. To conduct squadron A2C2, these personnel must be collocated or have a real-time communications capability. A2C2 planning is accomplished as part of the normal operational planning. A2C2 requirements that require approval by regimental level or higher are forwarded for approval.

CONTROL MEASURES

Airspace control measures used on the battlefield are published daily in the theater airspace control order. These airspace control measures are different, yet closely related to, fire support coordination and air defense control measures that may or may not appear in the airspace control order.

Airspace control measures are broadly divided into joint, Army, and special purpose airspace categories. The following are jointly recognized airspace control measures:

- Coordinating altitude.
- High-density airspace control zone.
- Restricted operations areas and restricted operations zones.
- Minimum risk routes.
- Standard use Army aircraft flight routes.

Coordinating Altitude

Coordinating (or coordination) altitude (CA) is a procedural method to separate fixed- and rotary-wing aircraft by determining an altitude below which fixed-wing aircraft *normally* will not fly and above which rotary-wing aircraft *normally* will not fly. Coordinating altitude may include a buffer zone for small altitude deviations and extend from the forward edge of the communications zone to the forward line of own troops (FLOT). In specific theaters of operations, the CA may be extended to the forward limit of the ground commander's area of operations.

Fixed- or rotary-wing aircraft planning extended penetration of this altitude will notify the appropriate airspace control facility. However, approval acknowledgment is not required prior to fixed-wing aircraft operating below the coordinating altitude or rotary-wing aircraft operating above the coordinating altitude.

High-Density Airspace Control Zone

A high-density airspace control zone (HIDACZ) is a defined area of airspace in which concentrated employment of weapons and airspace users exist. The zone has defined dimensions that usually coincide with geographical features or navigational aids. The requesting authority normally controls access to air defense weapons control status within the HIDACZ.

Restricted Operations Area and Restricted Operations Zone

Restricted operations area (ROA) and restricted operations zone (ROZ) are synonymous terms for defining a volume of airspace set aside for a specific operational mission or requirement. These areas and zones restrict some or all airspace users until termination of the mission. The airspace is normally used for drop or landing zone activity, search and rescue operations, special electronic mission aircraft, etc. Controlling authority requirements for the ROA/ROZ are similar to those required for a HIDACZ.

Minimum Risk Route

A minimum risk route (MRR) is a temporary corridor of defined dimension recommended for use by high-speed, fixed-wing aircraft that present minimum known hazards to low-flying aircraft transiting the theater airspace. MRRs normally extend from the corps rear boundary to the fire support coordination line (FSCL). Low level transient routes are employed in a similar fashion in NATO. The Army submits proposed MRRs to the airspace control authority for approval.

Standard Use Army Aircraft Flight Routes

Standard use Army aircraft flight routes (SAAFR) are routes established below the coordinating altitude to allow the Army commander safe movement of his aviation assets performing combat support and combat service support missions. Although jointly recognized, these routes do not require airspace control authority approval. SAAFRs are normally located in corps through regiment rear areas, but may be extended to the FSCL to support logistics missions or cross FLOT missions.

Army aviation operations rely on freedom of movement to and from the forward area and lean heavily toward procedural verses positive control. In addition to joint airspace control procedures, Army aviation has developed specific measures to support their operational requirements. These procedures areas follows:

- Air corridor.
- Air axis.
- Air control point and aerial checkpoint.
- Start point and release point.
- Battle position.

AIR CORRIDOR

An air corridor is a restricted air route of travel specified for use by friendly Army aircraft and established to prevent friendly forces from firing on friendly aircraft. An air corridor is more temporary in time than is an SAAFR and may be used to provide protection from friendly fires when operating deep missions cross the FLOT.

AIR AXIS

An air axis is similar to a ground axis of advance and is assigned for control, which graphically depicts a commander's intentions. This procedure should be used in conjunction with a procedure that provides the protection for the route of flight (e.g., air corridor).

AIR CONTROL POINT AND AERIAL CHECKPOINT

An air control point or aerial checkpoint is a predetermined point on the ground used as a means of coordinating or controlling friendly Army aircraft movement.

START POINT AND RELEASE POINT

A start point (SP) and a release point (RP) are predetermined points on the ground used to initiate a control procedure (SP) or to terminate the conduct of a control procedure (RP).

BATTLE POSITION

A battle position is a defensive location oriented on the most likely enemy avenue of approach from which a unit may defend or attack. A unit assigned a battle position is located within the general outline of the battle position. A battle position does not constitute an airspace control measure, and should be used in conjunction with a joint or other Army airspace control measure.

AIRSPACE CONTROL ORDER

While the airspace control plan provides the general guidance on the airspace control function, the airspace control order (ACO) institutes the airspace control procedures for specified periods of time. Normally the ACO is published and distributed daily. It contains modifications to guidance and/or the procedures found in the airspace control plan and activates/deactivates procedural control measures that include IFF procedures for that time period.

ACO Development

The procedures for the development of the ACO are included in the airspace control plan. Normally component commanders consolidate, deconflict, and forward their airspace requests to the airspace control authority's Joint Airspace Control Center (JACC) by a specified time for further consolidation with other theater-wide inputs. The JACC then integrates all inputs, resolves any conflicts between the components, and prepares the ACO for distribution (see Figure 9-7). If through the airspace control plan, the joint forces commander delegates airspace control authority to the component commanders, he may additionally task the component commanders to generate an ACO for providing the continuity along sector boundaries and ensuring the integration of each sector authority's ACO within the guidelines established in the airspace control plan.

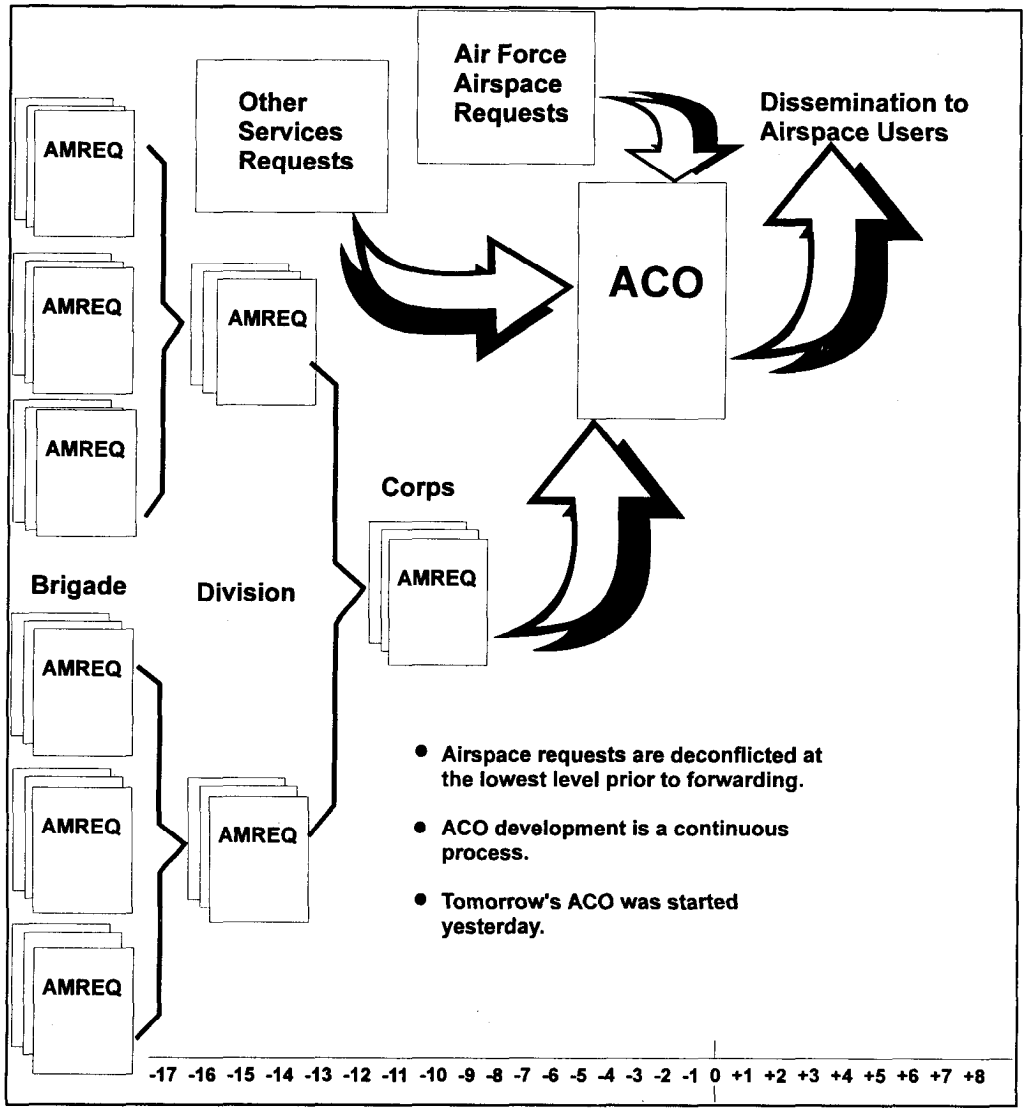


Figure 9-7. ACO cycle.

ACO Distribution

Two important considerations of the ACO are timing and the means of dissemination. The ACO cycle must be tied to the air tasking order (ATO) cycle as many of the airspace measures in effect at any time will be tied to activities outlined in the ATO. If tied to the ATO, the same timing that is required for inputs to the ATO is required for preplanned airspace control requests. In a small area of operations, this method may be convenient and efficient. In a larger area of operations, adding the ACO to the ATO may produce a document that is cumbersome and unwieldy.

If the ACO is published separately, the ACA will establish a "not later than" time to allow sufficient time for adequate processing and deconfliction of requested

airspace measures. ACO publishing and suspense times should be included in the airspace control plan or ATO's "General Remarks." Whatever means are used, it is important that the airspace users receive pertinent airspace information as soon as possible to include it in their mission planning efforts.

ACO Execution

Clear, simple instructions in the ACO provide the basis for its decentralized execution, minimizing the impact on operations while maximizing the safe, efficient and flexible use of airspace in the combat zone. This unimpeded flow of essential information to the component operational units and control elements provides the airspace users a guide to follow and gives each control, or airspace management, element the means to regulate the airspace control function and resolve real-time conflicts.

Section VI. Air Support

Tactical air support is air operations carried out in coordination with surface forces to directly assist land or maritime operations. It is provided primarily by the Air Force, but Navy and Marine air units can also provide this support. When cavalry is supported by elements of the ANGLICO, the team or party controls Navy and Marine air. Tactical air support involves the six functions of close air support (CAS), air interdiction, tactical surveillance and reconnaissance, tactical airlift, counterair, and special operations.

Tactical support aircraft have the following capabilities:

- High speed and long range.
- Versatility in aircraft, weapons, and munitions.
- Accurate ordnance delivery.
- Air and ground communications through the air and ground operations system.
- Attack hard and moving targets.

Tactical support aircraft limitations include the following:

- Limited availability of resources.
- Delivery restrictions imposed by limited visibility and weather.
- Delivery restrictions imposed by enemy air defense.
- Variable aircraft loiter times on station.
- Delayed response.

CLOSE AIR SUPPORT

CAS is air action against hostile targets that are in close proximity to friendly forces. It requires detailed integration of each air mission with the fire and movement of those forces. CAS is the tactical air support function most often available to cavalry. CAS is normally controlled at squadron level. The regiment also retains some CAS at its level to influence ongoing operations.

CAS missions are normally conducted by a flight of at least two aircraft under the mission command of one pilot. This mission commander is the one with whom the squadron air liaison officer or forward air controller coordinates during the strike. Some close support aircraft have FM radio capability, but most have only UHF radios.

TACTICAL AIR CONTROL PARTY

An Air Force TACP operates with the squadron to advise, to assist the commander, to request and coordinate tactical air support, and to meet other requirements. A TACP consists of experienced air crews and technicians, ground vehicles, and the communications equipment required to obtain, coordinate, and control tactical air support of squadron operations. The squadron often provides the TACP with an armored vehicle for protection when operating forward. The TACP becomes part of the fire support element. A portion of the party, to include soft-skinned vehicles, collocates with the TOC. The TACP is normally a dedicated asset with which the squadron can develop a close working relationship. Once deployed, the TACP normally remains with the squadron.

The air liaison officer (ALO) is the senior member of the TACP. He advises the commander, operates the Air Force request net, coordinates close air support, and assists in synchronizing air action with the commander's operation. At squadron level, the ALO may also serve as a forward air controller (FAC). The TACP may also contain a dedicated FAC. Occasionally an airborne FAC is available. The ALO operates out of the fire support element during planning to coordinate, and forward with the command group during the mission to control air support. The ALO bridges the gap between Air Force and Army operations. He is a fighter pilot versed in employment of airpower to support ground operations. At the same time, he must understand how the squadron operates so he can provide effective support. The uniqueness of cavalry operations places a premium on establishing a solid working relationship with an ALO.

The regimental TACP and ALO perform the same functions for the regimental commander. In addition, the regimental ALO is responsible for reviewing the squadron CAS requests and coordinating them with the regimental fire support element and fire support coordinator to ensure effective employment of CAS assets.

Tactical air strikes are normally controlled by a FAC. To do so effectively, he is positioned forward to observe the target. When an airborne FAC is available, the

squadron ALO will work with him to control the strike. When no airborne FAC is available, the ALO or ground FAC controls the mission.

Squadron operations over extended distances can result in the ALO or FAC not being in position to control a strike. In his absence, the FIST or a troop commander can perform the FAC function. The basic requirement is to locate and describe the target and friendly positions for the mission commander. This information may be relayed through the ALO who has UHF radios. An ACT commander is ideally suited to conduct this control since he possesses both FM and UHF radios. Squadron SOP should define the procedures to accomplish this control to preclude confusion or mission cancellation.

PREPLANNED MISSIONS

Preplanned missions are those for which a requirement is anticipated. They permit detailed planning, coordination, and integration with the ground commander's scheme of maneuver and fire support plan. They are normally requested a day ahead in accordance with SOP. Preplanned missions allow ordnance loads to be tailored precisely to the target being attacked. Flexibility exists during execution allowing the ALO to shift the location of the target. Cavalry seldom conducts operations that allow preplanned missions to be submitted. They are most appropriate during missions assigned as an economy of force.

IMMEDIATE MISSIONS

Immediate missions are most frequently used by cavalry. Immediate requests are filled by aircraft on ground alert, loitering on station, or diverted from other missions. Aircraft ordnance loads may not be optimum to attack the target. Requests for immediate close air support go directly from the squadron ALO through Air Force channels and are processed unless intermediate monitoring headquarters disapproves the request. Details of the mission are generally coordinated while aircraft are airborne. Response may be rapid if airborne aircraft are assigned the mission, or it may take up to 30 minutes for aircraft on ground alert.

SUPPRESSION OF ENEMY AIR DEFENSE

Suppression of enemy air defenses (SEAD) is the activity that neutralizes, destroys, or temporarily degrades enemy air defense systems in a specific area by physical attack and electronic warfare to enable tactical air operations to be successfully conducted. Cavalry is seldom afforded the opportunity to plan and execute elaborate SEAD operations. Successful SEAD is simple, using the means available synchronized for maximum effectiveness. SEAD is tied closely to the target area and the airspace coordination area.

The S2, the fire support element, the flight operations officer, and the tactical air control party are key to development of the SEAD plan. The S2 identifies, from all available sources, the nature of the air defense threat and known or suspected locations of weapon systems. The fire support element evaluates indirect fire assets and munitions to effectively suppress the enemy air defense, and the tactical air control party identifies vulnerabilities and flight paths of mission aircraft.

Available direct and indirect fires are used to execute the plan. SEAD is normally executed largely with indirect fire, especially when the target is not very close to squadron elements. Direct fire assets, such as tanks or attack helicopters, can engage identified air defense weapons. Regimental electronic warfare assets may also assist.

SEAD is massed in the target area or against air defense weapons that may attack the aircraft from outside the target area. The tactical air control party recommends aircraft approach routes to minimize exposure. Ideally, SEAD is fired immediately before the airspace coordination area is implemented and the aircraft attack the target. Enemy air defense weapons outside the airspace coordination area can continue to be suppressed during the strike.

MISSION CONTROL

Control of the mission follows a general process that can be standardized to the extent possible in SOP. This process includes the following actions:

- Alert the squadron. When the air liaison officer is notified that aircraft are inbound, he immediately notifies the squadron to allow maximum time for coordination.
- Establish communications. The air liaison officer establishes communications with the mission commander. He determines the type of aircraft, ordnance, and direction of approach. He also begins briefing the aircrews and coordinating the airspace coordination area (ACA).
- Change weapons control status. The squadron commander changes the air defense weapons control status to a more restrictive condition, if necessary.
- Coordinate SEAD and ACA. The fire support element coordinates SEAD and the ACA. The actual dimensions of the coordination area are often coordinated face to face by the squadron commander, the fire support officer, and the air liaison officer in the command group.
- Mark target location. The target may already be adequately identified by ongoing friendly fires. If not, it is marked to ease identification for the aircrews and to preclude inadvertent attack of squadron units. Enemy positions are marked by mortar or artillery delivered smoke or an airborne forward air controller. In some cases, marking of friendly locations can be done with colored smoke.

- Execute SEAD.
- Implement the ACA. The informal ACA is often a two-dimensional block of airspace following prominent terrain features to facilitate recognition from the ground and air. It may be made three-dimensional by establishing maximum and minimum altitudes. The size of the ACA is a function of the type of aircraft, terrain, and close air support tactics used. It should be no larger than necessary to allow the target attack. Ingress and egress routes for aircraft can be designated along prominent terrain as part of the ACA.
- Execute the air strike. The air liaison officer remains in contact with the aircrews throughout the mission.
- Cancel the ACA immediately upon departure of the aircraft.
- Debrief the aircrews. The aircrews are a valuable source of combat information. The air liaison officer must immediately debrief them on assessment of target effect achieved and any other observations made during the strike. A clear situation brief before the strike allows aircrews to assess the significance of enemy activity sighted and report it to the squadron. The slant angle of observation by pilots often allows them to see through obscuration that units on the ground cannot.

JOINT AIR ATTACK TEAM

A JAAT is a combination of Army attack and observation helicopters and close air support aircraft operating together to locate and attack high-value, high-payoff targets. It normally operates in a coordinated effort with fire support, air defense artillery, and ground maneuver forces against enemy armored formations, command vehicles, and air defense weapons. Simultaneously employing attack helicopters and close air support aircraft against the same target array increases the lethality and survivability of both systems.

The JAAT provides the commander with a highly maneuverable, antiarmor force capable of engaging enemy forces at extended ranges. It is most effective against massed, moving armor formations and least effective against dug-in, prepared defensive positions.

A JAAT operation can be structured, planned with sufficient time to mass the combat power required. Close air support can be preplanned specifically for the JAAT. The more formal JAATs are run at regimental level. Squadrons seldom have the opportunity to organize and execute a detailed JAAT.

The aviation squadron plays the major role in coordinating JAAT missions in the regiment. The air liaison officer, the fire support officer, and the S3 do most of the coordination for JAAT aircraft, working with their regimental counterparts and US Air Force personnel. The aviation squadron or troop commander on the scene assumes control of the JAAT execution. The fire support officer concentrates on conducting SEAD and fire support for the JAAT. During a regimental JAAT, the aviation squadron receives direct support or priority of fires of available artillery

within range, to include squadron howitzer batteries. The fire support officers in the armored cavalry squadron assist in fire support, as necessary.

An informal JAAT is much more dynamic, formed as attack helicopters and close air support aircraft are available and the situation is favorable. This is the normal occurrence in division cavalry. The opportunity to organize a JAAT may be the decision point to surge an air cavalry troop. Squadron SOP should establish the procedures for operating a JAAT to facilitate organization during a mission.

A successful JAAT involves several key players. They are the ground commander (regiment or squadron), the air cavalry commander, the air liaison officer, and the fire support officer. The ground commander is responsible for the mission, determines the target to attack, and allocates resources. The air liaison officer coordinates as he would for a close air support mission and turns the aircraft flight over to the air cavalry commander when ready to execute. The fire support officer coordinates SEAD, shifts priorities of supporting fires, and provides fire support as directed. The air cavalry commander organizes his assets and assumes control of executing the JAAT.

Planning an informal JAAT must be simple. The commander identifies the target and may assign control measures to synchronize the operation with ground units. These control measures can include engagement areas and permissive and restrictive fire support coordinating measures. SEAD is planned and executed as in a close air support mission. Priority of fire is given to the air cavalry commander. Both ground troop mortars and artillery should support the JAAT when within range. An ACA can be established if necessary to control fire support to the JAAT.

In division cavalry, the squadron fire support officer can coordinate fires for the air cavalry troop. If advantageously located, a ground troop FIST may be designated as the air troop FIST for the duration of the JAAT.

Section VII. Air Defense Support

Air defense is all measures designed to nullify or reduce the effectiveness of an enemy attack or surveillance by aircraft, theater missiles in flight, or unmanned aerial vehicles. Air defense measures reduce the possibility of attack by making the cavalry unit a less detectable and lucrative target. In the event of attack, air defense counters the threat to destroy the aircraft or disrupt its attack. Air defense involves both passive and active measures.

PASSIVE AIR DEFENSE

Passive air defense includes all measures, other than active air defense, taken to minimize the effects of hostile air action. All cavalry units are responsible for these measures. These measures are continuous in nature and suitable for unit SOPs.

Maneuver formations and techniques for accomplishing tactical tasks include passive air defense. A pilot moving at high speed, often low to the ground to avoid high-altitude air defense systems, will have difficulty detecting a target that is not obvious. If he has detected the target, passive measures make his attack more difficult. Some passive measures are listed below.

- Cover and concealment for stationary vehicles.
- Camouflage to conceal exposed vehicles or reflective surfaces.
- Covered and concealed routes during movement.
- Vehicle dispersion when stationary and moving.
- Concealed track marks and terrain disturbances around stationary positions.
- Prepared positions for stationary vehicles or elements.
- Not engaging a passing fixed-wing aircraft unless it assumes an attack profile.
- Establishing and maintaining air guards.
- Establishing an air warning system in the squadron.
- Establishing drills to execute immediately upon air attack.

ACTIVE AIR DEFENSE

Active air defense is direct defensive action taken to destroy enemy air platforms or to reduce their effectiveness. It includes the use of organic weapons as well as supporting ADA systems.

While the first line of defense against enemy air is the constant application of passive air defense measures, squadrons must be prepared to actively engage air threats. Engagement can be by volume fire, using all available weapons to put up a curtain of massed fire into which the aircraft flies. The techniques for controlling this fire depend on the weapons available and the type of aircraft. When engaging helicopters involved in reconnaissance or air assualt operations, precision engagement by appropriate weapons can be used. Air-to-air engagement by air cavalry is part of this response.

The air defense artillery battery in the armored cavalry regiment provides an organic air defense capability to the regiment. Based on the factors of METT-T, IPB, and his intent, the regimental commander may allocate air defense assets to the squadrons or use them to protect critical sites or installations. The regiment may be reinforced with additional air defense assets. This is particularly true during economy-of-force missions to preclude a gap or lightly defended area in overall corps air defense coverage.

Division cavalry may receive both incidental and direct protection from ADA units. Collateral protection is provided when the squadron is operating under the protection of high-to-medium-altitude air defense (HIMAD) systems providing area coverage. The nature of reconnaissance and security operations may take the

squadron out from under HIMAD coverage. To provide close protection, complementing or when outside HIMAD protection, the squadron may receive support from short range air defense (SHORAD) systems. These are tracked, wheeled, and man portable missile systems from the division air defense battalion. They can support the squadron using any of the command and support relationships discussed in Section I.

AIR DEFENSE COMMAND AND CONTROL

Air defense warning procedures provide measures to alert, prepare, or increase unit readiness for air attack. Air defense warnings are commonly issued throughout the division or regiment for this purpose. Air defense warnings provide a degree of air attack probability (red, yellow, or white) based on the commander's evaluation of the threat in his area of operations.

Air defense warnings are routinely issued by the area air defense commander for dissemination throughout the theater of war or operations. Air defense warnings describe the general state of the probable air threat and apply to the entire area. Any commander may issue a higher level of warning, but not a lower level. Raising the level of air defense warning should be based on actual threat observations or intelligence on threat activity rather than a simple threat template. The chain of command must ensure that every soldier knows the current air defense warning. Air defense warnings will be sent out on air defense command nets and early warning nets at every level. It is the responsibility of the air defense officer at regiment or squadron level to inform their respective supported commanders of the current air defense warning.

While air defense warnings describe the probability of hostile air action over the entire theater of war or operations, local air defense warnings tell with certainty what the air threat is for a specific part of the battlefield. Air defense units use local air defense warnings to units as to the state of the air threat in terms of right here and right now. See Figure 9-8 for the three local air defense warnings.

LOCAL AIR DEFENSE WARNINGS	MEANING
Dynamite	Air platforms are in-bound or are attacking now. Response is immediate.
Lookout	Air platforms are in the area of interest but are not in-bound, or are in-bound but there is time to react.
Snowman	No air platforms pose a threat at this time.

Figure 9-8. Local air defense warnings.

Local air defense warnings do more than describe the current level of air threat in the immediate area. They also require specific air defense reactions from receiving units. Unit commanders must establish in their tactical SOP what they want their units to do when a local air defense warning is received.

Air defense control is exercised by rules of engagement that delineate the circumstances under which weapons can fire at an aircraft. These rules are issued by the area air defense commander or subordinate region air defense commander to provide the degree of centralized control required. These rules allow for decentralized execution. Subordinate commanders can issue more restrictive rules of engagement than those imposed by the area air defense commander, but not more permissive ones. The right of self-defense is always preserved. The rules of engagement important to cavalry are as follows:

- Hostile criteria. Hostile criteria describe the conditions under which an aircraft may be identified as hostile for engagement purposes. Examples of this include speed, altitude, heading, or other requirements within specified volumes of airspace. At squadron level these criteria include visual recognition of specific enemy characteristics or hostile acts.
- Weapons control status. Weapons control status describes the degree of fire control imposed (hold, tight, or free) on air defense weapons.

Centralized air defense control is maintained within the division and regiment by air defense digital and voice communications nets. The principal net is the early warning net. This net is used to issue changes to air defense warnings and rules of engagement and to alert units to approaching air threats. ADA units supporting squadrons maintain constant communications on this net. Changes and alerts that affect the squadron are relayed by the ADA unit leader to the squadron. Air defense units also operate on internal nets for command and control.

PLANNING AND EMPLOYMENT

ADA employment is governed by four basic principles—mass, mix, mobility, and integration. Considering these principles, the normal method of employing supporting ADA is under the centralized control of the ADA leader at squadron level. Occasionally, ADA squads and/or teams may be delegated to troop commanders if the ADA leader cannot maintain effective centralized control. The ADA leader is integrated into the fire support element as a special staff officer. The S2 determines air avenues of approach and air attack threats during IPB. The squadron commander or the S3 provides the ADA officer with the commander's intent, scheme of maneuver, and priorities of protection. The ADA officer recommends initial allocation of ADA assets and scheme of maneuver based on this guidance. Priority is normally given to those elements of the squadron at greatest risk of attack because of criticality, vulnerability, recoupability, and threat. These high risk elements can include the following:

- Reserve.
- Trains.

- Regimental support area (cavalry regiment).
- Command posts.
- ACT forward assembly area.
- FARPs.
- Squadron assembly areas.

Based on the commander's guidance, the ADA leader formulates the ADA plan. He coordinates the plan with the fire support element and troop commanders. Weapons are positioned considering the following guidelines:

- Balanced fires.
- Weighted coverage against the most likely approach.
- Early engagement.
- Defense in depth.
- Mutual support.
- Overlapping fires.
- Observation and field of fire.

ADA weapon systems can consume large quantities of ammunition. Class V resupply should be well forward with the squadron combat trains. This resupply may be on vehicles provided by the ADA unit or on organic squadron vehicles.

Section VIII. Engineer Support

Combat engineers increase the combat power of maneuver units by accomplishing mobility, countermobility, and survivability tasks. Additionally, they perform infantry combat missions when required. The three basic tasks are often used in combination. They are integrated with the commander's maneuver and fires to increase or afford opportunities for the commander to successfully accomplish the mission.

MOBILITY

Mobility operations maintain the freedom of movement for maneuver units and critical supplies. Engineers accomplish this by reducing the effects of existing or reinforcing obstacles, by crossing gaps, and by constructing and maintaining combat roads and trails. Engineers often support a squadron during reconnaissance to perform mobility tasks supporting the movement or maneuver of follow-on forces.

Specialized engineer equipment allows the engineer unit to perform obstacle reduction and gap crossing for the squadron in a more efficient and timely manner

than might otherwise be possible. The effort, however, is a responsibility of the squadron or troop commander. The engineer is part of the team employed after the commander has secured the obstacle, performed reconnaissance, and placed supporting forces in position.

Construction and maintenance of routes are accomplished to the extent necessary to support the momentum of the cavalry unit. Improving existing routes is the first choice and construction of short bypasses is second. Movement of service support assets is considered when constructing combat roads and trails. These assets are the most in need of this support.

COUNTERMOBILITY

Countermobility operations are those operations that attack the enemy's ability to maneuver. This is accomplished by enhancing existing natural impediments to movement with planned obstacles. Obstacles are classified as either existing or reinforcing.

Existing obstacles are those natural or cultural restrictions to maneuver that are part of the terrain when the battle begins.

Reinforcing obstacles are specifically constructed, emplaced, or detonated to tie together, strengthen, and extend existing obstacles. Existing restrictions can often be rapidly turned into effective obstacles with minimal effort. Each obstacle or group of obstacles is emplaced to achieve a specific effect (block, fix, turn, disrupt) on the enemy.

The two types of reinforcing obstacles are tactical and protective. Tactical obstacles are placed to achieve one of the above effects on enemy maneuver and are generally within or at the front of an engagement area. Maneuver units may assist engineers in placing tactical obstacles when speed is essential or engineer assets are limited.

Protective obstacles are placed close to friendly positions to provide unit security. They are typically placed by maneuver units without engineer support. Protective obstacles can normally be place outside planned obstacle zones and belts unless specified otherwise by higher headquarters or if the obstacles are not intended to be recovered.

Engineers use manpower and specialized equipment and demolitions in constructing obstacles. Availability of this equipment determines what a supporting engineer unit can accomplish. The staff engineer at the appropriate echelon prioritizes this effort to best support the commander's intent.

Standard obstacles are designed to help simplify and expedite planning and logistics; however, they are employed in multiples as necessary to conform to a specific target site. They are often established in SOP by the division or regimental

engineer. The obstacle guide lists all the types of obstacles the unit may employ and includes a drawing, a list of materials, and special instructions.

The family of scatterable mines (FASCAM) gives the commander a rapid, flexible, and effective means of delaying, canalizing, harassing, or wearing down enemy forces. FASCAM provides a method of emplacing obstacles to support contingencies or unforeseen situations. As with any reinforcing obstacle, it is integrated into the obstacle plan and supports the scheme of maneuver. FASCAM is normally employed as a situational obstacle; that is, it requires detailed planning and a trigger or decision point that determines when the minefield is executed. These triggers depend on the desired obstacle effect and the delivery system employed. Delivery systems include fixed-wing tactical aircraft (Gator), rotary-wing aircraft (Air Volcano), ground (Volcano delivered by 5-ton truck or M548 tracked cargo vehicle), tube artillery (ADAM/RAAMS), and man-pack (MOPMS). Each system has different self-destruct times, emplacement authorities, and risks associated with its use. Consult FM 20-32 for details.

The following considerations govern obstacle employment:

- Observe restrictions imposed by higher headquarters.
- Integrate with scheme of maneuver.
- Cover by observed fires.
- Integrate with existing obstacles.
- Employ in depth.
- Employ surprise.
- Guard to prevent prebreaching or infiltration by enemy.
- Final siting of obstacles must be done on the ground by the responsible maneuver commander and the emplacing engineer.

Additional guidance on obstacle employment may be found in FM 90-7.

SURVIVABILITY

Survivability operations are the development and construction of protective positions to reduce the effectiveness of enemy weapon systems. Engineers construct survivability positions for command and control elements and for critical equipment and supplies. They dig individual and crew-served weapon positions, vehicle fighting positions, and may provide cover for personnel and vehicles. The greatest survivability effort is expended in the defense.

Engineers use much of the same equipment in survivability tasks that is used in obstacle preparation. There is seldom enough time or equipment for the engineers to do all the tasks desired. Soldiers, vehicle crews, and units must do all they can to

prepare survivability positions. The squadron commander designates the priority for engineer effort in survivability work.

Responsibility for constructing the position rests with the soldier who is going to occupy and fight from it. The engineer constructs it as directed. Soldiers must be proficient in supervising the construction of fighting and survivability positions. The soldier or crew occupying the position is responsible for camouflage after construction is complete.

In a hasty defense, survivability tasks are normally not started until after obstacles are emplaced.

COMBAT ENGINEER EMPLOYMENT

The combat engineer company in the armored cavalry regiment provides a significant engineer capability. The regiment may also be augmented with corps engineer assets (normally an engineer battalion). The regimental commander allocates these engineer assets based on METT-T factors.

The division cavalry squadron is often supported by a combat engineer platoon from the division combat engineer brigade. This platoon is often task organized with mobility and countermobility equipment from the engineer company. In some missions where facilitating the movement of other forces is critical, more engineers may be assigned to initiate mobility tasks at the earliest possible moment. When engineers are limited, they are best employed under squadron control to keep their efforts focused where most critical. Priority of effort for engineer tasks is specified by the squadron commander. He may also specify priority of support to subordinate units. During countermobility operations, priority can also be specified to designated portions of the obstacle plan.

The engineer unit may be placed in a supporting relationship with a specific subordinate ground troop for an operation where this arrangement best accomplishes the mission. Seldom should an engineer unit be delegated at less than platoon size. The engineer platoon leader can best manage the collective effort of the entire platoon and supporting equipment using them as needed to accomplish the commander's intent. Zone or area reconnaissance missions may, on occasion, require an engineer platoon to delegate squads to scout platoons.

Engineer effort or equipment may shift from supporting one troop to another. Troops may be given priority of equipment or support for certain tasks or periods of time. Units are responsible for picking the engineers up at designated locations and escorting them through the zone or sector during their work. Doing so ensures timely transfer and rapid employment of the engineer on his assigned tasks. Squadron units provide security to engineers while working on their tasks so the engineer's effort is focused. This security is often inherently accomplished by unit formations and engineer placement. In other situations, it may require positive action on the part of the squadron or troop commander.

The squadron must be prepared to provide combat service support to the engineers. This may range from coordinating support for an operationally controlled unit to providing support to an attached unit. The S4 and the engineer unit leader develop and coordinate a plan that ensures the supply of Class I, III, IV, V, and IX to support the engineer effort.

RECONNAISSANCE OPERATIONS SUPPORT

During reconnaissance operations priority of tasks is normally mobility, countermobility, and survivability. Priority of mobility effort is along a designated route used by the squadron or follow-on forces.

The following tasks guide the employment of engineers during reconnaissance or offensive security missions:

- Normally move well forward with or immediately behind a lead ground troop.
- Supplement troop route reconnaissance by reconnoitering specific roadway features that are damaged or require more technical engineer analysis.
- Create bypasses around obstacles.
- Reduce obstacles beyond troop capability. Every obstacle encountered during a reconnaissance mission may not require reduction by the engineers supporting the squadron. Those that may significantly impact on the mission of follow-on forces deserve attention. Others are marked and reported. Main body engineers must be prepared to supplement the efforts of the squadron's engineers by improving breaches and conducting breaches of other obstacles.
- Emplace tactical bridging.
- Improve ford sites.
- Improve embankments at swim sites.
- Emplace protective minefield on exposed flanks.
- Construct combat trails.

SECURITY OPERATIONS SUPPORT

During security operations priority of effort is normally countermobility, survivability, and mobility. The following tasks guide employment of engineers during defensive security missions:

- Begin work as early as possible and proceed continuously throughout the mission within constraints imposed by crew rest and equipment maintenance.

- Task specific pieces of engineer equipment to construct survivability positions while obstacles are being emplaced.
- Prioritize countermobility effort to specific portions of the obstacle plan, normally starting in the forward areas and working back.
- Ensure tanks or weapon systems placed in fighting positions are dug in. Scout observation posts seldom require survivability positions.
- Emplace tactical bridging to improve mobility of squadron assets in sector.
- Build combat trails to support the execution of reserve contingencies and troop displacements.
- Emplace hasty obstacles during the mission in support of squadron FRAGOs.
- Create bypasses around obstacles created by battle damage during the mission.

INFANTRY ROLE

Combat engineers prepare to fight as infantry as a secondary mission; however, the decision to employ an engineer unit as infantry is made only in critical circumstances. Using engineers as infantry must be weighed against the loss of their greater capabilities as a combat multiplier performing their primary missions. Their combat capabilities are limited to their organic weapons. Squadron commanders should not develop a plan that hinges on supporting engineers fighting as infantry. Engineers are prepared to fight during their normal missions. When forced to do so, the squadron must support them with maneuver units and fire support.

Section IX. Nuclear, Biological, and Chemical Support

Chapter 8 discusses unit NBC defense measures. This section discusses support available from or provided by the division to the division cavalry squadron, and the support provided to the regiment by the regimental chemical company.

The division chemical company provides decontamination, reconnaissance, and smoke support to the division. These elements may provide area support to the squadron based on support relationships with brigades. In some situations, they can directly support the squadron.

The regimental chemical company provides the same support to units of the regiment. It contains a reconnaissance platoon and a smoke/decontamination platoon. Generally, the smoke/decontamination assets are kept under regimental control while reconnaissance assets are decentralized. The dual purpose platoon has

limitations. The smoke track and wheeled vehicles are operated by the same troopers. When the regiment is spread across a corps frontage and uses the smoke/decontamination platoon for smoke purposes, additional decontamination assets from corps will be required.

DECONTAMINATION SUPPORT

Squadrons receive support from a decontamination platoon when thorough decontamination is required. Thorough decontamination is normally required after contamination with a persistent agent or prolonged exposure to other agents. Thorough decontamination requires detailed planning and increased manpower and equipment resources. It is conducted in a forward area to limit contamination spread, but out of likely contact with the enemy throughout the operation.

The squadron may be relieved by other units to conduct thorough decontamination. Decontamination may proceed by troop or the entire squadron may report to the decontamination site. If the decontamination proceeds by troop and the squadron remains committed in a mission, the decontamination unit may be placed under the operational control of the squadron. More often, the affected troop or the entire squadron moves to the established site and conducts thorough decontamination under division or regimental control. This method permits the best use of decontamination assets and an expedited decontamination effort.

RECONNAISSANCE SUPPORT

The NBC reconnaissance platoon minimizes the effects of enemy NBC attacks by detecting, identifying, marking, and reporting NBC contamination hazards. The NBC reconnaissance platoon supports the entire division or regiment. The platoon supplements organic capabilities of the cavalry squadron. It may be employed by the chemical company or directly support maneuver units.

The squadron may receive support from reconnaissance teams during reconnaissance and when involved in rear operations. They should be treated as specialized scouts and not used to replace troop scouts. NBC reconnaissance teams allow squadron reconnaissance to proceed faster by relieving troop scouts of the requirement to identify and mark a contaminated area. The squadron may begin a mission with known locations of contamination identified by IPB. The NBC reconnaissance elements are then organized to focus on that area when the squadron reaches it. In other cases, NBC contamination may only be suspected or possible. The NBC reconnaissance element is then deployed to support the squadron as a whole and reacts to contamination reports.

NBC reconnaissance elements can be integrated into the combat formations of ground troops to provide a rapid response. They should not lead the troop; they are not trained for that task. If contamination is identified in advance, the team moves forward as the troop approaches the area. Scouts bypass known or suspected

contaminated areas and the NBC reconnaissance element performs an area reconnaissance. The NBC reconnaissance element may have to lead the scouts while seeking a bypass. Support by NBC reconnaissance elements does not relieve the scouts from performing NBC tasks established in SOP.

Section X. Smoke Operations

Smoke is used to conceal friendly activities, to blind enemy observation and fire control, to deceive the enemy concerning friendly intentions, and to provide visual marking. It is an artificially produced aerosol of solid, liquid, or vapor in the atmosphere that weakens the passage of visible light or other forms of electromagnetic radiation. Smoke can have both psychological and physiological effects on individuals, and it may defeat or degrade optical or electro-optical sights and target acquisition devices. Laser range finders are degraded in smoke. It can disrupt command and control and the maneuver of unit formations. The squadron and regimental commanders must consider using smoke to aid the scheme of maneuver and plan to counter enemy use of smoke.

SOURCES

Smoke sources range from those readily available to squadrons but limited in capacity to supporting assets capable of large volumes of smoke. The more substantial the requirement for smoke, the more planning and coordination required.

Sources of smoke include the following:

- Vehicle-mounted grenade launchers are employed at crew level to screen the vehicle from the enemy during an engagement. They can be used defensively or to mask movement to a better engagement position.
- Vehicle engine exhaust smoke system (VEESS) is mounted on some combat vehicles. It produces a dense cloud of smoke from the exhaust. It can be used in conjunction with the vehicle smoke grenade launcher or separately. It consumes fuel, which is a factor that must be considered in the decision to employ it. VEESS can screen an individual vehicle or unit. Wind conditions must favor its use to place the cloud between the friendly and enemy units. The plume of smoke generated by VEESS makes the vehicle readily identifiable from the air.
- Smoke grenades may be used for identifying and signaling and for producing small localized obscuration.
- Smoke pots generate a great amount of smoke in a short time. They are small, can be carried on vehicles, and ignited manually or electrically from a remote position. They also can be lit individually or sequentially in a long-burning chain. There are a wide variety of uses because of this flexibility.

- Mortar and artillery smoke was discussed in Section III and Section IV.
- Air-delivered systems may be available from tactical air support aircraft for critical mission requirements.
- Mechanical smoke generators are located in the division and regiment chemical companies. They produce the largest volume of smoke, but also take longer to get into position and initiate the screen. They are primarily used to screen large areas and to produce deceptive screens.

TYPES

Four forms of smoke employment support squadron operations:

- Screening.
- Obscuring.
- Deceiving.
- Identifying and signaling.

Screening smoke is employed in areas of friendly operations or in areas between friendly and enemy forces to conceal ground movement, breaching, recovery operations, key assembly areas, supply routes, and logistic facilities. The enemy may be aware of the friendly unit presence, but will not be able to detect actual activity or intent. There are three types of screening smoke:

- Curtain. A smoke curtain is a dense vertical cloud placed between the friendly and enemy locations, normally along the leading edge of the unit. Aircraft may be forced to climb high to see over the top or risk penetrating the curtain for observation.
- Blanket. A smoke blanket is a dense horizontal layer of smoke that can all but cover up a unit. It is a heavy smoke concentration usually used over friendly areas to screen them from enemy ground or aerial observation. The maximum, visibility within a smoke blanket should be no more than 50 meters. A blanket could have the undesirable effect of grounding squadron aircraft.
- Haze. A smoke haze is similar to a blanket. It is a light concentration of smoke placed over friendly areas to restrict accurate enemy observation and fire. The maximum visibility within a small haze should be 50 to 150 meters. It does not completely hide a unit, but a haze makes it difficult for the enemy to see targets partly hidden by smoke.

Obscuring smoke is employed on or near the enemy to minimize his vision both within and beyond his position area, or to cause an enemy force to vary speed, inadvertently change direction, deploy prematurely, or rely on nonoptical means of communication. Effective obscuring smoke must have well-identified enemy locations.

Deceiving smoke is used to mislead the enemy on friendly intentions. It should be considered a part of all deception plans. Deceptive smoke can draw enemy attention and firepower away from the main effort underway elsewhere. Deceptive smoke should be planned for every operation in which screening smoke is used to prevent the enemy from immediately determining friendly intentions. During a directed deception operation, the squadron may be directly supported by elements of the division smoke platoon or by part or all the smoke/decontamination platoon in the regiment.

Identifying and signaling smoke is used to identify targets and friendly units. Signaling smoke may assist in medical evacuation and vehicle recovery operations. It can be also be used for preplanned visual battlefield communications. When used as such, it should be established in SOP.

PLANNING CONSIDERATIONS

Like illumination, smoke should be planned for every operation. It is better to plan for contingencies and have smoke available than to react to situations without being prepared. Smoke is limited, especially in indirect fire basic loads. It is used only when needed, never indiscriminately.

Screening and obscuring smoke is useless unless employed in quantity. The smoke cloud must be large and dense enough to meet the needs of the mission.

Smoke effectiveness depends on weather conditions and on wind direction and speed. If conditions are not advantageous, it may preclude effective use of smoke. Conditions can also dictate changes in the type of smoke planned for the operation.

The S3 is responsible for integrating smoke into the scheme of maneuver. The chemical officer has functional responsibility. When planning the use of smoke, the degradation of enemy combat effectiveness must be weighed against possible degradation of the squadron's combat power and command and control.

The impact on other friendly units, particularly air cavalry, must be considered and coordinated during planning and execution.

Smoke is valuable during limited visibility. Smoke adversely affects night vision equipment of all types and a relatively small amount can significantly reinforce the other limited visibility conditions. Incendiary smoke may also blind thermal sights.

To put smoke where it is wanted and to keep it there, all smoke sources must be controlled and adjusted like indirect fires. During an extended smoke operation, adjustments must continue as wind conditions change.

Smoke will frequently be present on the battlefield as a natural by-product of combat. Squadron and troop commanders should take advantage of this obscuration during operations to conserve available resources of smoke.

Smoke is a limited visibility factor. Commanders and leaders counter the enemy's use of smoke by taking the limited visibility actions appropriate for the mission. These actions are discussed in Chapters 3, 4, 5, and 6. The capability of the squadron's observation, target acquisition, navigation, and rangefinding equipment dictates how much adjustment is required.

SMOKE IN RECONNAISSANCE OPERATIONS

The use of smoke during reconnaissance operations must be carefully controlled. Smoke is a signal to the enemy that something is occurring. It naturally causes him to increase his security and reconnaissance effort. Surprise maintained up to that point is lost. Smoke is planned, however, so that it can be used immediately when the situation demands. The squadron SOP establishes procedures for restricting use of on-board smoke devices to preclude inadvertent use. Permission of the troop commander may be required before use. Smoke may be used to—

- Obscure vehicles from enemy gunners.
- Blind enemy observers.
- Cover a breaching operation.
- Conceal a bypass.
- Screen a hasty attack.
- Disorient the enemy in his defensive positions.
- Defeat guided weapon tracking systems.
- Screen a passage of lines.
- Create a deception.
- Assist in crossing water obstacles.
- Mark enemy positions.

SMOKE IN SECURITY OPERATIONS

Smoke is a significant combat multiplier for the squadron during security missions. The degradation of enemy command and control and disruption of timetables and formations that smoke can cause are valuable tools for the squadron. Smoke can be used in the following ways:

- Separate and isolate attacking echelons of reconnaissance and main body forces.
- Slow the advance of enemy formations.

- Obscure obstacles.
- Deceive the enemy on the size of force being faced.
- Support the disengagement of troops.
- Obscure enemy reconnaissance and surveillance efforts.
- Degrade the effectiveness of enemy direct and indirect fires.
- Conceal movement and concentration of troops and company teams.
- Screen a counterattack.
- Mark enemy positions.
- Isolate portions of an enemy force for destruction in an engagement area.

Section XI. Intelligence and Electronic Warfare

The intelligence and electronic warfare (IEW) system produces both combat information and intelligence. Combat information is unevaluated data gathered by or provided directly to the tactical commander that, because of its highly perishable nature or the criticality of the situation, cannot be processed into tactical intelligence in time to satisfy the user's tactical intelligence requirements. Intelligence is the product resulting from the collection, evaluation, analysis, integration, and interpretation of all available information concerning an enemy force, foreign nations, or area of operations. Intelligence is immediately or potentially significant to military planning and operations. The IEW system supports the commander by accomplishing six major tasks—indications and warning, IPB, situation development, target development and support to targeting, force protection, battle damage assessment.

Cavalry is a critical component of the division and corps all-source intelligence systems. Cavalry units are both users and providers of information. During planning, the regiment and squadrons use IPB products to assist in planning the assigned mission. During reconnaissance and security operations, they provide fresh combat information both to the commander and to the IEW system. As the corps and division commanders' eyes and ears, cavalry responds to their information needs. These needs may be clarified by the G2 with information requirements specifying those items of information regarding the enemy and his environment that need to be collected and processed. The squadron or regiment should not receive conflicting guidance from the commander and the G2. The G2 should understand the capabilities and limitations of the cavalry unit and develop a special relationship with the cavalry unit commander to facilitate the flow and use of combat information.

DIVISION INTELLIGENCE AND ELECTRONIC WARFARE

The bulk of the special purpose IEW assets in the division is either organic to or controlled by the military intelligence (MI) battalion during combat operations. These assets include information analysis and intelligence dissemination, electronic warfare equipment, interrogation support, and ground surveillance radar (GSR). MI companies are in direct support to maneuver brigades and could be tasked to provide support to the cavalry squadron. The squadron S2 must be aware of the assets that are employed in the area and any support that may be available. When the situation dictates, the S2 automatically requests support from available assets.

REGIMENTAL INTELLIGENCE AND ELECTRONIC WARFARE SUPPORT

The regimental MI company provides the regiment with organic IEW assets similar to those of a division MI battalion, but on a smaller scale. The regimental MI company contains IEW assets, interrogation support, and GSRs. In addition, the regimental S2 has an analysis and control element from the MI company under his operational control during tactical operations. This analysis and control element provides intelligence collection management, analysis, and dissemination. The regimental MI company maintains continuous contact with the corps MI brigade to ensure timely reporting and dissemination of all combat information and intelligence.

INTELLIGENCE AND ELECTRONIC WARFARE SUPPORT

IPB is important to the division cavalry squadron for planning and executing missions. The S2 must aggressively seek IPB products and updates from the G2 element of the division TOC throughout an operation. He must likewise constantly report combat information as it is generated by the squadron. He analyzes information for use at squadron level by combining available information from division and cavalry troops. During operations under division control, the squadron S2 operates on the division OI net. Maneuver brigade S2s collect information by eavesdropping, speeding the dissemination process.

The regimental S2 has a variety of sources to draw on for IEW support. He has access to the corps intelligence assets controlled by the MI brigade. He must constantly seek IPB products and information from the corps G2 and the corps analytical control element. He is also responsible for combining and analyzing the massive amounts of information generated by the squadrons and MI company, reporting this information quickly and accurately to corps, and disseminating combat information and intelligence back to the squadrons.

The division cavalry squadron may be supported by GSRs from the division MI battalion. The regimental squadron is normally augmented with GSRs from the regimental MI company. GSR equipment can be vehicle or ground mounted to

provide a line-of-sight capability to detect moving objects against a background at extended ranges. It is particularly useful as a supplementary observation device, especially during periods of limited visibility. As a surveillance asset, GSR is integrated with the reconnaissance effort or troop OPs. The S2 normally directs the employment of GSR in coordination with the S3 and ground troop commanders. GSR can be employed under squadron control and report on the OI net, but is normally attached to ground troops. Even when attached, the S2 may direct general positioning or priorities of surveillance for the GSR.

GSR employment is guided by the following considerations:

- It is vulnerable to enemy direction finding and jamming.
- It should be positioned in an area that is free of ground clutter and affords long-range observation and wide field of view.
- The GSR team leader, like a scout section leader, determines the exact position for siting the radar based on general positioning guidance and desired surveillance activity.
- The radar can be operated on a time schedule, randomly, or continuously as required. Continuous operation increases the risk of location by the enemy and possible destruction or jamming.
- GSR can search avenues of approach or possible enemy positions.
- GSR can monitor point targets such as bridges, defiles, and road junctions.
- Observation of scouts can be extended by enabling them to survey distant points and areas of special interest.
- It can assist in guiding patrols and units moving during limited visibility.
- Target areas of interest, engagement areas, and obstacles can be searched for the presence of enemy and control of friendly direct and indirect fires.

The division cavalry squadron is seldom augmented with other IEW assets. The regimental MI company has an organic collection and jamming (C&J) capability. The regimental commander normally maintains control of these C&J assets. The regimental S2 advises the commander on their employment.

Section XII. Military Police Support

Military police (MP) operations play a significant role in assisting the tactical commander to meet the challenges associated with combat. They provide support to the mobility and survivability functions of the regiment by enhancing circulation control, conducting security (to include area security, physical security, VIP security, law and order operations, and populace and resource control), and conducting internment and resettlement operations for EPW/CI, US military

prisoners, and dislocated civilians. Additionally, MPs provide HUMINT consequence to their police intelligence role and their interface with the host-nation military police and constabulary. Corps MP units provide support to the regiment. Division cavalry seldom has MP task organized, but receives support as a divisional unit. This is particularly the case during rear operations when close coordination is necessary.

MPs undertake continuous coordination with host-nation civilian police to maintain control of the civilian population and to enforce law and order. Additionally, MP units frequently take measures to support area damage control. The enemy's damage to the terrain determines the degree and kind of MP support needed and where to place priority of effort. MPs report damaged or destroyed road networks, bridges, and contaminated areas, allowing main supply route activities to reroute. They secure critical activities, such as communications centers and water and electrical supply sources. MPs are also responsible to secure critical cells within the corps and Theater Army Area Command main command posts, which often use existing "hardstand" structures located in built-up areas.

MPs are tasked with EPW operations and will collect them as far forward as possible. MPs also operate collecting points and holding areas to briefly retain EPW and civilian internees. EPW operations relieve the maneuver commander from the responsibility of controlling EPW. This is often the most essential MP support provided to the regiment to preclude diversion of cavalry troops.

Commanders must realize that MP support may not be available and that other soldiers may have to assume certain MP missions, such as the following:

- Route reconnaissance, selection of routes/altemate routes, convoy escort, and security of lines of contact.
- Control of roads, waterways, and railroad terminals, which are critical choke points in the main supply route.
- Security of critical sites/facilities/units, to include—
  - — Communication centers.
  - — Government buildings.
  - — Water and electrical supply sources.
  - — Command, control, and communication nodes.
  - — Nuclear/chemical delivery means and storage facilities.
  - — Other mission-essential areas.
- Refugee control in close cooperation with host-nation civil authorities.
- Collection and escort of EPW.
- Straggler control.

Chapter 10

COMBAT SERVICE SUPPORT

"Without supplies neither a general nor a soldier is good for anything."
Clearchus of Sparta, 401 BC

Combat service support (CSS) is the assistance provided to sustain combat forces, primarily in the fields of administrative/logistics. The mission of the CSS system is to sustain the combat power of the cavalry on a continuous basis as far forward as possible. The sole measurement of successful sustainment is the generation of combat power at the decisive time and place. The CSS system facilitates the commander's ability to generate combat power and allows freedom to maneuver.

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PART I. COMBAT SERVICE SUPPORT SYSTEM

Section I. Fundamentals

The CSS system will be challenged to sustain cavalry in fast-paced, wide-ranging operations. Modern battle will be characterized by consumption of supplies at higher rates than any warfare in history. All resupply and services must be planned to support the cavalry in spite of nonlinear battlefields, rapid transition from one mission to another, and extended lines of support. Logistics must be planned in advance and aggressively pushed forward to the troops without the delay imposed by reacting to requests. Coordination with CSS staffs must be constant to maintain the flow of support throughout extended operations and changing support relationships. Support systems for ground and air support must be streamlined and brought into the same channel as much as possible.

TACTICAL CSS FUNCTIONS

Tactical CSS involves six essential functions: manning, arming, fueling, fixing, moving, and sustaining soldiers and their systems.

Manning involves the personnel support activities that ensure the commander has the personnel required to accomplish the mission. It involves the management of personnel readiness, replacements, and casualties. Personnel managers coordinate with materiel and movement managers and with medical and mortuary affairs systems to ensure the right people are where they need to be at the right time.

During intense combat, arming the cavalry is a critical, demanding, and time-sensitive logistics function. Cavalry forces use a wide variety of sophisticated

weapon systems that consume high tonnages of ammunition during combat. The arming system must be able to meet these needs through integration of supply, transportation, and maintenance functions. The system must be flexible enough to provide a surge capability to meet the high requirements of combat.

Fueling is the provision of fuels and lubricants to the cavalry. Like arming, fueling the force is demanding as high consumption rates for aircraft and armored vehicles will place a great demand on the system to keep them running over the extended distances that cavalry operates. All operations depend on movement of personnel, equipment, and supplies as well as the operation of equipment. Such activities are possible if logisticians are able to accurately forecast and effectively provide the fuel to meet these needs when required. Measures to reduce the variety of required fuels greatly reduce the complexity of fueling the force.

Fixing the force is a vital component of ensuring maximum availability of scarce equipment to the commander. Fixing entails maintaining, recovering, repairing, evacuating, and replacing the combat equipment of the cavalry. Preventive maintenance checks and services (PMCS) by operators are fundamental to sustaining equipment readiness and reducing needless downtime. Prompt recovery and repair by organizational maintenance elements keep systems in the cavalry and reduce turnaround time. Battle damage assessment, evacuation, and replacement of nonrepairable equipment keep the cavalry effort focused within its capabilities and recoverable equipment in the support system. Managing repair parts is a critical part of fixing.

Moving is inherent in the operations of all cavalry elements. Moving the force specifically relates to the planning and execution of the movement of soldiers, equipment, and supplies to and from the cavalry. It includes movement within the cavalry unit as well as to and from the support echelons. Transportation assets and the road networks they use are managed with maximum efficiency. Every support vehicle should carry something when moving either forward or to the rear.

Sustaining soldiers and their systems involves the provision of a wide range of services and supplies. Quality of life for the soldier is a command responsibility. It has a considerable effect on the soldier's readiness and willingness to fight. It is associated with all the services that directly ease his personal concerns. These include personnel service, combat health, field service, and general supply support. Quality of life also depends on the knowledge that a soldier's family is receiving care. Soldier sustainment involves the following systems:

- Personnel services support enhances soldier performance by providing services that bolster his morale and his sense of well-being. Specific functions include personnel services, religious support, legal service support, finance services, and resource management.
- Combat health support (CHS) provides a continuum of health care from all locations throughout a theater to the CONUS base.
- Field service support consists of a variety of capabilities designed to provide essential services and enhance a soldier's quality of life during operations. It

includes food preparation, water purification, mortuary affairs support, airdrop support, laundry and shower services, and clothing and light textile repair.

- General supply support refers to supply of subsistence, clothing, water, barrier material, and major end items.

FM 100-5 and FM 100-10 discuss these functions in detail.

CSS CHARACTERISTICS

"What I want to avoid is that my supplies should command me."

Comte de Guibert, 1700

Sustainment enables the cavalry commander to accomplish the wide range of tasks he may be assigned. The logistics tail must not needlessly inhibit the operations of the cavalry. To meet this challenge, CSS leaders are guided by five imperatives: anticipation, integration, continuity, responsiveness, and improvisation.

CSS leaders must not only support the ongoing operation but anticipate future events and requirements. The S4 must anticipate the needs of the unit as an operation is occurring, coordinate to push support forward, keep the commander abreast of CSS status and capabilities, and keep the support echelons informed of requirements. If the CSS system becomes reactive, support will always be too late. The S4 must immediately begin planning when he receives the warning order and FRAGOs. He must determine support requirements, coordinate changes to support relationships, and alert the supporting units to new trains positions to maintain the flow of support.

Commanders and staffs must integrate CSS into the planning process. At troop level the commander and the XO do this. At squadron level the S4 has staff responsibility and works with the squadron commander, XO, S3, and HHT commander. At regimental level the S4 has staff responsibility and works with the regimental commander, XO, S3, and support squadron commander. A plan that cannot be supported logistically must be changed. CSS leaders must identify sustainment problems during the estimate process and before the operation starts.

Sustainment efforts are continuous. An operation should not be stopped or lose momentum because the CSS system cannot maintain the support effort. Continuous support will be challenged by changing support relationships, operating over wide ranges, and seizing tactical opportunities.

Responsiveness is the ability to meet changing or unforeseen requirements on short notice. The CSS system must be as agile as the maneuver system to allow the commander to successfully seize opportunities, exploit tactical success, or meet an enemy initiative.

Improvising is essential as CSS leaders seek to solve significant, often unanticipated problems. These problems may be caused by enemy action against the

support system, mass casualties and destruction of maneuver assets, environmental conditions of the area of operations, or disruptions of command and control. Normal operating procedures may be suspended and extraordinary measures taken to overcome the problem. Agility, initiative, and ingenuity on the part of CSS leaders are essential.

These imperatives should be encompassed in SOPs as they establish the focus for organization and operations of the CSS system. FM 100-5 and FM 100-10 provide background on these imperatives.

Section II. Planning

CSS planning is the primary responsibility of the regiment and squadron S4s and the troop XO. It is fully integrated into all operations planning. The concept of operations must be synchronized with logistics support. CSS planning is continuous and concurrent with ongoing support execution, and is conducted to ensure support during all phases of an operation. The CSS plan is as detailed as time permits. The SOP should be the basis for squadron CSS operations with planning conducted to determine specific requirements and to prepare for contingencies. Squadron and troop orders should address only specific support matters for the operation and any deviations from SOP.

To provide effective support, CSS planners and operators must understand the mission statement, intent, and concept of the operation. To predict support requirements, CSS planners must determine the following:

- What type of support is required.
- What quantities of support are required.
- The priority of support, by type and unit.

With these support requirements determined, CSS planners assess the following information:

- What CSS resources are available (organic and supporting).
- Where the CSS resources are.
- When CSS resources can be made available to the squadron and troop.
- How they can be made available.

With this information, the planners develop the support plans for the operation. Several planning tools are available. The logistics estimate described in FM 101-5 is the formal, detailed process of CSS planning. It is used when time is available. Normally, logistics estimates at the regimental level are in note form. Frequently at

squadron level and normally at troop level, CSS planning is more informal. It is normally formulated in terms of the following considerations:

- What the current and projected unit status of maintenance, supply, and transportation is.
- What quantities and types of logistics are needed to support the operation.
- How it will be transported to where it is needed.
- When it must be on hand.
- What external support is needed.
- What displacement of CSS assets is required.
- How requirements can be met.
- What host-nation support is available.
- What the shortfalls and impact on the operation are.
- What courses of action are supportable in priority.
- What the availability of CHS assets is, to include medical evacuation and treatment.

The information to address many of these considerations should be readily available to CSS planners to facilitate rapid planning. CSS operators maintain status charts and books, receive updated status reports when a warning order is issued, use established planning factors and data tailored for their unit, and use the procedures and organizations explained in the SOP. The OPLOG planner contains detailed planning data for combat operations. This data is supplemented by actual operational experience.

Squadrons and troops frequently use the "push" concept of resupply. Under this concept, standard loads of supply are brought forward to troops or platoons unless a specific request is made otherwise. Thus, reports and requests are used for changes in situation, and not merely for periodic repetition of numerical data.

SUPPORTING RECONNAISSANCE OPERATIONS

Maintaining the momentum of the operation is the overriding consideration in supporting reconnaissance. Certain general considerations guide planning and preparation. These considerations also apply to offensive security missions and offensive operations when conducted as an economy of force. The emphasis on any particular consideration varies with the mission assigned. Emphasis, priorities, and requirements may also shift as the operation is underway. The availability of adequate supplies and transportation to sustain the operation becomes more critical as the operation progresses. Main supply routes lengthen, communications are strained, and requirements for repair and replacement of weapon systems increase.

Planning considerations in support of reconnaissance are listed below.

- Echelon squadron trains. Combat trains remain mobile.
- Position a portion of each essential CSS asset, such as ammunition, POL, and maintenance in the combat trains.
- Ensure basic loads remain replenished.
- Plan for an increased consumption of POL.
- Recover damaged vehicles only to the squadron main supply route for further recovery by squadron assets.
- Use push packages of preplanned and preconfigured essential logistics items.
- Plan for increased vehicular maintenance, especially when operating over rough terrain.
- Use maintenance support teams well forward.
- Request unit distribution at forward locations. If time is short, use supporting unit vehicles to rearm and refuel combat vehicles in assembly areas so that squadron cargo and fuel trucks are fully loaded at the start of the operation.
- Request additional CSS assets from division or the regimental support squadron to support attachments or extended operations.
- Plan use of airlift and airdrop for resupply.
- Prepare for increased use of meals ready-to-eat (MRE) with a corresponding decrease of food-service prepared meals.
- Use captured enemy supplies and equipment, particularly support vehicles and POL. POL should first be tested for contamination. Vehicles must be well marked to prevent misidentification and engagement by friendly units.
- Test natural water sources before using.
- Suspend most field service functions.
- Select supply routes, logistics release points, and subsequent trains locations for the entire operation. Plan alternate routes and means.
- Plan and coordinate EPW operations. Anticipate greater numbers of EPWs.
- Plan for increased casualties, use of patient collecting points and ambulance exchange points, use of corps aeromedical evacuation resources, increased combat health logistics (Class VIII supplies and equipment) requirements, augmentation of medical treatment elements, and increased mortuary affairs.
- Upload logistics required for the operation in advance as much as possible.
- Plan for increasing distances and longer turn-around times for main supply route operations.
- Do not compromise the operation with CSS preparations.

SUPPORTING SECURITY OPERATIONS

Defensive-oriented security missions and defensive missions assigned as economy of force have similar general planning considerations. These missions tend to be dynamic in nature, involving substantial maneuver. As they become more dynamic, certain planning considerations for reconnaissance apply. The most important consideration for security operations is best use of available preparation time and front-loading of the CSS effort. As with reconnaissance, emphasis on any particular consideration varies with the mission assigned and shifts during mission execution. Planning considerations include the following actions:

- Plan for increased use of Class IV and Class V.
- Pre-position limited amounts of ammunition, POL, and barrier material in centrally located forward positions.
- Pre-position ammunition and other critical supplies on subsequent positions in depth.
- Request additional CSS support from division or the regimental support squadron for attachments.
- Consider the additional transportation requirements for movement of Class IV and pre-positioned stockpiles.
- Use push packages of critical supplies on a scheduled basis. Continue resupply until the using unit requests otherwise.
- Resupply during limited visibility to reduce the chance of enemy interference.
- Prepare to conduct emergency resupply on short notice well forward during lulls in the battle or as required.
- Plan to compensate for lost CSS capability.
- Use maintenance support teams well forward in the combat trains and at the UMCP.
- Echelon CSS assets in depth. Plan displacement of these assets so uninterrupted support continues.
- As missions become more dynamic in execution, increase the mobility of forward support assets to maintain pace with the unit.
- Select main supply routes that do not interfere with movement of units or a reserve force. Plan alternate routes and means.
- Plan mobility operations to maintain main supply routes.
- Plan displacement of support assets and supplies early to keep routes open and preclude unnecessary interference with maneuver units. Nonessential CSS assets should move as early as possible.
- Limit the forward flow of supplies to only those essential for the operation.
- Plan to destroy supplies and equipment (except medical) that cannot be evacuated.

- Plan alternate means of evacuation for casualties.
- Emphasize recovery and evacuation of equipment over forward repair to preclude loss to the enemy. Use all available noncombat vehicles to tow disabled vehicles.

CONTINUOUS SUPPORT

CSS is never in reserve. Support is continuous during preparations before an operation begins, during the operation, and afterwards as the cavalry reconstitutes or prepares for another mission. Operator and organizational maintenance and repair work is done whenever the opportunity exists. Repairing and returning damaged equipment. to the fight requires early diagnosis and identification of faults and is done as far forward as possible. Emergency resupply is conducted when needed, but routine resupply is usually conducted at night. Vulnerability and limited cross-country mobility of CSS vehicles dictate the predominant use of road and trail networks.

Continuous CSS operations require careful personnel management to provide sustained effort. Local security, routine details, and operator maintenance all compete for time with CSS operations. Fatigue can quickly degrade the effectiveness of soldiers who must simultaneously provide continuous support to the cavalry and maintain their own equipment. Carefully planned and strictly enforced rest plans help to ensure continuous support.

Section III. Organization

SUPPORT AREAS

A support area is a designated area in which CSS elements, some staff elements, and other elements locate to support a unit. Trains are located in support areas. Types of support areas include the following:

- Division support area.
- Brigade support area.
- Regimental support area.
- Squadron support area.

TRAINS

The basic CSS tactical organization is the trains. Trains are any grouping of personnel, vehicles, and equipment organic or attached to a unit that provides CSS. Trains are under unit control. They can be employed in two basic configurations: in

one location as unit trains, or echeloned into combat and field trains. Regiments normally employ unit trains. Squadrons normally echelon trains into troop combat trains, squadron combat trains, and squadron field trains. Unit trains at the squadron level are appropriate when the squadron is performing rear operations, during reconstitution, and during major movements.

Combat trains provide the CSS required for immediate response to the needs of forward tactical elements of the squadron. Combat trains provide immediate recovery, maintenance, medical, and emergency resupply. They are normally located well forward and remain mobile.

Field trains are the CSS elements not required to respond immediately. Field trains include those assets not forward with the combat trains and higher echelon support teams. They also facilitate the movement of service support forward and rearward.

UNIT MAINTENANCE COLLECTING POINT

Squadrons normally organize a UMCP out of maintenance assets in the combat trains. The UMCP becomes the focal point of ground systems maintenance support. It is normally collocated with or positioned in the immediate vicinity of the squadron combat trains. The UMCP is the place where the troop trains recover damaged equipment. The squadron maintenance officer devises the exact composition of the UMCP based on METT-T.

FORWARD ARMING AND REFUELING POINT

Squadrons with aviation troops designate FARPs. These are temporary facilities that provide fuel and ammunition to helicopters during combat and are located closer to the area of operations than the squadron support area. FM 1-104 describes FARP operations in detail.

MAIN SUPPLY ROUTE

Regiments and squadrons designate a main supply route (MSR) to provide a link between trains. The regiment normally designates one MSR to each squadron field trains. Squadrons normally designate one MSR from the field trains forward to a logistics release point. Additional release points may be designated along the MSR to facilitate efficient transfer of resupply elements.

SITING REQUIREMENTS

All CSS facilities have similar siting requirements, to include—

- Cover and concealment.
- Room for dispersion.

- Level, firm ground to support vehicle traffic and CSS operations.
- Suitable helicopter landing site.
- Good road or trail networks.
- Good routes in and out of the area.
- Access to lateral routes.
- Positioned along or good access to the main supply route.

Section IV. Squadron and Troop Operations

The tactical organization of CSS is tailored to the mission, but adheres to fundamental organizational tenets. CSS organization and operations are largely suitable for inclusion in squadron and troop SOPs. Standard methods of organizing the effort and accomplishing CSS allow planning to focus on the requirements of the current situation and facilitate execution by dispersed support elements.

COMMAND AND CONTROL

The environment of cavalry squadron logistics is very different from the environment of other maneuver units. This environment is characterized by longer distances, more dispersion, and fluid situations. Because of this, staff planners must be careful not to use task force or brigade planning factors when computing logistics requirements for cavalry.

Cavalry logistics often require more coordination than other units' logistics. Cavalry units have significantly longer lines of communication and wider frontages. Its units have two separate channels for support of combat vehicles and aircraft. Cavalry units sometimes have no associated direct support element; for instance, division cavalry squadrons may not have a dedicated support element from the division support command. All these factors result in a requirement for cavalry units to conduct a great deal of coordination for support.

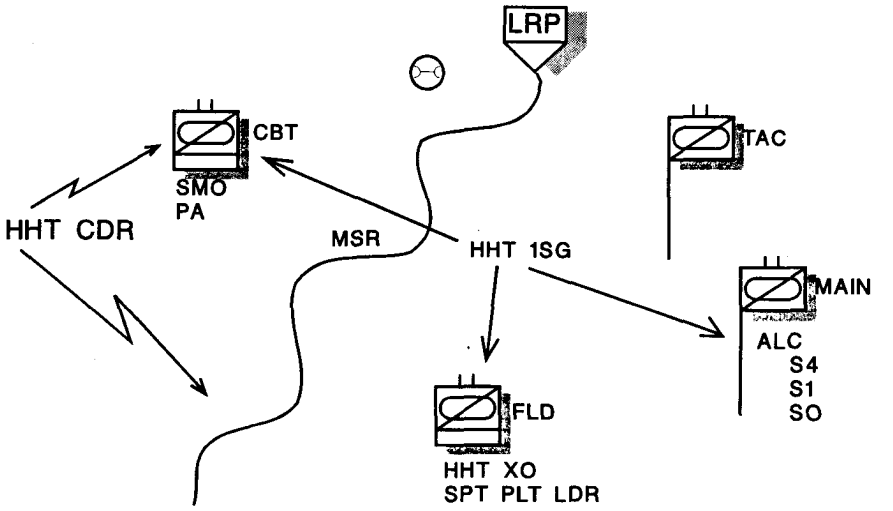
Because the cavalry operates over larger frontages with longer lines of communication, the administrative/logistics lines of communications must reach long distances. Cavalry squadrons and regiments must be fully supported by the area common user (ACU) network and be able to send data traffic by radio, if necessary.

Cavalry logistics often require more planning and more detailed SOPs than other units' logistics. Cavalry units receive new missions more often with less transition time than other units. Its units are required to move over longer distances faster than others. Because the prevailing concept of support for cavalry is often one of area support, cavalry units must adapt to support relationships that change frequently.

Cavalry logistics are normally more vulnerable than logistics of other maneuver units. This is because cavalry combat units are often more dispersed and the battle is much more fluid.

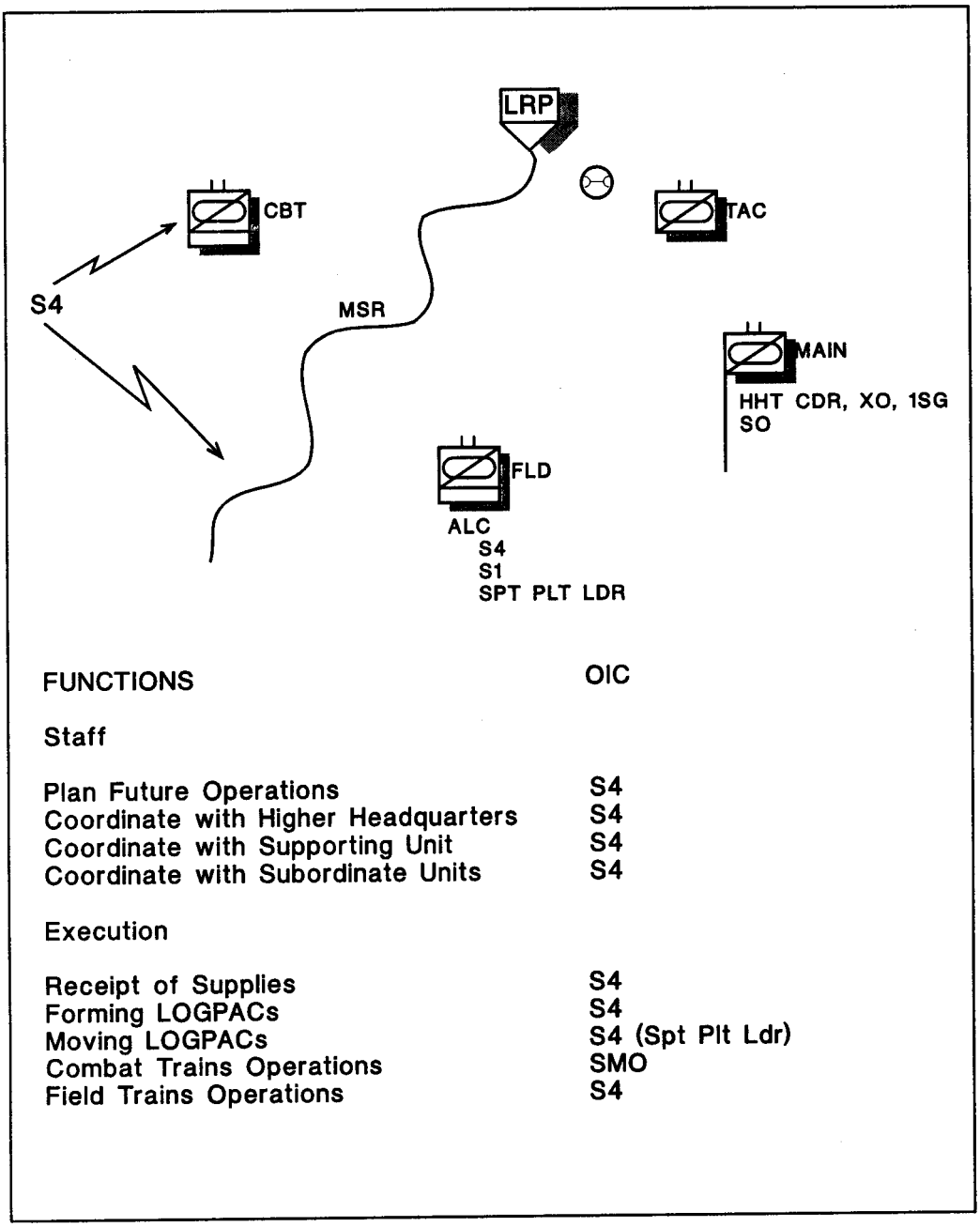
Responsibilities

Command and control of cavalry logistics must be tailored to the theater of war, intensity, abilities of key personnel, and the personality of the commander. This subsection will illustrate three methods of command and control of cavalry logistics at squadron level (see Figures 10-1 through 10-3).



FUNCTIONS	OIC
Staff	
Plan Future Operations	S4
Coordinate with Higher Headquarters	S4
Coordinate with Supporting Unit	S4
Coordinate with Subordinate Units	S4
Execution	
Receipt of Supplies	HHT CDR (XO)
Forming LOGPACs	HHT CDR (XO)
Moving LOGPACs	HHT CDR (Spt Plt Ldr)
Combat Trains Operations	HHT CDR (SMO)
Field Trains Operations	HHT CDR (XO)

Figure 10-1. Cavalry logistics command and control (method one).



FUNCTIONS	OIC
Staff	
Plan Future Operations	S4
Coordinate with Higher Headquarters	S4
Coordinate with Supporting Unit	S4
Coordinate with Subordinate Units	S4
Execution	
Receipt of Supplies	S4
Forming LOGPACs	S4
Moving LOGPACs	S4 (Spt Plt Ldr)
Combat Trains Operations	SMO
Field Trains Operations	S4

Figure 10-2. Cavalry logistics command and control (method two).

Using method one, the S4 devotes all his efforts to staff duties. By collocating the combat trains command post (CTCP) with the main command post, operations and logistics planning are done face to face and simultaneously. During the battle, the operations staff and logistics staff have immediate access to the tactical and logistical situation.

The HHT commander operates the same as the regimental support squadron commander, but on a smaller scale. He is in charge of all logistics execution. He "commands" all logistics executors, such as the squadron maintenance officer, physician's assistant, and support platoon leader. He is based in the field trains, but is free to move to critical points for logistics execution.

The squadron maintenance officer is in charge of the combat trains and is assisted by the physician's assistant. The HHT XO is in charge of the field trains. The HHT first sergeant supports HHT elements, such as the main and tactical command posts, combat trains, and field trains. The signal officer, S1, or assistant S3 performs duties as the HHT commandant.

Using method two, the S4 is in charge of all logistics activities. He performs all planning functions and is also responsible for all execution. He directs the logistics executors. He runs the field trains assisted by his section and the S1. He is based in the field trains, but moves to the critical points for logistics execution. The CTCP is positioned in the field trains, providing good communications with higher and supporting logistics headquarters and a good alternate main command post.

The HHT commander and his staff devote their full attention to supporting the main and tactical command posts, combat trains, and field trains. The HHT commander is the headquarters commandant for the main command post and is based there.

The squadron maintenance officer is in charge of the combat trains and is assisted by the physician's assistant.

Using method three, the S4, in conjunction with the S1, is responsible for all logistics planning and execution. He directs the activities of the HHT commander, squadron maintenance officer, physician's assistant, and support platoon leader in executing logistics. He also runs the squadron combat trains. He positions himself with the CTCP. This provides good access to the logistics release points and the UMCP as well as good communications with subordinate units.

The HHT commander runs the field trains and is positioned there. The support platoon leader is controlled by the HHT commander when in the field trains and works for the S4 at all other times. The HHT XO and first sergeant support the main and tactical command posts, the combat trains, and the field trains. The HHT XO or the signal officer is the headquarters commandant.

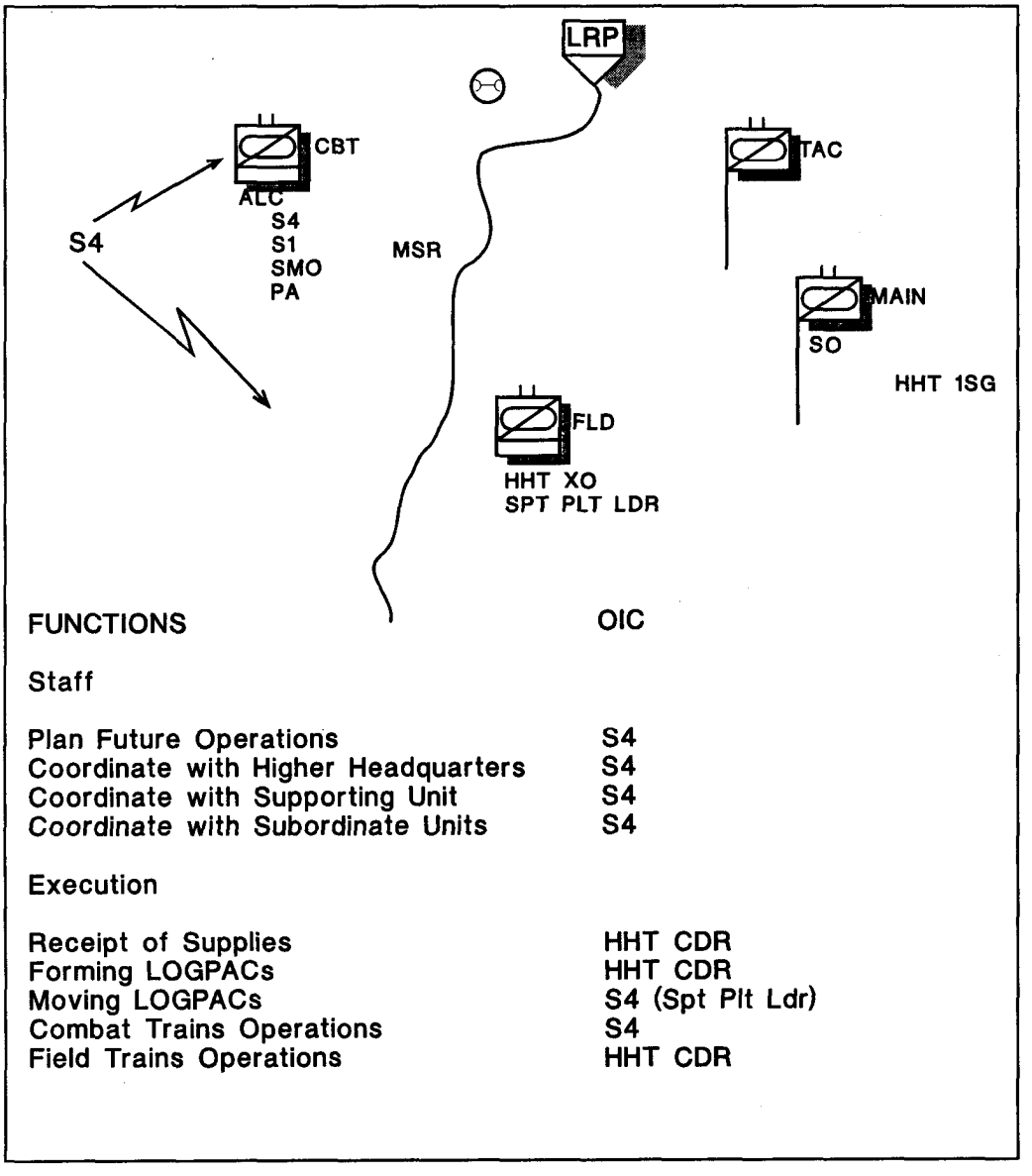


Figure 10-3. Cavalry logistics command and control (method three).

Logistics Command and Control Facilities

CSS command and control facilities are the field trains command post and the CTCP. The CTCP may be located at the TOC, combat trains, field trains, or unit trains. It is the primary service support planning center. When located at a trains site, the CTCP serves as the trains element command post. All CSS operators must provide reports and support requests to the CTCP as established in unit SOP. The field trains command post controls all assets in the field trains. The CTCP controls combat trains operations, including emergency resupply.

Logistics Communications

At troop level, there is normally no dedicated service support radio net. Logistical reports and requests for support are sent on the troop command net to the command post. The first sergeant eavesdrops, coordinates with the XO as necessary, and coordinates with the squadron CTCP. The troop command post maintains CSS status and coordinates with the CTCP when the first sergeant is preoccupied. The first sergeant conducts detailed coordination with platoon sergeants on platoon nets or face to face when required to keep the command net clear.

At squadron level, the CTCP operates the administrative/logistics net. This net is used for squadron service support operations. Troop first sergeants and XOs use the net to submit reports and requests for support. All service support leaders and sites also operate on the net to respond to requests and to coordinate CSS execution. The administrative/logistics net is used to control movement of support assets during displacement and movement of LOGPACs until turned over to first sergeants at logistics release points. Chapter 2 discusses these facilities and communications nets in greater detail.

REPORTS

SOPs should establish report formats, reporting times, and brevity codes to keep logistics nets manageable. Units send logistics reports in two channels. Detailed information is sent to the supporting logistics element while a summarized status in each general category is given to the higher tactical command post, using a brevity code.

The higher unit begins an operation with numerical logistical data. Battle and other loss reports update the original data. The S4 ensures that lengthy, repetitive reports are minimized and that large quantities of numerical data are required only when no other method of updating original data is available. Routine reports should be limited to a summary of those items changing during the reporting period. All reports can be delivered by messenger. Emergency reports are submitted as necessary. Reports should also function as requests when possible.

Commanders must know the logistical status of their maneuver units at all times. Regimental and squadron command posts normally track status of subordinate units by a code, allowing the commander to quickly assess the combat capability of the unit (see Figure 10-4).

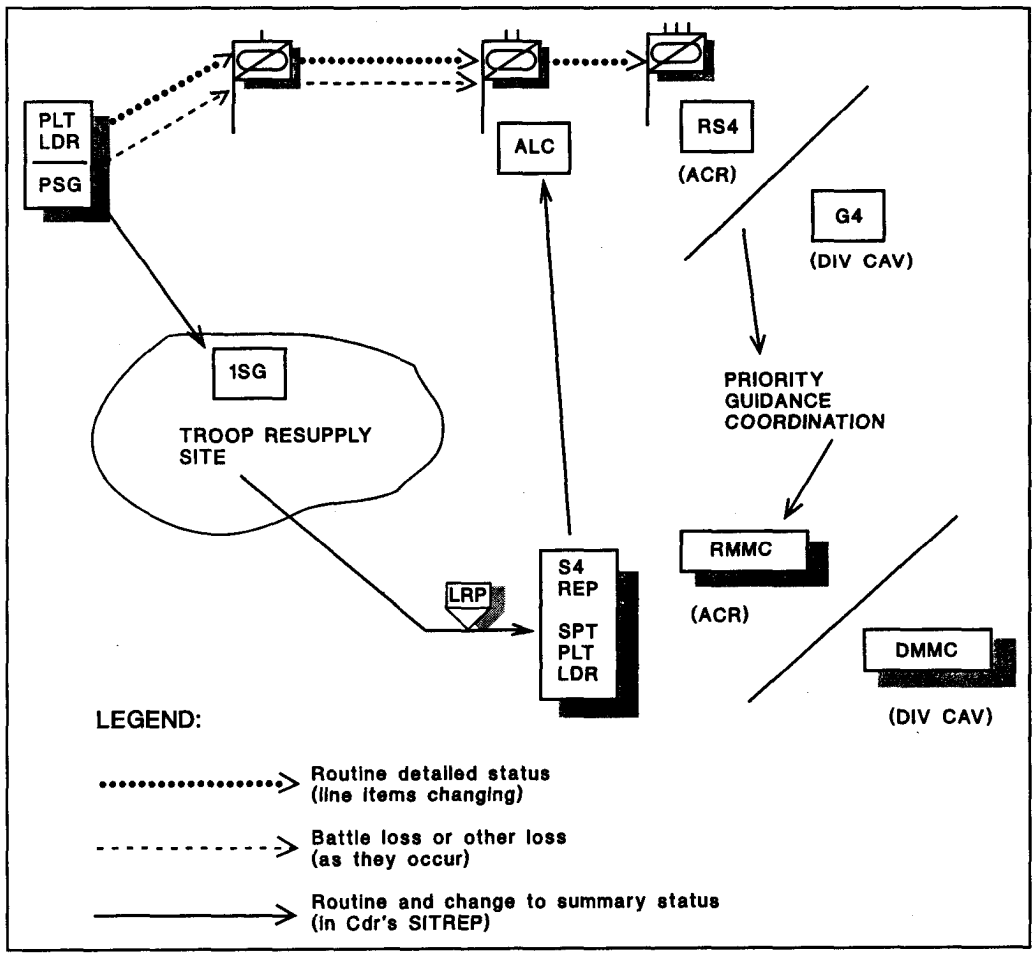


Figure 10-4. Combat service support reports.

TROOP TRAINS

The troop organizes its organic and attached CSS into combat and field trains. The combat trains include recovery, organizational maintenance teams, and medical aid and evacuation team. The first sergeant, assisted by the maintenance sergeant, controls the movement, positioning, and operations of the combat trains. The combat trains, to include the first sergeant, should consist of vehicles armored similarly to the troop combat elements to provide protection in forward areas. During operations, the first sergeant directs the efforts of combat medic teams and maintenance teams, supervises LOGPAC operations, coordinates LOGPAC requirements, and directs the evacuation of casualties and equipment. He does not personally guide all these assets around the battlefield. His focus must remain forward on the battlefield, supervising logistic operations during the battle. Each team leader must know the troop situation and location of squadron assets and be capable of navigating themselves to accomplish any task the first sergeant assigns.

The troop field trains consist of supply, some maintenance, and maintenance prescribed load list (PLL). They normally collocate with the squadron field trains and are OPCON to the field trains OIC in the trains area. The supply sergeant manages the troop personnel and vehicles in the field trains and relays support requests from the first sergeant to the appropriate squadron element in the field trains. He normally assembles and leads the troop LOGPAC forward from the field trains to the logistics release point and, in most cases, from the logistics release point to the troop resupply site.

SQUADRON TRAINS

Combat trains consist of the elements below.

- Combat trains command post.
- Aid station.
- Unit maintenance collecting point.
- Class III and Class V emergency resupply.

The UMCP consists of the majority of the squadron maintenance platoon providing recovery, automotive maintenance, and weapon system maintenance. Some PLL is forward to facilitate repairs. A direct support maintenance support team is also present to assist and to provide battle damage assessment.

The squadron field trains may form a base to be integrated into a regimental or brigade support area base cluster. The field trains contain the following:

- Field trains command post.
- Support platoon base.
- Part of squadron maintenance platoon, normally to perform wheeled vehicle or extended tracked vehicle maintenance.
- Part of the direct support maintenance support teams.
- Slice logistics elements (forward logistics elements [FLE]).
- Squadron PAC.
- Field mess teams.
- Troop field trains.

A sample squadron service support layout is shown in Figure 10-5.

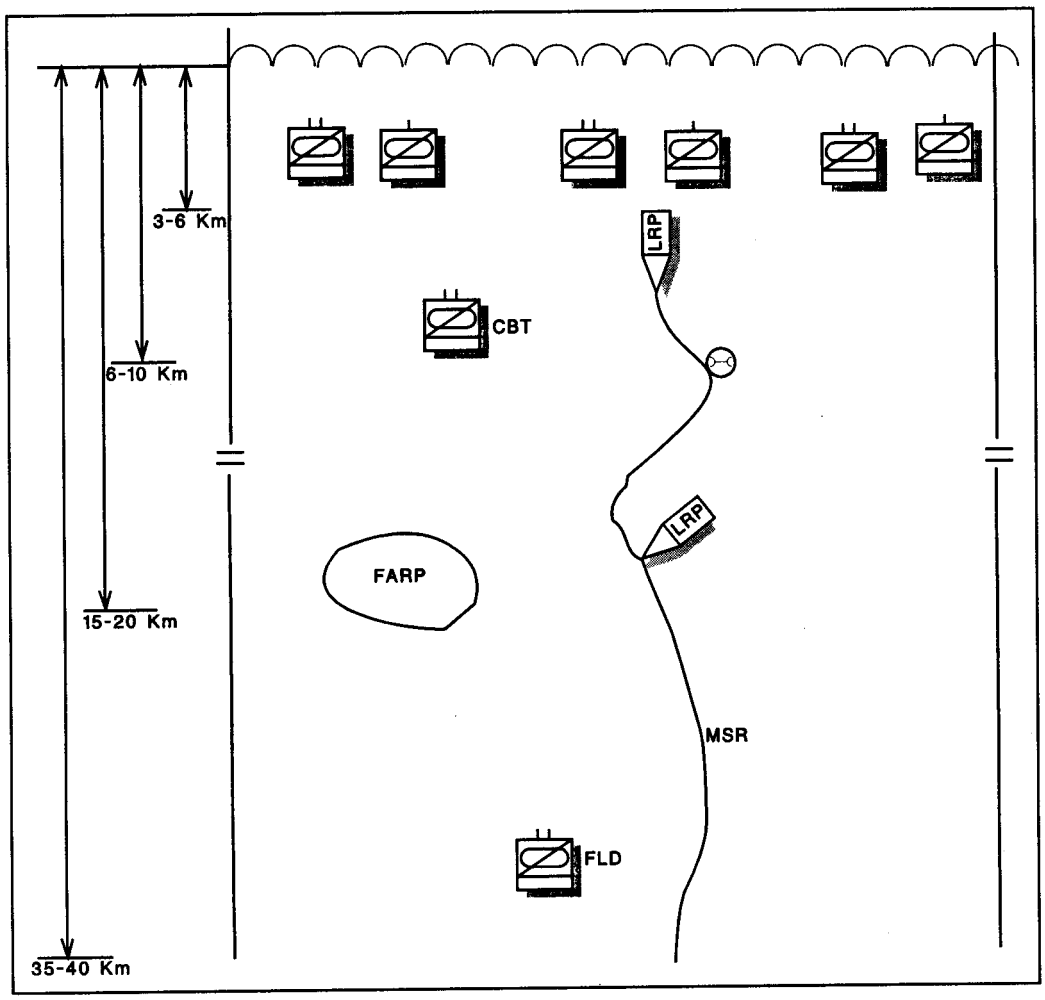


Figure 10-5. Squadron service support layout.

LOGISTICS PACKAGE OPERATIONS

The most efficient resupply of forward squadron units is accomplished by LOGPAC. LOGPACs are organized in the field trains by the field trains OIC and support platoon leader. The S4 plans and coordinates the operation to ensure that LOGPACs contain requested or required supplies. Additionally, the S4 determines which logistics release point (LRP) best supports the mission and notifies all units. LOGPACs are normally organized at least once a day for routine resupply. Troop and company team supply sergeants control the LOGPAC for their unit. A habitual LOGPAC organization facilitates operations and allows direct coordination by the supply sergeant as necessary. LOGPACs are normally organized for the units below.

- Each ground troop and attached company team.
- Main command post (includes command group and tactical command post).
- Forward FARP.
- Combat trains, including emergency resupply vehicles.

Attached combat support units may have a separate LOGPAC if assets are provided by the parent unit on attachment. If not, they resupply from another LOGPAC. Prior coordination by the S4 is necessary to ensure the designated LOGPAC is augmented with additional assets to handle the increased requirements. The S4 ensures no organic or attached unit is left unsupported. The S4 monitors the service support provided by parent units to direct support or OPCON units. The squadron must compensate for breakdowns in support to the extent possible and then make coordination to correct the problem.

The support platoon leader remains prepared to organize unscheduled LOGPACs to provide emergency or supplementary resupply. This LOGPAC may be for a specific unit or to replenish the emergency stocks held in the combat trains.

LOGPACs normally consist of the following:

- Troop or company team supply truck. The supply sergeant controls this vehicle. The supply truck contains the Class I rations for the unit, normally for the next 24-hour period. The truck also brings the unit water trailer. Additionally, the supply sergeant brings replacement soldiers, incoming mail, Class II and VI supplies requested by the first sergeant, and Class IX parts or other maintenance items requested by the maintenance sergeant.
- POL trucks. Bulk fuel and packaged POL products are on these vehicles.
- Ammunition trucks. These vehicles contain a mix of Class V for the unit's weapons. Demolitions and mines are also included. The squadron SOP normally establishes a standard LOGPAC load of munitions. The S4 uses reports by unit first sergeants or other users to adjust the standard loads.
- Additional trucks as necessary to carry supplies or replacement soldiers.

Once LOGPACs are formed, the support platoon leader moves them forward as a march unit to the LRP. At the LRP, troop first sergeants or their representatives assume control of the LOGPAC. Alternatively, the supply sergeant leads the LOGPAC to a site coordinated previously with the first sergeant. The logistics commander (S4 or HHT commander) or a representative from the CTCP should be present at the LRP to monitor the operation, coordinate with unit first sergeants and support platoon leader, receive hardcopy logistics reports, and deliver CSS situation updates. The LRP should be a smooth transition of control without delay. LOGPACs for the main command post and combat trains may be met by the HHT first sergeant either at an LRP or in the field trains. LOGPACs for FARPs may be met by an ACT first sergeant coordinating forward support. The S4 ensures all units or elements with a designated LOGPAC have been notified. Upon completion of resupply operations, units return the LOGPAC to the LRP. They are formed by the support platoon leader or designated representative for movement to the rear and preparation for the next resupply. Units should not delay returning a LOGPAC to the LRP. Supply sergeants must know the location of the field trains and be prepared to guide their LOGPAC to the rear.

Two basic methods of resupply may be used at the unit level. Tailgate issue is used when units are in static positions and the LOGPAC moves from vehicle to

vehicle. Little or no movement is required by combat vehicles. The main command post and FARP are normally resupplied by this method. Service station resupply is used during most tactical operations when units are moving or only temporarily halted. Unit elements move to the designated site for resupply. The FARP uses this method to resupply air cavalry troops. The troop XO selects general LOGPAC sites based on the overall situation, but the first sergeant makes the final positioning determination. A good site should provide the following features:

- Cover and concealment.
- Proximity to platoons or elements being resupplied.
- A road or trail network that supports the LOGPAC vehicles and tactical vehicles.
- Room for dispersion.
- Reduction of thermal signatures.

COMBAT SERVICE SUPPORT FOR ATTACHMENTS

When a maneuver company team is attached to the squadron, the necessary combat service support is also attached. This slice is established by SOP and should be coordinated in advance. It normally consists of medical, maintenance and recovery, and supply support for Class III, V, and IX. Class I support is coordinated on a case-by-case basis. The CSS slice is attached to the squadron and these assets may be used in the manner that best supports the overall mission. This is particularly true when the attached company is task organized within the squadron. Generally speaking, these assets form the combat trains and LOGPAC for the attached company. When attached, these assets as well as the company should arrive fully uploaded and ready to provide support.

TRAINS SECURITY

All support elements organize and prepare to defend themselves against air or ground attack. They normally occupy areas that have been secured by maneuver elements of the troop or squadron. The security of the trains at each echelon is the responsibility of the individual in charge of the trains.

The best defense is to avoid detection. Selecting good trains sites, using available cover, concealment, and camouflage all contribute to security. Strict movement and positioning discipline as well as noise and light discipline prevent detection. Observation posts are established to provide local security. Security is established as it is in an assembly area. Small arms, machine guns, and antitank weapons should be available for self-defense.

A perimeter defense is normally planned. Elements in the trains are assigned specific defensive positions or sectors. Mutually supporting positions dominating likely avenues of approach are planned. A reaction force is designated. Combat

elements in the trains are integrated into the plan and combat vehicles can be positioned to use their weapon systems, if operational. Fire plans and sector sketches are prepared and plans are rehearsed. An alarm or warning system is established in SOP to rapidly execute the defense plan without further guidance. CSS work and rest plans must account for security requirements.

PART II. COMBAT SERVICE SUPPORT FOR THE ARMORED CAVALRY REGIMENT

Section I. Corps Support

The armored cavalry regiment normally receives support from the corps support command (COSCOM). This support is provided using the unit distribution method.

When the regiment is placed temporarily under the command and control of a division, the support relationship with the COSCOM should be maintained.

The regiment communicates with COSCOM using the corps area system. The corps area system is composed of area signal centers interconnected by trunk circuits. The corps signal brigade installs and operates these centers. The area system is the primary means of transmission to corps and subordinate CSS elements.

The regiment is logistically self-contained. Because the regiment has an organic support squadron, it does not require augmentation to accomplish its normal missions. For certain missions, the regiment may receive augmentation of combat and combat support units by corps or by divisions within the corps (i.e., offensive and defensive covering force missions). Augmentation may include an artillery brigade, an attack aviation battalion, an armored/mechanized task force, an engineer battalion or additional combat support units. This augmentation will require COSCOM to provide backup direct support teams to the regiment. This reinforcement of CSS elements is critical to the success of the operation and must be carefully coordinated between the RS1, the RS4, the regimental support squadron commander and staff, and the COSCOM. The corps aviation intermediate maintenance (AVIM) battalion normally provides the regiment with a maintenance support team for AVIM, backup aviation unit maintenance (AVUM), repair parts, and fire control support.

The length of the regiment's lines of communications and the rapidity with which it transitions to new missions will stress the support channel from COSCOM. Although the regiment is a "nondivision" unit, it will often require support similar to a division in type and quantity. The distance from the regiment, operating in front of

a corps, to the COSCOM is significantly farther than other corps units. Support should be tailored to overcome the difficulties inherent in operating over these distances. Normal logistics planning tables and factors should be adjusted accordingly.

Section II. Organization

The armored cavalry regiment has an organic support squadron that provides service support to the regiment. The regiment is organized with its own support echelon because most missions require it to be a self-contained fighting force.

The regimental support squadron is organized similarly to the support battalions of separate brigades. While the support squadron has the same companies as these support battalions, the troops in the support squadron are significantly different from the companies in the support battalions. This reflects the regiment's unique CSS requirements.

The regimental support squadron forms the nucleus for the regiment's CSS organization.

REGIMENTAL SUPPORT AREA

The regimental support area is the logistical hub of the armored cavalry regiment. The regimental support squadron is located in the support area, along with attached and subordinate CSS units. The regimental S3 determines the general location of the support area in consultation with the regimental S4 and support squadron commander. The S3 sites the support area to ensure adequate logistical support of the operation. The support squadron commander, with the assistance of his staff, determines the exact location for the units in the support area. He also orders the movement of support squadron elements to new locations.

The support area may be located in the security area, in the regimental rear area, in a brigade rear area, or in a division rear, based on METT-T. In any case, the support area should be located approximately 25 kilometers behind the FLOT, beyond the range of threat cannon artillery. A good location should include the following characteristics:

- Convenient to supported units.
- Away from the main enemy avenue of approach.
- Sufficient space and cover to allow concealment and dispersion.
- Firm ground for off-road movement by cargo vehicles.
- Several access routes to supported units.

- Near a water source.
- Suitable helicopter landing sites.
- Built-up areas to harden command posts, improve work areas, and lessen signature.
- Terminals of alternate means of transportation, such as railheads, docks on a watercourse, or air strips.

The regimental support area is made up of a combination of small logistical and unit bases. The support area may not be one large contiguous area; but rather several smaller areas interspersed across the rear area. It normally consists of the regimental rear command post; regimental support squadron; COSCOM augmentation teams; squadron field trains; and field trains of the engineer company, chemical company, and air defense battery. It may include the unit trains and assembly areas of the regimental aviation squadron. Figures 10-6 and 10-7 depict possible organizations of the regimental support area.

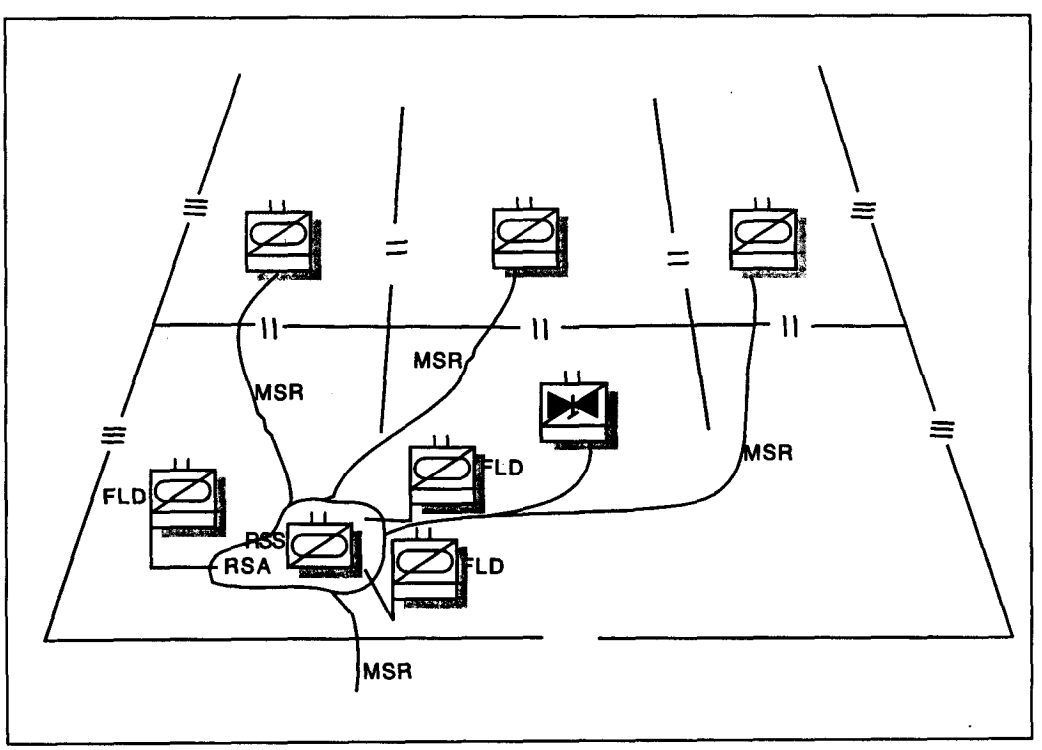


Figure 10-6. Consolidated regimental support area.

The lifelines that connect the regimental support area and field trains of supported units are the squadron main supply routes. Normally, one main supply route and an alternate are designated for each squadron, including the aviation squadron. The regimental S4, in coordination with the S3, selects these routes based on the tactical plan. The S4 also coordinates with affected units when these routes run through division sectors or zones.

The regimental support area is connected to COSCOM by a combination of supply routes for ground, air, rail, or water transportation units.

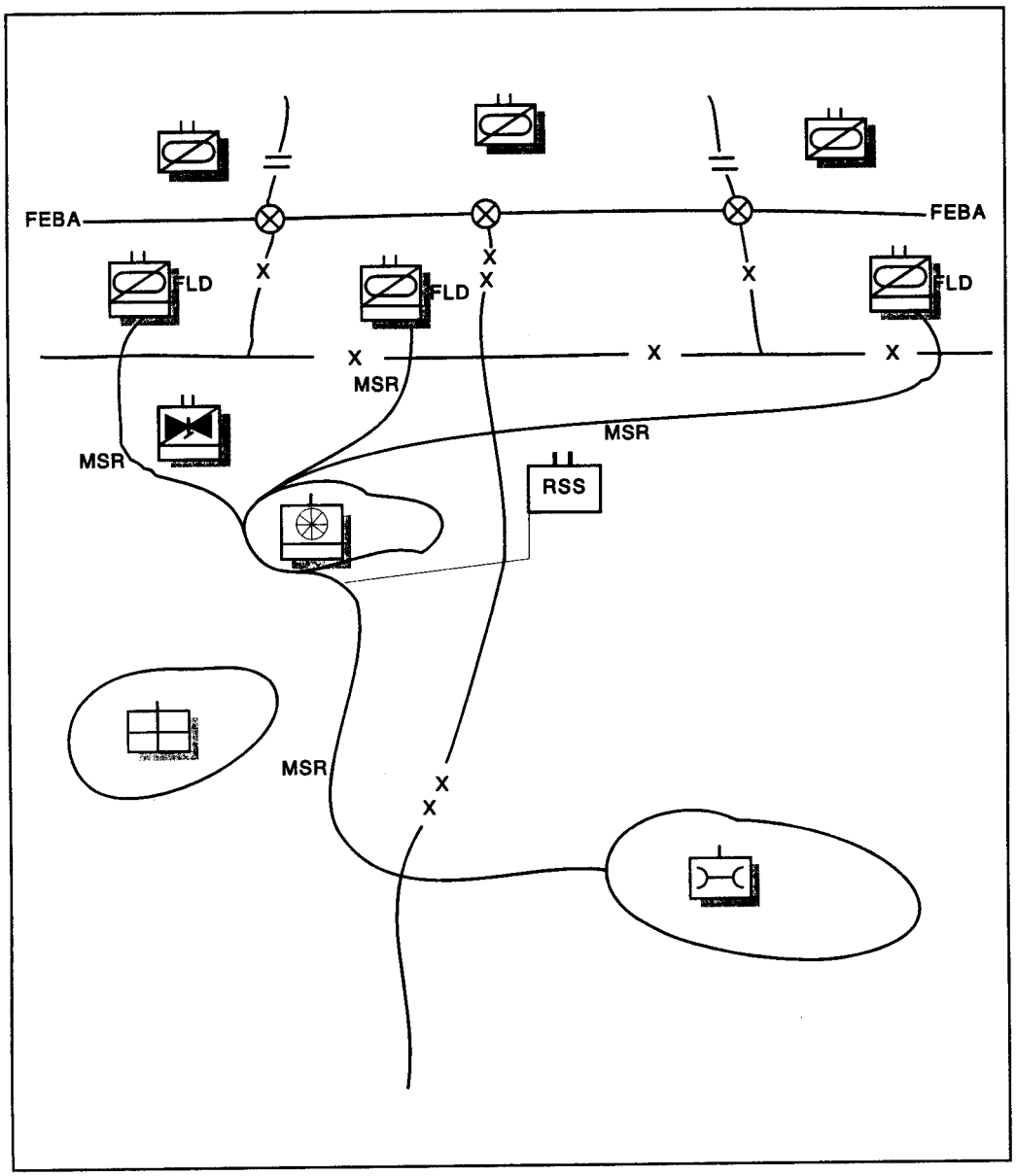


Figure 10-7. Dispersed regimental support area.

The regimental support squadron is normally organized as a regimental unit located in the regimental support area. In some situations, however, it may be necessary to echelon the regimental trains. This may be done on fast-moving offensive missions, or missions requiring the regiment to operate across a wide frontage. The regimental trains may be echeloned forward or laterally. Support detachments are formed by the regimental support squadron commander who moves

and locates them as necessary. Figure 10-8 illustrates the support squadron employing support detachments.

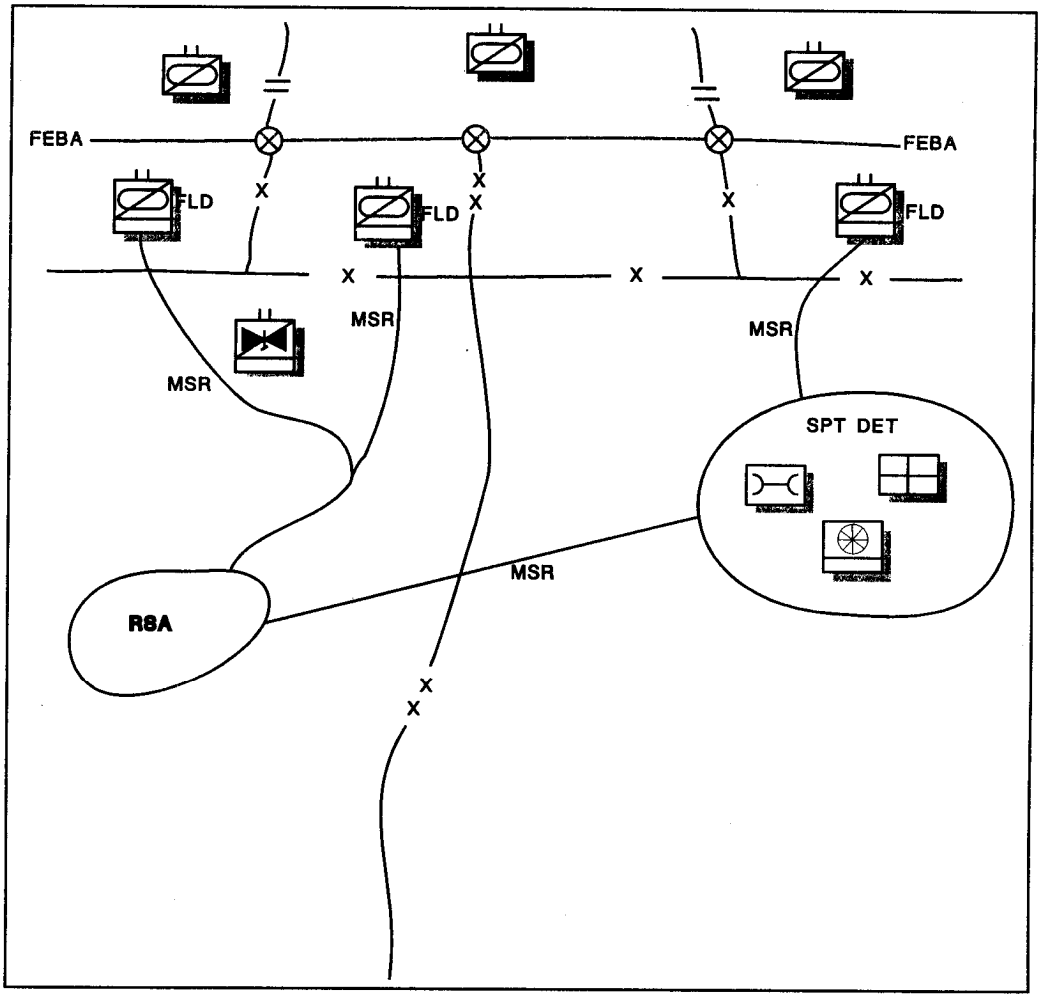


Figure 10-8. Regimental support squadron support detachment.

Individual units in the regimental support area provide their own local security. The regimental support squadron commander coordinates local security of all units in the support area. Although the air defense units protecting the support squadron normally are not under the support squadron commander's control, he should coordinate and recommend air defense priorities. He should also coordinate rear area operations with the brigade(s) that is collocated with him.

REGIMENTAL SUPPORT SQUADRON COMMANDER AND REGIMENTAL STAFF RELATIONSHIP

The regimental support squadron commander is the logistics commander in the armored cavalry regiment. He controls and synchronizes CSS assets to support the regiment's plan. He commands subordinate units in the support squadron. He is responsible for executing the regiment's administrative/logistics plan.

The regimental XO is responsible for planning and integrating CSS into the plan. The XO normally delegates responsibility for planning to the regimental S4. This allows the XO to concentrate on operating the TOC as second in command.

The regimental S1 and the S4 are planners; the regimental support squadron commander is the executor. They coordinate with each other continuously on matters of common interest.

The S1 and the S4 prepare estimates to establish personnel and logistical requirements to support the tactical plan. They also prepare the service support portions of regimental orders. They must consult with the support squadron commander and his staff when developing the plan, and when establishing or recommending priorities for support.

COMMAND AND CONTROL

The regimental support squadron command post collocates with the regiment's rear command post. The regimental support squadron commander, XO, S3, S2, S4, S1, signal officer, S1, and S4 NCOIC are located in the squadron command post. The regimental Materiel Maintenance Center is normally collocated with the command post. The rear command post controls all support squadron units, and is the net control station for the regiment's administrative/logistics FM nets.

There are three methods in which the regimental S1 and S4 may operate their sections:

- The regimental S1 and S4 may be collocated at the regimental main command post with elements from both sections.
- The regimental S1 and S4 may be collocated at the regimental rear command post with elements from both sections.
- The regimental S1 and S4 may operate independently with the regimental S4 at the main command post and the regimental S1 at the rear command post.

Regardless of the method chosen, the location of the regimental S1 and S4 is dependent on METT-T. In either of the three methods, the key to success is having elements of the regimental S1 and S4 at both the regimental main and rear command posts, thus increasing the flexibility of the operations support cells at both locations. The S4 section in the main command post serves as the primary service support planning and coordination center. The regimental S4 sends plans to the regimental support squadron on mobile subscriber equipment.

Section III. Supply

Logistics support is the provision of adequate material and services to a unit. It includes supply, transportation, maintenance, and field services. The key tactical CSS functions of arming, fueling, fixing, and transporting are logistics concerns. These key functions are the focus of logistics operations in combat.

Supply is the process of providing all items necessary to equip, maintain, and operate the unit. It involves the procurement, storage, distribution, maintenance, and salvage of supplies.

There are two methods of procuring supplies:

- Supply point distribution. The unit uses its organic transportation to pick up supplies from distribution points.
- Unit distribution. Supplies are delivered to a unit by transportation assets other than its own.

Cavalry units always maintain some combat essential supplies on hand, which are transported on organic combat and support vehicles. These on-hand stocks include basic loads and prescribed loads.

Supplies are grouped into ten classes for supply management and planning (see Figure 10-9). Resupply operations are based on these classes.

SUPPLY CLASS	DEFINITION
I	Subsistence items.
II	Items of equipment other than principal items.
III	POL.
IV	Construction and barrier materials.
V	Ammunition.
VI	Personal demand items normally sold through exchanges.
VII	Major end items.
VIII	Medical material.
IX	Repair parts and components. Class IXA is aviation peculiar.
X	Material to support nonmilitary programs.
MISC	Water, maps, captured material, and salvage material.

Figure 10-9. Classes of supply.

CLASS I

The combat field feeding system is based on three basic rations. The MRE is the individual combat ration. It requires little or no preparation and can be heated or eaten as is. MREs are the basis of the Class I basic load carried on each vehicle. The T-ration is a group feeding ration that requires only heating and serving. The B-ration is also used for group feeding. Since B-rations must be cooked, they require a relatively stabilized environment. The field feeding system assumes use of only MREs for the first several days of combat and a gradual transition to prepared T-rations and B-rations. A-rations (fresh foods) are introduced as the situation permits.

Troops do not send requests for rations. Rations are issued to troops based on daily strength reports. The squadron determines the type of ration that will be consumed, then consolidates the strength reports and submits it to the regimental Materiel Management Center (MMC), which converts the reports into line item requests. The regimental MMC forwards it to the supply and transport (S&T) troop Class I element. The regimental MMC determines the regiment's total requirements and sends the requisitions to the COSCOM MMC. The COSCOM MMC directs the corps supply point to ship the requested supplies to the regiment.

The COSCOM transports rations to the S&T troop location in the regimental support area. The rations are then broken down into squadron and separate troop lots and picked up by the units in organic transportation at the Class I distribution point. When appropriate, rations may be delivered direct to the using units by corps or S&T troop transportation. Squadron mess sections prepare the rations, as necessary, and break them down into troop lots. The rations are then loaded onto the troop supply truck in the field trains, and delivered forward as part of the LOGPAC.

The basic load for Class I is normally a three-day supply of MREs. The basic load should be preserved for use when the enemy situation prohibits daily resupply of Class I. When a unit is engaged in combat and Class I resupply is necessary, enough MRE rations should be issued to last several days.

Class VI supplies in the form of health and comfort packs are usually issued with Class I supplies as gratuitous issues.

CLASS II

Vehicle crews should deploy with an initial load of these supplies. The demand for these supplies is unpredictable and highly variable. Squadron supply sergeants maintain a small supply of items for immediate issue such as TA-50, NBC protective equipment, and general supplies.

The SOP should establish which of these items are resupplied on a push concept. COSCOM will push normal day-to-day administration and housekeeping supplies to the S&T supply point. These items are picked up routinely by the squadrons who in turn push them to the troops as part of the LOGPAC.

The first sergeant makes a request to the S4 for additional items needed. The S4 consolidates troop requests and submits them to the regimental MMC. The regimental MMC will instruct S&T troop to issue the supplies if on hand (S&T troop maintains a minimum stockage of high-demand items). Otherwise, the regimental MMC will submit a request to the COSCOM MMC. COSCOM then delivers the supplies to the S&T supply point. The squadron normally uses organic transportation to pickup and deliver the items to the squadron field trains. They are carried forward with the next LOGPAC.

CLASS III (PACKAGED)

The concept of Class III (package) supply is similar to Class II with several exceptions. The squadron basic load is normally maintained by the support platoon. These items are normally delivered to the squadron on fuel trucks as part of the LOGPAC. S&T troop maintains a one-day supply for the regiment.

CLASS III (BULK)

The S4 forecasts fuel requirements for the squadron during the planning process and transmits this request to the Class III section of the regimental MMC. The regimental MMC forwards a consolidated forecast to the COSCOM MMC for command management information.

COSCOM delivers the bulk products to the Class III supply point of the S&T troop by corps fuel tankers, railway tank car, barge, pipeline, or flexible hoseline. When tanker semitrailers are used, the semitrailers may be exchanged with the COSCOM transportation unit. The S&T troop fuel trucks are then convoyed to the squadron field or combat trains for issue. The fuel is transloaded into squadron fuel trucks, which are then sent forward as part of a LOGPAC or separately, as needed. If necessary, combat vehicles may be refueled directly from S&T troop trucks.

Supplying aviation fuel, whether JP4 or JP8, is no different from combat vehicle fuel supply. COSCOM delivers aviation fuel to the S&T troop Class III supply point. The S&T troop delivers the fuel to the aviation squadron field trains or direct to transloading sites near FARPs.

The assault helicopter troop may be used to deliver fuel from the S&T troop Class III point to squadron trains, troop trains, or direct to the refuel site.

CLASS IV

The concept of Class IV supply is similar to Class II with several exceptions. Combat vehicles carry limited construction and barrier materials. The S&T troop maintains a limited amount of Class IV supplies except for engineer construction material. Engineer construction material and intensively managed barrier material

will be delivered throughput by COSCOM to the squadron-controlled supply point, This supply point is managed by the squadron with engineer representation.

CLASS V

Ammunition resupply is governed by required supply rates (RSR) and controlled supply rates (CSR). RSR is the amount of required ammunition estimated to sustain operations of any designated force without restriction for a specific period. It is expressed in terms of rounds per weapon per day for ammunition fired by weapons, and in terms of other units of measure per day for bulk allotment and other items. CSR is the rate of ammunition consumption that can be supported, considering availability, facilities, and transportation. It is expressed in rounds per unit, individual, or vehicle per day. The CSR is normally announced at Theater Army level for each item of ammunition, and each subordinate commander announces a CSR for the next subordinate level. A unit may not draw ammunition in excess of its CSR without authority from its next higher headquarters.

Ammunition supply operations are based on a continual refill system. Issued stocks are replaced from stocks moved up from the rear. Unit basic loads are determined by regimental or higher headquarters based on the situation. Basic loads are normally transportable on combat vehicles and organic transportation assets. The regiment does not normally maintain a reserve of Class V supply. Other than that ammunition specified for an ammunition transfer point (ATP), the only ammunition maintained in the regiment is in the basic loads of the units. In some tactical operations, a regiment may be authorized to pre-position ammunition for future use.

The regimental S3 calculates the RSR and allocates CSR items to subordinate units as part of the planning process. The S3 gives the RSR to the regimental ammunition officer (RAO). The RAO or his representative monitors expenditure of ammunition through ammunition status reports. These reports are sent from platoon sergeants to the first sergeant or troop TOCs who consolidate them and forward a troop report to the S4. The S4 consolidates the troop reports and forwards a squadron report to the MMC (RAO). The RAO forecasts ammunition requirements based on the RSR and his monitoring of ongoing ammunition expenditures. The RAO forwards the consolidated RSR to the COSCOM MMC. The COSCOM MMC then issues shipping instructions to corps transportation assets to ship ammunition from the corps storage area or ammunition supply point to the ATP operated by S&T troop in the regimental support area. The S&T troop transports ammunition from the ATP to the squadron field trains, combat trains, or the rearm site. The ammunition is then moved forward either as part of the LOGPAC or separately.

Ammunition supply is highly variable and it is difficult to use a push system. Methods of reducing handling time and conserving transportation include the following:

- Using throughput delivery as far forward as tactically feasible.
- Preconfiguring loads for high-demand consumers, such as the aviation squadron.

- Pre-positioning loads for high-demand consumers, such as the aviation squadron and tank companies.
- S&T troop exchanging empty trailers for full trailers with the COSCOM transportation unit.
- Pre-positioning high-demand ammunition, such as tank main gun, ATGM, and howitzer ammunition.
- Establishing type loads for each type of combat unit, such as cavalry troop, tank company, and attack helicopter troop.
- Positioning troop- and company-size stocks near battle positions.

CLASS VII

Class VII items are not stocked in the regiment except for a limited operational readiness float in the maintenance troop. Class VII items are limited to combat-essential, critical items necessary to support combat readiness.

Combat loss and Class VII status reports are forwarded from the platoon sergeant through the first sergeant to the S4. The S4 then sends in battle loss reports as they occur and a summary report of Class VII status periodically to the regimental MMC. The regimental MMC submits requests to the COSCOM MMC.

Rolling stock Class VII items are delivered throughput by corps transportation to the supported squadron field trains in a ready-for-issue condition. A ready-for-issue item is one that has been removed from its previous condition of preservation for shipment or storage and made mechanically operable. All ancillary equipment is installed. The vehicle has been fueled and basic issue items are aboard. There is no ammunition and no crew provided. All other Class VII items are delivered to the S&T troop for issue to the squadrons. The S&T troop delivers the item to the squadron field trains, if practicable (such as on a cargo truck already designated for haul), or the squadron picks up the item at the S&T troop location using supply point distribution.

WEAPON SYSTEM REPLACEMENT OPERATIONS (WSRO)

WSRO is a combination of Class VII supply, maintenance, training, and personnel replacement operations. WSRO is an issue of a ready-to-fight system to a subordinate unit. A ready-to-fight system is a ready-for-issue weapon system to which a crew and ammunition are added and weapons boresighted. Managing weapon systems is the most efficient way to accomplish allocation of limited numbers of replacement combat vehicles and personnel. It removes the burdensome and time-consuming process of forming replacement weapon systems within the squadron.

The regimental support squadron commander designates a weapon system manager (WSM) within the regimental MMC. The appropriate sections within the MMC and a personnel manager from the AG platoon advise the WSM of the status of weapon system assets and execute instructions from him.

The S4 and the S1 monitor weapon system status as reported by the troops. They forward summary reports periodically to the regimental MMC. These reports serve as requisitions to the regiment for both personnel and equipment. The WSM forwards a consolidated regimental report to the COSCOM WSM. The consolidated report serves as a requisition to the COSCOM.

The primary linkup point for crew and vehicle is at the S&T troop Class VII assembly area. The maintenance troop headquarters, the replacement element of the AG platoon, and the Class VII assembly area are closely located to facilitate face-to-face coordination. Crews can also move between the three elements without transportation. Complete weapon systems may be formed at COSCOM and travel from corps to the regiment by rail or to the squadron by heavy-equipment transporter (HET). Equipment is normally transported to the S&T troop as described in Class VII supply. Personnel are transported forward to the regimental support area by rail, air, or truck.

The WSM will instruct the AG platoon to send a specified number of combat vehicle crews to the S&T troop Class VII assembly area. The S&T troop personnel direct the crew to a specific vehicle. The crew will stow the basic issue items; check external and internal communications; and boresight, test-fire, or zero the weapons.

The WSRO concept recognizes that the tactical situation may permit a partial crew to perform the above tasks and to drive to their unit or be transported by HET. However, only complete weapon systems will normally move forward of the regimental support area. The WSM closely monitors crew assets available in the squadrons. Available crew members will be returned from the squadron to the replacement element of the AG platoon on any suitable transportation returning from the squadron. The replacement element then forms the new crew and directs the crew to the S&T troop Class VII assembly area. Crew integrity is maintained on a squadron basis as much as possible to enhance unit cohesion and rapid assimilation of new soldiers.

The WSM must also closely coordinate with the maintenance management officer of the regimental MMC to verify the status of combat vehicles being repaired in direct support maintenance units and the numbers of crew members with combat vehicles. Replacement crew members could join a combat vehicle at the maintenance site and assist in expediting maintenance.

COSCOM assumes the linkup responsibility in case the tactical situation prevents linkup in the regimental support area.

The regimental XO allocates weapon systems to squadrons based on recommendations from the regimental S4. The S4 develops his recommendation based on the status of each squadron. The XO considers the status and the tactical

situation when allocating replacement systems. The S4 forwards the allocation to the WSM. The WSM then directs the S&T troop to issue the system to a particular squadron. When possible, weapon systems are returned to the squadron from which the crew came.

The S&T troop coordinates the movement of weapon systems from the regimental support area to the squadron trains. The weapon systems can be moved under their own power or transported on HET. The weapon systems are then moved forward as part of the LOGPAC or separately to the troops.

Aircraft as a weapon system are treated the same as combat vehicles, except that the WSM must coordinate closely with the corps AVIM battalion on the status of aircraft being repaired.

CLASS VIII

The medical troop normally establishes a regimental medical supply section distribution point at a site that is accessible to ambulances returning to squadron aid stations after dropping patients at the regimental support area clearing station.

Squadron aid stations send informal requests to the regimental clearing station with ambulances evacuating patients. The clearing station fills the request immediately, if possible, then forwards unfilled requests and any requests for replenishment of its own supplies to the medical supply distribution point.

Supplies are issued by the distribution point to ambulances returning forward to the squadron aid stations. The supplies may also be carried forward on trucks or aircraft. The aid station distributes supplies to the troop aid and evacuation teams. Prepackaged and inventoried combat aid kits are exchanged for used ones at the aid station.

CLASS IX

Those repair parts and other maintenance related items required to perform authorized unit maintenance tasks make up a unit's PLL. Repair parts, unlike other supply operations, are handled by the maintenance support system. A PLL is maintained in the squadrons by each ground troop or company, the squadron, and the AVUM troop. These PLLs are continuously reconstituted by authorized stockage lists maintained by the maintenance troop in the regimental support squadron and the corps AVIM battalion.

A combat PLL, composed of combat-essential repair parts to sustain the squadron during its initial entry into combat, is stocked during peacetime as part of the troop and squadron PLLs. Items in the combat PLL need not be demand supported. In combat, noncombat-essential parts, such as those required to comply

with peacetime legal or safety requirements and those for comfort or cosmetic purposes, are left behind.

Troop and squadron PLLs are often collocated in the field trains but are not normally consolidated. Elements of squadron PLL may be forward in the UMCP for immediate use. Troop combat trains often carry selected parts that can be carried on their vehicles. These parts are those that can be replaced on the vehicle quickly and will make the vehicle mission capable. Combat crews frequently carry high-demand suspension system components for field expedient repairs.

PLL clerks monitor the issue of repair parts and submit a request to the maintenance support team from the maintenance troop located with the squadron field trains. The maintenance support team submits requests to the Class IX storage element in the maintenance troop. The storage element f-ills the request from the authorized stockage lists or forwards the request, along with its own requests, to the regimental MMC. The regimental MMC edits and forwards requests to the COSCOM MMC.

COSCOM MMC issues the materiel release order to the general support repair parts company who delivers repair parts to the maintenance troop. Class IX items are received and stored by the Class IX supply operating elements of the maintenance troop. The items are then delivered to the maintenance support team by maintenance troop or support team vehicles, or aircraft. The maintenance support team then delivers the items to the squadron maintenance element in the field trains who sends the parts forward as part of the LOGPAC or separately.

Low-dollar value, high-demand parts are obtained from the quick supply store in the maintenance troop without formal request. In some cases, controlled exchange and cannibalization may be required to obtain Class IX supplies. These are combat expedient methods prescribed in unit SOPs.

The AVUM troop maintains the aviation PLL for the regimental aviation squadron. Requests for supply support are submitted to the AVIM maintenance support team located with AVUM. If the maintenance support team cannot fill the request, it is forwarded to the regimental MMC who forwards it to COSCOM MMC. COSCOM MMC then sends the request to the AVIM battalion for fill. The AVIM battalion delivers the part to the aviation squadron using organic or backhaul aircraft or ground transportation. The AVUM troop may deal directly with the AVIM battalion according to local SOP.

CLASS X

These items are used to support nonmilitary programs such as agriculture and economic development (not included in Class I through IX). Class X items are requested by S4s through the regimental S4 to the regimental MMC. Regimental MMC requests the items from COSCOM MMC. These items are delivered similar to Class II and IV items.

MAPS

The armored cavalry regiment begins an operation with the necessary maps to execute initial and planned subsequent or contingency missions. The S2s plan this map basic load in accordance with guidance from the squadron commander, the regimental S2, and the regimental commander. A basic load of maps covering a large operational area should be maintained on each vehicle to facilitate the rapid assumption of unforeseen missions. The S&T troop stores a reserve of unclassified maps. The regimental S2 determines priorities of allocation for the regiment.

The S2 determines map requirements for the squadron and requests maps through the S4 to the S&T troop. Maps are distributed in the same manner as Class II and IV supplies. The S&T troop obtains bulk stocks of unclassified maps for the regiment from the supporting engineer topographic company. Classified maps are requested and distributed through S2, regimental S2, and G2 channels.

WATER

When surface water sources are available, the combat engineer company in the regiment or corps engineer units will locate water; dig wells, if necessary; and perform the site improvements. Host-nation water supplies may also be available. After the water site is established, the S&T troop operates water pumping, purification, and storage equipment. The S&T troop is responsible for water potability and distribution, to include the establishment of water points. Medical troop provides test equipment and personnel to certify water as potable. Water points should be collocated with Class I distribution points, if possible. Squadrons draw water from the nearest water point, using supply point distribution. Water is delivered forward on the troop supply trucks as part of the LOGPAC. Water trailers are normally supplemented with 5-gallon cans that are exchanged by combat crews.

When surface water sources are not available in the regimental support area, corps or theater resources consisting of transportation units or pipelines are used to move water to it.

Section IV. Transportation

Transportation is the means of distributing supplies, evacuating damaged equipment, and moving personnel to where they are needed. The armored cavalry regiment has organic ground and air transportation and is completely mobile without augmentation.

TRANSPORTATION ASSETS

The principal transportation assets in the regiment areas follows:

- Squadron support platoons.
- S&T troop motor transport platoon.
- Assault helicopter troop.

Alternative transportation means available outside the regiment are as follows:

- Host-nation support (not forward of division rear boundary).
- COSCOM transportation assets.
- Rail support.
- Inland waterways.
- Medium-lift helicopters, corps aviation brigade.

TRANSPORTATION CONTROL

The regimental S3 recommends operational priorities to the regimental commander for transportation. The regimental S4 has staff responsibility for transportation, plans the use of transportation for CSS, and integrates transportation into the administrative/logistics plan. The S4 delegates authority for transportation matters to the movement control officer, who works for him. The movement control officer is the principal transportation coordinator in the regiment. He receives transportation requests from S4s within the regiment and tasks organic transportation units with missions. He also plans and implements highway regulation of road networks within the regiment's area of responsibility. The movement control officer coordinates with the COSCOM movement control team when resources are required beyond the capabilities of organic transportation units. He coordinates with the aviation squadron S3 when utility helicopters from the assault helicopter troop are needed for transportation. The movement control officer coordinates with and assists the support squadron commander through the transportation plans and control officer (TPCO) in the support squadron's S2/S3 section for the use of the support squadron's transportation assets. The TPCO plans and controls the assignment of missions to the S&T troop. The TPCO allocates regimental support squadron transportation assets in accordance with priorities of the regimental commander as relayed by the movement control officer. When requirements exceed capabilities, the TPCO requests additional support from the movement control officer.

AIR TRANSPORT

Air transport includes all methods of transporting materiel and personnel by air. The modes of delivery are rotary- and fixed-wing aircraft. The methods of delivery are air landing of the aircraft, airdrop by parachute, free fall from an aircraft, and

external sling load on rotary-wing aircraft. Except for the assault helicopter troop, the armored cavalry regiment must depend on external resources for their air transport needs.

Air transport requests that are beyond the capability of the assault helicopter troop are sent by the movement control officer to the corps movement control center. The corps movement control center is responsible for tasking corps aviation units with the mission. If the mission is beyond the capability of the corps aviation unit or if airdrop or air landing the cargo would better meet the requirement, a request for Air Force support is initiated. In this joint operation, supplies and equipment to be transported, ground transportation to move them, parachutes and air items used in rigging of loads, and ground personnel supporting the operation are Army responsibilities.

There are three types of airlift mission:

- Preplanned. Missions based on known or projected mission requirements.
- Immediate. Missions resulting from unanticipated, urgent, or priority requirements.
- Emergency. Missions that are critical to the accomplishment of the tactical mission or the survival of a unit.

Request procedures for both airlift and airdrop are the same. The movement control officer requests transport for preplanned and immediate missions from the corps movement control center, which submits a request to the joint force commander's designated representative. Requests for emergency missions are submitted through operations channels. The squadron XO requests support from the regimental XO who, in turn, submits the request to the corps TOC. Detailed information is available in FM 100-27.

Section V. Maintenance

Maintenance involves inspecting, testing, servicing, repairing, recovering, evacuating, and rebuilding equipment. Repair and recovery are completed as far forward as possible, and at the lowest capable echelon. When equipment cannot be repaired on site, it is moved only as far as necessary for repair. When all maintenance requirements cannot be met, the regimental XO determines maintenance priorities for subordinate units based on operational requirements of the regiment and recommendations of the support squadron commander and the S4.

MAINTENANCE LEVELS

The Army maintenance system consists of four levels:

- Unit.
- Direct support.
- General support.
- Depot.

Unit Maintenance

Unit maintenance consists of those tasks performed by operators and crews and organic maintenance sections and platoons. The functions of unit maintenance are to repair by replacement; make minor repairs; and perform adjustments, cleaning, lubricating, and tightening services. Unit maintenance elements also perform recovery tasks. Operator and crew maintenance is preventive in nature, performed continuously, and is the foundation of an effective maintenance system. Operator and crew maintenance keeps equipment functioning within prescribed operating limits and identifies minor problems that can be easily fixed before they become major problems, causing significant down time or repair effort. Troop maintenance personnel, backed up by squadron maintenance platoons and the AVUM troop, perform diagnosis, make minor adjustments and repairs, and repair end items by exchanging faulty modules and components. These functions can be performed on site or in the UMCP.

Direct Support

Direct support maintenance is performed by DS maintenance units working with the unit maintenance personnel well forward in combat or field trains and in support areas. The function of direct support is to repair end items on a return-to-user basis and to repair selected unserviceable components and modules in support of the repairable exchange system. The maintenance troop provides maintenance support teams to support the squadrons on either a permanent or as-needed basis. For direct support maintenance, emphasis is placed on repairing end items by replacing components and modules. The extent of maintenance performed on specific end items is restricted by such factors as time available for repair, availability of repair parts, resupply, and workload. Direct support is normally the highest level of maintenance support provided by the maintenance troop.

General Support

General support maintenance is primarily limited to repair and return to the supply system. It is job or production-line oriented. Maintenance tasks at this level include battle damage assessment; diagnosis; repair of assemblies, components, and modules; and maintenance of theater reserve stocks. General support maintenance is performed by units located in the communications zone.

Depot

Depot maintenance personnel rebuild end items, modules, components, and assemblies; perform cyclic overhaul; perform inspections; and complete modifications requiring extensive disassembly or elaborate testing. Depot maintenance is performed in fixed facilities in CONUS and the theater of operations. It is production-line oriented and supports the supply system.

AVIATION MAINTENANCE LEVELS

There are three levels of aviation maintenance:

- Aviation unit maintenance. The AVUM troop in the regimental aviation squadron performs aviation unit maintenance for the armored cavalry regiment.
- Aviation intermediate maintenance. The corps AVIM battalion performs aviation intermediate maintenance for aircraft in the armored cavalry regiment. Maintenance support teams provide the regiment with support on either a permanent or temporary basis as needed.
- Depot.

CONTROLLED EXCHANGE

Controlled exchange is the systematic removal of serviceable parts, components, or assemblies from unserviceable but economically repairable equipment for immediate use in restoring a like item of equipment to a combat operable and serviceable condition. The serviceable part is replaced by the unserviceable part. It is performed in strict compliance with SOP. Once authority to conduct controlled exchange is granted, the maintenance troop commander or platoon leader approves each exchange. It expedites a repair and return-to-user operation in support of materiel readiness and operational effectiveness. This expedited repair practice is permitted when the required serviceable part, component, and assembly cannot be obtained on a timely basis through normal supply channels or repairable exchange. Controlled exchange is performed by mechanics on site, at the UMCP, or at the maintenance unit area.

CANNIBALIZATION

Cannibalization is the authorized removal for reuse of parts or components from uneconomically repairable or disposable end items or assemblies. It is a supply source for authorized low mortality or difficult to obtain repair parts, components, and assemblies. It is a source for high priority items when delivery cannot be made by the required delivery date. It is performed in strict compliance with the SOP and in close coordination with maintenance support team personnel. Once authorized, it is supervised like controlled exchange. Cannibalization is a major source of repair

parts in a combat environment and should be aggressively used to keep the maximum number of combat systems operational.

BATTLE DAMAGE ASSESSMENT AND REPAIR

BDAR is the first step in returning disabled equipment to the battle. BDAR is the act of inspecting battle damage to determine its extent, classifying the type of repairs required, and determining the maintenance activity best suited to accomplish the repair. BDAR is accomplished at each point in the echeloned maintenance system. If essential repairs cannot be made at the breakdown site, further recovery to the UMCP or directly to the appropriate maintenance location is made. Maintenance support team personnel may determine that a piece of equipment requires evacuation direct to the maintenance unit with the appropriate repair capability, bypassing other echelons.

RECOVERY AND EVACUATION

Recovery is extricating damaged equipment or equipment requiring extensive maintenance to a location where either repair can be accomplished or evacuation can begin. Evacuation is the movement of recovered materiel from a main supply route or maintenance collecting point to higher levels of maintenance. The squadrons are responsible for recovering their own damaged equipment. Evacuation is the responsibility of maintenance troop and is a coordinated effort between maintenance, supply, and transportation elements.

Recovery operations include the following actions:

- Self-recovery to a secure area or a collecting point.
- “Buddy recovery” by a similar type or larger combat vehicle.
- Recovery by the troop or squadron recovery team using specialized recovery equipment, such as tracked recovery vehicles.
- Notifying support units of location of damaged or terrain-mired equipment when recovery is beyond the owning unit’s capability.

Recovery out of the line of fire by the crew or another vehicle in the platoon allows the recovery team from the troop combat trains to approach the damaged vehicle and initiate BDAR behind cover. (When the troop recovery team is overloaded, squadron recovery teams from the maintenance platoon may assist.) The recovery team completes BDAR and immediately repairs the vehicle, if possible. If repairs cannot be made because of the extent of damage, time, or other reason, the recovery team moves the vehicle to the UMCP. BDAR is performed again at the UMCP and a determination made to repair the vehicle on site, at the combat trains,

at the field trains by the DS maintenance support team, or to evacuate. If the item will be repaired by the DS maintenance support team, the squadron normally recovers the vehicle to the field trains. If squadron assets are overloaded, recovery support can be coordinated with the DS maintenance support team to preclude excessive repair delays.

Equipment that cannot be repaired by the DS maintenance support team is normally evacuated. Items are normally evacuated from the DS site in the field trains, but may be evacuated from as far forward as the combat trains. Equipment is evacuated to the corps element in the nearest corps support group. Evacuation by the S&T troop is used when possible to keep the unit recovery effort forward. The S&T troop normally provides the trucks used to evacuate major pieces of combat equipment. Transportation may be available by using corps transportation unit trucks to backhaul items being evacuated. Maintenance troop should request corps assistance when the regiment's evacuation assets are overloaded.

Enough crew members remain with the vehicle during the recovery and repair process to assist and to return the vehicle to the unit when repairs are completed. They may also man operational weapons to provide additional security in rear areas. Communications equipment installed in the vehicle is evacuated with the vehicle. Personal equipment of crewmen not accompanying the vehicle and other appropriate equipment are removed before the vehicle leaves the troop area. If the vehicle is evacuated beyond the DS maintenance support team site in the field trains, the entire crew returns to the troop or is moved to the WSRO site.

The same principles of recovery and evacuation apply to the regimental aviation squadron with the following additions. The AVUM troop performs aircraft recovery for the aviation squadron. AVUM troop can perform standard rigging of aircraft using recovery kits. When an aircraft is down, the AVUM troop commander moves a contact team to the site by air or ground to perform BDAR. This action is coordinated with the ground squadron or other unit occupying the area. If the contact team cannot make the aircraft mission capable on site, recovery may require the on-site repair of the aircraft for a one-time flight. If neither of these alternatives is possible, the AVUM troop commander coordinates for recovery and prepares the aircraft for movement by a cargo helicopter or a suitable ground vehicle from the support platoon or S&T troop. In extreme circumstances, only a portion of an aircraft may be recovered. An aircraft is cannibalized at a field site only when the combat situation and aircraft condition are such that the aircraft would otherwise be lost to approaching enemy forces. If the recovery is beyond the AVUM troop's capability and wheeled vehicles are not available or feasible, AVIM support is requested.

Aircraft recovery should be planned in advance with contact teams and recovery assets designated and, if possible, dedicated for an operation. Given the regiment's normal area of operations in relation to the main battle area and corps main body, wheeled vehicles may be the primary means of transportation used for recovery and evacuation of aircraft.

FORWARD SUPPORT

Combat power is maximized when disabled equipment is repaired as far forward and as quickly as possible. The squadron maintenance officers and AVUM troop commander, in coordination with the squadron XOs, direct the maintenance effort for the squadrons, using established time guidelines and coordinating maintenance actions. The fix forward concept entails positioning appropriate maintenance elements forward on the battlefield to perform repairs, but also rapid recovery of the vehicle if repairs cannot be made within specified time frames. This allows the unit to retain possession of its equipment on a fluid battlefield.

Contact teams or maintenance support teams are used at each echelon of command to put the appropriate maintenance elements forward. Planning the support of the contact team and the maintenance support team should be integrated among all echelons of maintenance. When these teams are sent forward, they should be configured with appropriate mechanics, repair parts, tools, and recovery equipment to perform repairs or recovery within time guidelines established for that echelon of maintenance.

The contact team performing battle damage assessment and diagnosis determines repair time. An item is repaired on site or recovered directly to the appropriate maintenance echelon in the appropriate support area based on considerations listed below.

- Tactical situation.
- Echelon of work required.
- Availability of required repair parts.
- Current workload at each maintenance site.
- Maintenance repair time guidelines.

Maintenance repair time guidelines establish the maximum time that unserviceable equipment will remain in various support areas. Time guidelines are exclusive of the time necessary to move to the site and conduct battle damage assessment. Such times, based on distance and terrain, should be considered when developing repair time guidelines. METT-T and command policy guide the type or level of repairs each unit performs; units do not strictly adhere to established repair time intervals.

Direct support units accomplish forward support by frequently using maintenance support teams. One maintenance support team is normally dedicated to each squadron and locates in the squadron field trains. The aviation squadron normally receives an AVIM maintenance support team from the corps AVIM battalion. Other corps maintenance support teams are allocated to the maintenance troop for missile, communications, and other equipment as necessary. Many of these teams augment the maintenance troop when workloads require additional assets.

AVIATION MAINTENANCE SUPPORT

Aviation maintenance is intensively managed to keep as many aircraft mission-capable as possible. There will be a large increase in flying hours and a greater demand for operational aircraft during combat operations. These increased requirements will be complicated by higher attrition and battle damage rates, which create shortages of repair parts and replacement aircraft. A realistic controlled exchange/cannibalization policy, rapid recovery of damaged or downed aircraft, and a flexible system of cross-leveling spares is an essential part of the transition into the rigorous demands of combat maintenance. Implicit in the remove-and-replace maintenance approach is the deferment of scheduled maintenance tasks and the total shift to on-condition maintenance.

The regimental aviation squadron is supported by the aviation maintenance battalion (AMB). The AMB provides AVIM for the corps airframes, power plants and drivetrains, armament, avionics, and backup AVIM for division aviation maintenance companies. In addition to AVIM, the AMB provides backup AVUM support, recovery and evacuation support, direct exchange services, operationally ready floats, and aviation Class IX authorized stockage lists. The AMB establishes a close working relationship with the AVUM troop.

During the early hours and days of a conflict, extreme requirements are placed on all aviation assets. Aircraft readiness and the ability to sustain that readiness must be assured. This requires extensive use of AVIM support teams providing forward support at the AVUM site where the major thrust is to remove and replace components. The AMB commander and AVUM troop commander should coordinate the use of AVIM maintenance support teams before operations begin. The maintenance team's support should be habitual.

To facilitate aviation support, the regimental S4 and regimental MMC must know the status of squadron aircraft and maintenance activities. Requests for aviation-specific support may be forwarded by the AVUM troop commander direct to the AMB, through the regimental MMC to COSCOM MMC for materiel, or through the regimental S4 to the corps G4 for services.

COMSEC MAINTENANCE

COMSEC equipment is evacuated through Class VII channels to the corps signal brigade.

AMMUNITION

Unit maintenance is performed by the operator and crew and unit maintenance personnel. Unit maintenance is limited to care and preservation actions. DS maintenance support for ammunition items is provided by corps ordnance units. This maintenance is performed in the corps area when possible. Units holding

ammunition stocks that require DS maintenance must return such stocks to the nearest ammunition supply point.

MAINTENANCE SUPPORT OF CONTINUOUS OPERATIONS

Troop combat trains displace often, remaining close behind the platoons for immediate support. The first sergeant directs the movement of the combat trains based on maneuver of the platoons. Once emplaced, he notifies the XO of the new location.

The UMCP normally displaces with the other elements of the combat trains. During periods of frequent displacement, the squadron maintenance officer may direct the UMCP to displace by echelon. In this case, some assets of the maintenance platoon complete repair on vehicles at the old site before displacing forward to the new location. During operations with rapid forward movement, the UMCP will conduct only essential and simple recovery. Other disabled vehicles are taken to maintenance collection points or to the main supply route where they remain to be repaired or evacuated by the DS maintenance support team as they displace forward with the field trains.

Maintenance operations must continue at night. At night, maintenance is accomplished in lightproof or light-suppressing maintenance tents or other shelters. Permanent structures such as warehouses, civilian garages, and barns are preferred. If large shelters are not available, field expedient shelters and low-light sources are used.

Frequent displacement and 24-hour operations quickly take their toll on maintenance effectiveness. Knowing this, first sergeants, squadron maintenance officers, and AVUM commanders must properly manage maintenance personnel and resources. Peripheral requirements—such as local security, preventive maintenance of maintenance unit vehicles and equipment, and rest plans—must be planned in advance or included in the unit SOP. This ensures that work remains at a high standard even under strenuous conditions.

Section VI. Field Services

Field services include mortuary affairs; food preparation; water purification; airdrop; laundry, shower, and clothing and light textile repair; and force provider.

FOOD PREPARATION

Food preparation is a basic unit function performed by food service personnel throughout the theater. It is one of the most important factors in soldier health,

morale, and welfare. Virtually every type of unit in the force structure, divisional and nondivisional, has some type of food service personnel. These personnel support the unit's food service program as directed by the commander.

WATER PURIFICATION

Water is an essential commodity. It is critical to the individual soldier and necessary for sanitation, food preparation, construction, and decontamination. Support activities, such as helicopter maintenance and operations of medical facilities, consume large volumes of water. Water purification is a field service. Quartermaster supply units normally perform water purification in conjunction with storage and distribution of potable water. Nonpotable water requirements are the responsibility of the user.

MORTUARY AFFAIRS

It is an article of military faith that every effort is made to properly account for casualties and evacuate remains.

The armored cavalry regiment normally relies on organic personnel for mortuary affairs (MA) support. This will impose a strain on the supply system unless planned ahead of time. There is only one NCO in the S&T troop organization to perform MA duties. The regiment and squadrons may be compelled to pull personnel from other duties to perform MA tasks.

The S&T troop may be augmented with a field services platoon from COSCOM containing a MA section or it may be augmented with a MA section alone. In this situation, the MA section works under the MA specialist from S&T troop.

Mortuary affairs at squadron level consists of three functions: collection, identification, and evacuation. Casualty feeder reports and witness statements are completed by a soldier who has knowledge of the casualty and forwarded to the squadron S1. The troop collects the casualty's military equipment and turns it over to the troop supply sergeant during LOGPAC operations. Medics or other support personnel place remains in a human remains pouch, along with personal effects. The remains are then evacuated with LOGPAC vehicles returning to the field trains. Disabled vehicles or any other form of transportation may be used to transport remains. A collecting point may be established, if necessary, at the combat trains in the vicinity of the aid station or in the field trains. In any case, remains are evacuated as rapidly as possible to the MA collecting point in the regimental support area.

The MA section (either augmented from the field services platoon or ad hoc from organic personnel) operates the regiment's MA collecting point. This point is located near the main supply route, but if possible, is isolated from other activities.

The MA section is responsible for coordinating the evacuation of remains from squadron and other collecting points.

If the tactical and logistical situation makes evacuating impossible, emergency on-site burial is necessary. This must be authorized by squadron commanders. The site must be clearly marked and documented with an overlay and appropriate forms. If the remains are contaminated, the grave site must be clearly marked and separated from uncontaminated grave sites. This must also be indicated on the grave site overlay.

During all MA operations, remains should be screened from view so that they will not affect morale. FM 10-63 discusses mortuary affairs in greater detail.

AIRDROP

Airdrop support is coordinated through corps. The regimental MMC requests support as directed by the regimental S4. The regimental MMC coordinates with the corps MMC. The regiment is responsible for preparing and marking a drop zone. The air liaison officer provides technical assistance in site selection and marking.

LAUNDRY, SHOWER, AND CLOTHING AND LIGHT TEXTILE REPAIR

Laundry, shower, and clothing and light textile repair services are provided by the laundry and renovation platoon in the supply and service company or field services company, COSCOM.

COSCOM designates a corps field service company, a supply and service company, or special team augmentation to perform this mission. When the regiment is augmented with a field services platoon, the shower, laundry, clothing repair (SLCR) section in that platoon is capable of operating two SLCR points in support of the regiment. Because all units providing SLCR support are limited in personnel, supported squadrons may be required to provide personnel to assist in safeguarding valuables, securing equipment, and issuing clothing.

FORCE PROVIDER

The army's force provider is a modular system, principally designed to provide the front-line soldier with a brief respite from the rigors of a combat environment. It includes environmentally controlled billeting; modern latrines, showers and kitchens; morale, welfare, and recreation (MWR) facilities; and complete laundry support. The modules can be complexed to provide support to the regiment. The cadre for the system will need to be reinforced to provide effective support.

Section VII. Personnel Support

The personnel support system (PSS) is a wide range of functions at all levels to provide support for the soldier. Personnel support has two components: manning the force and personnel services support. Manning the force includes personnel readiness management, personnel accounting and strength reporting, casualty operations management, and replacement management. Personnel services support includes personnel information management, postal operations management, and MWR and community support. This support sustains soldiers, their morale, and their welfare.

In combat, three PSS functions are critical:

- Personnel accounting and strength reporting.
- Replacement management.
- Casualty operations management.

These functions and religious support are echeloned well forward to provide responsive support. Other functions are kept toward the rear and in some cases not introduced until the combat situation is stabilized. PSS is provided by the regimental HHT AG platoon and the regimental unit. The platoon is located in the regimental support area under the operational control of the regimental support squadron. External PSS is provided by COSCOM from a personnel service company, a direct support postal platoon, and a replacement company.

MANNING THE FORCE

The manning challenge is to ensure personnel support through the uninterrupted flow of soldiers to the battlefield. It should be considered as part of the "troops available" formula of METT-T.

Personnel Readiness Management

Personnel readiness management assesses an organization's combat power, plans for future operations, and assigns replacements on the battlefield. It predicts the need for replacements and provides a mixture of individuals and small units. Personnel readiness management includes the techniques and decision-making process used to allocate replacements and assess the combat capabilities of units from the personnel perspective. Strength accounting is the process of collecting, recording, and reporting numerical personnel data to analyze a unit's strength posture. Troops and attached units submit battle loss reports and routine personnel strength reports to their S1. The S1 forwards a consolidated report to the regimental administrative/logistics center. The regimental S1 monitors strength as it affects combat potential and recommends personnel assignment priorities to the

commander. Determining specific personnel requirements and replacement distribution is the responsibility of the S1.

Personnel Accounting and Strength Reporting

Personnel accounting is the system for recording by-name data on soldiers. Personnel accounting information base management consolidates current and projected personnel information on soldiers and units in a number of command data (SIDPERS). This information serves as the basis for command decisions and projected battlefield requirements. This function is performed at the squadron and regimental PAC and at the regiment AG platoon. Standard reports available from the personnel accounting and strength reporting (PASR) system include the following:

- Battle Roster.
- Personnel Summary.
- Personnel Requirements Report.
- Command and Control Task Force Personnel Summary.

Casualty Operations Management

Casualty operations management records, reports, and accounts for casualties promptly and efficiently. It supports personnel accounting and strength reporting. Timely and accurate casualty reporting is a critical and sensitive function. Initial reports are usually verbal. Written reporting occurs as soon as possible after the event and is initiated by the squad leader, tank commander, or any individual having knowledge of the casualty. Casualty feeder reports are submitted to provide initial information for informing the next of kin and for payment of benefits. When a soldier is reported missing or missing in action, or when remains are not under US control, a witness statement accompanies the casualty feeder report. The first sergeant collects and forwards reports to the squadron S1. The S1 reconciles information on casualty feeder reports with verbal information previously received, adjusts strength reports as necessary, and forwards the casualty feeder reports to the PAC. PAC maintains a casualty log, verifies casualty data, updates the personnel data base, and forwards completed reports through the AG platoon to the appropriate personnel service company. Casualty operations management coordinates the personnel and logistical processes involved in casualty management at all levels. This involves coordination primarily between the S1 and S4 personnel at both squadron and regimental level.

Replacement Management

Strength accounting reports submitted by the AG serve as a request for replacements. COSCOM transports replacements forward to the regimental support area. The replacement element of the AG platoon should be located close to, the S&T troop Class VII assembly area to support WSRO. Replacements not needed for WSRO are transported to squadron field trains on any available transportation. Coordinating for transportation is the resposibility of the AG platoon.

Replacements are equipped with field gear and ammunition before departing the support area. A replacement receiving point is established in the squadron field trains. All replacements or returnees from the medical system are brought to the receiving point for integration into the squadron. After in-processing, replacements move forward to their troop with the LOGPAC under the control of the supply sergeant. Integrating them quickly into the unit is critical. The commander and first sergeant should personally meet them, brief them, and ensure that subordinate leaders do the same. New leaders should be briefed in detail on unit SOP and tactics and techniques.

PERSONNEL SERVICES SUPPORT

Personnel services support ensures readiness as well as sustains the human dimension of the force.

Personnel Information Management

Personnel information management provides a record of critical personnel information about soldiers to support battlefield decisions and to meet the nation's obligation to retain historical information for its veterans.

Postal Operations Management

Postal operations management manages and operates a postal network to move, deliver, and collect mail in the deployed force. It delivers official mail, including critical spare parts and medical supplies, and provides an alternate delivery system for personnel information.

A direct support postal platoon provides postal services to the regiment. In a conflict, postal services to soldiers are initially limited to personal mail (incoming and outgoing) that conforms to type and size limitations prescribed by the theater headquarters. Additional postal services are provided when the theater headquarters determines that the military situation permits. These services are as follows:

- Receiving and delivering other categories of ordinary and accountable mail.
- Accepting for dispatch other categories of ordinary mail that requires prepayment of postage.
- Providing special mailing services for outgoing mail that requires prepayment of postage.

The direct support postal platoon delivers mail to the postal division in the regimental support area. Mail is distributed to the squadrons by the postal division, or is picked up in the support area by the squadron mail clerks. The squadron mail clerk sorts the mail by current task organization and distributes it to the unit supply sergeant (or mail orderly) who delivers it to the first sergeant, platoon sergeant, or to the soldier during LOGPAC resupply.

Morale, Welfare, and Recreation

Commanders use MWR activities to assist in relieving stress. Planning and executing the MWR mission on the battlefield is the responsibility of the squadron and the regimental S1.

OTHER PERSONNEL SERVICES

The administrative services branch in the AG platoon provides the following support:

- Records management.
- Publications supply.
- Printing and reproduction.
- Distribution center operations.
- Correspondence.
- Classified document control.
- Morale support services.
- Awards and decorations.
- Officer and NCO evaluations.
- Officer and NCO promotions.

During lulls in the battle, the S1 and PAC complete all administrative actions necessary at the squadron level. If possible, these are accomplished by forming personnel contact teams that move forward to squadron or troop locations. Special consideration is given to timely processing of awards, decorations, and personnel actions.

RELIGIOUS SUPPORT

The regimental/squadron chaplain is a special/personal staff officer with direct access to the commander. He advises the commander on the religious welfare, morals, and morale of the unit as well as indigenous religions in the area of operations. He exercises technical control and coordination over the regiment's unit ministry teams (UMT) to ensure direct, general, and denominational religious support. UMTs are dedicated to delivering religious support far forward to meet the spiritual needs of soldiers in combat. Religious support includes performing/providing sacraments, rites, ordinances and worship services; pastoral care and counseling; battle fatigue ministry; and special services and ministrations.

LEGAL SUPPORT

Limited legal services are provided by the legal specialists in the AG platoon and squadron S1 sections. Additional staff judge advocate (SJA) support is provided by corps. SJA responsibilities include legal advice and assistance on all matters involving military, domestic, foreign, and international law and regulations, In addition, the SJA supervises the administration of military justice, processes claims for and against the US government, and furnishes personal legal assistance to authorized personnel.

FINANCE SUPPORT

Finance support is provided by the finance group assigned responsibility for the area in which the regiment is deployed. The finance group provides its services by finance support teams. The finance support teams make combat payments to soldiers in amounts established by the theater commander, or in lesser amounts if the soldier so desires. When and where the soldier is paid is determined by the commander and coordinated by the S1. Pay inquiries and changes are handled by finance support teams when making payments.

PUBLIC AFFAIRS

Information (public affairs) support for the regiment is provided by the public affairs personnel in the regimental headquarters under the control of the public affairs officer (PAO). The PAO provides public affairs advice and services concerning all matters of soldier and media interest. The PAO controls all public affairs assets assigned or attached to the regiment.

ENEMY PRISONERS OF WAR

Maps and documents obtained on the battlefield and EPWs are valuable sources of combat information. Proper and rapid handling and evacuation are important as, in most cases, EPWs and documents lose their value quickly over time.

The capturing unit is responsible for guarding prisoners until relieved, recovering weapons and equipment, removing documents with intelligence value, and reporting to a command post. Platoon leaders report the capturing of documents and EPWs immediately to the troop command post and coordinate a rendezvous with the first sergeant. The first sergeant or his representative moves them to the squadron EPW collecting point established by the S1. (The S1 plans and coordinates EPW operations, collecting points, and evacuation procedures.) The collecting point should be accessible to the troops and near the S2, if possible. The squadron then moves the prisoners to the regiment's EPW collecting point established by the MI company (CEWI) where interrogation teams take control of them. All documents captured on or with the prisoners should be evacuated separate from, but along with,

them for use during interrogation. Interrogation teams may be positioned forward at the squadron collecting point in direct support of the squadron. The squadron S4 coordinates for transportation of EPWs and equipment. Wounded prisoners are treated through normal medical channels, but remain separated from US and allied patients.

When large numbers of EPWs are collected during an operation, units may be required to assist evacuation.

Section VIII. Combat Health Support

The objective of military medicine is to conserve trained manpower. To achieve this objective, patients must be acquired, examined, treated, and returned to duty as far forward as possible or evacuated further. First aid is the responsibility of all soldiers; they use first aid, self-aid, buddy-aid, and combat lifesaver techniques. All soldiers are trained to take action after a soldier is wounded to keep him breathing, stop the bleeding, prevent shock, and dress the wound until medical personnel are available to treat the soldier. Preventive measures reduce nonbattle losses and require command attention. Health services in the regiment include unit-level support as well as regiment-level support.

UNIT-LEVEL SUPPORT

The medical platoon is the focal point of combat health support (CHS) for the squadron. It is organized to support the troops; acquire, treat, and evacuate patients; and coordinate further evacuation as necessary. The platoon consists of a headquarters with the platoon leader and platoon sergeant, a treatment squad, and a combat medic and evacuation section. CHS is planned by the squadron surgeon or medical platoon leader and coordinated with the S1. The medical platoon leader, like any staff officer, must understand the concept of the tactical operation as well as the support plan of the medical troop.

The treatment squad operates the squadron aid station in the combat trains. The squad is capable of operating two aid stations for a limited time, but the normal employment is one aid station. Since the squadron normally has only one surgeon, a second aid station has limited capability. The aid station provides trained personnel to stabilize patients for further evacuation, to provide emergency lifesaving and limb-saving treatment, and to treat minor wounds or illnesses for return to duty. Other functions include the following:

- Notifying the S1 of all patients processed and disposition of casualties as directed by SOP.
- Preparing field medical records and verifying information on field medical cards.

- Requesting, monitoring, and, if necessary, providing support for aeromedical evacuation.
- Monitoring personnel for radiological contamination prior to medical treatment.
- Supervising patient decontamination conducted by nonmedical soldiers and treating small numbers of chemical casualties.
- Monitoring the activities of aid and evacuation teams.

The combat medic and evacuation section attaches teams to troops on a habitual basis. They support the troop with treatment and evacuation to the squadron aid station. They also support downed aircrews in the troop area of operations. Other duties include the following:

- Assisting combat vehicle crews in extracting injured crewmen from their vehicles.
- Initiating a field medical card for the sick and wounded; time permitting, completing this card for deceased personnel.
- Notifying the first sergeant of those requiring evacuation to the aid station.
- Remaining abreast of the troop tactical situation and comply with the first sergeant's instructions.
- Resupplying combat lifesavers with medical supplies.
- Informing the troop commander and the squadron surgeon concerning the status of patients seen and the overall status of troop health.

REGIMENT-LEVEL SUPPORT

The medical troop in the support squadron provides combat health support to the regiment. The medical troop performs the following functions:

- Provides medical supply support and performs organizational medical equipment maintenance for units organic or attached to the regiment.
- Receives, sorts, and provides emergency medical treatment and advanced trauma management and, during lulls in the battle, routine sick call for all classes of patients.
- Provides urgent initial surgery for critically injured soldiers.
- Provides patient holding capability for up to 40 patients.
- Provides emergency dental treatment.
- Provides combat stress control and mental health services.
- Evacuates patients from squadron aid stations.

The medical troop operates from the regimental support area. Patient evacuation from the clearing station operated by the medical troop is performed by medical elements of the corps level combat health support system.

The troop commander is the regimental surgeon. In this capacity, he has direct access to the regimental commander and advises him on medical aspects of the regiment's operations and on the health of its soldiers. He exercises staff supervision over all combat health support activities in the regiment.

The troop is organized with a headquarters; regimental medical supply section; a treatment platoon with four treatment squads, an area support squad (dental, x-ray, and laboratory), and a patient holding squad; and an ambulance platoon with three wheeled ambulance squads and three tracked ambulance squads. The treatment platoon operates a clearing station in the regimental support area. The ambulance platoon provides ground evacuation support from squadron aid stations and backup evacuation support for the squadrons. The regimental medical supply section is responsible for resupply of medical supplies within the regiment.

COMBAT LIFESAVERS

Combat lifesavers receive additional training above the basic first-aid level and provide enhanced first aid to battlefield casualties before the arrival of the combat medic. The regimental surgeon plans the training of the combat lifesavers. Squadrons should have one soldier qualified as a combat lifesaver in each vehicle crew.

EVACUATION

Patients are evacuated no further to the rear than their condition requires and are returned to duty as soon as possible. Combat medics recover patients on the battlefield and evacuate them rapidly to the aid station. It is imperative that combat vehicles and personnel not leave the battlefield unnecessarily to perform evacuation functions. If combat medics are not readily available in the troop area, patients may be evacuated on any suitable vehicle already moving to the rear, such as a recovery vehicle or maintenance vehicle.

Medical evacuation from the aid station may be by ground or air means. Aeromedical evacuation is used to the maximum extent possible. The medical troop coordinates for air ambulances from the corps medical evacuation battalion. Utility helicopters in the assault helicopter troop of the aviation squadron are not designed or staffed to evacuate patients. Ground ambulances are used for those patients who cannot be evacuated by air. The specific mode of evacuation is determined by the patient's condition, aircraft availability, and the tactical situation. Normally, the surgeon or physician's assistant treating the patient makes this determination.

COMBAT HEALTH LOGISTICS

The regiment is provided medical supply support by the corps medical logistics (MEDLOG) battalion. Within the regiment, medical supply, resupply, medical equipment, and blood are provided by the regimental medical supply section. Ambulances backhaul Class VIII when returning to forward areas. These same ambulances evacuating patients to the clearing station in the regimental support area carry requests for supplies from squadron aid stations. Within the squadron, combat medic and evacuation teams pick up supplies as they drop patients at the aid station. Upon their return to the troop, the combat medics distribute supplies to the combat lifesavers.

Organizational maintenance of medical equipment is provided or coordinated by the medical troop. The medical troop obtains direct support medical maintenance and supply support from the corps MEDLOG battalion.

PREVENTIVE MEASURES

More soldiers are lost in combat to illness, disease, and nonbattle injury than to combat wounds. Maintaining the health and fighting fitness of soldiers is a responsibility of all leaders. Commanders reduce the threat by emphasizing preventive measures. All surgeons and combat medics in the regiment support leaders in the areas of hygiene, sanitation, and counseling and treatment of stress and battle fatigue.

Rules of hygiene should be established in SOP and observed daily to prevent the spread of disease. Soldiers should wash and change undergarments daily. Cold and hot weather injuries must be prevented by proper clothing and inspections. Immunizations must be current.

Field sanitation is important to prevent the spread of debilitating diseases. Only approved or tested water sources should be used. Field mess operations must maintain clean kitchen equipment and follow proper cooking and cleaning procedures. Utensils used for eating must be properly cleaned before reuse. In static situations, soldiers use slit trenches or latrines; at other times they use cat holes. All must be covered up after use to prevent the spread of disease.

Rest is extremely important. The effects of sleep degradation are discussed in Chapter 2. Sleep plans must be practiced and established in SOP. When possible, soldiers should sleep outside vehicles to allow them to fully stretch out and get the full benefit of at least four hours of continuous sleep.

Safety is a continuous requirement to prevent accidents that injure soldiers. The combat environment is full of risks associated with vehicles, weapons, stress, and fatigue. Attention to detail can slip on matters that do not directly affect combat. Safety is inherent in following proper equipment and weapons operating procedures. SOPs incorporate safety concerns in establishing procedures for assembly areas and

other locations of troop concentrations. Leaders enforce proper equipment-operating procedures and SOP safety items continuously.

Section IX. Reconstitution

The intensity of modern combat can result in substantial losses in the fighting capability of the regiment. Reconstitution consists of those actions taken to return it to an acceptable level of combat effectiveness. Reconstitution also includes actions necessary to maintain or restore the morale of the soldier. Reconstitution is best accomplished in an area not under immediate enemy threat. Reconstitution actions are either reorganization or regeneration, depending on the nature of losses suffered. Commanders will most often execute them in combination. The decision to reconstitute rests with the commander. He bases his decision on the tactical situation.

REORGANIZATION

Reorganization restores combat effectiveness by cross-leveling assets internally. This may be done within platoons and troops, between troops, or between squadrons to produce balanced, effective but reduced strength units. Units do this as a matter of SOP during consolidation and reorganization phases of combat operations. Reorganization also includes the formation of composite units, resulting in fewer, but full strength, units. These actions are part of SOPs that also designate who has authority to consolidate subordinate units. Reorganization is initiated throughout a conflict and as often as practicable.

REGENERATION

Regeneration is the rebuilding, to a specified level of combat effectiveness, of a squadron or the regiment through large scale replacement of personnel, equipment, and supplies. This process is initiated when losses are too substantial to accomplish through reorganization. Unit regeneration consists mainly of two major subtasks—repair or replacement of critical equipment and replacement of critical personnel losses. Equipment comes from the Class VII resupply system or the maintenance system. Personnel come from the replacement or medical channels. Regeneration of the regiment or a squadron is normally controlled by corps.

The regeneration should be planned as any other tactical operation. Normally, regeneration of the regiment takes place in an assembly area in the corps rear. Coordination should be made for as many regeneration resources as possible to be in the assembly area before the regiment arrives. The regimental S4 has staff responsibility for regeneration, and the regimental MMC is the principal executor. The WSRO system will be used extensively. The regiment must maintain security of

its assembly area during reconstitution. Just as important, however, is the need to maintain or reconstitute the mental well-being and fighting spirit of the soldier. Units should make an extraordinary effort to administer to this need during this time.

The time to complete regeneration varies with the situation. The controlling headquarters designates to the CSS planners a specific timeframe that regeneration should be completed. Time for a unit to train is essential to reestablish cohesion and teamwork. During regeneration, it may be necessary to use a combination of reorganization and regeneration techniques. Commanders should maintain the integrity of squads, crews, and sections as much as possible.

Units may be issued with equipment from theater stocks that is slightly different from original equipment or from equipment called for by TOE. Tasks such as crew drill, boresighting, zeroing, and adjustments in tactics should be trained as much as possible given the time available.

PLANNING

Reconstitution operations should be planned as any other operation. The commander plays the most crucial role in reconstitution planning. He assesses combat effectiveness and, in line with the higher headquarters plan, establishes the intent, concept, priorities, and criteria (time and effectiveness) of the reconstitution.

SOPs

SOPs form the basis of efficient reconstitution efforts. SOPs should address the functions below.

- Assessment procedures, standards, and responsibilities.
- Battle rosters allowing for cross training / alternate duties and contingency manning.
- Procedures to reestablish command and control.
- Reorganization procedures, criteria, and priorities.

Battle Planning

Commanders routinely include actions in the battle plan to reduce the impact of the battle and to preserve his force. In some operations, commanders plan to conduct reconstitution at some point during the operation. The commander and staff should address the following functions in the plan:

- Assessment methods.
- Transition from combat operations to reconstitution.
- Security of the reconstitution site.
- Movement control of traffic to the reconstitution site.

PART III. COMBAT SERVICE SUPPORT FOR DIVISION CAVALRY

The first two parts of this chapter present information fundamental to understanding division cavalry sustainment. Much of the logistics doctrine for the armored cavalry regiment and division cavalry is identical. It is not repeated in this part. Only areas of logistics doctrine that are different from the regiment and its squadrons are presented here.

Section I. Division Support

In the armored division, the aviation support battalion (ASB) has direct support responsibility for the cavalry squadron. When the squadron falls under the control of the division commander or is attached to another maneuver brigade, the squadron often exceeds the doctrinal support distance of the ASB. The ASB will normally organize a forward logistics element (FLE) to provide continuous combat service support to the cavalry squadron.

The FLE is comprised of elements of the ASB and tailored assets from the division support command (DISCOM) and/or COSCOM. The FLE will normally consist of a command control element from the support operations section (SPO), a cavalry maintenance support and recovery team from the ground maintenance company (DS), an aviation maintenance contact team from the aviation maintenance company (AVIM), and Class I and III from the headquarters and supply company. Additional support may be attached to support additional requirements, including water, Class V, and medical support. Support requirements beyond the capability of the FLE are coordinated on an area support basis by the SPO element of the FLE.

The S4 and ASB FLE work closely to determine requirements and resupply schedules. The FLE SPO is the single point of contact for all logistic operations.

The squadron may still require area support for much of its logistical needs. The ASB FLE gives the squadron's logistical planners a single point of contact. Under most conditions the FLE will coordinate for throughput resupply directly to the FLE. This greatly reduces the travel requirements for the squadron and speeds resupply actions.

When the cavalry squadron is not supported by an ASB, it normally receives area support from the DISCOM. This support is provided by a forward support battalion (FSB) or the main support battalion (MSB), depending on the organization and location of squadron service support.

When receiving area support from an FSB, the squadron CTCP operates on the supported brigade administrative/logistics net to coordinate support. The FSB coordinates increased support from the MSB based on the number and type of units receiving area support.

When receiving area support from the MSB, the squadron operates on the division administrative/logistics net to coordinate support. The squadron may also communicate directly with the MSB to coordinate details of the support and to reduce delays.

DISCOM, in some type divisions, provides a maintenance support team directly to the squadron. This team provides direct support and backup organizational maintenance to the squadron and is attached to the squadron for the duration of combat operations.

Changing area support relationships has the potential of disrupting support to the squadron. An area support relationship that can support the squadron for the current and planned subsequent missions should be established. When a change to the relationship is necessary, the squadron S4 immediately coordinates with the support operations of either the FLE or FSB (area support) for diverting the flow of service support to the new supporting FSB. The S4 ensures that DISCOM always knows the location of the squadron trains and the support relationship in effect. When the squadron trains displace from one FSB to another, they can take with them other support assets in the FSB that were provided by the MSB for the additional support requirements.

Section II. Organization

The squadron CSS effort is based on organic CSS platoons in the HHT. The squadron has no organic support above the organizational level.

The support relationship established with division influences the location of the squadron field trains, the AVUM troop, and the air cavalry troop's rear assembly area. When the squadron is organized with an FLE, it may position beyond the FSB providing area support to rapidly respond to support requirements. In this case the squadron establishes a squadron support area (SSA) (see Figure 10-10). The FLE's SPO may coordinate for the division to run supplies directly to the SSA. The SSA is normally established outside the range of medium-range artillery and does not move as often as the combat trains. Ideally this area is established within the assigned zone or sector of the squadron. This is not always possible when considering positioning requirements. In such cases the support area is positioned in the zone or sector of a brigade to the rear of the squadron. This location must be closely coordinated with the affected brigade.

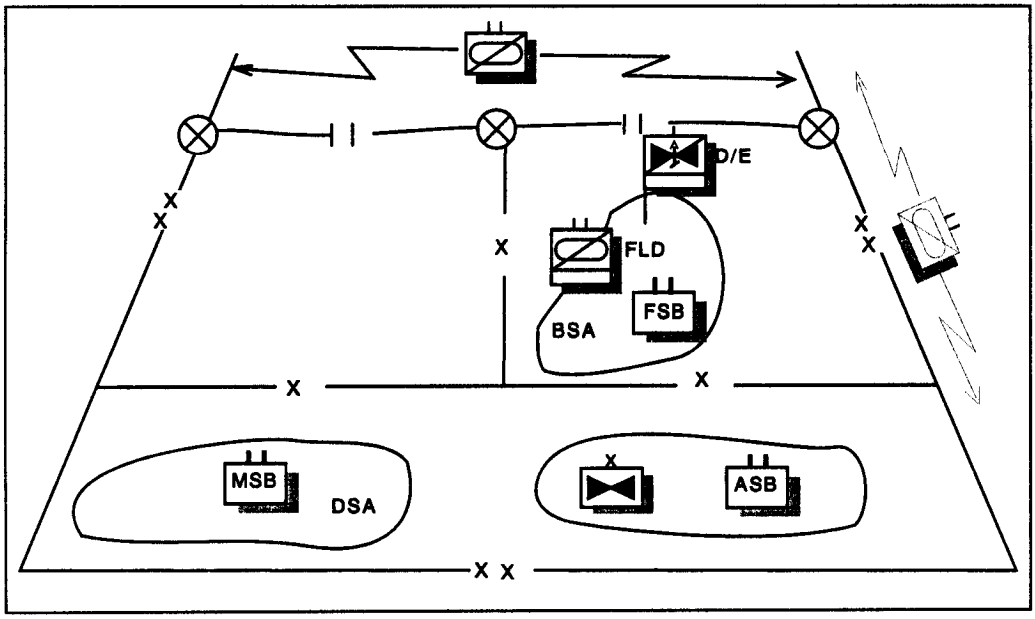


Figure 10-10. Squadron support area.

When no direct support relationship exists, the squadron normally collocates with the FSB providing area support in a brigade support area (see Figure 10-11). This facilitates support by the FSB, eases communications requirements, simplifies security requirements, and reduces the need for additional coordination with a brigade for terrain. When collocating with an FSB, the field trains fall under the operational control of the FSB commander for movement, security, terrain management, and synchronization of sustainment activities. The HHT commander establishes close liaison with the FSB staff. The positioning needs of the squadron, especially aviation assets, must be clearly communicated to and coordinated with the FSB.

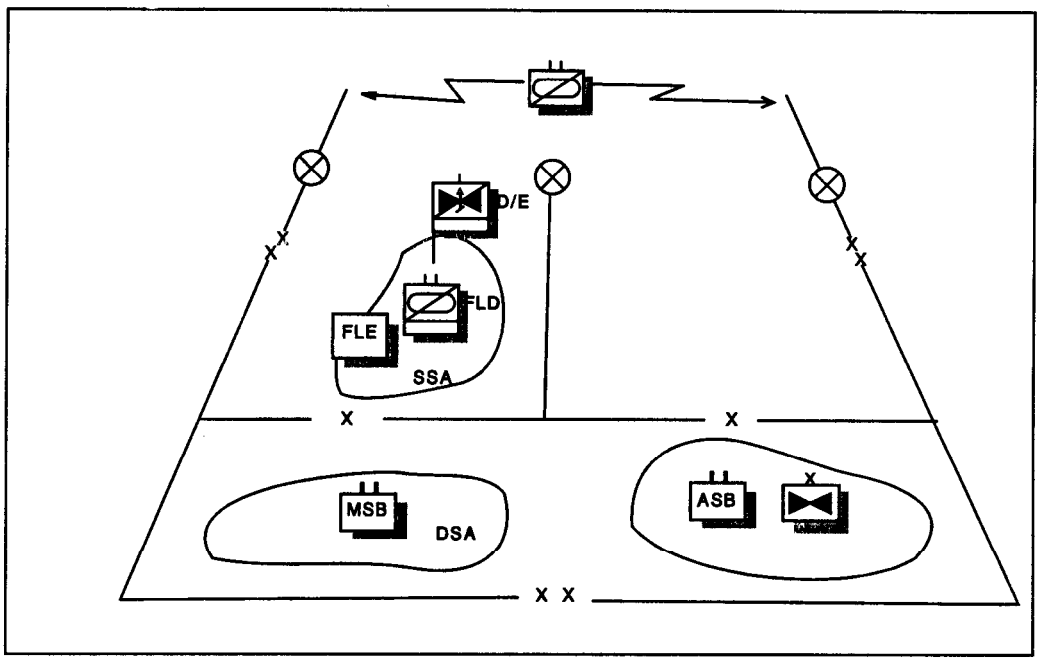


Figure 10-11. Field trains in brigade support area.

AVIATION COMBAT SERVICE SUPPORT

The FARP is the focal point of air cavalry troop (ACT) forward support. The squadron normally places one FARP in the rear with the AVUM troop and ACT assembly areas. A second FARP is placed forward as close to the area of operation as the situation permits. Keeping a FARP forward increases the total time on station by reducing the travel times associated with arming and refueling. The forward most FARP is normally placed outside the range of enemy medium artillery. This FARP may be placed in the vicinity of a forward assembly area, but is normally established as a separate site to reduce the signature and simplify aircraft flight patterns. If the FARP is placed outside the squadron's assigned area of operations, the S4 must coordinate the location with the affected brigade. Every open field becomes a potential FARP site. A good location allows for tactical dispersion of aircraft and conceals FARP operations. Tree lines, vegetation, shadows, built-up areas, terrain folds, and reverse slopes should be used to mask the operation from enemy detection.

The squadron may elect to place both FARPs forward. In this case, one is active and the other silent to remain concealed. This technique allows the squadron to displace FARPs frequently for increased security while maintaining continuous service support. When ACTs are surged in an operation, both FARPs may be active to reduce congestion at a single site and to decrease turnaround time. Placing both FARPs forward, however, leaves no fuel near the ACT assembly area and increases the vulnerability of the aviation fuel. Regardless of which technique is used, FARP operations in conjunction with ACT rotation must be wargamed and rehearsed.

The FARP is task organized to meet the aviation mission requirements and to provide support in the forward area. It is composed of aviation Class III and Class V assets and can include a maintenance contact team. This team is assembled by the AVUM troop commander, as required, from assets of the troop. Organizing this contact team is balanced against the requirements of maintenance in the rear where more extensive work can be accomplished. This team focuses on battle damage assessment and quick repairs. The ACT commanders can combine their mechanics to provide a contact team forward at the FARP as well as to support in the rear assembly area. Movement and resupply of the FARP are conducted by ground or aerial means. When time is critical, air delivery is the most advantageous. The forward FARP is run by the Class III/V section leader from the AVUM troop.

The AVUM troop operates predominantly out of the rear area in vicinity of the field trains. Positioning considerations must accommodate aircraft flight requirements. Security, maintenance, and communications are enhanced when AVUM is tied together with the field trains and the ACT rear assembly area. When organized with the field trains and ACT rear assembly area as a base in the brigade or division rear area, the field trains commander serves as the base commander. The AVUM troop commander concentrates on aviation support operations. The AVUM troop performs aircraft combat maintenance, battle damage repair, and minor on-aircraft maintenance requiring general mechanics tools. The aviation support battalion provides forward support contact teams to support the squadron. These teams provide back-up AVUM and limited AVIM support. The major thrust for contact team support is to remove and replace components. They may also assist in battle damage assessment and repair and aircraft recovery and evacuation. When provided, they are collocated with and under the operational control of the squadron AVUM troop commander. As required, they move forward to the FARP or a downed aircraft.

The squadron should request UH-60 aircraft to support the aviation maintenance effort and the aviation logistical effort. These aircraft are used primarily to support aviation sustainment and maintenance. They can be used to move a FARP, to move contact teams forward or to a downed aircraft site, and to move aviation Class IX repair parts or components. They can also be used for other critical support activities as designated by the squadron commander.

Section III. Supply and Transportation

SUPPLY

Class I

Subsistence is issued based upon unit daily strength reports. The supply and service (S&S) platoon from the headquarters and service company of the aviation support battalion operates a Class I break point. When echeloned forward, the FLE provides this service to the squadron. Rations are broken down into daily battalion and squadron lots at the distribution point and picked up by the squadron support

platoon. Water is supplied to the division by the MSB S&S company. The company can operate up to four water supply points. These are normally in the division support area and each brigade support area.

Class II, III (Packaged), and IV

These supplies are provided by the MSB S&S company and FSB supply company. These items are maintained as part of the division authorized stockage list. The squadron's supply sergeants maintain a small supply of items for immediate issue such as TA-50, NBC protective equipment, and general supplies. Combat vehicles can carry a small amount of Class IV frequently used for hasty protective obstacles. Vehicles also carry a small amount of commonly used packaged petroleum products for immediate use. These loads are established in the squadron SOP.

The S4 submits requests for these supplies to the direct support unit. If receiving area support, this request is passed through a brigade S4 to the FSB or directly to the MSB. If receiving unit support, requests are submitted directly to the division materiel management center (DMMC).

Distribution of supplies is made from the supporting distribution point to the support platoon. If receiving unit support, supplies are provided from the division distribution point to the squadron. They are carried forward with the next LOGPAC or immediately as required. Class II and IV products are brought forward by the supply sergeant or additional support platoon trucks. Class III packaged products are normally carried on fuel trucks. Intensively managed barrier materials are normally delivered as far forward as possible without delays for transloading. These items may be delivered to the actual construction site or the combat trains.

Class III (Bulk)

The S4 forecasts requirements for the squadron based upon the mission underway or to be performed. He uses available planning data and operational experience to make the forecast. These forecasts and reporting times are established in the division SOP. Depending on the support relationship in effect, the forecast is submitted through a brigade S4 to an FSB, to the MSB, or directly to the DMMC. The forecast is for the 72-hour period beyond the next day, or out to 96 hours.

The squadron is unique in the division in requiring resupply of both ground fuels and aviation fuels. The squadron must ensure the DISCOM understands this fact, is constantly aware of the support relationship in effect for the squadron, and provides the required fuels when and where needed. The squadron must not be placed in the position of making extended trips with organic assets to obtain aviation fuels.

The division is routinely resupplied with bulk fuel by the COSCOM, using 5,000 gallon tankers or railcars, pipelines, and hoselines if available. Bulk fuel is delivered to the MSB, each FSB, and the aviation brigade (AB). The S&S company

in the MSB operates the division main fuel distribution point and storage facility. Each FSB supply company operates fuel distribution points and normally does a tanker exchange with the COSCOM transportation unit delivering the fuel. Tankers or other delivery means run to the MSB where fuel is transferred to MSB tankers or collapsible storage tanks. The MSB also delivers bulk fuel to forward distribution points. The squadron draws fuel directly from the FLE, or when a direct support relationship exists, it draws from the MSB or FSB distribution points using organic support platoon trucks. Fuel is provided on demand. Empty tankers presented at the supply point are refilled without a formal request.

Aviation Class III is coordinated through the ASB and FLE SPO and throughput directly to the SSA. Bulk storage capacity ideally is equal to at least one day's supply for both air and ground systems. Fuel is delivered to the ASB and transferred to aviation units' Class III(A) vehicles. This transfer normally occurs in the rear area and is often not within reasonable traveling distance of the squadron. The MSB provides support for the supply of all additional aviation Class III requirements either by attaching tanker trucks to the ASB or by allocating tanker trucks to the Class III(A) distribution points supporting the organizations. The squadron normally requires attached tankers to travel with the FLE in order to meet its Class III(A) requirements. Tankers attached to the FLE line-haul aviation fuel from the MSB to the SSA where it is transferred into squadron Class III vehicles. The squadron resupplies the forward FARP on daily LOGPAC, or as required. It can accomplish resupply by replacing tankers at the FARP, refuel the FARP tankers in place, or move the FARP tanker to a nearby refueling site and returning.

If no direct support relationship exists, the MSB may push Class III(A) forward to a BSA. Squadron vehicles line-haul from the Class III resupply point in the BSA or from the Class III(A) resupply point in the division support area. Emergency aerial resupply of fuel is accomplished using collapsible 500-gallon drums. Corps or AB assets will deliver fuel to the desired location.

Class V

The division ammunition officer (DAO), located in the DMMC, performs ammunition management for the division and exercises staff supervision over all ammunition transfer points (ATP). Ammunition supply operations are based on a continuous refill system. Issued stocks are replaced from stocks moved up from the rear. Ammunition basic loads are determined by division or higher commanders based on the situation and availability.

Requests for ammunition are prepared by the support platoon leader based on forecasts by the S4 or in accordance with SOP. This request is presented to the DAO representative at the ATP. The normal basis for approval of the requisition is to ensure that it is within the limits of the controlled supply rate. The DAO representative validates all ammunition requests before they are presented to an ammunition supply point (ASP) or ATP.

Supply point distribution is the normal method of distributing ammunition. Ammunition storage areas and supply points (theater storage areas [TSA], corps storage areas [CSA], ASPs, ATPs) operate on an area support basis. They are established as close to the using units as practicable. When terrain, road network, and the tactical situation permit, the ASP is located in division areas. Whether the ASP is in the corps or division area, the corps is responsible for receiving, storing, and issuing the ammunition.

ATPs are located forward in the division area. Normally, there is one in each brigade support area and one in the division support area. These ATPs are operated by the supply company of the FSB and the S&S company of the MSB. ATPs receive ammunition on corps trailers and transload it directly to using unit supply vehicles. Corps transporters drop full trailers and pick up empties. Corps will deliver ammunition to the ATP by throughput, using a support arrangement with a designated CSA and ASP. Each ATP provides selected high usage and high tonnage ammunition in support of any unit in the area. Normally, munitions other than high usage and high tonnage must be picked up by unit transportation going back to the ASP.

The squadron draws the bulk of its Class V requirements from the ATP providing area support. The support platoon draws the ammunition and takes it to the field trains where it is arranged in LOGPAC loads and remains loaded on trucks until distributed. The ATP normally provides the ammunition used by the ground troops to include vehicle weapon systems, guided missiles, mines, demolitions, and small arms.

For aircraft munitions, resupply can be more difficult. The majority of aviation ammunition is usually issued at an ASP. This often requires excessive travel time for squadron trucks when traveling from the field trains. When the DAO knows which ATP is providing area support to the squadron, he can coordinate with COSCOM to route appropriate ammunition to that ATP. The AB may have a supporting ATP for some operations that can be used by the squadron to reduce turnaround time. The division ATP may stock aviation Class V for the entire division. To reduce the line-hauling by the squadron to and from an ASP, the DISCOM may augment the ASB or squadron with trucks. These trucks move ammunition from the ASP to the field trains where it is transloaded onto the Class V vehicles of the squadron. The S4 must ensure Class V(A) is moved as area support responsibility changes. This is coordinated through the FLE SPO and the DAO.

Class VII

Class VII supplies are provided by the S&S company of the MSB and the supply company of the FSB, They are requisitioned and handled like Class II, III (packaged), and IV. The distribution point is set up with these other classes of supply. Some large Class VII items may be delivered by COSCOM directly to the squadron field trains. The WSRO system provides the squadron with fully operational replacement weapon systems. This system provides ready-to-fight weapon systems with crews to be picked up in the DSA at the Class VII point. These

replacement systems are taken to the squadron field trains. The HHT commander coordinates with the squadron XO for the unit to receive them. They move forward with the next LOGPAC or sooner as required.

Class VIII

Medical supplies are obtained for the squadron by the medical platoon and section. An informal method of distributing supplies is used in combat. The MSB and FSB medical companies provide medical supplies and medical peculiar repair parts. Requests are sent to the supporting medical company by vehicle, radio, or any other means.

Class IX

A PLL is maintained in the squadron by each ground troop, the squadron, and the AVUM troop. These PLLs are continuously reconstituted by authorized stockage lists and maintained by the FSB maintenance company, MSB light maintenance company, and aviation maintenance company.

Troop and squadron PLLs are often collocated in the field trains but are normally not consolidated. Elements of squadron PLL maybe forward in the UMCP for immediate use. Troop combat trains often carry selected high usage parts that can be carried on their combat vehicles. Repair parts are sent forward daily with LOGPACs. They are normally requested by troop maintenance sergeants over the squadron administrative/logistics net through the maintenance officer or technician. Critical repair parts can be brought forward immediately by the support platoon. Combat crews frequently carry high demand suspension system components for field expedient repairs.

PLL clerks request supply support, less repairable exchange (RX), quick supply store items, and major assemblies by submitting a request to the supporting maintenance company. Low-dollar value high-demand parts are obtained from the repair parts quick supply store without formal requests. Repair parts are picked up by the squadron from the supporting maintenance company Class IX distribution point.

The AVUM troop maintains the aviation PLL for the squadron. Requests for supply support are prepared by the PLL clerk and sent directly to the AMCO, located in the division rear area. Repair parts are picked up by the platoon using ground or air transportation. Repair parts may be sent forward to a FARP if requested by a contact team.

Maps

Maps are maintained by the S&S company of the MSB. The squadron requests maps through the S4 to the supporting direct support unit. When delivered, they are transported forward on unit LOGPACs. Critical maps may be delivered by air, if necessary, to initiate an operation. The S2 determines map requirements for the squadron and requests classified maps through G2 channels.

TRANSPORTATION

The squadron's major transportation assets are the support platoon and the aviation Class III and Class V section. These squadron transportation assets are limited and focus on forward support of the squadron, normally from the field trains forward. When extended line-hauling of supplies is required, particularly from support installations behind the field trains, the squadron should request support from the DISCOM. The unique service support requirements and operations of the squadron make this support request more common than for any other maneuver battalion in the division. Additional transportation assets are normally provided by the transportation motor transport company of the MSB. Utility aircraft from the assault helicopter company may be placed under operational control of the squadron to perform aerial resupply missions.

Section IV. Maintenance

UNIT MAINTENANCE

Unit maintenance is conducted the same as in the regimental squadron. Vehicle and aircraft crews perform PMCS. Troop maintenance sections and squadron maintenance platoons perform diagnosis, make minor adjustments and repairs, and repair end items by exchange.

DIRECT SUPPORT MAINTENANCE

Maintenance support teams are provided by the MSB or FSB to support the squadron in the UMCP on either a permanent basis or as needed. For direct support maintenance, emphasis is placed on repairing end items by replacing components and modules. The extent of maintenance performed on specific end items is restricted by such factors as time available for repair, availability of repair parts, resupply, and work load. Direct support is normally the highest level of maintenance support provided by the division.

AVIATION MAINTENANCE

The division aviation support battalion performs AVIM for aircraft in the division. Maintenance support teams provide support to the squadron on either a permanent or temporary basis as needed. Corps AVIM units provide backup support to the division.

CONTROLLED EXCHANGE

Once authority to conduct controlled exchange is granted, the SMO/AVUM troop commander approves each exchange. Controlled exchange is performed on site, at the UMCP, or at the AVUM troop by mechanics.

RECOVERY AND EVACUATION

The squadron is responsible for recovering its own and attached unit's damaged equipment. The troop combat trains recover the vehicle to the UMCP when the decision is made to repair at that site. When troop combat trains are overloaded, maintenance platoon recovery assets and contact teams may assist. When the decision is made to repair the equipment at a maintenance site further to the rear, either recovery or evacuation is used. If the item is to be repaired by the FSB or MSB unit providing direct support, the squadron normally recovers the piece of equipment to the direct support unit's collecting point. If squadron recovery assets are overloaded, recovery support can be coordinated with the direct support unit to preclude excessive repair delays. Equipment that cannot be repaired at the forward support unit is normally evacuated.

Evacuation is primarily the responsibility of the maintenance unit with assistance from the MSB. Equipment may be evacuated from the forward support unit to the division support area or directly to a general support unit as warranted by battle damage and assessment. The MSB transportation motor transport company normally provides the trucks used to evacuate major pieces of combat equipment. Evacuation may be from the combat trains, but is normally initiated at the forward support unit.

Aircraft recovery is performed by the AVUM troop assisted by the aviation maintenance company (AMC). The AVUM troop can perform standard rigging of their own aircraft using a tailored recovery kit. When an aircraft must be recovered off the battlefield, the AVUM troop commander moves a contact team to the site by ground or air to perform battle damage assessment and repair. This team can come from the FARP or AVUM troop location. This action is coordinated with the ground troop or other unit occupying the area. Recovery may require the on-site repair of an aircraft for a onetime flight or the preparation of an aircraft for movement directly to the first appropriate maintenance activity using another aircraft or surface vehicles. If the recovery is beyond the AVUM team's capability, AVIM support is requested. Recovery aircraft will come from AVIM or maintenance units of higher echelons.

FORWARD SUPPORT

Combat power is maximized when disabled equipment is repaired as far forward and as quickly as possible. The SMO and AVUM troop commander, in coordination with the XO, direct the maintenance effort for the squadron by using

established time guidelines and by coordinating maintenance actions. The XO deconflicts priorities and acts as the single point of contact for all logistical matters.

Forward support by the direct support units is accomplished by the frequent use of maintenance support teams (MST). The squadron normally receives the support of an MST for the ground troops and frequently receives support of an AVIM MST. MSTS are organized in the FSB and MSB for missile, communications, and other equipment as necessary. Many of these teams augment forward support units when workloads require additional assets.

AVIATION MAINTENANCE SUPPORT

The squadron is supported by the AMC in the aviation support battalion. The AMC provides AVIM for division aircraft, power plants and trains, armament, and avionics. In addition to AVIM, the AMC provides backup AVUM support, recovery and evacuation support, and aviation Class IX. The AVUM troop commander establishes a close working relationship with the AMC.

The aviation support battalion has direct support responsibility to the AB. The ASB is under the DISCOM and normally placed in direct support to the AB.

To facilitate aviation support, the AB S4 needs to know the status of squadron aircraft and maintenance activities. Since the squadron CTCP is normally operating on a maneuver brigade or the division administrative/logistics net, the S4 cannot continuously monitor the AB administrative/logistics net. Periodic reports may be forwarded to the AB S4 on the brigade administrative/logistics net by the squadron S4 on an agreed upon schedule or as necessary. Requests for aviation-specific support are requested through the FLE and forwarded to the ASB. The AVUM troop leader may conduct additional coordination with the AB S4 while conducting coordination with the AMC.

COMMUNICATIONS SECURITY MAINTENANCE

COMSEC equipment is evacuated through normal Class VII channels to the signal battalion. All direct support maintenance is performed in the division support area.

AMMUNITION

Conventional ammunition direct support maintenance is performed by nondivision ammunition companies.

Section V. Field Services

FOOD PREPARATION

Food preparation is a basic unit function performed by food service personnel throughout the theater. It is one of the most important factors in soldier health, morale, and welfare. Virtually every type of cavalry unit in the force structure, divisional and nondivisional, has some type of organic food service personnel. These personnel support the unit's food service program as directed by the commander.

WATER PURIFICATION

In nonarid regions, water purification and supply support are provided on area basis by direct support supply units in DISCOM and at echelons above division. In arid regions where sufficient water sources are not available, echelons above division units establish general support water systems.

MORTUARY AFFAIRS

Mortuary affairs are provided by the MSB S&S company. A collecting point may be established, if necessary, at the combat trains under the control of the S4. In any case, remains are evacuated as rapidly as possible to the nearest mortuary affairs collecting point in the brigade or division support areas.

AIRDROP

Airdrop support is provided by corps. The S4 requests airdrop support through the DISCOM and ensures that a drop zone is prepared and marked.

LAUNDRY, SHOWER, AND CLOTHING AND LIGHT TEXTILE REPAIR

Shower services are provided by the MSB S&S company. Shower, laundry, clothing repair (SLCR), or gratuitous issue, is requested from the MSB through DISCOM. Normally, there is one SCLR point per brigade and division support areas. Laundry and renovation services are provided by corps CSS (COSCOM) when the tactical situation permits. This service is coordinated through the local brigade S4 or directly with DISCOM, depending on the support relationship.

FORCE PROVIDER

The army's force provider is a modular system, principally designed to provide the front-line soldier with a brief respite from the rigors of a combat environment. It includes environmentally controlled billeting; modem latrines, showers, and kitchens; MWR facilities; and complete laundry support. The modules can be complexed to provide support to the regiment. The cadre for the system will need to be reinforced to provide effective support.

Section VI. Personnel Support

Personnel services, postal services, morale support, and administrative services are handled by the division AG. The others are handled by special staff officers.

PERSONNEL SERVICES SUPPORT

Personnel Readiness Management

Troops and attached units submit a personnel daily summary report to the S1 in the CTCP. The S1 forwards a squadron consolidated report to the division AG. The PAC in the field trains is furnished an information copy. These reports, together with authorized position vacancies, are the basis for requesting individual replacements and Class I resupply.

Casualty Operations Management

The first sergeant collects and forwards reports to the CTCP. The S1 cross-checks the reports, requests any needed clarification, adjusts unit strength reports, and forwards them through the PAC to the division rear command post.

Replacement Management

Replacement flow is monitored by the PAC in the field trains. The unit establishes a replacement receiving point (RRP) in the field trains. All replacements or hospital returnees are brought to the RRP for initial processing. The division AG is normally responsible for delivering replacements to the RRP. Replacements are equipped with field gear before departing the field trains. They move forward to their unit with the LOGPAC under the control of the troop supply sergeant.

Other Administrative Support

During lulls in the battle, the S1 and personnel staff noncommissioned officer (PSNCO) complete all other personnel and administrative actions necessary. If possible, these are accomplished by forming personnel contact teams that move forward to unit locations. Special consideration is given to timely processing of awards, decorations, and personnel actions.

RELIGIOUS SUPPORT

Religious support is provided by the UMT (chaplain and chaplain assistant) operating from the combat trains.

LEGAL SUPPORT

Legal service support is coordinated by the S1 section and provided to the squadron on a general support basis by the SJA of the division.

FINANCE SUPPORT

Finance support to the squadron is usually provided by finance support teams from the corps area finance support unit.

PUBLIC AFFAIRS

Information (public affairs) support for soldiers and commanders in wartime is provided by the division PAO.

POSTAL SUPPORT

Postal support is provided by the direct support postal platoon that supports the division. Division postal personnel pick up incoming mail from the corps general support postal detachment. They separate the mail by battalion-level organizations. It is either picked up by the squadron mail clerk or sent forward to him in the field trains. Outgoing mail is exchanged at the same time. The squadron mail clerk receives and sorts the mail by current task organization and distributes it to the unit supply sergeant (assistant mail clerk) who delivers it to the first sergeant, platoon sergeant, or to the soldier himself (accountable mail) during LOGPAC resupply.

ENEMY PRISONERS OF WAR

Scouts or other soldiers capturing documents and EPWs report immediately and coordinate a rendezvous with the first sergeant to turn the documents and prisoners over to him. The first sergeant moves them to the combat trains and turns them over to the S1.

The S1 plans and coordinates EPW operations, collecting points, and evacuation procedures. EPWs are evacuated from the squadron area as rapidly as possible. Prisoners may be evacuated to the vicinity of the combat trains or UMCP for processing and initial interrogation. Military police can best support the collection and evacuation of EPWs from the vicinity of the combat trains. Crews of vehicles undergoing repair or unoccupied mechanics are used as guards. Prisoners are then moved to the EPW collecting point in the BSA or DSA on returning LOGPAC vehicles or by transportation coordinated by the S4. As necessary, the S2 reviews and reports any documents or information of immediate value. The S4 coordinates evacuation of large amounts of enemy equipment.

Section VII. Combat Health Support

SQUADRON MEDICAL PLATOON

The medical platoon is the focal point of combat health support (CHS) for the squadron. It is organized to support the troops; acquire, treat, and evacuate casualties; and coordinate further evacuation as necessary. CHS is planned by the medical platoon leader/squadron surgeon and the S1. The medical platoon leader, like any staff officer, must understand the concept of the operation as well as the support plan of the supporting medical company. The surgeon is assisted by the field medical assistant in administrative and supply matters and by the physician's assistant in medical treatment. Echelon II CHS is provided by the MSB or FSB medical company on an area support basis.

The squadron aid station provides trained personnel to stabilize patients for further evacuation, provide emergency lifesaving and limb-saving treatment, and treat minor wounds or illness for return to duty. The aid station can operate two treatment teams for a limited time. Based on the mission, the squadron aid station may operate a forward and a main aid station or consolidate under a single aid station. When echeloned, the aid stations are limited in their capabilities primarily to triage, stabilization, and preparation for evacuation. This is the normal configuration during combat operations. The aid stations may position laterally as during a zone reconnaissance of the division front or bound during a movement to contact. The main aid station has the capability of manning a dirty aid station during NBC operations. The physician's assistant and surgeon position themselves where they can best support CHS operations. The primary responsibility of the medical platoon leader is to coordinate and supervise casualty evacuation, Class VIII resupply, and

support, for the aid stations, and to assist in CHS tactical planning. He moves between the two aid stations, coordinating evacuation and movement of the aid stations. When not deployed, the aid station is normally consolidated with the CTCP.

Aid and evacuation teams are attached to troops on a habitual basis. They support the troop with treatment and evacuation to the squadron aid station. They also support downed aircrews in the troop area of operations.

Units with area support responsibility are included in the planning process, and additional assets are allocated to the area supporting medical company to compensate for the additional casualty load. Under normal circumstances, ambulance support is pushed forward with the field trains to assist in casualty evacuation. Maximum use of aerial evacuation for liter-urgent patients should be planned and exercised.

MEDICAL EVACUATION

Key to the CHS support plan is the medical evacuation plan. The squadron must plan medical evacuation from the troop aid stations all the way back to the FSB medical company providing area support. The S4 must coordinate with the maneuver brigade S4 all ambulance exchange points, and post them to his support graphics. He coordinates for attached ambulance support from the division medical operations center and DISCOM. Internal vehicles for mass casualty evacuation are identified and positioned forward. The S4 tracks active and inactive ambulance exchange points and disseminates that information to the main and forward aid stations. As casualties occur, the S4 directs assets to assist with casualty evacuation. Recovery responsibility does not end until casualties are transloaded at an ambulance exchange point or are transported to a medical company in a BSA on an area support basis. Medical evacuation beyond the squadron aid station is the responsibility of the MSB or FSB medical company. Patients are evacuated no further to the rear than their condition requires and returned to duty as soon as possible. Medical evacuation outside the squadron may be accomplished by ground or air means.

Aeromedical evacuation out of the squadron is used to the maximum extent possible. Ground ambulances are used only for those patients who cannot be evacuated by air.

COMBAT HEALTH LOGISTICS

The medical platoon maintains a two-day stockage of medical supplies. To prevent unnecessary depletion of blankets, litters, splints, and other equipment, the receiving medical facility exchanges like property with the squadron when it accompanies the patient.

Section VIII. Reconstitution

Reconstitution within the squadron is accomplished the same way it is in the regiment. Reorganization is a continuous process and should be part of unit SOP. Reconstitution of air cavalry troops may require support from the aviation brigade due to the low density of pilots and airframes in the squadron.

Regeneration is normally accomplished by the corps or echelons above corps.

Appendix A

REHEARSALS

A rehearsal is the act or process of practicing an action in preparation for the actual performance of that action. Rehearsing key combat actions allows participants to become familiar with the operation and to translate the relatively dry recitation of the tactical plan into a visual impression. This visual impression assists them in orienting themselves to their environment and to other units during the execution of the operation. Moreover, the repetition of combat tasks during the rehearsal leaves a lasting mental picture of the sequence of key actions within the operation. Rehearsals also provide a forum for subordinate units and leaders to analyze the tactical plan to ascertain its feasibility, common sense, and the adequacy of its command and control measures before it is too late. To be effectively and efficiently employed in combat, rehearsals must become habitual in training. All units at every level should routinely train and practice a variety of rehearsal techniques. Local SOPs should identify appropriate rehearsal techniques and standards for their execution.

Time is probably the most precious resource available to commanders and units. Rehearsals take time. The time required for rehearsal varies with the complexity of the task to be rehearsed, the type of rehearsal, and the level of participation. For this reason, the emphasis on rehearsals should be at the lowest level possible, using the most thorough technique given the time available.

See FM 101-5 for more details on rehearsals.

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Section I. Procedures

TYPES OF REHEARSALS

Rehearsals are classed by the level employed and by who participates. One convention is to identify levels with numbers and participation with letters. The following paragraphs describe the use of this convention.

Levels

Level III includes full-scale dress rehearsals involving the use of real-time mounted and dismounted maneuver over actual or similar terrain. Level III rehearsals are obviously the most resource-intensive and potentially remove key leaders from their units for extended periods of time. Level III rehearsals are desirable but rarely feasible at regimental or squadron level.

Level II includes scaled rehearsals using selected personnel, usually key leaders, mounted in wheeled or tracked vehicles over similar terrain. Level II rehearsals cover less area and are less resource-intensive than Level III rehearsals. Level II rehearsals are possible at all levels of command. They may not cover the entire operation, but instead focus on key actions such as hasty river crossing or linkup operations. A scale of 100 meters equals 1 kilometer is recommended.

Level I includes very small-scale rehearsals that do not involve mounted or dismounted maneuver. Examples of Level I rehearsals include map war-gaming, sandtable talk-throughs, and local area scale-model walk-throughs. Level I rehearsals may cover the entire operation or center on key actions. A walk-through scale of 2 meters equals 1 kilometer is recommended. Level I walk-throughs of the entire operation often follow subordinate units' Level II or III rehearsals of critical actions. All levels of command routinely use Level I rehearsals.

Personnel Participation

Table A-1 lists the four types of personnel participation at squadron level rehearsals. It shows the combinations of personnel participation at each level of command. Participation at regiment and squadron levels is similar, but not identical.

Table A-1. Personnel participation by rehearsal type.

	TYPE A	TYPE B	TYPE C	TYPE D
Commander	All Commands			
XO	All Commands		NA	NA
S3	Regiment and Squadron			
FSO/FIST	All Commands			
ALO	Regiment and Squadron			
Sub-unit Commanders	All Commands			
Primary Staff	Regt, Sqdn	NA	NA	NA
Special Staff	Regt, Sqdn	NA	NA	NA
Support Platoon Leader	Squadron	NA	NA	NA
Combat Support Unit Commanders	All Commands as Required			NA

Type A rehearsals include the commander, S3, S2, FSO/FIST, ALO, XO, S1, S4, SMO, subordinate commanders with the FSO/FIST, specialty platoon leaders, and combat support unit commanders.

Type B rehearsals include the commander, XO, S3, S2, FSO/FIST, ALO, subordinate commanders with their FSOs/FISTs, and combat support unit commanders.

Type C rehearsals include the commander, S3, S2, FSO/FIST, ALO, subordinate commanders, and combat support unit commanders, as required by the mission. For example, if the mission involves deliberate breach of a complex obstacle, the engineer unit commander would be present, but the ADA unit commander might not.

Type D rehearsals include the commander, S3, S2, FSO/FIST, ALO, and subordinate commanders.

APPLICATION

METT-T determines the type or extent of a rehearsal. An accurate timeline issued during the warning order will identify and assist in the prioritization of the task to be rehearsed. Any combination of number/letter codes may be used to tell subordinates which type of rehearsal will be conducted and who will attend. Portions of the operation may receive more detailed rehearsal with more players, while the rehearsal of other portions is less involved. This information may be included in the warning order and in the coordinating instructions portion of the OPORD or briefed orally at the conclusion of the orders briefing. For example, the order may specify "Flank guard rehearsal Type II-B, at 1245 hours, vicinity TOC. Entire operation rehearsal Type I-C walk-through at 1330 hours, vicinity EF 45332345." Note that the more general rehearsal comes after the rehearsal and subsequent fine tuning of the critical action of the flank guard. This prioritizes the flank guard in case time runs out and allows for the inclusion of whatever changes occur as a result of the flank guard rehearsal.

Although this technique may be used at any level from troop to regiment, it is generally not employed at troop level. At troop level, the number of participants is typically so small that the company commander can often simply tell his subordinates who should be where, when to be there, with what equipment, and with what assignments.

SPECIAL REHEARSALS

The majority of rehearsals planned and conducted by maneuver units are rehearsals of combat actions by subordinate maneuver units; however, rehearsals of special tasks or special functional groups are sometimes desirable.

Some examples of special rehearsals include command group, TOC shift, decontamination, and engineer reserve demolition target turnover. The decision concerning which special rehearsals to conduct, if any, is the commander's. Special rehearsals may be as formal or informal as necessity dictates and time allows.

Special rehearsals do not fit neatly into the type and level classifications presented above. How extensive the rehearsal should be and who should participate are dependent on time available, task complexity, and unit training. (For example, the TOC shift rehearsal is probably nothing more than a talk-through of key information and actions likely to be executed by the TOC, set against the framework of the S2's event template.) Rehearsing decontamination may be a Level III, full-scale, Type A rehearsal on actual terrain when a unit must cross a known contaminated area.

Special rehearsals do not replace other rehearsals. Rather, they augment, supplement, or reinforce other maneuver rehearsals. Special rehearsals may be conducted at any time during the troop-leading procedures, just like any other rehearsal.

There several techniques for rehearsing. These techniques include, but are not limited to map, radio/telephone, terrain model/sandtable, rock/stick drill, tactical exercise without troops, and backbrief. Time is the deciding factor in determining which method is used. An example terrain model rehearsal is provided in Section II.

Section II. Example Terrain Model Rehearsal

SELECTING A SITE

The regimental staff should select rehearsal sites that facilitate the type of rehearsal being conducted. Consider the factors of METT-T to ensure the site is secure, large enough to allow the type of rehearsal selected, and when possible, allows a view of the area of operations.

Participants should come with maps, overlays, and binoculars. Regimental staffs plan for and provide security from ground and air attacks. A rally point is identified in case the rehearsal site is attacked. Parking is provided, but the dismount point and the parking area must not attract the enemy's attention. Terrain models and maps should be oriented to the north. If the area of operations can be viewed, key terrain is identified on the ground and on the model or map.

PREPARING A TERRAIN MODEL

The terrain model rehearsal takes less time and fewer resources than the full-dress rehearsal and the key leader rehearsal, and can be conducted day or night. Constructed accurately, this terrain model rehearsal technique can be an excellent three-dimensional aid to assist subordinate leaders and staffs in visualizing the battle.

Terrain models require the unit to maintain a number of materials for their construction. Once assembled, the materials should be inventoried and maintained like basic issue items for the designated vehicle carrying them. The materials must enable the builder to accurately depict all required information. Recommended materials for a terrain model kit include the following items:

- Tape measure (100 yards / meters long).
- Engineer tape (minimum of 500 meters).
- String to mark grid lines.
- Yarn (red, blue, green, and yellow).
- Nails and tent stakes.
- Index cards (3 x 5 and 5 x 7 laminated).
- Alcohol pens.
- Grease pencils.
- Premade military and unit symbols.
- Magnetic compass.
- Hammer.
- Chalk.
- Entrenching tool.
- Sandbags.
- Cotton balls.
- Spray paint (red, blue, green, and yellow).

Identifying and training personnel to construct terrain models are responsibilities shared by the regimental S3 plans officer and the operations sergeant major. The S3 section trains two primary and four alternate terrain model builders at home station. The size of the terrain model or the time available may require using additional personnel. The size of the terrain model can vary, from a tabletop arrangement (sandbox) to a model where the participants actually walk through a scaled-down version of the terrain. A terrain model large enough to allow the key leaders to walk over a scaled-down version of the terrain helps participants to visualize the battlefield.

The first step in creating an accurate terrain model is to prescribe the scale. This is easily accomplished by walking off several steps per kilometer, or using some other form of measurement. For example, if the zone of attack is 10 kilometers by 6 kilometers, the builder of the terrain model could assign one step per kilometer and walk off the scale of the terrain model.

The second step is to lay down selected grid lines based on the tactical map. With the grid lines established, the builder has a handy reference to measure the size and locations of the terrain features. This simple step increases the accuracy of the terrain model and ensures that the terrain features are the proper scale.

The terrain model should depict all required information shown on the operations overlay and situation map, to include key terrain features, enemy positions (known and suspected), and fire control measures. Place an arrow on the terrain map to depict north for orientation. Label all phase lines, numbered hills, and objectives with their appropriate names. The terrain should mirror the regimental operations and enemy overlays.

Once the terrain model is complete, position a map and operations overlay behind or at the side of the model as a point of reference. Attendance at the regimental rehearsal should include, at a minimum, the regimental commander, fire support coordinator, regimental XO, coordinating staff, special staff, and all squadron task force commanders with their S3s and fire support officers. Liaison officers from higher or adjacent units may attend.

CONDUCTING THE REHEARSAL

The commander leads the rehearsal; his staff runs it. The director of the rehearsal is the regimental XO. As such, he rehearses his role during the operation. He ensures tasks are accomplished by the right unit at the right time and cues the commander to upcoming decisions. The XO's script is the synchronization matrix and the decision support template. These are the foundations for the OPORD recorded in chronological order. A terrain model rehearsal takes a proficient regiment from one to two hours to execute to standard. The following example outlines a step-by-step process for conducting a regimental rehearsal:

Step 1. Start at the appointed time and conduct a formal roll call. Ensure everyone brings binoculars, maps, and necessary equipment.

Step 2. Ensure that the XO or the S3 orients the terrain model to the actual ground, the operations overlay, and the map. Describe and point out the overall area of operations and explain the markers used on the terrain model.

Step 3. Brief the timeline. The XO should do this, or the S3 in lieu of the XO. Designate the rehearsal start time. For example, have the rehearsal begin by depicting the anticipated situation one hour before crossing the line of departure. Set

the time interval to be used to start and track the rehearsal. For example, specify a ten-minute interval to equate to one hour of real time during the operation.

Step 4. Designate a recorder. This should be the S3's designated representative from the operations cell. Highlight the ground rules and incorporate ground rules into the regimental SOP. They include who controls the rehearsal (XO), who actually walks the terrain board, how the rehearsal will be controlled, and when special staff officers brief. Special staff officers should brief by exception when a friendly or enemy event occurs within their battlefield operating system.

Step 5. The S3 reads the mission statement, the commander reads his commander's intent, and the S3 lays out the friendly situation as it currently exists, using the terrain model.

Step 6. The S2 briefs the current enemy situation. He then briefs the most likely enemy course of action. (The enemy situation should already be set up on the terrain model.) The S2 also briefs the status of on-going reconnaissance and security operations, for example, citing any patrols still out and OP positions.

Step 7. The S2 briefs friendly maneuver unit dispositions at the rehearsal start time, including security forces. Other regimental staff officers brief their subordinate unit positions at the start time, as well as any particular points of emphasis. For example, the chemical officer briefs MOPP level, and the fire support officer shows range of friendly and enemy artillery.

Step 8. The commander gives appropriate commands. Fire support officers/coordinators tell when they initiate fires, who is firing and from where, what ammunition is fired, and the desired target effect. Squadron commanders tell when they initiate fire in accordance with their fire support plans. If the FIST is present, it initiates calls for fire. The XO talks for any staff section not present, and ensures all actions listed on the synchronization matrix or decision support template are addressed at the proper time or event. Avoid re-wargaming, except when absolutely necessary to ensure subordinate unit commanders fully understand the plan. If the staff has developed an order that addresses contingencies, do not wargame the operation at the rehearsal site.

Step 9. The enemy is portrayed by the S2 section. The S2 section walks the enemy through the most likely course of action (situation template), stressing reconnaissance routes, objectives, security force composition and locations, initial contact, initial fires (artillery, air, attack helicopters), probable main force objectives or kill sacks, likely chemical attack times and locations, and the commitment of reserves. The S2 must be specific by tying enemy actions to specific terrain or friendly unit actions. The walk-through should be an accurate portrayal of the event template.

Step 10. Terminate the first phase of the rehearsal after the desired end state (from the commander's intent) is achieved.

Step 11. When it becomes obvious that additional coordination is required to ensure success of the operation, try to accomplish it immediately. This coordination is one of the key points of the rehearsal. Ensure it is understood by all participants and captured by the recorder, and all changes to the published OPORD are in effect. However, this is not the time to make major changes. Changes are kept to only those that are vital. As soon as possible, the S3 should collect the verbal FRAGOs into a written change to the OPORD.

Step 12. After the initial walk-through of the base order, recheck the situation at the initial decision point. State the criteria for a decision to change the plan. Assume these criteria have been met and then refight the fight from that point forward, until the desired end state is attained. Complete any coordination to ensure understanding and requirements are met. Record any changes.

Step 13. Go to the next decision point and ensure the criteria have been met. Repeat Step 12.

Step 14. Repeat Step 13 until all decision points have been rehearsed.

Step 15. Brief key combat support and combat service support actions. The S4 should attend the rehearsal and show the combat commanders how the logistics, casualty evacuation/replacement, and administrative operations will support their operations. These items should be integrated into the rehearsal at the appropriate times. Summarizing these actions at the end of the rehearsal adds to the value of the rehearsal as a coordination tool.

Step 16. After the rehearsal is complete, the recorder should restate any changes, coordination, or clarifications directed by the commander, and estimate the time that a written FRAGO to codify the changes will follow.

Step 17. The commander should stress any points needing additional emphasis. He should consider reiterating his intent (purpose, method, end state), to remind all participants that the goal is to accomplish the regiment's mission.

Appendix B

DIGITAL CAVALRY OPERATIONS

The digitized squadron is composed of forces equipped with automated command and control systems and compatible digital communications systems. The major components of the digitized squadron are incorporated into the Force XXI battle command brigade and below (FBCB2) concept. The central components of the concept addressed in this appendix are as follows:

- The M1A2 Abrams tank with a digital command and control system.
- The Bradley cavalry fighting vehicle (CFV) equipped with a digital command and control system.
- The OH-58D enhanced Kiowa Warrior equipped with the improved data modem (IDM) and the video image crosslink (VIXL).
- A gateway that will allow digital systems to have connectivity.
- The lightweight computer unit (LCU) and its digital software.
- The dismounted soldier system unit (DSSU) and its digital software.

The term *digitized squadron* used in this appendix refers to the tank and CFV squadron equipped with these central components. Numerous other automated systems in the Army may have some effect on digitized squadron operations. These systems are addressed only as they relate to digitized squadron operations.

This appendix addresses the capabilities and limitations of the digitized squadron operating with both digitized and conventional combat and combat support assets. It also addresses the organization and functions and the additional planning and command and control functions performed within the digitally equipped squadron. It defines the use of digital communications technology within the framework of the seven battlefield operating systems.

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Section I. Capabilities and Limitations

The digitized squadron possesses an improved capability to achieve the agility, depth, and synchronization that characterize successful Army operations. Commanders must fully understand and selectively employ these improved capabilities during the execution of a mission to maintain synchronization with both digitally and conventionally equipped units. Leaders at every level must remain cognizant of the fact that some critical combat and combat support assets may be unable to share the time-saving benefits of automation in receiving, processing, and distributing combat information. The goal is to equip the digitized squadron, combat support, and combat service support assets with a seamless digital command and control system.

The capabilities and limitations of a digitized squadron are distinctly separate from its conventionally equipped predecessor. These enhancements center around the FBCB2 concept. The M1A2's position navigation (POSNAV) system, the commander's independent thermal viewer (CITV), the CFV equipped with a digital command and control system, and the OH58D with embedded global positioning system (GPS) and VIXL provide additional capabilities for the commander not available in the conventionally equipped squadron. Along with these capabilities, however, are limitations in interfacing with both digitized and conventional combat and combat support assets typically arrayed within a squadron.

CAPABILITIES

The commander of the digitized squadron has significant advantages over his conventionally equipped counterpart. The following are the most significant advantages:

- Increased situational awareness.
- Enhancements to the planning and orders preparation and distribution process.
- Digital aids that enhance the timeliness and accuracy of the reporting process and employment of squadron assets.

The commander employs some or all of these enhancements to improve the combat potential of his squadron based on the factors of mission, enemy, terrain, troops, and time available (METT-T).

Situational Awareness

The increased situational awareness provided to the commander by digital command and control systems is a significant aid to squadron command and control. By observing his digital tactical display, the commander can see icons representing the location of friendly subordinate elements operating on the squadron SINCGARS radio or digital communications net. The friendly unit icons are created through

automatic position updates digitally broadcast by each active vehicle or aircraft. The commander can also display the units' operations overlays on his tactical display screen to see their locations relative to his control measures. When used correctly, these systems provide the commander with a good idea of the location and disposition of the squadron's digitally equipped combat and combat support units. With this information the commander and his staff are able to make informed decisions and respond more quickly and decisively to changes in the tactical situation.

Planning Process

Digital command and control systems on the OH-58D provide significant enhancements to the squadron planning process. The squadron commander and staff can digitally issue warning orders with draft operations overlays early in the orders process to allow subordinate commanders and leaders to begin their troop-leading procedures, rehearsals, and reconnaissance much sooner than previously possible. The staff can significantly enhance the distribution of CS overlays, such as fire support, enemy, and obstacle overlays, allowing the CS elements to begin troop-leading procedures before the OPORD is actually issued. When the staff has completed the planning process and is prepared to issue the OPORD, it digitally sends updated operational overlays to subordinate commanders and leaders before the OPORD is issued. This allows troops to initiate actions at their level while the commander is away receiving the OPORD. There are many other ways the commander and staff can use digital communications to provide rapid, accurate flow of critical information to enable parallel planning at all echelons. METT-T and the creativity of the units determine how they can most effectively use the digital systems available to them.

Reporting Process

The ability to digitally send tactical reports aids the commander in shaping the battlefield and reacting to changing tactical situations. Future digital systems will have preformatted reports the user can quickly produce and send. Contact reports and spot reports are the primary combat reports used to help the commander develop the tactical situation. The initiator of the digital report can create an enemy icon on his tactical display by lasing to a potential target. He then has the option to digitally send that icon, with some descriptive text, up the chain of command as a contact or spot report. Upon receipt of the report, the recipient can review it and the location of the enemy icon, and he too has the option to send it to his higher headquarters. At each level of command, the recipient of the report can look at the reported enemy element's location, compare it to his operational graphics and friendly unit locations to determine potential problems with the disposition or orientation of friendly units, and adjust accordingly. Additionally, all contact and spot reports can be converted into calls for fire or close air support requests with one additional button-push at any level of the reporting hierarchy.

There are also automated logistics reports available to aid the squadron commander and staff. These reports assist the squadron staff in assessing the logistics status of subordinate units and pushing support forward.

LIMITATIONS

There are limitations, even with the enhanced capabilities of the digital systems. Two of the limitations areas follows:

- Digital communications on SINCGARS radio and digital communications nets require precise procedures and strict net discipline.
- Digital to nondigital information/data exchanges (and vice versa) require additional resource and time expenditures.

The most significant limitations are as follows:

- Some of the key combat, CS, or CSS elements of the squadron and/or adjacent units may not be equipped with digital systems.
- The physical limitations of the digital hardware and software.

Each shortcoming has a solution and is merely presented to illustrate that digital communication technology, although very powerful, is not completely mature.

Nondigital Subordinate and Adjacent Units

The integration of conventionally equipped (nondigital) elements into the digitized squadron presents special challenges for the squadron commander and staff. The commander must specify procedures for communicating both digitally and by voice. The commander must make provisions for the nondigital unit to receive automated information with the rest of the squadron. Additionally, nondigital adjacent units will not have the benefit of the automated information-sharing capabilities. Units must establish liaison officers or other positive control measures to ensure proper coordination is completed. Several techniques for accomplishing these tasks are addressed in preceding chapters.

Hardware and Software Limitations

With the increased reliance on digital technology comes the limitations of the hardware and software associated with the systems. Each version of software used in these digital communications systems has peculiarities unique to that system. For example, some digital software restricts the destination of some reports and overlays to a specific routing matrix. Also, the user has relatively little flexibility in terms of what types of messages can be sent and what graphic control measures are available for use on overlays. The hardware has limitations as well. The current electronic technology is not perfected for a single communications net to host both voice and digital traffic simultaneously. The result is at times the two conflict, resulting in

degraded performance in digital traffic, voice traffic, or both. There are also limitations in the memory capabilities of the computer systems. When messages or, in particular, overlays exceed the system's memory capabilities, units will have trouble transmitting the message or overlay. Given these limitations, the commander must decide when the use of digital reporting is counterproductive. There are some cases, such as during offensive operations, when voice reporting may be more expedient and digital reports used as follow-up reports.

SOLDIER-MACHINE INTERFACE

Rapid advances in automated command and control systems require commanders and soldiers to operate highly sophisticated equipment to enhance their ability to function effectively on the battlefield. Additionally, digital battle command platforms present the challenge of receiving critical battlefield information, analyzing it, and issuing plans and orders while conducting mobile operations. The squadron commander does not gain an advantage over the enemy simply by using automated equipment. He achieves the advantage by using the information to position the soldiers and killing systems at the decisive point on the battlefield in a timely manner. This enables the squadron commander to mass direct and indirect fires on the enemy and to synchronize all seven battlefield operating systems.

Optimizing the benefits of automated information begins with discretion in the use of digital reporting. Common problems with automated information systems are redundant reporting and information overload during critical periods of the battle. SOPS and rehearsals are essential when employing sophisticated digital technology on the battlefield. Commanders must not become fixated on information presented on the commander's digital display or LCU/DSSU screen. These displays are not a substitute for a map or the commander's eyes. They are simply an aid in managing and presenting combat information for the purpose of decision making. The well-established principles of leadership and the warrior spirit will always be a required trait of combat leaders on the battlefield. The digitized systems in the squadron serve as an enhancement to the commander and are not a substitute for decisive personal leadership.

Section II. Organization and Functions

This section highlights the additional capabilities and functions the digital communications systems bring to key leaders within the digitized squadron.

SQUADRON COMMANDER

The role of the squadron commander is essentially unchanged from that described in Chapter 2. With improvements to digital command and control technology, the squadron commander has at his disposal timely and highly accurate

friendly and enemy information. The net effect is increased situational awareness. The commander will be able to see the battlefield more clearly and potentially will be able to make more informed tactical decisions. When properly positioned, digitized units provide the squadron commander with continuous and highly reliable combat information necessary to make timely battlefield decisions.

SUBORDINATE COMMANDERS

Troop commanders directly influence operations by conducting reconnaissance and security operations in support of the squadron. When required, they employ fire and maneuver to destroy the enemy. They are the squadron commander's principal assistants in fighting the battle. Commanders use digitally generated combat information to guide the employment of organic combat elements and to synchronize the use of combat support assets provided by the squadron commander.

When operating task organized with nondigitally equipped units, troop commanders exploit the position location capabilities of the M1A2 to fix the location of the enemy and to issue pertinent maneuver instructions by voice. When equipped with a digital interface, they monitor the position of friendly and enemy elements with respect to published control measures, using automated information to make timely battlefield decisions.

SQUADRON STAFF

The squadron staff assists the commander in doing all things necessary to coordinate and execute the stated scheme of maneuver. The staff functions as outlined below.

- Interfaces with the digital systems throughout the planning process and during the battle to monitor the tactical situation.
- Has access to many or all of the digital reports and overlays available.
- Benefits from increased situational awareness provided by digital systems.
- Is better able to anticipate the requirements of the squadron.
- After the battle, uses automated reports to rapidly aggregate pertinent personnel and logistical information relating to sustaining the force.
- Through automated CSS systems, is able to quickly assess and respond to the logistical needs of the squadron.

COMBAT SUPPORT

The squadron commander uses selected CS assets (field artillery, close air support, air defense artillery, engineers, military intelligence, and chemical units) to integrate and synchronize combat multipliers in support of his scheme of maneuver. Digital interfaces with these elements will tighten their integration into the planning

process and improve their situation awareness during tactical operations. Most or all of these elements at the squadron level will have some access to digital communications systems, although task-organized elements, such as individual engineer squads, may not. The integration of these elements will present special challenges at echelons below the squadron level. Commanders will need to ensure information from maneuver digital nets is passed to supporting CS elements. As stated previously, commanders must make special provisions for these elements to receive and send vital information passed on the digital nets.

Section III. Battlefield Operating Systems

Squadron functions are grouped into seven categories or battlefield operating systems that must be integrated to support the commander's intent for a military operation. The functioning of each system requires the coordinated efforts of all elements of the squadron. The commander and staff integrate these systems into a combined arms force tailored to the situation. The introduction of digital communications and the unique capabilities it brings to the battlefield augment, but do not change, these battlefield operating systems.

The digitized squadron can employ multiple force protection measures to increase the survivability of the force. The enhanced command and control capability allows the squadron to maximize tactical dispersion for protection during reconnaissance operations and to converge or mass when needed during security operations. This translates into a greater ability to achieve tactical deception and operations security. Additionally, the precision movement capability described in the Maneuver paragraph is very beneficial in avoiding hazardous areas common to the modem battlefield and enhances its potential to achieve surprise during combat.

INTELLIGENCE

All units within the squadron have a responsibility to report information about the enemy. Digitized units enhance the information-gathering capability of the squadron with their ability to quickly and accurately report enemy locations. The digitized cavalry troop can pass pertinent enemy and obstacle information gathered during reconnaissance digitally to the squadron S2 who uses the information to confirm or deny his automated situational template. With the introduction of digital intelligence information networks, the squadron S2 receives more complete and accurate information from brigade and higher intelligence sources. He is able to create an enemy overlay and provide the information to maneuver commanders.

MANEUVER

The troops of the squadron seek to locate enemy forces and provide information on terrain during reconnaissance operations, and during security operations, they provide early warning and impede the enemy. The digitized troop uses information-sharing capabilities, the advanced position location and target acquisition capabilities of the M1A2, OH-58D, and digitally equipped CFVs to identify the enemy and to facilitate the development of the situation. All other squadron assets use their digital capabilities to support these maneuver elements.

Digitally equipped leaders integrate nondigitally equipped combat elements into the scheme of maneuver by passing pertinent information by voice. Once they make enemy contact, the troop executes battle drills and develops the situation primarily using voice communications. When the troops complete the contact or come to a lull in the battle, they follow up voice reports with digital reports to complete the information transfer to higher headquarters.

The digitized squadron has significant enhancements in the area of precision navigation. The addition of POSNAV and other navigational systems allows digitized units to be extremely effective in moving rapidly with great accuracy, even during periods of limited visibility. The following are results of this capability:

- Increased effectiveness in synchronizing the movement and maneuver of forces.
- Hazard avoidance, such as contaminants and obstacles.
- Accurate battle reporting (location).
- Enhanced planning and engaging of targets.

The addition of the CITV improves the all-around surveillance and target acquisition capability of these units under similar conditions.

FIRE SUPPORT

The squadron commander integrates his fire support plan to suppress, neutralize, or destroy the enemy. The fire support officer assists the commander in this process by planning and coordinating fire support. The digital fire support system will have a sensor-shooter link that will enable the fire request to be sent directly to the supporting unit. The digitally equipped fire support element and the squadron fire support officer will remain the primary means for requesting and approving fires. The digital fire support system will be designed to be routed through commanders at each level. As always, missions fired are based on the commander's guidance for fire support established during the planning process.

AIR DEFENSE

The air defense officer (ADO) in the squadron can monitor and send digital traffic on the squadron command net. The ADO will receive a correlated air picture from his digital system sensor in his respective area of operations. The sensor will send early warning air track data to the air defense platoons, sections, fire units, and the brigade air defense liaison officer.

Air defense platoons, if sliced to the squadron, can share this early warning track data at that respective TOC or command post. The maneuver commander benefits from the added situational awareness provided; however, the air defense weapon systems will most likely not be digitally equipped with maneuver force software that allows command and control functions to occur. That function must be "voiced" to the air defense elements to ensure they receive the necessary information to support the scheme of maneuver.

MOBILITY AND SURVIVABILITY

With digital capabilities, the squadron engineer can more effectively assist the commander by providing terrain data and analysis and creating and modifying the squadron obstacle overlay. He can also better integrate the obstacle plan into the squadron scheme of maneuver by electronically overlaying the squadron engineer's obstacle intent overlay on the operations overlay. Troops can assist the squadron engineer by updating or modifying the obstacle overlay with any troop-emplaced obstacle or changes to the squadron obstacle plan.

Digitally equipped combat vehicles with laser designation capabilities are particularly well suited for actions during breaching operations. The digitally equipped troop can use the LRF/POSNAV interface to designate the left and right limits of enemy obstacle systems for follow-on forces. Automation enables troops conducting reconnaissance to identify and report existing bypass routes, mechanically breached lanes, or suitable breach sites for the engineers. Besides information about conventional obstacles, this same capability can be applied to quickly modify the advance guard commander's scheme of maneuver to respond to contaminated areas of the battlefield.

Not only can the commander use his digital assets to avoid contamination, he can also decrease the risk that his unit will be targeted with NBC weapons. The ability to increase the dispersion of his vehicles while maintaining command and control decreases the unit's signature. The threat commander will have fewer vehicles in a particular area to target. This will force him to either increase his target area, thus decreasing the concentration, go ahead and target the smaller unit, or decide not to use chemical weapons due to their limited tactical value. Either way, the threat to the friendly force is decreased.

LOGISTICS

Combat service support constitutes all actions taken to sustain the squadron's ability to fight. The combat trains command post and all other CSS elements of the squadron can communicate digitally on both the squadron command net and the administrative/logistics (A/L) net. This enhances situational awareness and enables logisticians to anticipate the needs of maneuver elements and support the squadron commander's intent.

Critical sustainment functions are incorporated into the digital command and control system in the form of automated SITREPs. The SITREP summarizes the unit's manning level, ammunition stockage level, fuel level, and tracked vehicle status. Troop first sergeants or XOs periodically forward these reports digitally during the battle to assist the S4 in forecasting support requirements. After the battle, automated SITREPs are supplemented with detailed logistical voice reports to request additional logistical support.

Medical evacuation of a vehicle crew is facilitated by the automated MEDEVAC report. This report contains pertinent information found in the standard nine-line voice report format and allows medics to navigate quickly and accurately to designated locations with a GPS. This format is also useful for rapidly reporting specific evacuation requirements and locations of digitally equipped combat vehicles.

COMMAND AND CONTROL

The commander fights from a forward location where he can see, hear, and influence the battle. He uses a combination of voice and digital orders to control his subordinate units. His subordinate commanders and soldiers must be aware of his presence on the battlefield.

Automation allows the squadron commander to accurately track the progress of digitally equipped combat vehicles operating on the command net and to clearly identify the relationship of the enemy to friendly units and his control measures. With digital systems, the commander can see the battlefield better. He knows the location and disposition of his subordinate elements beyond the line of sight and during periods of limited visibility.

Before the battle, the squadron augments traditional overlay techniques with automated equivalents to speed the distribution of information. Digital communications allow the squadron commander to augment face-to-face and radio communications with digital traffic when the situation permits. This is key when time is crucial to the success of the mission. Automated control measures are extremely helpful when executing contingency or follow-on operations. Commanders can issue FRAGOs using existing graphics, or if time permits, digitally send an updated operations overlay.

Appendix C

DOCTRINE AND TRAINING LITERATURE

"Doctrine provides a military organization with a common philosophy, a common language, a common purpose, and a unity of effort."

General George H. Decker, 1960

Users of this manual must understand the elements of doctrinal literature and their relationships to each other. The commonly used terms *doctrine, tactics, techniques,* and *procedures* are interrelated and mutually supportive; yet, each term has its usage, level of detail, and place in the hierarchy of doctrinal publications. Because there is a close interrelationship, publications overlap in what they provide to the user. Figure C-1 illustrates the relationship of these doctrinal terms and publications.

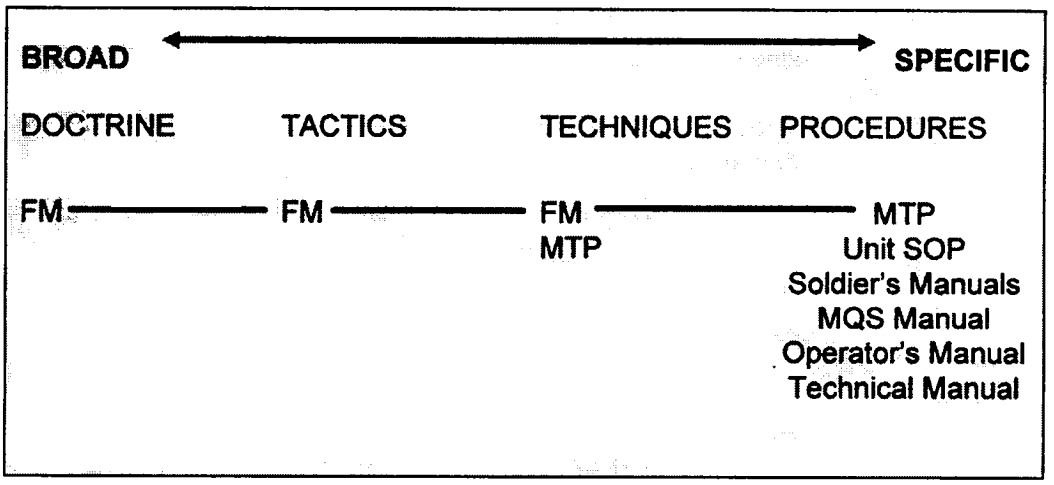


Figure C-1. Doctrinal and training literature.

DOCTRINE

Doctrine is the body of fundamental principles by which military forces guide their actions in support of national objectives. It is authoritative, but requires judgment in application. Doctrine provides the fighting philosophy of the Army, establishes a common language, and structures the manner within which units plan and conduct combat operations. Doctrine is not absolute; it is applied by the leader to meet the circumstances of the situation being faced. Doctrine provides for this

flexibility with broad fundamentals and principles for conducting operations. Leaders well grounded in doctrine understand how to synchronize the elements of combat power and apply tactics, techniques, and procedures using the assets available to accomplish the mission.

Doctrine is described in field manuals. FM 100-5 defines the system of warfighting practiced by the US Army. FM 100-15 and FM 71-100 expand on this foundation by describing the manner in which corps and divisions fight to implement this basic doctrine. FM 17-95 describes the combat doctrine of cavalry and is a capstone manual for cavalry operations. It defines the role, operational requirements, mission tasks, battlefield functions, and command and control relationships of cavalry units. This manual is not oriented on a specific organizational structure. It does, however, define the capabilities that cavalry must possess to meet doctrinal requirements. Leaders at all levels apply this doctrine to their unique organizational and operational situations and use various tactics and techniques to accomplish the doctrine.

TACTICS

Tactics describes how the leader carries out doctrine. Tactics has two basic meanings, both relating to the arrangement of forces for battle:

- The employment of units in combat.
- The ordered arrangement and maneuver of units in relation to each other and to the enemy in order to use their full potential.

Tactics in the first case is the accomplishment of an assigned mission by the commander or leader. Tactics in the second case is a description of how the commander should arrange his forces and maneuver to accomplish a type of mission or task. This is the part of doctrinal literature used for training and preparation for combat. Tactics presented in manuals, like doctrine, is applied with judgment by the leader. FMs prescribe “how to fight” and mission training plans (MTP) describe “what to train.”

FM 17-95 describes tactics to some extent to illustrate the doctrinal principles and to provide how-to guidance to commanders. Unit-oriented FMs provide a more detailed discussion of tactics with a focus on specific types of cavalry organizations. C-2 shows the hierarchy of field manuals that apply to cavalry units.

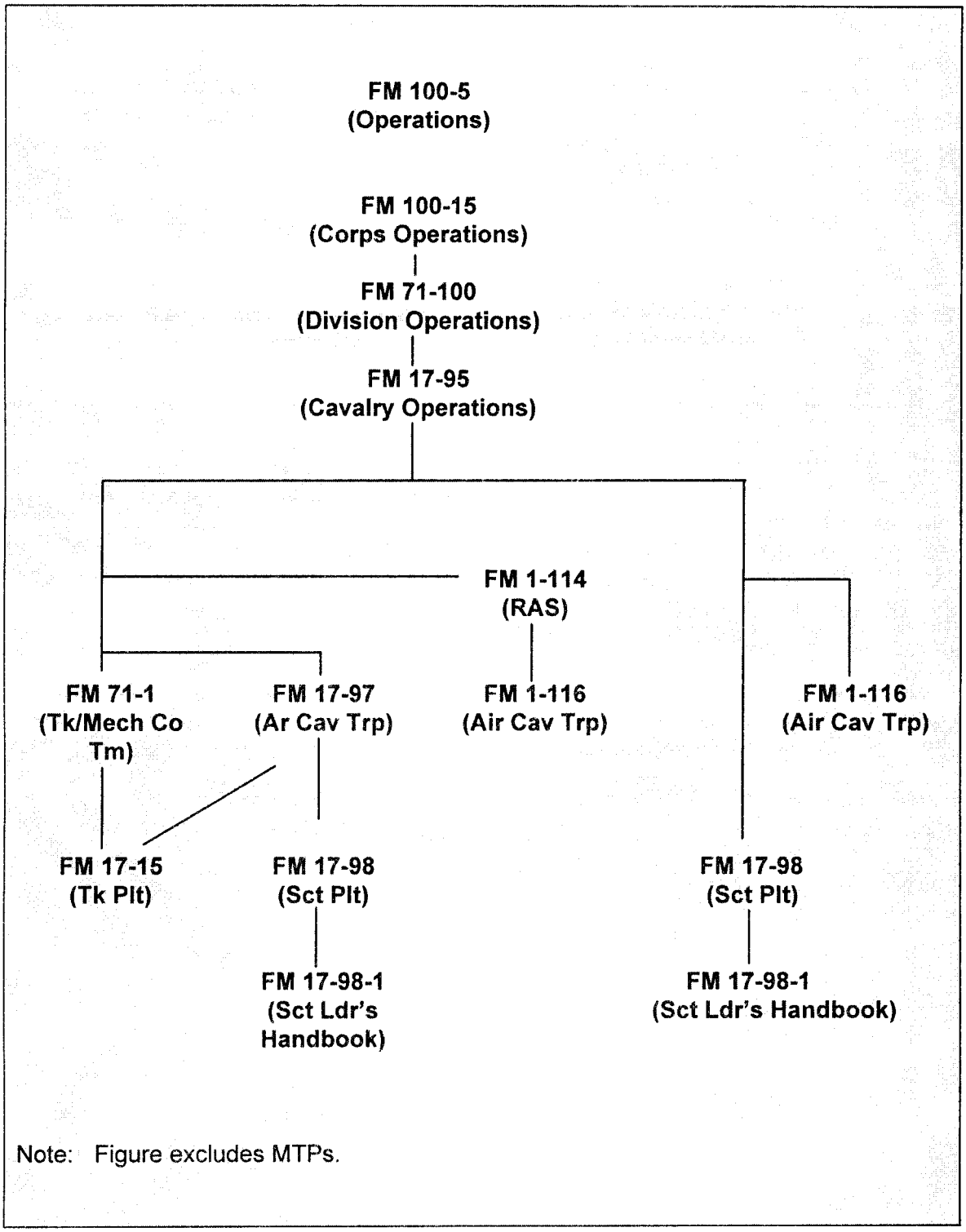


Figure C-2. Hierarchy of cavalry fields manuals.

TECHNIQUES

Techniques are the methods of performing any act, especially the detailed methods used by troops or commanders in performing assigned tasks. Techniques describe the basic methods of using equipment and personnel. Techniques give details on how commanders actually carry out assignments. They improve a force's efficiency by ensuring uniformity of action or by ensuring actions of various individuals and elements complement those of other individuals or elements.

FMs and MTPs provide a description of techniques using the personnel and equipment available in actual organizations. These techniques show at a more detailed level how to use available assets to carry out tactics.

PROCEDURES

Procedures are the lowest level of detail. They address how-to at the task level. Procedures are a particular course or mode of action that describes how to perform a certain task. Procedures include the standing methods used by units to accomplish tasks, weapon and equipment operating steps, crew drills, staff action and coordination requirements, and methods of target engagement by direct and indirect fire weapons. Procedures are building blocks of individual and collective task accomplishment that serve as the foundation of tactics and techniques.

Procedures are explained in unit SOPS, mission training plans, soldier's manuals, operator's manuals, technical manuals, and similar publications.

Appendix D

STANDING OPERATING PROCEDURES

The intent of this appendix is to provide an outline as an aid for developing a regimental or squadron tactical SOP.

I. GENERAL.

A. Purpose: This tactical SOP prescribes standard procedures for use during all combat situations and provides a comprehensive reference for conducting operations in a field environment.

B. Conformity: All assigned, attached and OPCON personnel will read and comply with the provisions of this tactical SOP.

II. COMMAND AND CONTROL.

A. Command.

1. Organization.
   a. Succession of command.
   b. Cues for assuming command.
   c. Operation of the command post.
      (1) Shifts.
      (2) Displacement/set-up/tear-down.
2. Troop-leading procedures.
   a. Estimate input (checklist).
   b. Precombat inspections.
   c. Backbriefs.
   d. Rehearsals.
   e. Combat orders.
      (1) Formats.
      (2) Preparation.
      (3) Reproduction.
      (4) Dissemination.
3. Coordination with adjacent units (checklist).
4. Liaison with main body elements (checklist).

B. Control.

1. Combat graphics and symbols.
2. Control measures designation (numbering system).
3. Terrain index reference system (TIRS).
4. Operational terms.
5. Vehicle identification marking system.
6. Unit recognition symbols.
7. Communication.
   a. Net diagrams.
   b. Fixed call signs.
   c. Brevity codes/cue words.
   d. Antijamming actions.
   e. Alternate means.
8. Reports.
   a. Battle.
   b. Intelligence.
   c. Logistical.

III. MANEUVER.

A. Readiness condition (REDCON).

B. Quartering party.

C. Road marches.

D. Assembly areas.

E. Squadron organization for combat.

F. Formations.

G. Battle plays.

1. Actions on contact.
2. Fix and bypass.
3. Close assault.
4. In-stride breach.
5. Bridges/defiles.

6. Formation changes.
7. Passage of lines.
8. Hasty defense.
9. Consolidate on the objective.
10. Ambush.
11. Other plays.

H. Reconnaissance operations.

1. Zone reconnaissance.
   a. Graphics.
   b. Critical tasks.
2. Area reconnaissance.
   a. Graphics.
   b. Critical tasks.
3. Route reconnaissance.
   a. Graphics.
   b. Critical tasks.
4. Reconnaissance in force.
   a. Graphics.
   b. Critical tasks.

I. Security operations.

1. Screen.
   a. Graphics.
   b. Critical tasks.
2. Guard.
   a. Graphics.
   b. Critical tasks.
3. Cover.
   a. Graphics.
   b. Critical tasks.
4. Area security.
   Route security.
   Convoy security.
   a. Graphics.
   b. Critical tasks.

J. Offensive operations.
   1. Movement to contact.
   2. Hasty attack.
   3. Offensive graphics.

K. Defensive operations (defensive graphics).

L. Limited visibility operations.

M. Break in action (checklist).
   1. Redistribution of ammunition, personnel, and equipment.
   2. Evacuation of casualties and enemy prisoners of war.
   3. Redistribution of ammunition under fire.

N. Relief in place.
   1. Relief in place graphics.
   2. Critical tasks.

O. Air-ground teams.
   1. Command relationship.
   2. Formations/techniques of movement.

P. Aviation.
   1. Air support coordination.
   2. JAAT operations (checklist).
   3. A2C2 control measures.

IV. MOBILITY AND SURVIVABILITY.

A. Mobility.
   1. Standard tasks.
   2. Standard priorities.

B. Countermobility.
   1. Standard tasks.
   2. Standard priorities.

C. Survivability.

1. Standard tasks.
2. Standard priorities
3. Engineer target turnover (checklist).

D. NBC defense.

1. NBC team organization and equipment.
2. Unit NBC equipment.
3. Defense against nuclear attack.
4. Defense against chemical/biological attack.
5. Decontamination.
6. NBC reconnaissance.

V. FIRE SUPPORT.

A. Fire support request sequence.

B. Fire support planning and execution matrix format.

C. Graphics.

VI. AIR DEFENSE.

A. Air defense warning and cue words.

B. Weapons control status and cue words.

VII. INTELLIGENCE/ELECTRONIC WARFARE.

A. Intelligence.

1. Standard tasks.
2. Standard priorities.

B. Electronic warfare.

1. Standard tasks.
2. Standard priorities.
3. Countermeasures.

VIII. COMBAT SERVICE SUPPORT.

A. Resupply procedures.
   1. LOGPAC procedures.
   2. Battle loss actions.

B. Medical support.
   1. Handling and treatment of casualties.
   2. Field sanitation.

C. Maintenance support.
   1. Battle damage assessment and repair.
   2. Exchange criteria.
   3. Cannibalization criteria.
   4. Maintenance repair time guidelines.

D. Personnel.
   1. Replacements.
   2. Accountability.
   3. Personnel actions.

E. Trains operations.
   1. Field trains.
      a. Layout.
      b. Operations.
      c. Displacement/set-up/tear-down.
   2. Combat trains.
      a. Layout.
      b. Operations.
      c. Displacement/set-up/tear-down.
   3. Unit maintenance collecting point (UMCP).

IX. SAFETY.

GLOSSARY

A2C2	Army airspace command and control
AA	assembly area
AB	aviation brigade
ABCS	Army battle command system
ABF	attack by fire
ACA	airspace coordination area
ACE	armored combat earthmover
acft	aircraft
ACO	airspace control order
ACR	armored cavalry regiment
ACR(L)	armored cavalry regiment (light)
ACRV	armored command and reconnaissance vehicle
ACS	armored cavalry squadron
ACS(L)	armored cavalry squadron (light)
ACT	air cavalry troop
ACU	area common user
AD	air defense
ADA	air defense artillery
ADAM	aerial denial artillery munition
ADC	area damage control
ADC(S)	assistant division commander for support
ADO	air defense officer
ADP	automatic data processing
AFATDS	advanced field artillery tactical data system
AG	Adjutant General
AH	attack helicopter
AI	area of interest
A/L	administrative/logistics
ALC	administrative/logistics center
ALN	administrative/logistics net
ALO	air liaison officer
AM	amplitude modification
AMB	aviation maintenance battalion
AMC	aviation maintenance company
AMPS	aviation mission planning station
ANGLICO	air and naval gunfire liaison company
AO	area of operation
AP	antipersonnel
AR	armor
arty	artillery
ASAS	all source analysis system
ASB	aviation support battalion
ASIC	all-source intelligence center
ASL	authorized stockage list
ASP	ammunition supply point
AT	antitank
ATCCS	Army tactical command and control system
atchs	attachments
ATGM	antitank guided missile

atk	attack
ATO	air tasking order
ATP	ammunition transfer point
AUTODIN	automated digital network
AVIM	aviation intermediate maintenance
AVLB	armored vehicle launched bridge
avn	aviation
AVUM	aviation unit maintenance
BAS	battlefield automated systems
BDA	battle damage assessment
BDAR	battle damage assessment and repair
bde	brigade
BDU	battle dress uniform
BHL	battle handover line
BICC	battlefield intelligence coordination center
bn	battalion
BNW	battlefield nuclear warfare
BOS	battlefield operating system
BP	battle position
BSA	brigade support area
BUA	built-up area
C	cover
C2	command and control
C3I	command, control, communications, and intelligence
C&J	collection and jamming
CA	coordinating altitude
CAS	close air support
cav	cavalry
cbt	combat
cdr	commander
CEWI	combat electronic warfare and intelligence
CFL	coordinated tire line
CFV	cavalry fighting vehicle
CHS	combat health support
CI	counterintelligence; civilian internee
CITV	commander's independent thermal viewer
cmd	command
CMO	civil-military operations
co	company
CO	commanding officer
COA	course of action
COLT	combat observation lasing team
comm	communications
COMMZ	communications zone
COMSEC	communications security
CONUS	continental United States
COSCOM	corps support command
CP	command post
CPU	chemical protective undergarment
CS	combat support
CSA	corps storage area

CSG	corps support group
CSM	command sergeant major
CSR	controlled supply rate
CSSCS	combat service support control system
CSS	combat service support
CTCP	combat trains command post
DA	Department of the Army
DAO	division ammunition officer
DCG	deputy commanding general
decon	decontamination
def	defensive
det	detachment
DF	direction finding
dig	digital
DISCOM	division support command
div	division
DIVARTY	division artillery
DLIC	detachment left in contact
DMD	digital message device
DMMC	division materiel management center
DNVT	digital nonsecure voice terminal
DP	decision point
DS	direct support
DSA	division support area
DSSCS	defense special security communications system
DSSU	dismounted soldier system unit
DSU	direct support unit
DSVT	digital secure voice terminal
DTOC	division tactical operations center
DZ	drop zone
EA	engagement area
ech	echelon
ECM	electronic countermeasures
eff	effective
engr	engineer
EPW	enemy prisoner of war
EW	electronic warfare
EXTAL	extra time allowance
FA	field artillery
FAA	forward assembly area
FAAD	forward area air defense
FAADC3I	forward area air defense command, control, communications, and intelligence
FAC	forward air controller
FARP	forward area rearm/refuel point
FASCAM	family of scatterable mines
FAST	Freight Automated System for Traffic Management
fax	facsimile
FBCB2	Force XXI battle command brigade and below
FCT	firepower control team
FDC	fire direction center

FEBA	forward edge of the battle area
FID	Foreign Internal Defense
1SG	first sergeant
FIST	fire support team
FISTV	fire support team vehicle
fld	field
FLE	forward logistics element
FLIR	forward looking infrared radar
FLOT	forward line of own troops
flt	flight
FM	field manual; frequency modulation
FO	forward observer
FofF	fields of fire
FPF	final protective fires
FRAGO	fragmentary order
FS	fire support
FSB	forward support battalion
FSCL	fire support coordination line
FSCOORD	fire support coordinator
FSE	fire support element
FSO	fire support officer
FSS	fire support section
FST	finance support team
fwd	forward
G	guard
G1	Assistant Chief of Staff, G1 (Personnel)
G2	Assistant Chief of Staff, G2 (Intelligence)
G3	Assistant Chief of Staff, G3 (Operations and Plans)
G4	Assistant Chief of Staff, G4 (Logistics)
GDP	general defense plan
GP	general purpose
GPS	global positioning system
gnd	ground
grp	group
GS	general support
GSR	ground surveillance radar
GT	gun-target
G/VLLD	ground/vehicle laser locator designator
HA	holding area
HC	hydrogen chloride
HE	high explosive
HET	heavy-equipment transporter
HF	high frequency
HHT	headquarters and headquarters troop
HIDACZ	high-density airspace control zone
HIMAD	high-to-medium-altitude air defense
HMMWV	high mobility multipurpose wheeled vehicle
how	howitzer
HQ	headquarters
HUMINT	human intelligence
HVT	high-value target
hvy	heavy

HWB	howitzer battery
hwy	highway
IAW	in accordance with
IDM	improved data modem
IDSM	intermediate direct support maintenance
IEW	intelligence and electronic warfare
IFF	identification, friend or foe (radar)
IFSAS	initial fire support automated system
IFV	infantry fighting vehicle
IGSM	intermediate general support maintenance
INTREP	intelligence report
IPB	intelligence preparation of the battlefield
ir	infrared
JAAT	joint air attack team
JACC	Joint Airspace Control Center
J-SEAD	joint suppression of enemy air defenses
JSTARS	joint surveillance target attack radar system
JTF	joint task force
KIA	killed in action
km	kilometers
kmph	kilometers per hour
KY	Kentucky
LC	line of contact
LCU	lightweight computer unit
LD	line of departure
ldr	leader
LO	liaison officer
LOA	limit of advance
LOC	lines of communication
LOGPAC	logistics package
LOS	line of sight
LP	listening post
LRF	laser range finder
LRP	logistics release point
lt	light
LZ	landing zone
MA	mortuary affairs
maint	maintenance
MBA	main battle area
MCC	movement control center
MCO	movement control officer
MCS/P	maneuver control system/Phoenix
MCT	movement control team
mech	mechanized
MEDEVAC	medical evacuation
MEDLOG	medical logistics
METL	mission essential task list
METT-T	mission, enemy, terrain, troops and time available
MI	military intelligence

MIA	missing in action
min	minute
MLRS	multiple launch rocket system
MMC	Materiel Management Center
MOD	mobile obstacle detachment
MOPMS	modular pack mine system
MOPP	mission-oriented protective posture
mort	mortar
MP	military police
MPG	movement planning guide
MQS	military qualification standards
MRE	meals ready-to-eat
MRR	minimum risk route
MSB	main support battalion
MSE	mobile subscriber equipment
msg	message
msn	mission
MSR	main supply route
MSRT	mobile subscriber radio terminals
MST	maintenance support team
MTOE	modification table of organization and equipment
MTP	mission training plan
MWR	morale, welfare, and recreation
NA	not applicable
NAI	named areas of interest
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, chemical
NCO	noncommissioned officer
NCOIC	noncommissioned officer in charge
NCS	net control station
NEO	noncombat evacuation operations
NGF	naval gunfire
NGO	non-governmental organization
NOD	night observation device
NOE	nap-of-the-earth
obj	objective
OCOKA	observation and fields of fire, cover and concealment, obstacles, key terrain, avenues of approach
OEG	operational exposure guide
OI	operations and intelligence
OIC	officer in charge
OMG	operational maneuver group
OO	on order
op(s)	operation(s)
OP	observation post
OPCON	operational control
OPFOR	opposing forces
OPLAN	operation plan
OPORD	operation order
ops	operations
OPSEC	operations security
OSB	operational support base

PA	physician's assistant
PAC	Personnel and Administrative Center
PAO	public affairs officer
PASR	personnel accounting and strength reporting
PCO	peacetime contingency operations
PIR	priority intelligence requirements
PL	phase line
PLL	prescribed load list
plt	platoon
PMCS	preventive maintenance checks and services
POL	petroleum, oils, and lubricants
POSNAV	position navigation
PP	passage point
PRC	populace and resources control
PSC	Personnel Service Company
PSG	platoon sergeant
PSNCO	personnel staff noncommissioned officer
PSS	personnel support system
PST	pass time
PSYOP	psychological operations
QSS	quick supply store
QSTAG	Quadripartite Standardization Agreement
RAAMS	remote antiarmor mine system
RAO	regimental ammunition officer
RAOC	rear area operations center
RAS	regimental aviation squadron
R&S	reconnaissance and surveillance
RATT	radio teletypewriter
RAU	radio access unit
RCO	regimental commander
recon	reconnaissance
REDCON	readiness condition
regt	regiment
rep	representative
RES	radiation exposure status
RFA	restrictive fire area
RFL	restrictive fire line
RHHT	regimental headquarters and headquarters troop
RMMC	regiment materiel management center
ROA	restricted operations area
ROE	rules of engagement
ROZ	restricted operations zone
RP	release point
RRP	replacement receiving point
RS1	regimental S1
RS2	regimental S2
RS3	regimental S3
RS4	regimental S4
RSA	regimental support area
RSO	regimental signal officer
RSR	required supply rate
RSS	regimental support squadron

rt	route
RTO	radiotelephone operator
RTOCSE	regimental tactical operation center support element
RX	repairable exchange
RXO	regimental executive officer
S	screen
S1	Adjutant
S2	Intelligence Officer
S3	Operations and Training Officer
S4	Supply Officer
S5	Civil Affairs Officer
S&S	supply and service
S&T	supply and transport
SAAFR	standard use Army aircraft flight route
SALT	supporting arms liaison team
SBF	support by tire
SCO	squadron commander
sct	scout
SEAD	suppression of enemy air defenses
SFCP	shore tire control party
SHORAD	short-range air defense
SIDPERS	Standard Installation/Division Personnel System
SIGSEC	signals security
SINCGARS	single channel ground and airborne radio subsystem
SITMAP	situation map
SITREP	situation report
SJA	Staff Judge Advocate
SLAR	side-looking airborne radar
SLCR	shower, laundry, clothing repair
SM	soldier's manual
SMO	squadron maintenance officer
SO	signal officer
SOF	special operation forces
SOI	signal operation instructions
SOP	standing operating procedures
SOSR	suppress, obscure, secure, and reduce
spt	support
SP	start point
SPO	support operations section
sqdn	squadron
SSA	squadron support area
SSO	squadron signal officer
SST	single subscriber terminals
sta	station
STANAG	Standardization Agreement
STRIKWARN	strike warning
supt	support
SV	sound and visual
SWT	scout weapons team
SXO	squadron executive officer
TAACOM	Theater Army Area Command
TAC CP	tactical command post

TACFIRE	tactical fire direction system
TACP	tactical air control party
TACSAT	tactical satellite
tact	tactical
TAI	target area(s) of interest
TC	training circular
TCAE	technical control and analysis element
TCF	tactical combat force
TCP	traffic control post
TEWT	training exercise without troops
TF	task force
TIRS	terrain index reference system
tk	tank
tm	team
TM	technical manual
TMT	transportation motor transport
TOC	tactical operations center
TOCSE	tactical operations center support element
TOE	table of organization and equipment
TOW	tube-launched, optically tracked, wire-guided (missile)
TPCO	transportation plans and control officer
TRADOC	United States Army Training and Doctrine Command
trp	troop
TRP	target reference point
TSA	theater storage area
TTP	tactics, techniques, and procedures
UAV	unmanned aerial vehicle
UHF	ultra high frequency
UMCP	unit maintenance collecting point
UMT	unit ministry team
UN	United Nations
US	United States
USAARMC	United States Army Armor Center
USAF	United States Air Force
USMC	United States Marine Corps
USN	United States Navy
VEESS	vehicle engine exhaust smoke system
VFMED	variable format message entry devices
VHF	very high frequency
VIP	very important person
VIXL	video image crosslink
WIA	wounded in action
WO	warning order
WP	white phosphorous
WSM	weapon system manager
WSRO	weapon system replacement operations
XO	executive officer

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