

## CHAPTER 7

### OTHER OPERATIONS

*This chapter provides some examples and techniques for other division operations.*

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#### Section I. RELIEF IN PLACE

The infantry division may be directed to conduct a relief in place during the course of corps operations. A relief in place is a combat operation in which one unit replaces all or part of another unit in a combat area. It may serve one or more of the following purposes:

- To relieve a depleted unit in contact.
- To relieve units stressed by prolonged operation in adverse conditions.
- To rest a unit after extended periods in high MOPP levels.
- To decontaminate a unit or avoid excess radiation.

Secrecy and speed characterize this operation. Centralized planning by the division staff and decentralized execution by major subordinate commands are the key to its success.

Higher headquarters directs when and where to conduct the relief and establishes appropriate control measures. The division may be required to conduct a relief in place under enemy pressure or without enemy pressure.

A relief in place conducted without enemy pressure normally entails a one-for-one swap of like units and equipment from occupied positions. A relief in place is time-consuming and requires detailed coordination and supervision.

A relief in place conducted while a unit is under enemy pressure is even more difficult. The example which follows portrays a relief operation under enemy pressure.

Figure 7-1, page 7-2, shows the corps conducting defensive operations. One of the defending divisions is a severely attrited infantry division operating in an area of restrictive terrain. Enemy activity is heavy and an enemy attack is expected within 72 hours. The corps commander has decided to conduct a relief operation under

enemy pressure. The corps commander elects to use his reserve infantry division to relieve the depleted infantry division to strengthen the defense and defeat the enemy's attack.

#### MANEUVER

The division has the mission to conduct a relief in place and then a defense in sector. The division is to conduct the relief and establish a viable defense with as little disruption to the continuity of the corps' defense as possible. To achieve this, the division will move forward and occupy defensible terrain to the rear of the division to be relieved. In this way, the in-place division becomes a covering force, allowing the relieving division to establish its defensive plan and develop fighting positions. When defensive preparations are complete, the in-place division will withdraw through the relieving division's defenses and move to the rear to reconstitute.

#### Deep Operations

The corps will continue to conduct deep operations during the relief. Corps aims to disrupt the enemy uncommitted and reserve forces before they can engage the corps' FEBA divisions.

#### Close Operations

On receipt of the corps warning order, the division establishes communications and liaison with the defending division's main CP. The relieving division's TAC CP moves to collocate with the defending division's TAC CP. The TAC CP monitors the current situation and coordinates withdrawal procedures. The division cavalry squadron moves forward concurrently to reconnoiter routes to brigade tactical assembly areas (TAAs) and proposed battle positions. The cavalry squadron then continues forward to establish a screen to the rear of the defending division's battle positions.

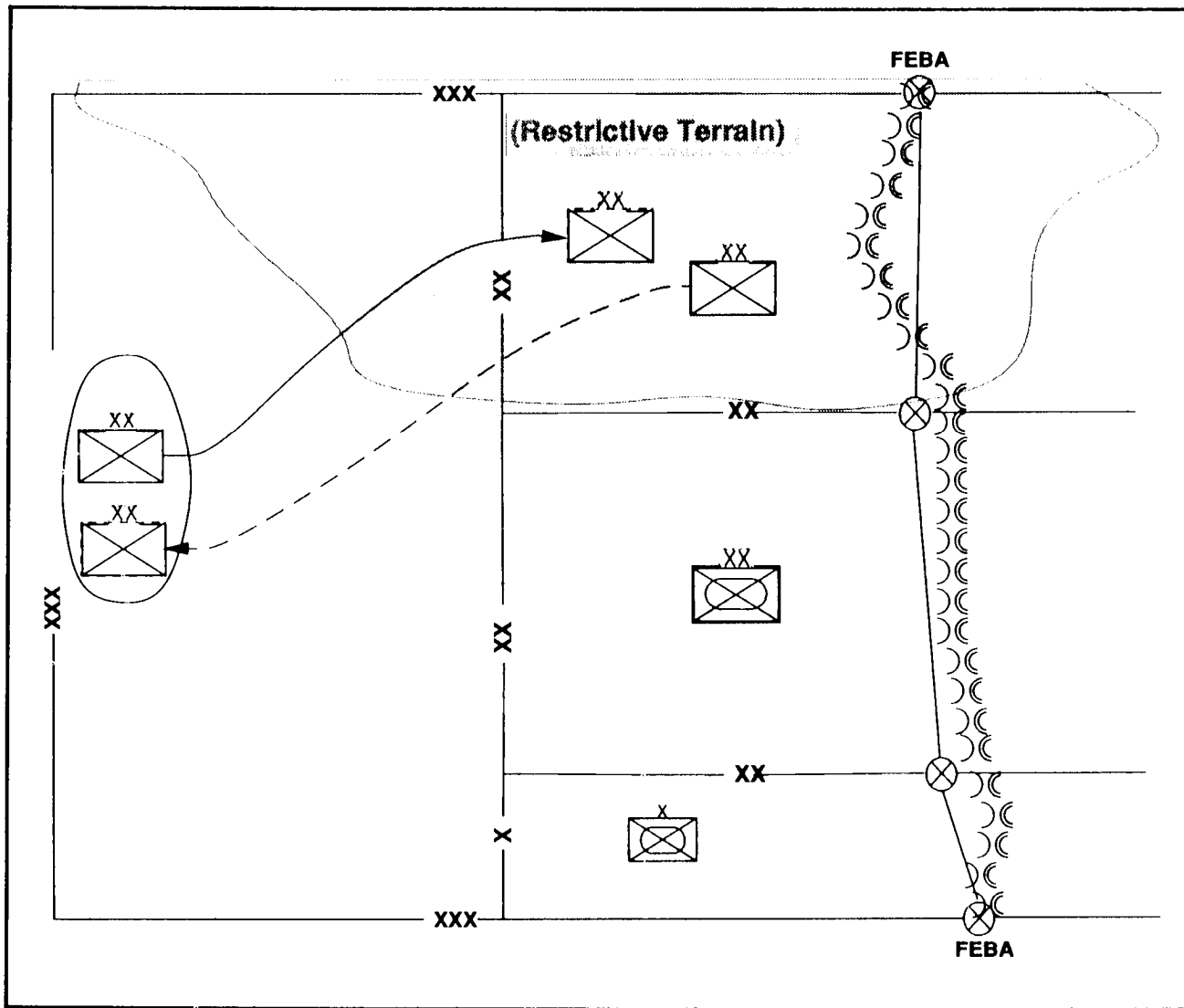


Figure 7-1. Relief in place: corps concept

The division main body (task-organized to conduct the defense mission) begins its move from the rear assembly area to the TAAs. (See Figure 7-2.) The main CP moves to the vicinity of the defending division main CP. The defending division comes under the TACON of the relieving division at a time mutually agreed on by the two commanders. This should occur early to facilitate the relieving division commander's planning for relief and defense. In this example, the relieving division assumes TACON when its brigades begin to move from rear assembly areas to TAAs.

The relieving division's maneuver brigades then move forward to defensive battle positions behind the in-place division. The relieving division uses the in-place division's alternate and supplementary defensive positions to take advantage of any defensive preparations already begun.

The relieving division establishes its defensive positions while the relieved division continues to defend and acts as a covering force. Brigade advance parties coordinate procedures for the rearward passage of in-place units.

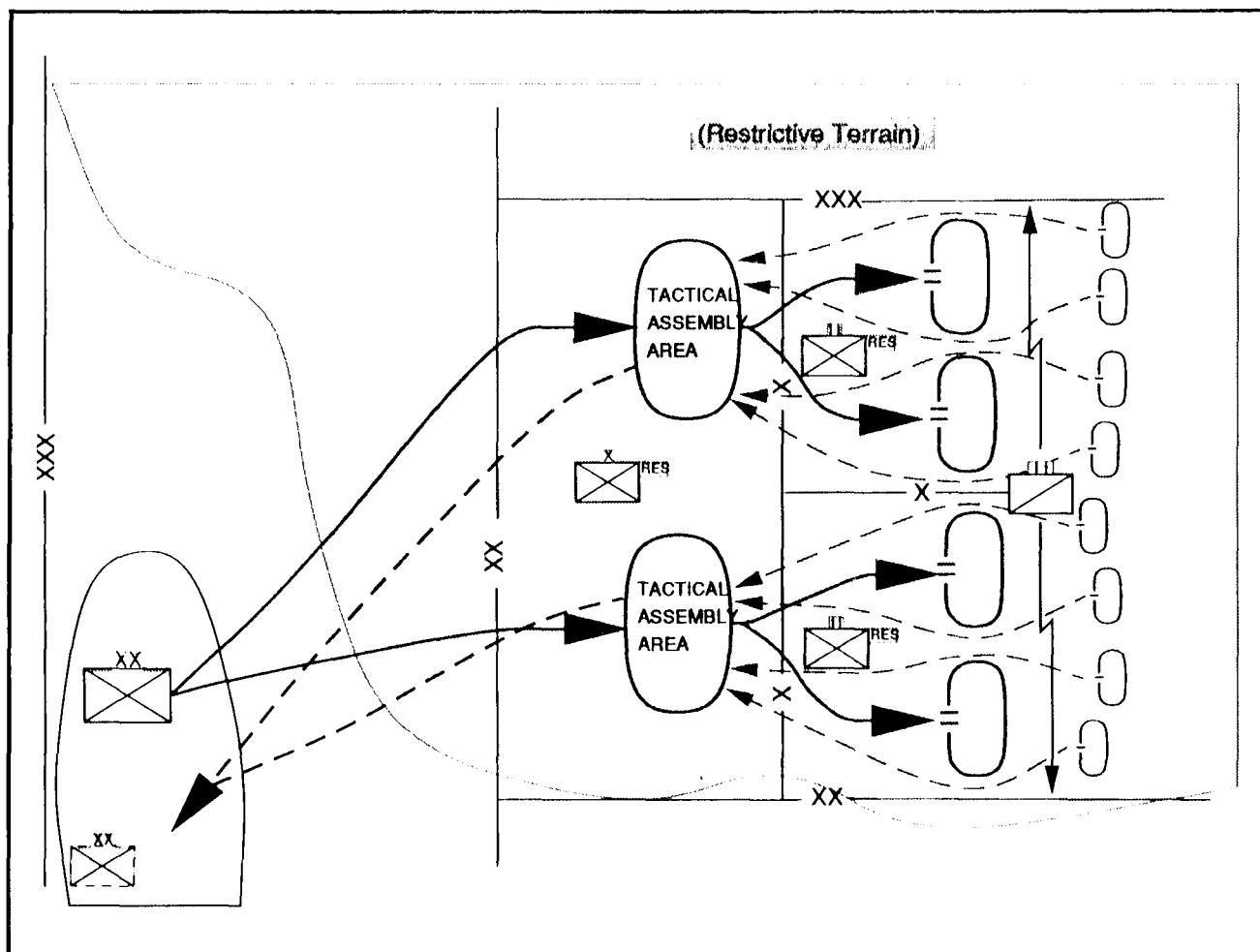


Figure 7-2. Relief in place: maneuver

On order, the in-place division begins withdrawing through the relieving division to move units to assembly areas. Relieved CS and CSS units assist both relieved and relieving units. The relieving brigades then defend in sector.

#### Rear Operations

The relieving division is responsible for all rear area functions. The division rear CP collocates in proximity to the in-place division's rear CP. A single traffic headquarters coordinates the movement into and out of the AO. Additional one-way MSRs facilitate the forward and rearward movement of both units. The relieving division rear CP utilizes MPs from both divisions to control MSRs from the DSA to the brigades TAAs.

#### Security Operations

The relief in place is a tactically vulnerable operation. If the enemy becomes aware of the operation, it may attack the divisions. Conducting the operation under limited visibility reduces the possibility of detection. The divisions must give special attention and coordination to communications security in the preparation and conduct of the relief operation. The intent is for the enemy to perceive only one division C<sup>2</sup> structure in operation. Until the relief is complete, this should be the C<sup>2</sup> structure of the defending division. The relieving division should minimize radio communication to minimize its electronic signature. Collocation of CPs and detailed planning and

coordination are essential for portraying a single C<sup>2</sup> structure during the relief.

### **Reserve Operations**

The relieving division designates an appropriate reserve for the conduct of the defensive mission based on factors of METT-T. In this example, the division has designated a brigade as reserve.

### **INTELLIGENCE**

When the divisions receive their warning orders, the relieving G2 immediately establishes communications with the defending G2 to gain all current intelligence. The intelligence focus is to provide warning time for the division if the enemy discovers the relief before the brigades have completed their defensive positions.

The G2 collects and coordinates current intelligence with the in-place division. Based on recommendations from the G2, the commander establishes PIR for the relief operation and the conduct of the defense. The G2 plans NAIs, TAIs, and DPs and establishes a collection plan to support the commander's information requirements.

Based on the collection plan, the relieving division positions intelligence assets to support the plan. As relieving division assets move into place, they continue to receive information from the relieved division. The G2 and MI battalion commander select positions for assets to support the collection plan.

### **FIRE SUPPORT**

Fire support assets from both divisions support the relief in place. Artillery focus is to position firepower for the defense and also to support the relieved unit. This is especially critical in the event the enemy detects the relief early and tries to exploit the weakness of the defending division.

At TACON, all relieved division FS assets come under the relieving division's control. Direct support artillery battalions move with their maneuver brigades. The relieving division positions corps FS assets from the in-place division to support the relieving division's defense. The relieving DIVARTY positions in-place and organic MLRS batteries to provide fires to support the counterbattery program. As the covering force

withdraws through the relieving units' defensive positions, the division FSE plans fires to deceive the enemy and expedite the passage of lines. Target acquisition assets from both divisions support the relieving division's defensive positions.

Fire coordination and control measures in front of the in-place division defensive positions remain in effect until withdrawal of the relieved unit. The relieving division coordinates and controls new and established fire control measures. The in-place division transfers critical ammunition (Copperhead and FASCAM) to the relieving division for redistribution.

The FSCoord for the relieving division meets the relieved FSCoord to exchange radio frequencies, secure devices, and target lists. They coordinate FS coordination measures that are in effect and the time the relieving division assumes FS responsibility. They designate artillery units from both forces to participate in the relief operations, and develop the fire support for the relief operations.

### **MOBILITY AND SURVIVABILITY**

Initially, the division's priority is to get its brigades into sector, conduct the relief, and pass the relieved unit out of sector. Engineer priority in support of this will initially be mobility of routes and lanes within the sector in support of the relief. Once the relief is complete, priority of effort normally transitions to countermobility and survivability operations in support of the brigades.

### **AIR DEFENSE ARTILLERY**

The in-place and relieving divisions' ADA elements coordinate and confirm enemy air avenues of approach into the AOs. Priority of effort is to protect passage points, battle positions, and assembly areas. Command and control of all ADA passes to the relieving division on assuming TACON.

### **COMBAT SERVICE SUPPORT**

The division support area moves near the relieved unit's DSA. This enhances coordination of available stocks and supplies by both units. The relieving division's FSBs move forward to establish operations in brigade TAAs. As in-place FSBs

displace, they leave critical supplies such as ammunition and fuel with relieving FSBs. Additional haul capability augments the maneuver brigades to expedite front loading of class IV and V into battle positions. Both divisions preposition artillery ammunition for artillery units in preparation for the defensive battle. Patients of the relieving division are moved rearward by the relieved division.

### COMMAND AND CONTROL

On receipt of the warning order, the relieving division TAC CP immediately moves forward to collocate with the in-place divisional TAC CP.

## Section II. RETROGRADE OPERATIONS

The infantry division may have to disengage from an enemy force by conducting retrograde operations. Retrograde operations are conducted to—

- Preserve combat power by gaining time.
- Avoid combat under unfavorable conditions.

Ž Reposition forces to eliminate exposed flanks or shorten LOCs.

- Conform to other units' movement.

Ž Draw the enemy into an unfavorable position.

Ž Harass, exhaust, resist, delay, and damage the enemy.

- Clear areas for friendly use of nuclear or chemical fires.

The three types of retrograde operations are delays, withdrawals, and retirements. In a delay, a division under enemy pressure trades space for time, inflicting maximum damage while avoiding decisive engagement. A division in contact with the enemy conducts a withdrawal to break contact. In a retirement, a division not in contact moves away from the enemy.

In Figure 7-3, page 7-6, an infantry division has been conducting defensive operations as part of a corps defensive operation. The corps has been conducting a defense in sector with a mechanized division on the left and an infantry division on the right in an economy of force role. The infantry division sector is in restrictive terrain, and the division has successfully defended against enemy

The TAC's primary concern is getting the division into defensive positions and withdrawing the relieved division without the enemy discovering the operation.

The main CP locates near the relieved division's main CP. During the withdrawal, the defending division's main and TAC CPS relocate in the rear assembly area. The relieving division rear CP works closely with the relieved division rear CP to coordinate routes, priority of movement, and terrain for the withdrawing division and to ensure the movement of critical supplies for the defense.

attack. The enemy main effort has been against the mechanized division.

To preserve the fighting strength of both divisions and to reduce a developing exposed flank between them, the corps commander directs the divisions to withdraw to more defensible terrain along PL ALPHA. There the corps will reestablish defensive operations against the attacking enemy. The corps considers the limited mobility and firepower of the infantry division in determining the placement of the new defensive position.

The current tactical situation and intelligence reporting of the infantry division indicate--

Ž The division continues to maintain an effective capability to conduct close operations, but has limited ability to identify, locate, and engage deep targets.

- The enemy is not currently attempting to penetrate defensive positions in the division AOs, but continues to apply pressure through indirect fires and small-unit attacks.

### MANEUVER

The infantry division commander's concept for the withdrawal involves organizing a covering force and a main body (Figure 7-4, page 7-7). The covering force mission is to prevent interference with the withdrawing main body and deceive the enemy as to the division's intent.

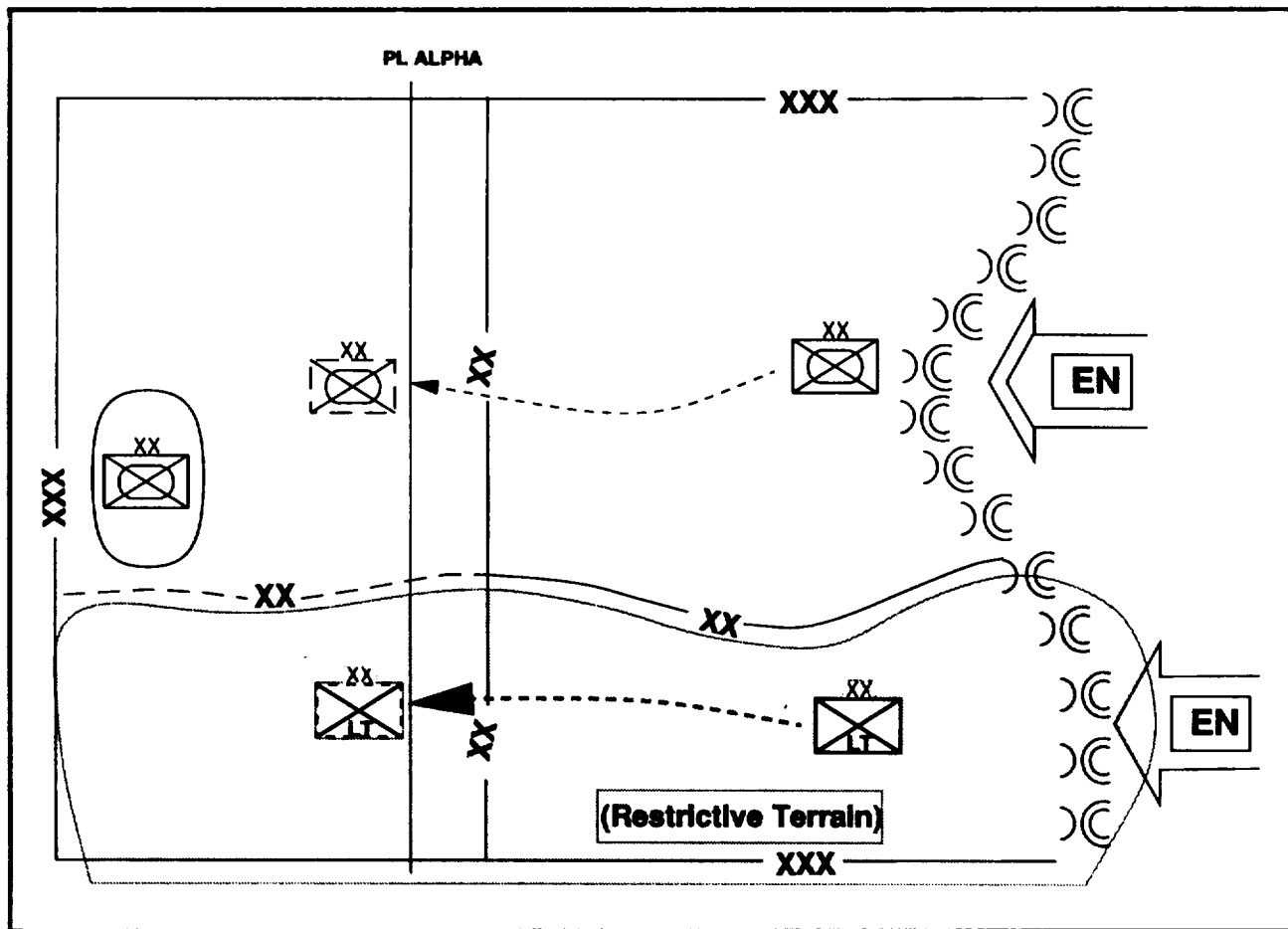


Figure 7-3. Retrograde operations: corps situation

In this example, the covering force is task-organized as shown in Figure 7-5. All other units remain as task-organized from the defense mission.

### Deep Operations

The corps continues to conduct deep operations to support withdrawing forces. The intent of the corps deep operation is to create conditions under which the divisions can withdraw while avoiding decisive combat under unfavorable conditions. Enemy forces must be prevented from exploiting the opportunity presented by withdrawing friendly forces.

### Close Operations

In this example, the infantry division covering force is a composite organization with three maneuver battalions and an OPCON attack

helicopter battalion (AHB) under a brigade headquarters. The three battalions come from the three brigades in contact, rather than all from one brigade, to minimize movement across the defensive front.

The covering force simulates normal activity to deceive the enemy, and protect the withdrawal of the main body to the rear. Covering force units continue aggressive patrolling, normal radio traffic, and vehicle movement. The covering force is prepared to fight a delay to permit withdrawal of the main body. The AHB uses its mobility to make limited objective spoiling attacks to disrupt enemy offensive operations, enabling the withdrawal to proceed with minimum interference.

Units forming the division main body retire by stealth to designated assembly areas (AAs) behind the covering force. From AAs, they move on

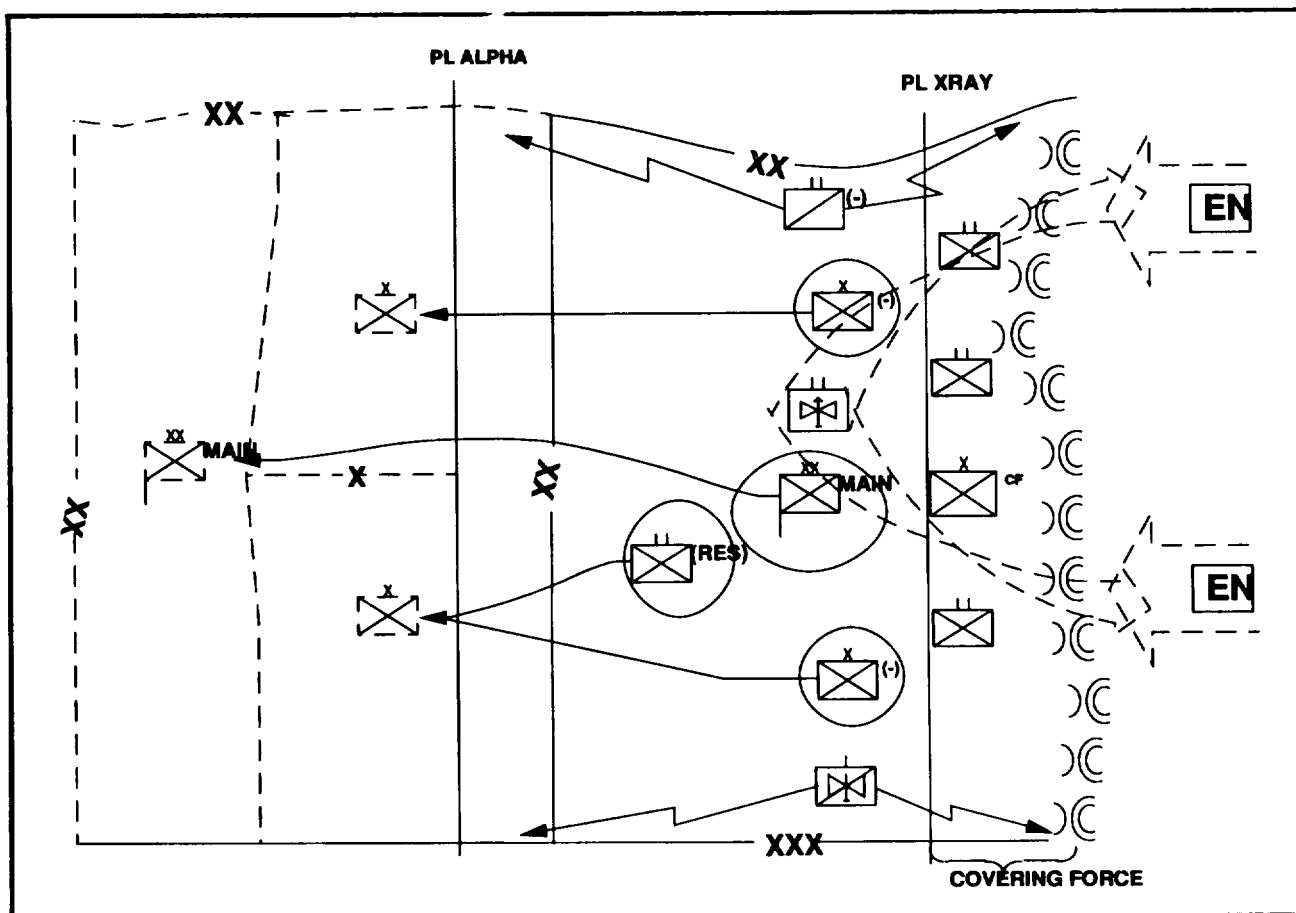


Figure 7-4. Retrograde operations: division maneuver

designated routes to PL ALPHA and begin preparing positions to resume the defense. The division uses air and ground transportation (division assets and corps augmentation) as much as possible to speed the withdrawal while maintaining secrecy. The division controls movement of withdrawing units by designating priorities, times, and routes of withdrawal from AAs. The withdrawal sequence is—

- Combat service support units.
- Field artillery not in support of the covering force.
- Main body.
- Covering force.

The withdrawal is normally conducted at night. The withdrawal plan includes deception, integrated with the corps' deception plan, to

portray the division continuing the defense in current positions. The withdrawal plan also includes contingency plans for the covering force or main body to delay or defend short of PL ALPHA.

— Bde HHC	— Engr Co (Lt)
— Inf Bn	— Cbt Engr Co
— Inf Bn	— (OPCON)
— Inf Bn	— Cml Co
— Atk Hel Bn (OPCON)	— (Smk Decon)
— FA Bn (105T) (DS)	— (-) (DS)
— FA Bn (105T) (R)	— ADA Btry (DS)
— FA Btry (155T) (R)	— MI Co Tm (DS)

Figure 7-5. Retrograde operations: task organization

The covering force withdraws on order by conducting a series of delays after the main body has disengaged, or at a predesignated time and place. If the deception has been successful, the covering

force may remain in position, delaying its withdrawal to prolong the deception. When the covering force has withdrawn, it conducts a rearward passage of lines through the new defensive positions, and moves to a designated reserve position. The withdrawal of the covering force must be synchronized with the withdrawal of the adjacent division's covering force. This will minimize the possibility of creating a gap between the divisions which could be exploited by the enemy. Since there is a significant mobility differential between the two covering forces, synchronizing the withdrawal will be critical.

### **Rear Operations**

Combat service support elements displace early, leaving only those elements necessary to support the main body withdrawal and the covering force fight. Units already in the rear move to new positions during the conduct of routine operations. Military police conduct reconnaissance of withdrawal routes and establish TCPs as required to control movement. Established MSRs are primary avenues for withdrawing division elements.

### **Security Operations**

The cavalry squadron screens the flanks for the covering force, maintaining contact with adjacent forces during the withdrawal. This will prevent the creation of gaps between defending friendly forces.

### **Reserve Operations**

Normally, no division reserve is designated for the withdrawal, although brigades may designate reserves. The battalion initially designated as the division reserve is attached to a brigade and moves during the withdrawal to PL ALPHA to establish the new defense. After the covering force conducts a rearward passage of lines, it moves to an assembly area and assumes the mission of division reserve.

### **INTELLIGENCE**

On receipt of the warning order to withdraw, the G2 directs an update of the IPB and recommends new PIR to the commander. The IPB identifies NAIs, TAIs, DPs, and a series of delay

positions that maximize the natural defensive value of available terrain. The G2 focuses his efforts initially on monitoring indicators that provide warning for the commander that the enemy has discovered the withdrawal before it is complete. The G2 adjusts collection and R&S plans as needed. The G2 also provides intelligence updates to the covering force S2.

The G2 ensures that division intelligence asset coverage includes both covering force and new defensive position requirements. Division-controlled EW assets are well forward to support the covering force fight and the deception plan. These include the Teammate AN/TRQ-32 and AN/TRQ-30 for communications intercept and direction finding. The G2 plans Quickfix for collection and jamming.

Prior to the withdrawal, several LRS teams were positioned to remain as stay-behind elements. REMBASS sensor strings were also positioned on avenues of approach into the division sector, and along potential parallel flanking routes. Together, these assets assist in targeting for the main body withdrawal and the covering force. They facilitate the defense and future offensive operations. Information from LRS teams and in-place sensors goes directly to the covering force S2. All other MI assets are used for defensive operations at PL ALPHA. The G2 coordinates with flanking units and corps for additional intelligence and sensor coverage.

### **FIRE SUPPORT**

Fire support assets provide an essential combat multiplier to augment the limited maneuver assets of the division covering force. Two FA battalions (105-millimeter) and the 155-millimeter battery provide support to the covering force. One 105-millimeter battalion is in direct support, and the other battalion and the battery reinforce the DS artillery battalion. The division's remaining 105-millimeter battalion and corps FS assets support the division as the main body withdraws.

The covering force FSE plans and coordinates fires to support the battle. Should the enemy attack before the withdrawal is complete, the FSE employs FS assets to slow the enemy's advance, cover obstacles with fire, support spoiling attacks,



and provide final protective fires. The FSE masses fires to help extricate threatened or isolated units. Smoke is also planned to mask the movement of friendly forces. FASCAM is planned along enemy avenues of approach into the division sector and used if needed to assist the covering force in withdrawal.

The corps smoke and decontamination company provides smoke support along withdrawal routes and flanks, and in assembly areas. Covering force DS and reinforcing artillery displace by echelon. The division FSE coordinates with corps for fires for the displacement, including TACAIR and GS reinforcing artillery.

Air Force CAS supports the withdrawal and aids the covering force in both fighting and disengaging from the enemy. It supports limited objective counterattacks and provides the covering force commander responsive air support to influence close operations. The division also plans for the use of ECM to deceive the enemy, and disrupt his C<sup>2</sup>, thus slowing his reactions to the withdrawal.

### **MOBILITY AND SURVIVABILITY**

The priority of engineer work is to countermobility at the new defensive positions. Disengaged engineer assets conduct countermobility and survivability actions as they withdraw. They prepare point obstacle targets (road craters and abatis) behind the covering force to support the withdrawal. Corps smoke assets provide smoke support to the obstacle emplacement. Engineers also prepare successive hasty firing positions for covering force artillery as it withdraws. They maintain routes to the rear to aid the withdrawal.

Covering force engineers include an attached light engineer company, and an OPCON combat engineer company from corps. Their priority of work is to mobility for the withdrawal, and countermobility to close prepared obstacles as the covering force delays to the rear.

### **AIR DEFENSE ARTILLERY**

The ADA battalion provides area protection to support withdrawal of the main body and covering force. In this example, the ADA battalion provides a DS Stinger battery to the covering force. Remaining ADA assets are in GS to the main body, placed within the main body, along routes of withdrawal, on choke points, or in areas where enemy air attack could slow or stop movement. The ADA battalion coordinates coverage with corps and adjacent divisions to ensure continuity of ADA protection.

### **COMBAT SERVICE SUPPORT**

Priority of CSS is class V and medical evacuation support to the covering force. Division and brigade CSS elements displace to the rear before combat elements begin withdrawal. Recovery equipment is positioned at critical locations along withdrawal routes to keep routes open and recover all possible equipment.

To the extent possible, the division evacuates command-controlled items and destroys other supplies and equipment (except medical) which cannot be withdrawn. Wounded personnel are evacuated as early as possible. The division prepositions class V supplies for the covering force at intermediate firing positions.

### **COMMAND AND CONTROL**

The TAC CP remains forward to control and support the covering force. The main CP commands and controls the withdrawal of forces not in contact. It displaces by echelon with the main body, supports the withdrawal, and plans and manages actions necessary to resume the defense. It synchronizes corps and divisional assets, including FS, ADA, engineer, and smoke support. The rear CP displaces to the rear early in the withdrawal. It manages terrain and controls movement in the division rear and behind PL ALPHA. The division exchanges liaison personnel with corps headquarters and flank units to maintain synchronization.

### **Section III. FORWARD PASSAGE OF LINES**

During tactical operations, the infantry division may be required to conduct a forward passage of lines through another division. The division will normally conduct this passage through another unit to perform an infiltration, exploit tactical success, or serve as a corps counterattack force. The passage of lines is an operation designed to facilitate another tactical operation. The division's task organization must support the primary tactical mission. A passage of lines is characterized by centralized planning and execution.

The division normally uses multiple passage lanes through a defending unit. This technique supports decentralized movement of units and the division's capability to infiltrate and remain undetected. In-place unit assets support the passage.

This section describes a technique for passing a division through another division by using passage lanes. Control measures for this operation are restrictive and hamper maneuver if the enemy attacks. The forward passage of lines places both passing and in-place divisions in danger while both occupy the same terrain. A forward passage should be rapid to minimize this vulnerability.

In Figure 7-6, a mechanized infantry division has conducted an attack that has caused the enemy force to withdraw. The mechanized division has maintained pressure on the enemy and pushed him into restrictive terrain where he has established a hasty defense. Due to the terrain, the corps orders the mechanized division to establish a hasty defense. It orders the infantry division, which is behind the mechanized division, to pass through the mechanized division and attack to clear the enemy in zone through the restrictive terrain. The mechanized division will support the passage and prepare to continue the attack. The infantry division has moved to tactical assembly areas to the rear of the mechanized division. Current intelligence reporting indicates the enemy has reconnaissance elements in contact with the defending mechanized division and expects reinforcing units within 48 hours.

#### **MANEUVER**

Prior to the corps warning order directing the passage, the infantry division was in a TAA. On receipt of the warning order, the division begins coordination and reconnaissance, while division units conduct troop-leading procedures and preparation for movement and combat.

To coordinate the passage, the infantry division collocates its TAC CP with the mechanized division TAC CP. If possible, TAC CPs physically connect to each other to aid in exchange of information. The divisions exchange information on the enemy situation, friendly dispositions, terrain analysis, and fire and obstacle plans. They develop the overall passage plan, including security measures to use during the passage. The TAC CPs also coordinate for infantry brigade TAC CPs to collocate with mechanized brigade CPs.

The infantry division cavalry squadron conducts initial reconnaissance of brigade attack positions behind the mechanized division positions. It conducts reconnaissance of routes from the division assembly area to the attack positions and from attack positions to passage lanes.

The infantry division main CP and maneuver brigades plan and coordinate the overall operation, emphasizing the attack on restrictive terrain. The infantry brigades send teams to link-up points to coordinate with their mechanized brigade counterparts for the passage.

The mechanized division continues to conduct counterreconnaissance operations throughout its defense. These operations should not be significantly increased just prior to the passage, as this may alert the enemy to the passage of lines.

At the corps-directed start point time, the cavalry squadron conducts zone reconnaissance forward of release points and establishes a screen forward of the division. Infantry brigades move from the division assembly area to designated attack positions where they make final preparations for the passage and the attack (Figure 7-7, page 7-12). Mechanized division units clear obstacles and guide the infantry units through the

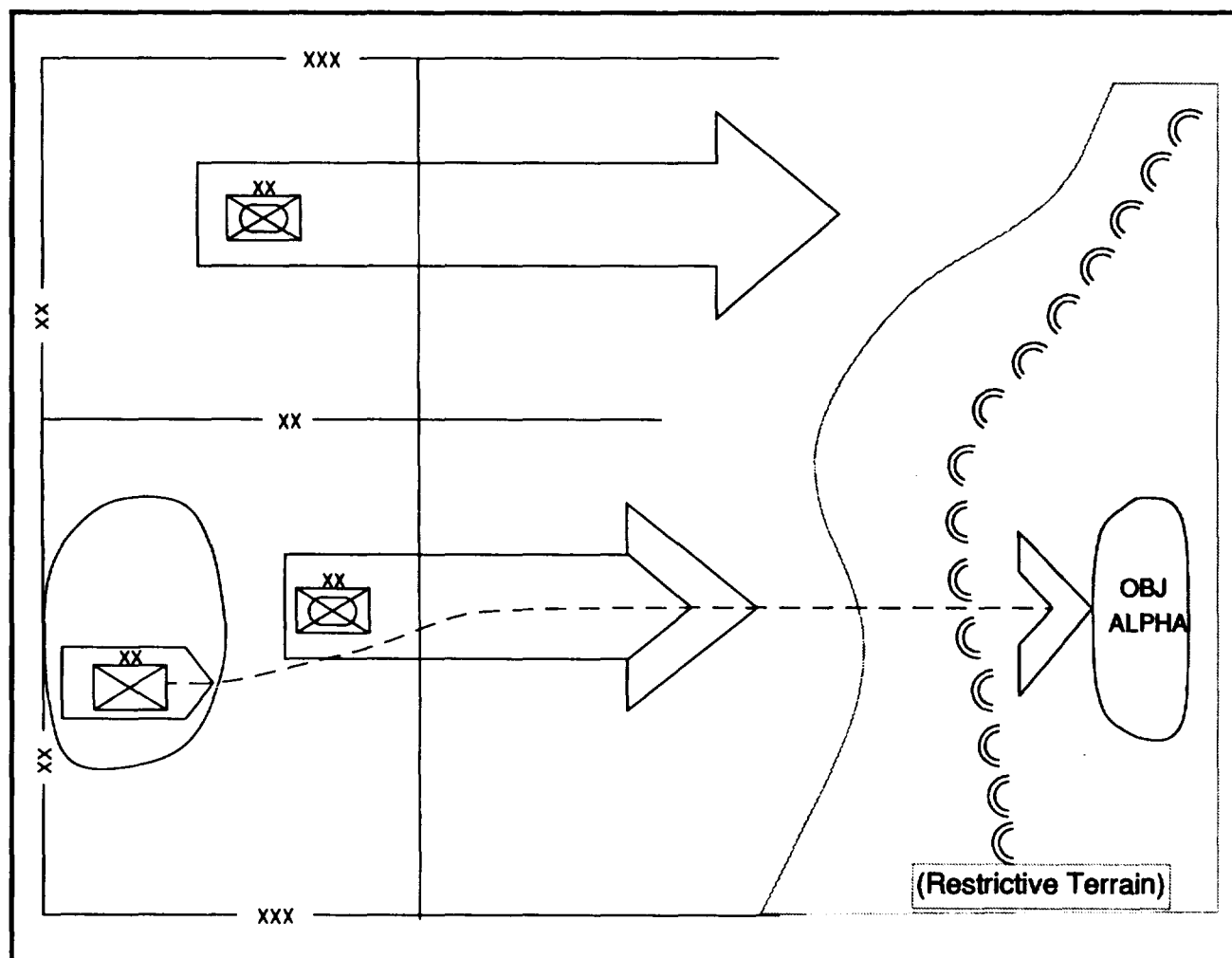


Figure 7-6 Forward passage: corps situation

passage lanes. The brigades move quickly from attack positions, breaking down into smaller units to move through passage lanes, and then continue the offensive operation. The mechanized division maintains the security of passage lanes and continues the defense.

#### INTELLIGENCE

The infantry division receives current intelligence information from the mechanized division, corps, adjacent divisions, and lower units. Both divisions coordinate reconnaissance efforts to target enemy elements in front of the passage area. The infantry division's intelligence assets are task-organized primarily to support the offensive operation following the passage.

#### FIRE SUPPORT

Fire support assets of the in-place division provide fire support until the passing unit is out of range. Prior to the passage of lines, FS elements at both division TAC CPS plan for massed, coordinated fires throughout the AO. Both divisions plan CAS and AI to support the passage and attack. The mechanized division provides radar support. Once the infantry division passes the line of departure, it initiates and clears calls for indirect fire forward of the LD.

#### MOBILITY AND SURVIVABILITY

In-place division engineer assets provide support to prepare and execute the passage. Priority

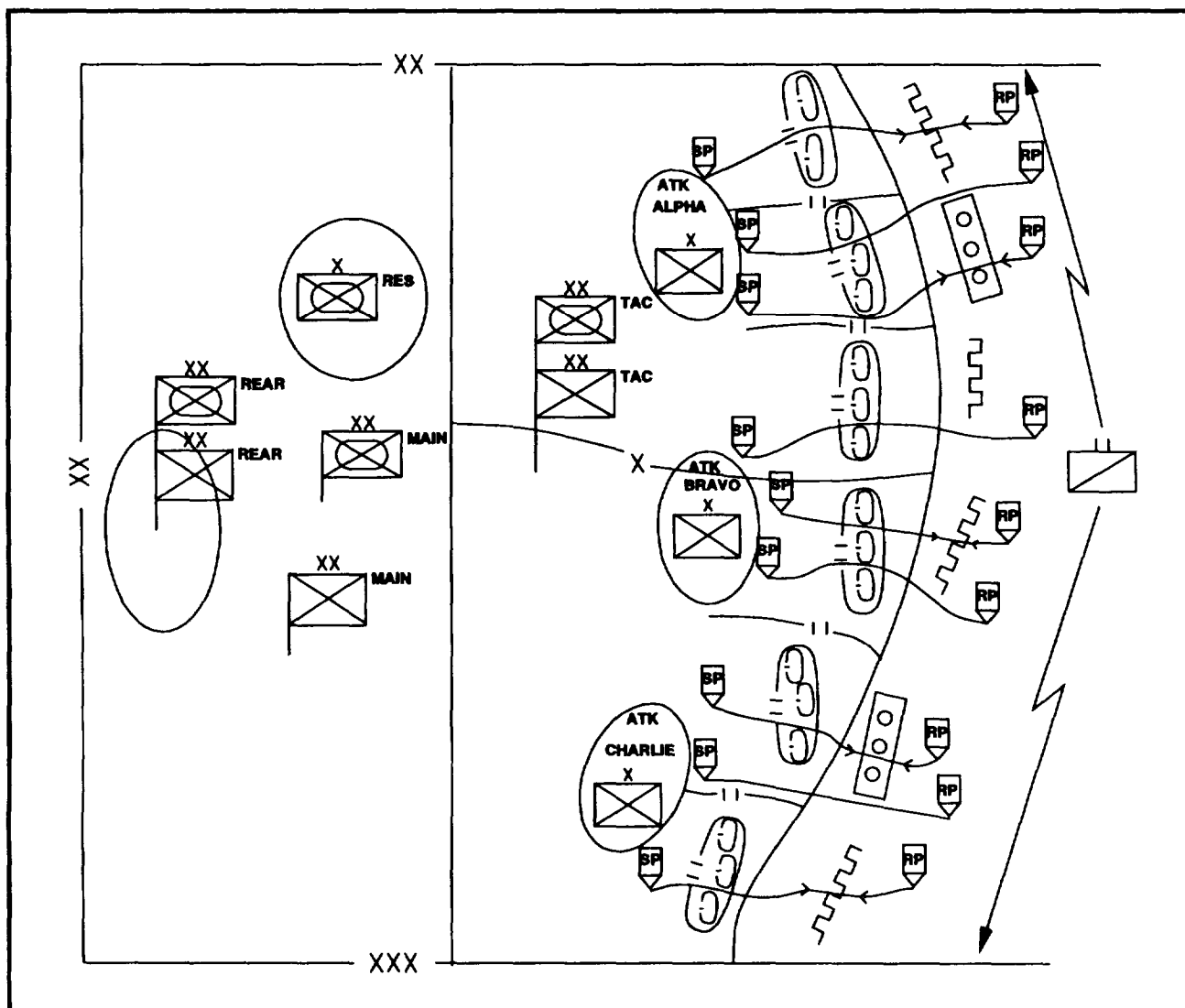


Figure 7-7. Forward passage: maneuver

of effort is mobility of the passing unit through the passage lanes and obstacles. The TAC CPs analyze in-place unit obstacles and barriers for synchronization with the passage plan and to support the attack. In-place division engineers plan FASCAM to protect passing and in-place units from enemy counterattacks.

#### AIR DEFENSE ARTILLERY

The infantry division conducts the passage under mechanized division and corps ADA coverage. The infantry division coordinates ADA coverage with adjacent units. During the passage, ADA assets of the mechanized division provide

area support while passing division ADA assets provide DS to moving units. The ADA priority is to units moving through passage lanes. During movement through the passage lanes, passing unit ADA status is tight, then weapons free at the LD.

#### COMBAT SERVICE SUPPORT

The infantry division's CSS assets locate in the mechanized division's AO as far forward as possible to support both the passage and subsequent attack. The mechanized division assists the infantry division with maintenance areas, water points, and HHS and support facilities.

## COMMAND AND CONTROL

The infantry division TAC CP collocates with the mechanized division TAC CP when the divisions receive the corps warning order. Both divisions coordinate control measures to support the passage of lines. They establish the time for the passage and identify the routes, attack positions, link-up points, and start and release points through the passage lanes. The TAC CPS coordinate call signs, frequencies, and recognition signals to use during the passage. Infantry division units monitor the frequencies of the mechanized division. The mechanized division maintains normal radio communication during the passage, while passing units maintain radio listening silence.

The TAC CPs coordinate the passage of command during the passage of lines. The mechanized division maintains command of its units throughout the passage. If a battle develops during the passage, the mechanized division controls the battle from the collocated TAC CPs. The infantry division TAC CP monitors and controls the division passage of lines. The TAC CP passes through the lines as soon as possible after the maneuver brigades complete their passage and follows the main effort. The infantry division normally assumes control of the zone forward of the LD after its first maneuver battalion and brigade CP clear the passage lanes. The mechanized division supports the infantry division with direct and indirect fires as long as possible.

## Section IV. LINK-UP OPERATIONS

The division plans, coordinates, and synchronizes link-up operations to join other US, allied, and or indigenous forces. Forces may be moving toward each other, or one may be stationary. The division conducts link-up operations—

- To complete encirclement or envelopment of an enemy force.
- To assist in the breakout of an encircled friendly force.
- To join an attacking force with a force inserted in the enemy rear.

A linkup may be part of an offensive or defensive operation.

In Figure 7-8, an infantry division has conducted a supporting attack by infiltration and air assault into the enemy rear. Its mission is to seize key terrain and disrupt enemy C<sup>2</sup> and logistics in support of a corps attack conducted by a mechanized infantry division. The mechanized division has attacked through the enemy defenses and is moving to link up with the infantry division and pass through it. Following linkup, the mechanized infantry division will continue the attack and the infantry division will conduct follow and support operations. The division tactical situation and intelligence reporting indicate that—

- The corps is attacking a depleted enemy force. The enemy is having difficulty maintaining a coherent defense due to the corps' coordinated attack.

- Enemy supporting fires are lessening in intensity and friendly forces have air superiority. The enemy can counterattack with up to a regimental-sized force.

The corps order designates control measures for the linkup. Corps establishes phase lines (PL FAR, PL MIDDLE, PL NEAR, PL CLOSE, and PL AWAY) and fire control measures, including FSCLs and a RFL. The mechanized division establishes CFLs. (See Figure 7-10, page 7-16 and Figure 7-11, page 7-17, for fire control measures.) Corps designates link-up points or units coordinate their link-up points with corps approval. The infantry division, as the stationary force, designates and coordinates primary and alternate link-up points on the boundary where the forces will meet. Link-up points should be on identifiable and defensible terrain which provides escape routes. The corps order also designates the command relationship for linkup. When the mechanized division reaches PL NEAR, it assumes TACON of the infantry division until it has passed PL AWAY.

The two divisions exchange as much information as possible prior to the tactical operation. Representatives meet to coordinate—

- Command relationships before, during, and after the linkup.
- Fire support.

•The implementation of control measures.

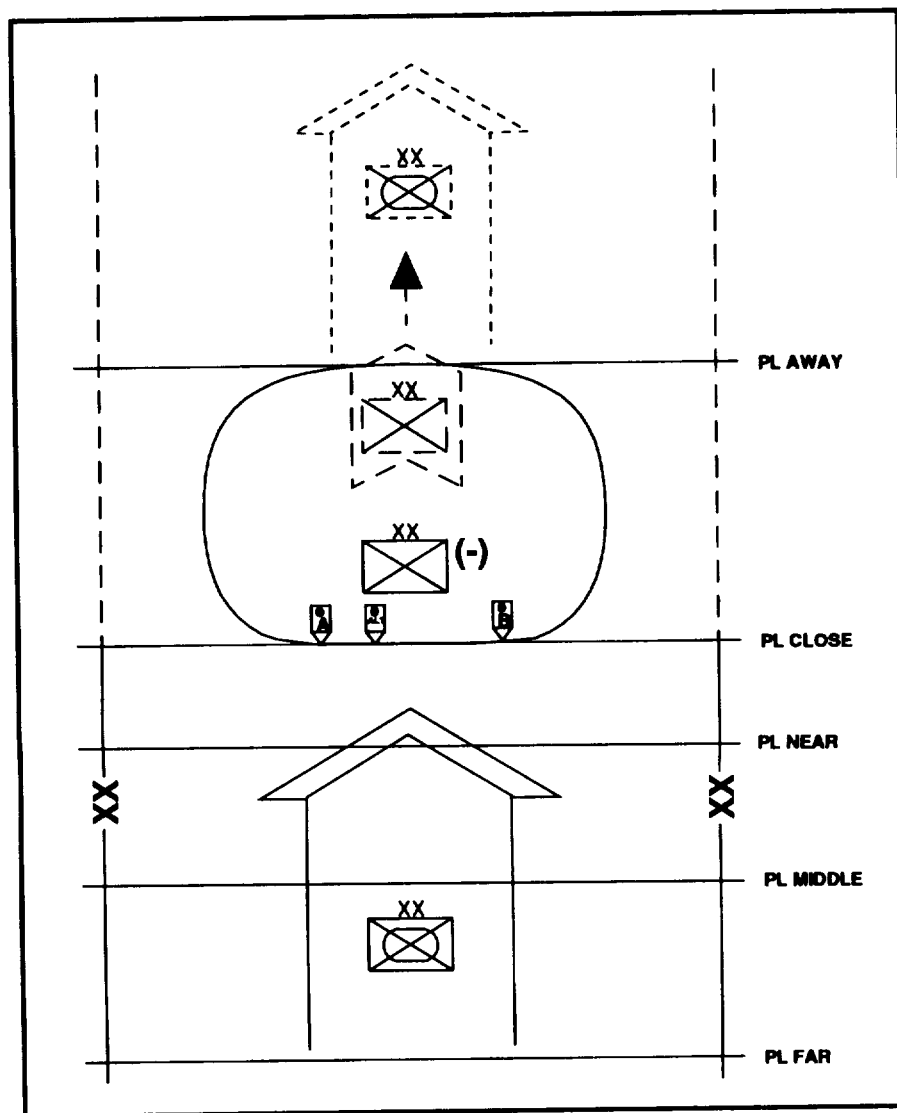


Figure 7-8. Link-up operations: corps situation

- Planned routes to link-up points.
- The location and description of primary and alternate link-up points.
- Recognition signals and communication procedures.
- Exchange of liaison personnel.

#### MANEUVER

The division must coordinate, synchronize, and execute the linkup concurrently with other operations without losing momentum. The division's primary mission is to seize key terrain to

expedite and facilitate the forward passage of the corps main attack. Following linkup, the infantry division passes the mechanized division through its sector and reorients for its follow and support mission behind the advancing mechanized division. The linkup is not the primary mission of either division, but is critical to the overall success of the corps operation.

Prior to the infiltration, the infantry division commander designates one brigade to coordinate and conduct the linkup. The division authorizes the brigade to coordinate directly with the

mechanized division's cavalry squadron, its designated link-up unit. Units should—

- Exchange liaison personnel.
- Coordinate communications.
- Exchange SOIs.

Ž Verify day and night and near and far recognition signals.

Ž Provide their division the specifics of the link-up plans.

- Coordinate fires, intelligence, and obstacles.

As the mechanized division reaches PL MIDDLE (Figure 7-9), its cavalry squadron moves to link-up points and initiates linkup with the infantry brigade.

The infantry brigade expedites the passage of lines by opening lanes or corridors, breaching selected obstacles, and furnishing guides. The mechanized division completes the passage and moves toward the corps objective while the infantry division secures the corps LOC. Both divisions are prepared to conduct a hasty defense at any point throughout linkup, passage, and subsequent operations.

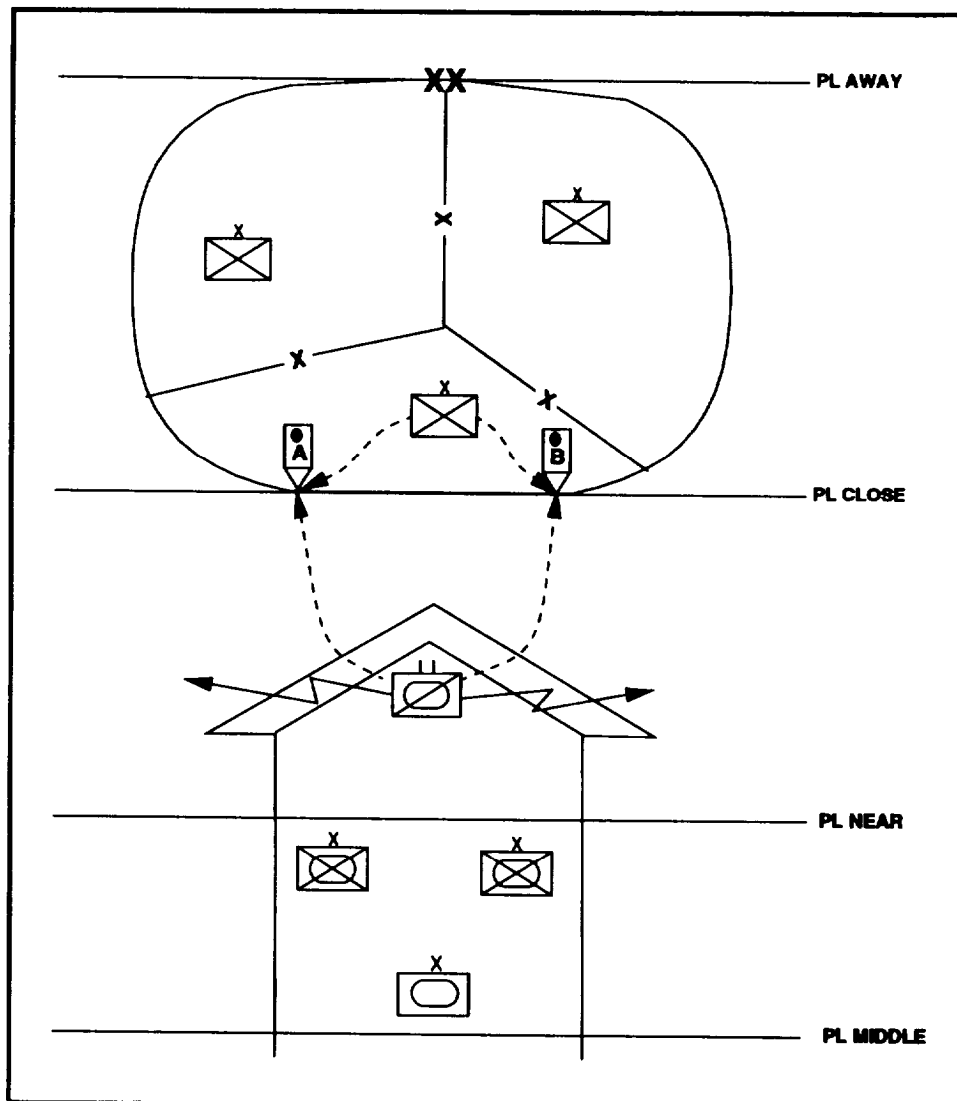


Figure 7-9. Link-up operations: maneuver

### INTELLIGENCE

To support the linkup, the division G2 employs sensors near link-up points to identify enemy movement toward the division's position. Both divisions and corps must closely coordinate EW plans to preclude interference as the mechanized division converges with the infantry division.

### FIRE SUPPORT

Fire support coordination measures are critical to the linkup of converging forces. In this example, as the mechanized division moves closer to the link-up points, both divisions increase positive fire control to avoid firing on each other. The mechanized division establishes an initial coordinated fire line, CFL 1. As it reaches PL FAR, it

terminates CFL 1 and puts CFL 2 into effect. (Figure 7-10.) The mechanized division coordinates the CFLs with the infantry division to control infantry division fires in the direction of the mechanized division.

As the mechanized division reaches PL NEAR, the corps establishes a RFL at the boundary between the two divisions. The mechanized division terminates CFL 2 and establishes CFL 3, which includes both division areas (Figure 7-11).

### MOBILITY AND SURVIVABILITY

The infantry division and its engineers coordinate with the mechanized division before emplacing obstacles between PL CLOSE and the infantry division boundary in case maneuver

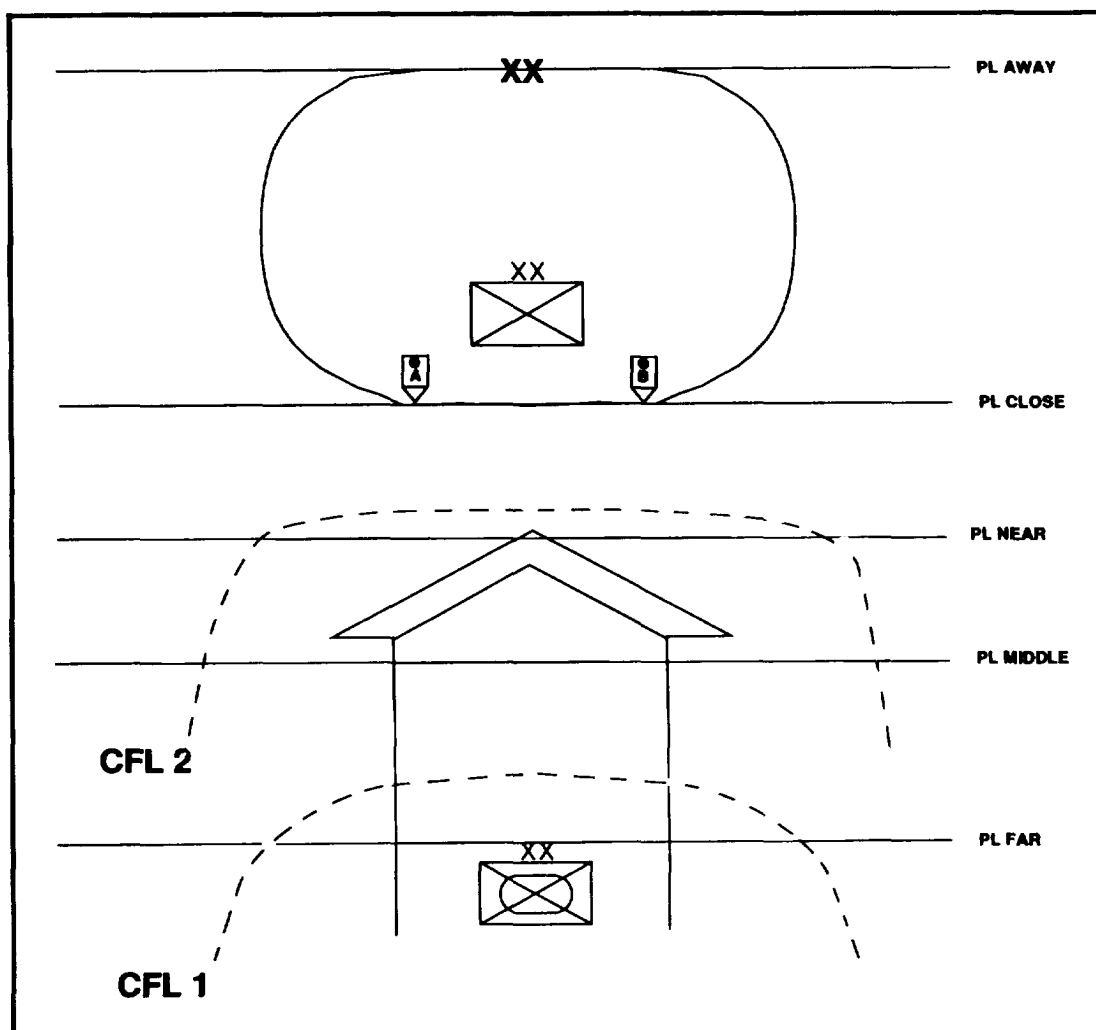


Figure 7-10. Link-up operations: fire support



within this area becomes necessary. Based on METT-T, the division engineer may plan obstacle zones on enemy avenues of approach into the division sector. These obstacle zones include the full spectrum of obstacles to include conventional and scatterable mine systems.

### AIR DEFENSE ARTILLERY

Corps establishes ADA coordination and restrictive fire measures by phase line as the divisions converge. The converging ADA systems must coordinate identification requirements and cover the gap between forces. On linkup, both divisions must coordinate ADA coverage for area protection.

### COMMAND AND CONTROL

The divisions integrate the coordination and planning for the linkup into their planning for the offensive operation. The corps order established the command relationships, control measures, and responsibilities between the link-up units. The mechanized division commander assumes TACON of the infantry division when the mechanized division crosses PL MIDDLE.

Following successful linkup of the converging forces, the link-up operation becomes a passage of lines for the mechanized division. The specifics of this critical operation must be equally well planned to provide for the continuous protection of both forces.

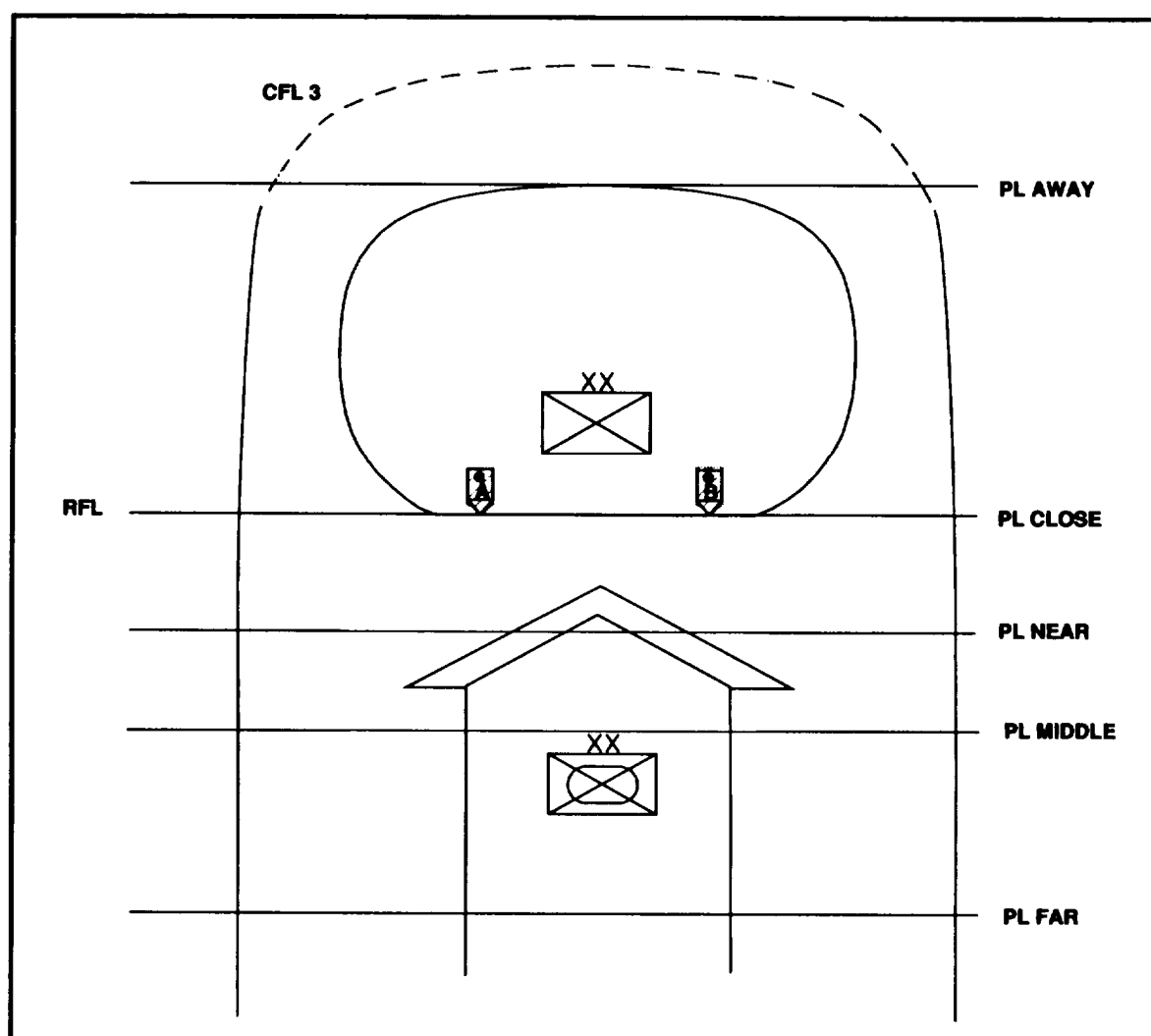


Figure 7-11. Link-up operations fire support (continued)

## Section V. BREAKOUT FROM ENCIRCLEMENT

Due to the nonlinear nature of the modern battlefield, the division may have to fight while encircled. The division may be encircled by design, as in an infiltration, or by circumstances of battle, such as holding key terrain, defending a strongpoint, conducting an attack, or holding the shoulder of friendly or enemy penetrations. Encirclement occurs when the division's ground routes of evacuation and reinforcement are cut off by the enemy.

Combat operations for an encircled division are difficult. The division may respond to encirclement in several ways. First, it can stay in position and defend. It may be able to inflict damage on the enemy, divert an enemy attack, restrict enemy maneuver and logistics support, acquire intelligence, or even capture objectives to support other operations. However, the effect on the enemy may be limited and the division may lose combat effectiveness or be destroyed.

Second, the division can attack to break out of the encirclement and link up with friendly forces. This may allow it to support a corps deception plan, interfere with enemy command and control, or allow it to be used elsewhere. However, the division may link up in a depleted condition and be of no use until it is reconstituted.

Third, the division can exfiltrate by small groups. This is the least preferred option, but it is preferable to capture and may divert the enemy's attention and provide intelligence for higher headquarters.

The division's response to encirclement will depend on the situation and intent of the higher commander. Corps (or the division commander when communications are disrupted) must make an early decision as to the encircled division's mission and objectives.

In the situation depicted in Figure 7-12, the division was defending in restrictive terrain as an economy of force operation for the corps. Enemy maneuver elements have bypassed division defensive positions and pushed back other corps elements. Enemy infantry have cut division ground routes of evacuation and reinforcement. The encirclement contains most division maneuver, CS, and CSS units.

The corps commander has directed the division to conduct a breakout from encirclement and link up with other corps forces. This will keep the division as an intact maneuver unit for future corps operations. The division must plan, organize, and execute a breakout from encirclement with available forces before the enemy has time to analyze intelligence information and react by reinforcing the encirclement and perhaps taking away the breakout option.

Current division tactical situation and intelligence reporting indicate the enemy has employed minimum combat and CS forces to fix the division, indicating he may not know his force has encircled the division. The enemy has allocated insufficient forces to encircle the division completely, and gaps currently exist in the encirclement. Further, they indicate—

- The enemy is moving forces to reinforce his operation. Enemy reconnaissance elements are actively conducting reconnaissance and surveillance operations.
- The division can communicate with higher and lower units. Weather is marginal, but allows use of Air Force and attack helicopter assets.
- The corps will conduct a supporting attack in conjunction with the division breakout.

### MANEUVER

The division commander's concept is for the division to attack as soon as possible by employing a force to infiltrate enemy positions and attack to create a rupture (Figure 7-13, page 7-20). The remainder of the division defends the perimeter during the rupture, then fights a combination delaying action and withdrawal from the perimeter through the rupture (Figure 7-14, page 7-21). The division continues the attack through the enemy to link up with other corps assets.

While planning for the breakout, the division continues to defend on the most defensible terrain, holding the entire perimeter. It may reduce the size of its perimeter to maintain a strong defense; however, it must maintain room for maneuver. The division employs reconnaissance elements to determine enemy strength and weaknesses near the planned breakout point. It conducts counterreconnaissance operations to

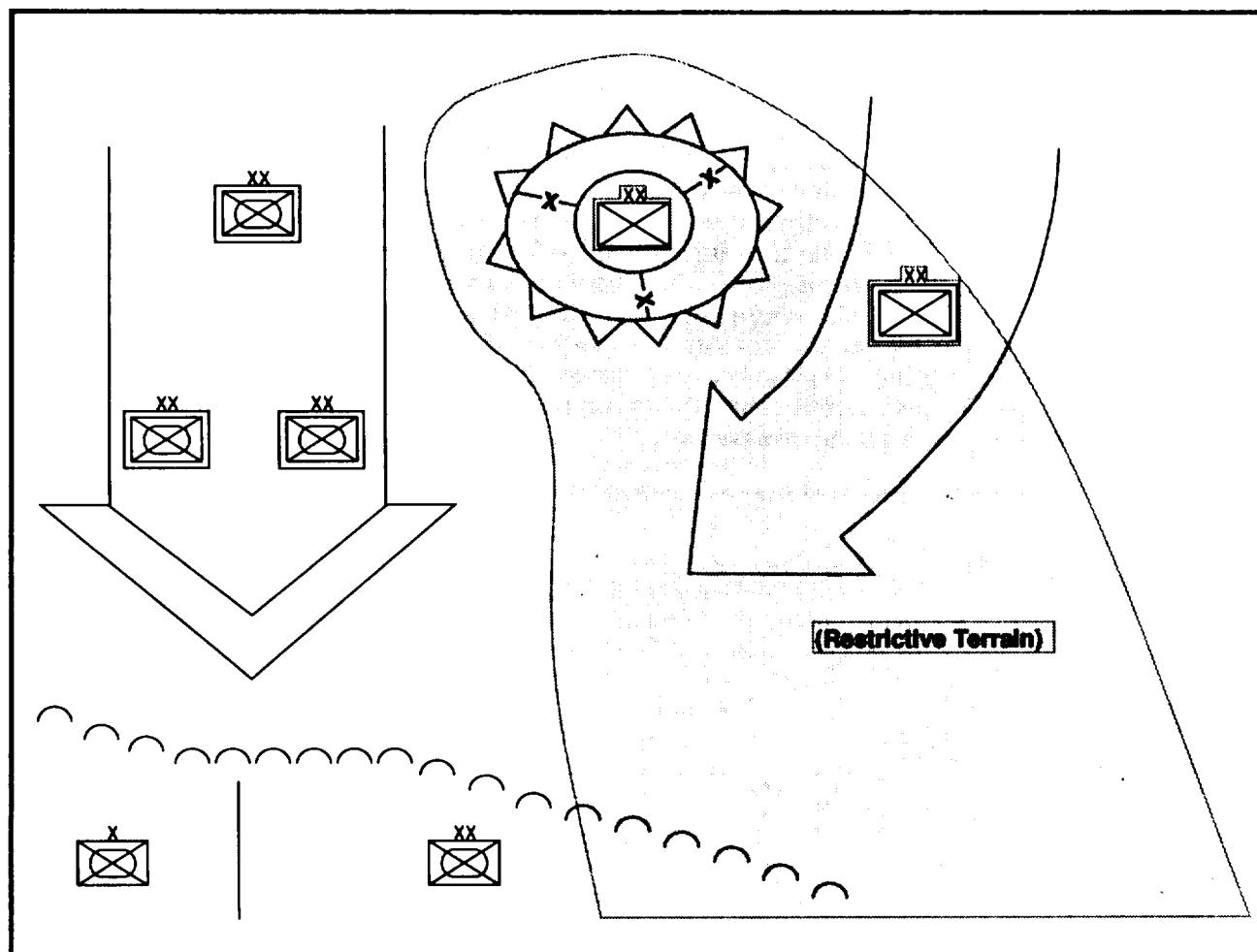


Figure 7-12. Breakout from encirclement: corps concept of the operation

deny the enemy information on friendly breakout plans.

The division selects the rupture location and routes of march that avoid enemy strengths, increasing the chance for surprise. The route selected may not be direct; it may be over less favorable terrain. The division avoids the most obvious route toward friendly lines unless there is no alternative. However, the division may use the most obvious route for a diversionary attack.

The division coordinates with corps for supporting attacks by other available corps forces to support the breakout. Link-up points are coordinated prior to the breakout or during the breakout by lead or security elements. If possible, the aviation brigade is evacuated to the corps rear early. If it is still a viable force, it is used to

support during the breakout and movement to linkup. The division plans for and, if available, employs TACAIR support for the breakout operation. If it has sufficient forces, the division organizes a diversionary attack before the real breakout attempt.

The division uses the task organization shown in Figure 7-15, page 7-21, for the breakout.

### Deep Operations

The division relies primarily on corps artillery and aviation assets to conduct its deep operations. When possible, the division attacks enemy uncommitted forces and rear installations to disrupt enemy operations. The corps must prevent enemy reinforcements from linking up with enemy encircling forces or attacking into the flanks of the division as it breaks out.

### Close Operations

A rupture force, a two-battalion infantry brigade, infiltrates enemy defenses. It attacks enemy positions, creating and widening a gap, and holds the shoulders of the gap until all encircled forces have moved through. An assault force follows the rupture force and moves through the gap to continue the attack to the link-up point. The main body, comprising the remaining combat forces, CP elements, and CS and CSS elements, follows the assault force. The rear guard provides security, following and protecting the main body. The division must mass overwhelming combat power to generate momentum at the breakout

point. It takes risks on other parts of its perimeter to ensure success of the breakout. If the division does not maintain the momentum of the breakout attack, it will be more vulnerable to destruction than before.

Breakout forces use all routes available. The breakout plan should exploit darkness and limited visibility, if possible. However, the division should not wait for conditions of reduced visibility if this allows the enemy to consolidate or reinforce the containment. If available, smoke from the corps chemical company conceals the breakout operation, or supports a deception plan.

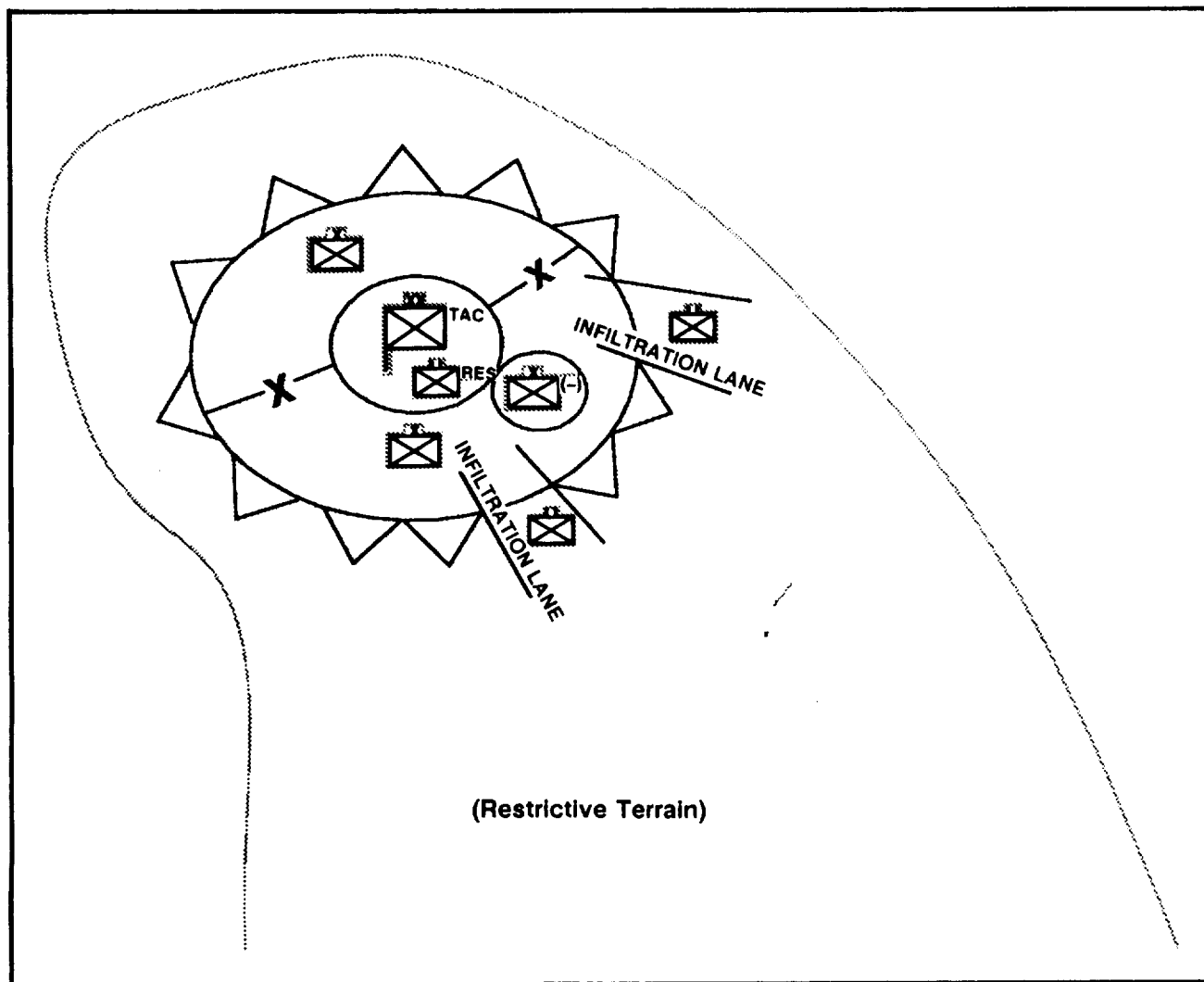


Figure 7-13. Breakout from encirclement: maneuver

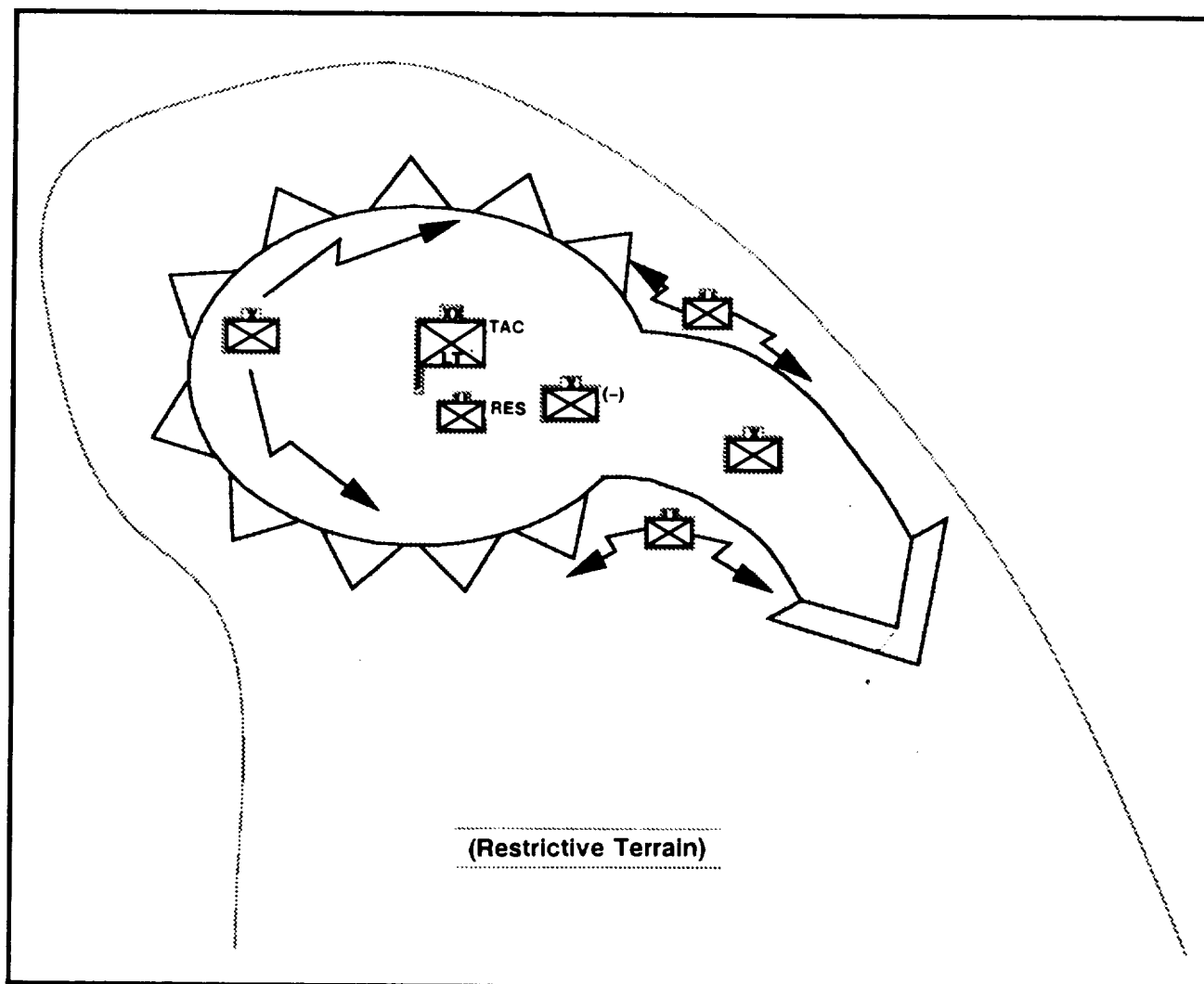


Figure 7-14. Breakout from encirclement: maneuver (continued)

### Rear Operations

The division's CS and CSS elements that did not evacuate earlier are integrated throughout the main body for protection during the movement.

### Security Operations

Main body elements provide flank security. The rear guard must fight a vigorous delaying action on the perimeter to ensure no part of the division is cut off. The rear guard disengages from the defense and passes through the rupture. The rupture force secures the penetration until passage of the rear guard. Then it disengages and assumes the rear guard mission.

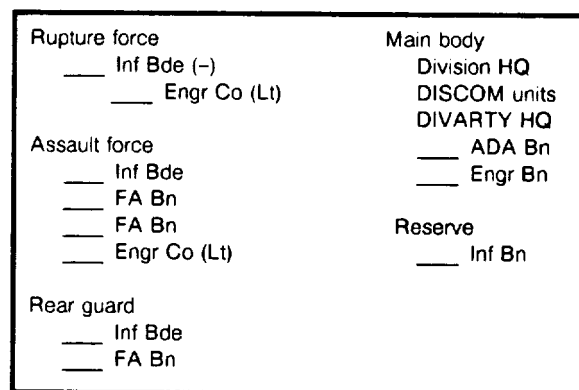


Figure 7-15. Breakout from encirclement task organization

### **Reserve Operations**

The division designates an infantry battalion as reserve for the breakout. The reserve is initially in the center of the encirclement to react quickly to a penetration at any point in the perimeter. It then moves with the main body through the rupture.

### **INTELLIGENCE**

The G2 selects break-out points that exploit gaps or weaknesses in the enemy encirclement. The G2 employs all available intelligence assets to obtain current information on enemy strengths, dispositions, and intentions around the division and especially between the encircled division and friendly forces. The G2 determines potential break-out points based on both terrain and weaknesses in the enemy encirclement. Long-range surveillance teams infiltrate to specified NAIs before the breakout to expedite operations. All encircled units conduct counter-reconnaissance to mask friendly intentions and actions.

### **FIRE SUPPORT**

Fire support assets must react to rapidly changing conditions in the encirclement. They must support the defense, breakout, rear guard operations, and movement to link up. The division brings all artillery within the encirclement under centralized control. Field artillery battalions may continue to provide support to brigades, but must be responsive to division requirements. The division establishes on-order missions to maximize firepower at critical times. The division establishes fire support execution matrixes for key events such as breakout and disengagement fires.

In the initial defense, the division positions artillery to allow rapid shifts of fire and direct support for large parts of the defensive perimeter without displacing to new positions. Artillery is distributed throughout the encirclement to limit its vulnerability to counterfires.

During the breakout, the division employs massed, continuous fires to open the rupture point, suppress enemy direct fire systems, and isolate the breakout from the enemy. Once

the rupture is achieved, priority of fires may shift to the rear guard action if sufficient fires are available to support the momentum of the breakout. Field artillery assets provide continuous fire support to each breakout force during the breakout and subsequent movement to link up with friendly forces.

The division coordinates fire support from outside the encirclement. It establishes a RFL around the encircled forces and then a series of CFLs as it moves toward linkup. The division coordinates offensive nonlethal EW to disrupt enemy communications during the breakout. The division plans disengagement fires for the rear guard; TACAIR support and Army aviation assets support the disengagement.

### **MOBILITY AND SURVIVABILITY**

The priority of engineer work is mobility, then countermobility. Engineer assets focus their efforts on breaching operations. The division engineer plans situational obstacle zones to support the operation. Engineers are task-organized as obstacle breaching teams under the control of maneuver units. Engineers support the rear guard by emplacing obstacles as the defensive perimeter is reduced. Engineers with the rear guard close obstacles.

### **AIR DEFENSE ARTILLERY**

Divisional ADA elements protect key assets according to priorities developed by the ADA commander and G3 and approved by the division commander. Priorities for breakout include fire support assets and aviation support areas. Within these specific priorities, an ADA battery provides direct support to the rupture force. A gun platoon and a Stinger section provide direct support to the rear guard. The ADA employment plan complements SEAD operations in support of the breakout.

### **COMBAT SERVICE SUPPORT**

As soon as encirclement by the enemy appears inevitable, the division uses open LOCs to evacuate casualties and all nonessential staff, combat support, and combat service support personnel and equipment. The division places

organic and supporting encircled CSS assets under centralized control. When required, elements of CS and CSS units can increase the strength of the division's fighting units.

Division dead that cannot be evacuated before encirclement are buried in hasty, properly marked graves. Wounded soldiers have priority on transportation assets. If they cannot be moved, critically wounded soldiers are left behind with limited medical personnel, supplies, and equipment.

The division breaks out with only those items of equipment and supplies that are essential to the mission and that it can transport on available vehicles. Units destroy all weapons and equipment (less medical) that cannot be fully manned or supported.

Military police enforce traffic control within the defensive perimeter to ensure order and discipline, and prevent panic. Strict rationing and supply economy conserve limited resources and combat power. The division distributes class III and V supplies weighted to the priority of effort. CSS assets are integrated into the main body for movement.

### COMMAND AND CONTROL

The commander directs subordinate commanders to reestablish or reinforce the chain of

command as necessary before the breakout operation and to reorganize to form tactically strong units. If possible, the division coordinates before the breakout for linkup and passage through friendly elements. It maintains liaison and coordination with higher and lower headquarters. The division establishes control measures (phase lines) to control movement and hand over rear guard responsibilities to the rupture force.

The TAC CP is positioned behind the assault forces. Remaining elements of the rear and main CPs collocate within the main body.

The commander must recognize the importance of morale and the potential for despair by encircled soldiers. Soldiers must have trust in the competence of their leadership. The commander should—

• Disseminate information quickly throughout the command.

- Ensure command presence at decisive points.

- Ensure that an effective casualty evacuation system is in place.

Encircled forces will likely suffer significant casualties and loss of equipment while encircled, during breakout, and during movement toward friendly forces. Detailed planning and swift, violent execution can minimize these losses.

## Section VI. INFILTRATION

Infiltration is the “jewel in the crown” of infantry operations. It includes the most demanding of tasks and requires expert terrain skills, teamwork, and discipline. Fire support and control in an infiltration is extremely complex and difficult.

It is highly unlikely that an infantry brigade can infiltrate a structured defense (for example, a reconnaissance and security zone with multiple defensive belts) and hide itself over several nights. The norm is to infiltrate one night and attack targets the next day or night.

Infiltrations cannot be done on too large a scale. The largest infiltration unit should be brigade (rarely occurs); the smallest, a platoon; optimum may be a company.

Infiltration can be a valuable offensive capability in support of tactical operations. Infiltra-

tion can be employed in support of deception, guerrilla tactics, and intelligence collection, or to posture a unit for an attack.

Infiltration moves forces through an enemy-held area to a position of advantage in the enemy's rear. From there, the force uses other forms of maneuver to attack its assigned objective.

Infiltration differs from a penetration. In the penetration, maximum combat power is exerted to pass through an enemy defense. In an infiltration, infiltrating units seek to avoid enemy defenses and pass through gaps in the defense. Units are then postured to attack LOCs, support units, installations, or other objectives in the rear of the forward defense areas, or to seize key terrain to facilitate other operations.

They may also infiltrate to conduct raids, block or control key communications nets, destroy bridges, effect barriers, harass enemy logistics operations, conduct feints or demonstrations for deception, or engage in any of a number of intelligence collection activities. Infiltrating forces may be used to provide accurate target information or an eyes-on targeting capability.

### **PHASES**

The division normally conducts infiltrations in three phases. First, aggressive patrolling is used to find gaps in the enemy's forward defense. The second phase is the actual infiltration through the enemy's forward defensive areas. Phase three is assembly in attack positions in the enemy's rear.

Characteristics of terrain and nature of the conflict influence the use of infiltration. Infiltration maybe favored when—

- Enemy maneuver forces are dispersed. Dispersion allows passage of the infiltrating force through the resulting gaps.

ŽThe enemy cannot easily mass against the infiltrating force without endangering his own forces.

- Seizure or neutralization of objectives in the enemy's rear is critical.

ŽTerrain provides infiltrating forces relative protection from detection and destruction.

### **PREREQUISITES FOR SUCCESSFUL OPERATIONS**

#### **Planning**

The first prerequisite to a successful infiltration mission is a detailed plan based on mission analysis and estimates of the situation. Infiltration has the best chance for success when enemy defenses are overextended. The commander and staff select objectives and routes based on terrain analysis, enemy dispositions, and need to avoid engagement before reaching attack positions. Best results may be achieved when infiltrating forces attack simultaneously with or soon after other attacking forces.

#### **Initiative**

Successful infiltrations are characterized by boldness and initiative. This does not equate to

recklessness. Individual and small-unit resourcefulness and ingenuity are required to prevent enemy detection.

### **Tactical Movement Proficiency**

Proficiency in tactical movement is a requirement for successful infiltration. It provides the ability to find routes which permit the force to bypass enemy positions. The key to success is to locate gaps in the enemy surveillance capability.

### **Physical Conditioning**

During the infiltration, the infiltrating force must carry its own logistics support. The requirement to carry several days' supplies plus fighting equipment means soldiers must be physically tough to carry heavy loads over long distances and difficult terrain. Ammunition and class I are the primary items of soldier load during infiltrations. The individual soldier's combat load must be reduced to a minimum. Ponchos and liners or insulated tops and bottoms may be sufficient to ward off the effects of the environment for the time of the infiltration.

### **Security**

Successful infiltration operations are best accomplished during periods of limited visibility. If the enemy has electronic detection devices, electronic countermeasures must be used to neutralize this detection capability.

Patrols can provide security during the infiltration and may prevent enemy reconnaissance from determining the size of the infiltration and its objectives. Supporting artillery fires can be used to target known enemy locations and to mask the movement of infiltrating forces.

### **Time**

Infiltrations in strength or to deep objectives must be allocated sufficient time to accomplish movement. This is critical when the infiltration is synchronized with another attack.

### **Size**

The size of the infiltrating force is METT-T dependent. Infiltrations are normally accomplished by platoons, and companies. Once gaps in enemy defensive positions are located by patrolling units, these locations can be pinpointed with



the GPS. This can allow infiltration by larger units by using way points programmed into the GPS. The largest force to infiltrate is a brigade.

### Mobility

Infiltration is not limited to movements on foot. In some situations, the infiltrating force may include light vehicles and some armored vehicles. When possible, the inclusion of transportation can enhance combat power by providing additional fire support, long-range communications, and increased ammunition support. Army aviation can provide target acquisition fire support,

and fire direction. Army aviation also may be used in logistics support missions to permit a greater range of operations for the infiltrating forces and to evacuate casualties.

### CONTROL MEASURES

The primary means for controlling an infiltration (while maintaining the flexibility to react to unforeseen situations) are tactical control measures and SOPs. Control measures for an infiltrating force must be simple. A discussion of infiltration control measures follows. (Also see Figure 7-16.)

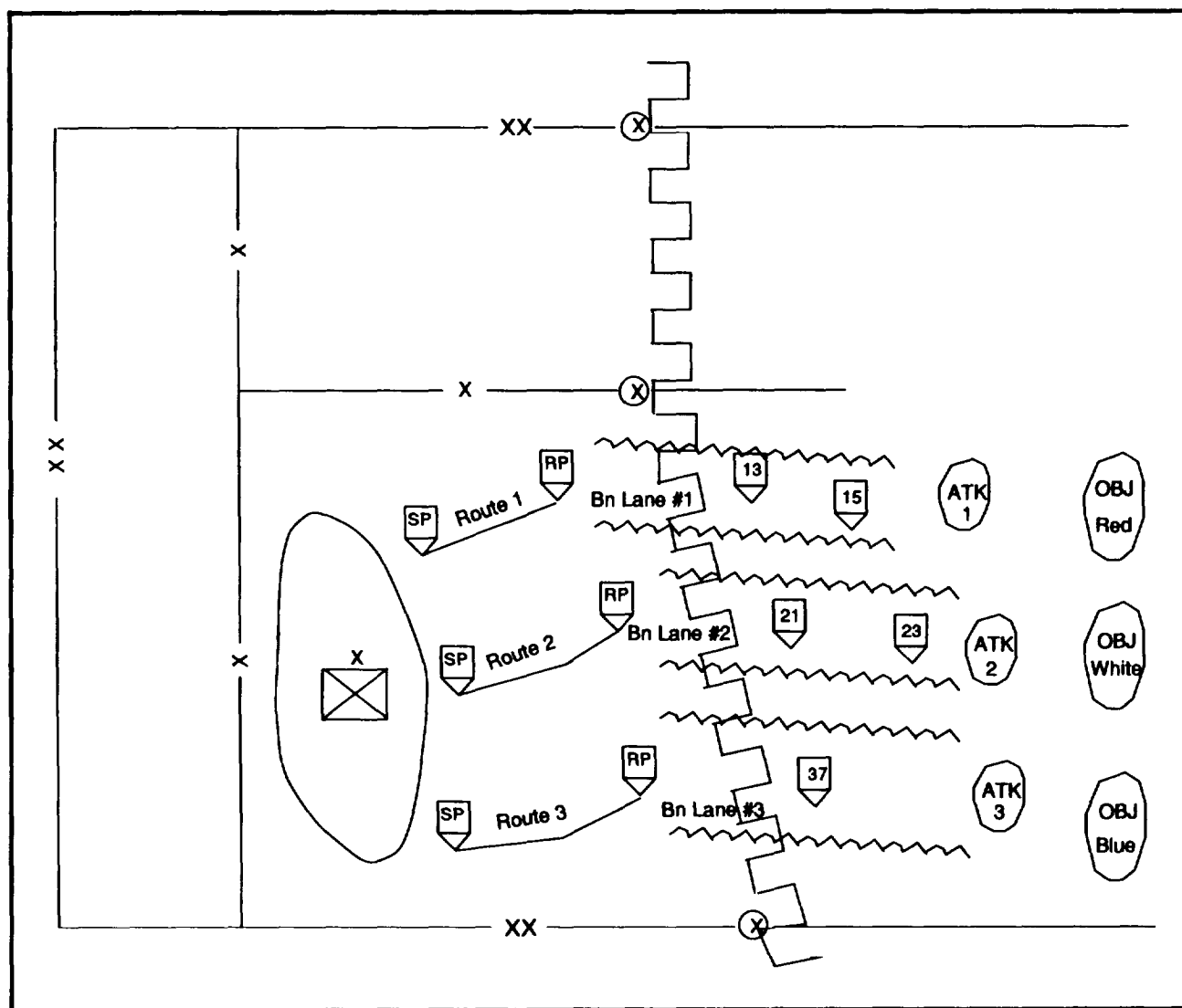


Figure 7-16. Infiltration: control measures

*The rear assembly area* is located in a hidden or concealed position to the rear of the FEBA. It must be close to the lanes to be used for the forward passage of lines through friendly forces.

*Forward passage lanes* must be as close to the rear assembly areas as the tactical situation permits. The distance between the assembly areas and passage lane will impact on the available time the infiltrating unit has to coordinate with the stationary unit and conduct reconnaissance of the passage and infiltration lanes, and on unit movement time.

An *attack position* or positions should be as close as possible to the objective without compromising security. An attack position must be large enough for the force to deploy and provide a covered and concealed position for infiltrating units to converge. It should be reconnoitered and secured before occupation. The position also can be used to make final adjustments prior to the attack. Link-up points are designated short of the attack position to facilitate its security and movement of elements from the infiltration lanes.

*Hide positions* are designated along the infiltration lanes for operations longer than one day. Infiltrating forces use these hide positions during the daylight hours to remain hidden from the enemy. Hide positions must provide covered and concealed locations which hide and disperse the force until movement resumes.

*Checkpoints* are probably the most critical control measure for an infiltration operation. They provide quick and easy reference to a present or future location.

*Infiltration lanes or routes to the attack position* are used to transition from forward passage of lines to movement to the attack position. They must be reconnoitered prior to movement by infiltrating forces. They contain a start point, RP, TRPs, rest (or hide) areas, and checkpoints. They are selected to avoid the enemy, provide cover and concealment, and avoid predictable routes which lend themselves to enemy ambush. The number of lanes required depends on the size of the infiltrating force, the time required, the availability of covered and concealed routes, and the nature of terrain.

*Rally points* are designated along each infiltration route by the infiltrating unit. They allow the dispersed infiltrating forces to rapidly regroup in response to unforeseen enemy contact and continue movement to the attack position. They should be easily identifiable and provide cover and concealment.

*Axis of attack* provides a general orientation to the objective for forces attacking from the attack position.

The *objective* is the main focus of the infiltration operation. It may be a fixed site on the ground or a moving unit.

*Boundaries* may be established by higher headquarters. They give the infiltrating units a specified AO for which they are responsible within the parameters of the operation.

*Restrictive fire areas* restrict friendly fires in enemy territory occupied by infiltrating forces. They are primarily established for attack positions, rest positions along infiltration routes, and at critical mission support locations.

### **SYNCHRONIZATION OF BOS**

Coordination, integration, and synchronization of the BOS for an infiltration operation is much the same as for any other type of offensive or defensive operation. Infiltrating forces normally move through defending friendly units. Detailed coordination is required to execute a passage of lines through a defending unit. Careful consideration must be given to measures to deconflict and control fire support and movement through the defending units' counter-reconnaissance forces. Rarely will an entire division infiltrate. This would require infiltration over an extremely wide front. If the enemy is disposed in such a manner as to allow a division-sized infiltration, it is unlikely that an infiltration would be required at all. A deliberate attack or, if required, an air assault into the enemy's rear may be more appropriate.

Command and control of infiltrating forces is a difficult challenge. Simplicity is the ingredient for success. Infiltration operations are centrally planned and decentrally executed. Procedures for effective command and control must be established early—not only in the OPORD, but in the division's TSOP.

The division CP best suited to monitor and control infiltrating units is the TAC CP. Infiltrating units are committed to close operations and are under the control of the TAC. The TAC CP will normally locate well forward to monitor and support tactical requirements of infiltrating forces. The brigade executing the infiltration, or controlling subordinate infiltrating units, report to the TAC. The division main CP continues coordination and synchronization of future operations. It also provides required support for infiltrating forces.

### **Intelligence**

Intelligence operations to support an infiltration require extensive, early efforts to locate and assess enemy capabilities along infiltration lanes and on objectives, and his potential reaction once the infiltration terminates and the attack begins. This initial IPB is critical; it establishes the ground work for the tactical concept of operations.

Information from intelligence reports, reconnaissance and patrol reports, weather and light data, and aerial photographs is used to determine infiltration lanes, locations of rally and contact points, enemy security elements, gaps in the enemy's defense, and strength of enemy defenses on the objective.

During the infiltration, divisional intelligence assets (and those of in-place units and higher headquarters) develop and maintain as accurate a picture as possible of the enemy and his activities. This effort must determine if the enemy has discovered the infiltration operation and, if so, what his reaction will be.

Electronic warfare assets are used to disrupt the enemy's C<sup>2</sup> system and prevent him from effectively countering the infiltration. Their use must be coordinated with defending friendly units to preclude disruption of their C<sup>2</sup>. All intelligence information to and from infiltrating units is through the G2 cell at the TAC CP.

### **Fire Support**

Fire support must be available to infiltrating forces throughout the operation. Brigade-sized infiltrations will normally have at least one DS FA battalion. DS artillery must be well-forward to

support both the infiltration and attack on the objective. Additional FA units should be placed in a reinforcing role to DS units during the infiltration, especially the longer-range 155-millimeter self-propelled howitzers of the corps artillery FA brigades.

The division should use MLRS only to support the attack and defend against any counterattacking forces during the infiltration or during reorganization on the objective.

Counterfire radar is positioned to support the infiltrating force. Fire support can support deception efforts by firing false preparations and programs into other areas of the battlefield. Close air support assets are allocated for the infiltrating force but used only in the attack or on early detection.

### **Air Defense**

During the initial phases of the infiltration, corps and defending units provide AD for the infiltration. Since small infiltrating units normally do not present lucrative air attack targets, the threat of attack from the air is minimized. Depending on the threat, MANPAD assets may be needed with the infiltrating force. Other divisional AD assets are left behind but must be prepared to move forward to link up with infiltrating forces on the objective, as the situation permits.

### **Mobility and Survivability**

Infiltrating forces will have limited mobility, countermobility, and survivability assets. These are normally limited to light engineers task-organized in infiltrating units. They can conduct limited breaching of enemy obstacles during the attack on the objective. Bangalore torpedo sections, limited demolitions, and a limited number of antitank mines are all they can realistically carry on the infiltration. The factors of METT-T are the primary decision source in this instance. The primary concern when task organizing maneuver elements with engineers is the engineer requirements during the attack on the enemy position. Considerations will normally focus on the covert or assault breaching requirements for the force, and then on any hasty defensive preparations required once the objective is secured.

### Combat Service Support

Combat service support assets do not accompany infiltrating units but must be prepared to follow attacking forces which link up with the infiltrating force to support consolidation, reorganization, resupply, and medical evacuation. Depending on the tactical situation, it may be

possible to provide limited aerial resupply and medical evacuation to the force during the infiltration. However, since medical evacuation will be difficult and could compromise the infiltration, combat lifesavers and unit medics are critical. Infiltrating units must develop a detailed health service support plan which ensures a combat lifesaver or medic is with each infiltrating unit.

## Section VII. AIR ASSAULT OPERATIONS

FM 90-4 is the Army's basic doctrine for air assault operations. Air assault operations are those in which assault forces (combat, CS, and CSS) maneuver on the battlefield via helicopter under the control of the ground or air maneuver commander to engage and destroy enemy forces or seize or hold key terrain. Air assault operations are deliberate, precisely planned, and vigorously executed. During air assault operations, the supporting aviation elements are task-organized with other members of the combined arms team to engage enemy forces.

The infantry division may routinely integrate army aviation and infantry units with other members of the combined arms team to conduct air assault operations. Air assaults enable the division to form powerful and flexible task forces to project combat power throughout the depth and width of the division's AOs without regard to terrain barriers. The commander must determine if the payoff for conducting the air assault is worth the pain the division may suffer as a result.

Prior to deciding to conduct an air assault operation, the division commander must carefully consider many factors. As a minimum, he must consider time, assets, and impact.

Is there sufficient *time* remaining to properly plan, coordinate, and synchronize such a complex operation? An air assault operation cannot be hastily conceived and coordinated.

Are there sufficient *assets* available, either from internal and external assets, to properly conduct the air assault? Piecemealing of forces into an air assault operation is dangerous.

What is the *impact* of air assault operations on the division's capability after the air assault has been completed? Normally, aircraft assets

will have to be borrowed from other missions to properly conduct the air assault. The impact of an air assault operation on crew rest, helicopter maintenance, and logistics resupply can be detrimental to the overall division battle.

Air assault operations are different in concept and executions from airmobile operations. Airmobile operations are those operations involving the use of Army airlift assets for other than air assaults. Airmobile operations are conducted to move troops and equipment, or transport ammunition, fuel, and supplies. During airmobile operations, aviation units are released to return to their parent units when an airlift is completed.

### COMMAND AND CONTROL

Command and control in an air assault is basically the same as for other types of tactical operations. The air assault is planned and coordinated in the main CP. Rarely will the division conduct an air assault to support a deep operation. Distance, linkup, and logistics support make deep operations impractical for air assault operations. The TAC CP controls the air assault when it supports close operations; rear CP controls the assault in support of rear operations.

Air assault operations differ from other tactical operations in the designation of key personnel and their planning and command responsibilities. The following paragraphs describe key terms and vocabulary relating to air assault operations.

An *air assault task force* (AATF) accomplishes air assault operations. The AATF is a group of integrated forces tailored to a specific mission and under the command of a single headquarters.

The air assault *task force commander* (AATFC) designated by the ground or air maneuver commander, commands the AATF. The

AATFC may combine infantry brigades, battalions, or companies with aviation assets singly or in multiples.

The *air mission commander* (AMC) commands and controls all aviation elements and advises the AATFC on aviation-related matters on a specified mission or operation. The AMC is subordinate to the AATFC. He serves as a technical advisor throughout the conduct of air assault missions.

The *ground tactical commander* (GTC) commands and controls the assaulting elements prior to pickup at the PZ and after insertion into the LZ. If the GTC is not the AATFC, he is subordinate to the AATFC.

When the division conducts an air assault operation with one or more units (brigades, battalions, or companies) under division control, the division commander is designated as the AATFC. The aviation brigade commander serves as the AMC and the infantry brigade, battalion, or company commander serves as the GTC. In a company-level air assault, the battalion commander serves as the AATFC while the AMC will be the assault aviation company commander, and the rifle company commander will serve as the GTC.

## OPERATIONAL PLANNING

An air assault task force is normally a highly tailored force designed to hit fast and hard. It is best employed in situations that provide a calculated advantage due to surprise, terrain, threat, or mobility. Some basic air assault planning guidelines are—

- Assign missions that take advantage of the air assault task force's mobility.
- Do not employ in force roles requiring deliberate operations over an extended period of time.
- Always task organize the air assault force as a combined arms team.
- Allow extra time for planning and preparing for night and adverse weather air assaults.
- Maintain unit integrity throughout air assault planning to ensure fighting unit integrity on landing.

- Plan and posture fire support to provide suppressive fires along flight routes and on LZs, and to suppress enemy air defense systems.

## Planning Steps

Five separate but integrated plans are required to conduct an air assault operation. The ground tactical plan is the first and dictates the content of all others. These plans are developed *in reverse order of execution*, (Figure 7-17, page 7-30.) The normal sequence of air assault planning is—

1. Develop ground tactical plan (GTC).
2. Develop landing plan (AMC).
3. Develop air movement plan (AMC).
4. Develop aircraft loading plan (GTC).
5. Develop staging plan (GTC).

## Ground Tactical Plan

The foundation of a successful air assault operation is the commander's ground tactical plan around which subsequent planning is based. The AATF staff prepares the ground tactical plan (with input from all task force elements). All aircrews must be familiar with the ground tactical plan and the ground commander's intent.

The ground tactical plan for an air assault operation comprises essentially the same elements as any other infantry attack but differs in the requirements for speed and mobility. Assault units are placed on or near the objective and organized so as to be capable of immediate seizure of objectives and rapid consolidation. If adequate combat power cannot be introduced quickly into the objective area, then the air assault force must land away from the objective and build up combat power. The air assault force then assaults like any other infantry unit and the effectiveness of the air assault operation is diminished. The scheme of maneuver may assume a variety of possibilities depending on the situation and METT-T.

Following are considerations for the ground tactical plan supported by an air assault operation. General considerations include—

- Choose appropriate assault objectives.
- Designate LZs available for use. Consider distance from LZs to the objectives.

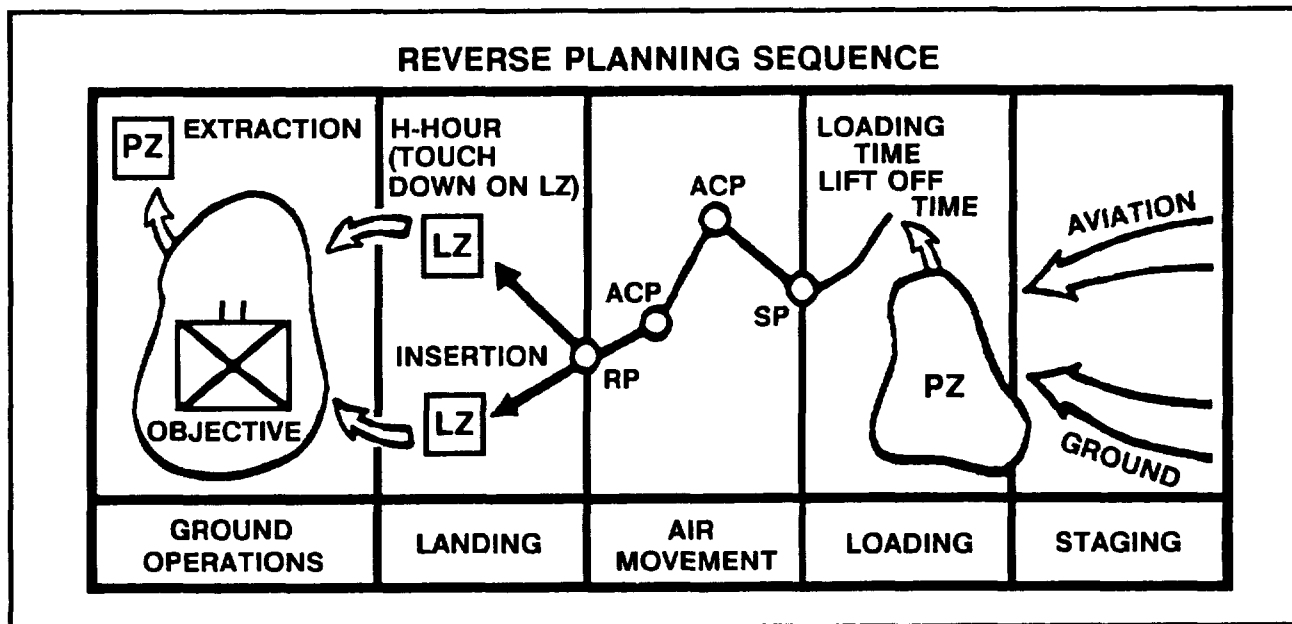


Figure 7-17. Air assault operations: planning sequence

- Establish D-Day and H-Hour (time of assault).
- Identify special tasks required to accomplish mission.
- Identify means to accomplish the mission: organic troops, aviation resources, engineers, signal, MEDEVAC.

Fire support considerations include—

- Close TACAIR support.
- Field artillery within range (rocket, missile, cannon).
- Other indirect fire weapons (mortar, naval gunfire).
- Preparation fires for LZs (signals for lifting and shifting).
- Flight corridors.
- Air defense suppression (ground/air, air/air, ground/ground).
- Control measures needed.
- Subsequent operations (defense, link-up, withdrawal) that may be conducted.

Intelligence considerations include—

- Enemy locations to include air defense positions and type.

- Ground and aerial reconnaissance of objective area (if practical).
- Sensor reports, terrain study, weather forecast.
- Intelligence summary.

#### **Landing Plan**

The landing plan must be synchronized with and support the ground tactical plan. The landing plan sequences elements into the AO, ensuring that units arrive at designated locations and times prepared to execute the ground tactical plan. There are three primary elements of the landing plan. The landing plan—

- Involves the selection of LZs by the AATFC and his staff with input from the AMC or his liaison officer.
- Considers landing formations to be used by the aircraft on the LZ to facilitate off-loading and deploying for the assault.
- Addresses fires required to support the landing.

It may be preferable to make the initial assault without preparatory fires in order to achieve tactical surprise. However, fires are always planned for each LZ so that they can be fired if needed. Planned fires for air assault operations are intense and short but with a high volume of

fire to maximize surprise and shock effect. All fires should end just before the first assault element's landing.

The following are considerations for the air assault landing plan:

• Selection of primary and alternate LZs with regard to proximity to cover and concealment, obstacles, identification from the air, exits from the LZ, capacity of LZ, enemy disposition and capabilities, and LZ security plan.

- Selection of single or multiple LZs as appropriate for the ground tactical plan.
- Landing formations.
- Approach and departure directions.
- LZ preparation fires to support landing plan and ground tactical plan.
- Use of aircraft after personnel have been landed.
- Use of pathfinders to mark LZ.

### ***Air Movement Plan***

The air movement plan specifies the schedule and provides instructions for air movement of troops, equipment, and supplies from PZs to LZs. The air movement plan is normally developed by the AMC or the aviation liaison officer. It coordinates instructions regarding air routes, ACPs and aircraft speeds, altitudes, and formations. The air movement plan requires consideration of the following factors:

- Development of flight routes.
- Designation of start point and release point.
- Air movement table.
- Flight corridor.
- Flight axis.
- Expedient flight routes.
- Flight route control measures.
- Terrain flight modes.
- Supporting fires along the flight route.
- Alternate communications.

### ***Loading Plan***

The loading plan is based on the air movement plan. It ensures that troops, equipment, and supplies are loaded on the correct aircraft and unit integrity is maintained when aircraft loads are planned. However, assault forces and equipment may be cross-loaded so that C<sup>2</sup> assets, all types of combat power, and a mix of weapons arrive at the LZ ready to fight. Aircraft loads are placed in priority to establish a bump plan. This ensures that essential troops and equipment are loaded ahead of less critical loads in case of aircraft breakdown or other problems.

Loading plans should be an integral part of the unit SOP below brigade level. The following are considerations for developing the loading plan:

- Cross-load requirements.
- Bump plan.
- PZ assignment by unit (primary and alternate), bump and or straggler contingency plan, and PZ control and security responsibilities.
- Holding areas.
- Routes from assembly areas to holding area to PZs.
- Refueling for multiple lifts.
- Attack helicopter utilization during PZ operations.

### ***Staging Plan***

The staging plan is based on the loading plan and prescribes the arrival time of ground units (troops, equipment, and supplies) at the PZ in the proper order for movement. Loads must be ready before aircraft arrive at the PZ; usually, ground units are expected to be in PZ posture 15 minutes before aircraft arrive.

The staging plan also restates the PZ organization, defines flight routes to the PZ, and provides instructions for linkup of all aviation elements. Air-to-air linkup of aviation units should normally be avoided, if possible.

### Air Mission Brief

The air mission brief (AMB) is the final coordination meeting of key personnel involved in an air assault mission. The AMB is a working briefing covering all aspects of the mission. Any uncertainties must be addressed during the AMB as no changes are normally authorized subsequent to its completion without the consent of the AATFC. The AMB is a coordinated staff effort requiring input from all participants of the air assault operation. An AMB checklist, air movement table, and sketches of all primary PZs and LZs should be issued to the AATFC, GTC, and AMC. See FM 90-4 for details on the AMB.

### Aircraft Specification

Throughout the concept development and planning for the air assault at the division level, the staff will require some types of generalized information concerning infantry units and air craft strengths, capabilities, and specifications. These planning specifications may change, depending

on the situation, but will help determine feasible courses within the capabilities of available resources. Aviation and infantry units are normally composed as shown in Figure 7-18. Figure 7-19 and Figure 7-20 provide additional aircraft specifications.

Aviation Units	
UH-60 Bn .....	30 (45) Aircraft
UH-60 Co .....	15 Aircraft
UH-1 Co .....	23 Aircraft
UH-60 carries 14 troops in seats, 21 without seats	
UH-1 carries 11 troops in seats, 15 without seats with optimum climatic conditions.	
Infantry Units	
Lt Inf Bn .....	543 Personnel
Lt Inf Co .....	124 Personnel

Figure 7-18. Air assault operations: composition of infantry and aviation units

AIRCRAFT		OH-58A	UH1H/V	UH60A	CH47C	CH47D	HH53H (USAF)
NAME	UNIT	KIOWA	IROQUOIS	BLACKHAWK	CHINOOK	CHINOOK	PAVELOW
NORMAL CREW (200 lb ea)	EA	2	2	3	4	4	8
LENGTH FUSELAGE	FT/IN	32' 3"	41' 11"	50' 7.5"	50' 9"	51'	55'
LENGTH OPERATING	FT/IN	40' 11.8"	57' 1"	53' 8"	99'	99'	78'
HEIGHT EXTREME	FT/IN	9' 7"	14' 6"	17' 1"	18' 12"	18' 8"	13' 4"
DIAMETER MAIN ROTOR	FT/IN	35' 4"	48'	53' 8"	60'	60'	46' 8"
DIAMETER TAIL ROTOR	FT/IN	5' 2"	8' 6"	11'	60'	60'	16'
MAX LIFT TAKEOFF	LBS	3,000	9,500	20,250	46,000	50,000	42,000
BASIC WEIGHT	LBS	1,586	5,132	10,500	20,481	22,499	28,150
MAX RECM XTNL LOAD	LBS	N/A	4,000	8,000	20,000	28,000	20,000
TROOPS/ PARATROOPS	EA	2 / 0	11 / 8	11 / 8	33 / 28	33 / 28	35 / 20
LITTER/ AMBULATORY	EA	2 / 2	3 / 4	4 / 6	24 / 33	24 / 33	8 / 30
MAX FLIGHT TIME	HR/ MIN	3 hrs	2:20	2:20	2:00	2:00	5:00 Refuel

Figure 7-19. Rotary wing aircraft specifications



## AIR ASSAULT SYNCHRONIZATION PLANNING MATRIX (MISSION EXECUTION)

	F-1 to F-0:15	F-0:15 to F-HR	F-HR to F + 0:20	F + 0:20 to F + 0:40	F + 0:40 to F + 1
I N T E L	Receive timely data from CM&D, pass to 2-2 AHB Update enemy locations Final SPOTREP prior to crossing FLOT	QUICKFIX Jamming			
M V R	1-2 AHB provides security for AA 2-2 AHB arrives at PZ	1-2 AHB crossing FLOT 2-2 AHB crossing FLOT	1-2 AHB in overwatch position 2-2 AHB at LZ 1	1-2 AHB breaks contact and egress back to FLOT 2-2 AHB ceases AA OPs and egress back to FLOT	1-2 AHB at FAARP 2-2 AHB at FAARP 2-2 AHB ready for sling OPs
F S	Execution matrix initiated Final checks Activate A2C2 plan	Execute ingress SEAD FSCM go into effect AI into EA FAC controls CAS	Execute egress SEAD 2-2 AHB OH-58Ds call fire in support of AA		Execute egress SEAD
A D A					
C & C					
C S S					
D E C E P T I O N	1-2 AHB(-) conducts attack				
D E C I P S I O N S	Is there a clear picture of the enemy locations? Did the OH-58D go FWD? (SPOT Report) Weather abort?	OH-58D confirm target location? Use OH-58D for security?	Commit more OH-58D to security?	Did AA meet Cdr's intent/CCIR? Reinforce AA? Do OH-58Ds need to remain on station?	
B D E	Coordinate FLOT crossing and AA O/O attack begins			Aircraft lost/missing?	
K E A Y C T	Request additional FS? Coord ARTY w/CAS				Prepare for another AA/ATK

Figure 7-20. Example assault operations: planning matrix

## Section VIII. AIRBORNE OPERATIONS

The airborne division is unique in its capability to strategically deploy and conduct forced entry operations. The planning, preparation, and execution of airborne division operations involves four phases, FM 90-26 is the capstone manual for airborne operations and covers these in detail. These phases are—

- Ground tactical plan.
- Landing plan.
- Air movement plan.
- Marshaling plan.

### GROUND TACTICAL PLAN

The ground tactical plan is the base from which all other plans are developed. The ground tactical plan must be completed before finalizing the landing plan, air movement plan, and marshaling plan. It provides the commander's intent, concept of the operation, fire support plan, and task organization for the initial assault. Ground combat in airborne operations is conducted along conventional lines but initially with limited assets and a heavy reliance on air support.

#### Planning

Once the airborne force commander receives the initiating directive or warning order, he begins planning. This directive or warning order includes the following:

- Missions for subordinate units.
  - Higher commander's concept of the operation.
  - Command structure for the operation.
  - Time and duration of the operation.
  - Intelligence and security requirements.
  - Allocation and distribution of airlift assets.
  - Unit deployment list and sequence.
  - Departure airfields, remote marshaling bases (REMABs), and ISBs.
  - Signal requirements and instructions.
- Ž Link-up and withdrawal concept.

#### *Estimate of the Situation*

The military decision-making process incorporating the estimate of the situation results in a

course of action as in any other operation. Unit commanders and staff officers cannot afford to deviate from this accepted procedure for the development process. As a technique, the ground tactical plan will normally be developed as the basic OPORD or OPLAN. This is the most critical phase of an airborne operation because all other plans are based on it.

**Mission.** The mission of the airborne division is to close with the enemy by fire and maneuver to destroy or capture him, or to repel his assault by fire, close combat, and counterattack. These missions usually require the seizure and defense of objectives and surrounding terrain. (See FM 90-26 for detailed information on the application of the IPB process as it relates to airborne operations.)

In early link-up operations, the unit defends only the airhead and the required maneuver space. In link-up and independent operations, tactical operations begin with an initial assault and then pass to the defense of the established airhead unit until enough forces can be delivered to the objective area. On reinforcement or on linkup with other ground forces, the division resumes the offensive within the commander's concept of the operation or prepares for subsequent operations.

**Enemy Forces.** The commander and division staff analyze available information to determine the enemy situation. The following are considered:

- Enemy morale, leadership, and probable intentions.
  - Enemy capabilities.
- Ž Enemy tactics.
- Probable enemy reactions to an airborne assault.
  - Enemy reserves and paramilitary organizations (gendarmeries, police, border guards, and militia) and their ability to mobilize and react.
  - Enemy capability to conduct guerrilla, partisan, or sabotage activities and the enemy's relationship to the local population.

***Terrain and Weather.*** Within this category, the staff must consider the following factors:

- Availability of DZs, LZs, and extraction zones (EZs). The availability and selection of DZs should not influence the selection of assault objectives, the airhead line, or unit boundaries.

Ž Obstacles within the airhead line and out to the maximum effective range of direct- and indirect-fire weapons, with emphasis on those that can be prepared or reinforced with minimal engineer effort.

Ž Enemy avenues of approach, This consideration weighs heavily in determining the location of assault objectives.

- Key terrain that can assist the force in best defending the area in depth.
- Friendly and enemy observation and fields of fire.
- Cover and concealment for assembly and reorganization.

The staff must also consider the effects of climate and weather on—

- Flight formations.
- Trafficability.

Ž Visibility.

Ž Close air support.

- Logistics.
- Personnel and equipment.

***Troops Available.*** The division commander considers all forces available to accomplish the mission. These include assigned, attached, and supporting forces.

The commander considers the plans, missions, capabilities, and limitations of *US ground forces*. He must consider whether artillery can support the division and whether the forces will perform a linkup or passage of lines.

The commander must consider *USAF* ability to support the division and must bring knowledgeable airlift and tactical air planners together early. Close air support can often make up for the lack of armor and heavy artillery.

The commander examines availability and feasibility of naval gun fire (NGF) support and Navy or *USMC* air support. He must arrange early for liaison and coordination to support the operation.

***Time.*** There are several time considerations unique to an airborne operation. Significant time may be required to mass AF aircraft. The time between the initial assault and deployment of follow-on forces must be considered. Supply and CSS planning are driven by the amount of time before linkup or withdrawal.

***Indigenous Population.*** The commander must consider national and regional characteristics, such as—

- Religion and customs.
- Politics and tribal affiliations.
- Support (or lack of it) for central and local governments or occupying powers.
- Loyalty to political or military leaders.
- Available labor.

Ž Support (or lack of it) for US forces.

### ***Development of the Ground Tactical Plan***

The ground tactical plan incorporates considerations for those actions to be taken in the objective area. It must focus on accomplishing the commander's concept of the operation. It is developed as any other tactical plan; however, the initial goal of the airborne operation is establishment and defense of an airhead.

The ground tactical plan's essential elements are developed in the following sequence: airhead line and assault objectives, security zone and R&S forces, boundaries and assault task organizations, and reserves.

### ***Selection of Assault Objectives and the Air-head Line***

Based on an analysis of the situation, the commander selects specific assault objectives. (Figure 7-21, page 7-36.) Although the airhead line is developed and the assault objectives determined concurrently, assault objectives dictate size and shape of the airhead.

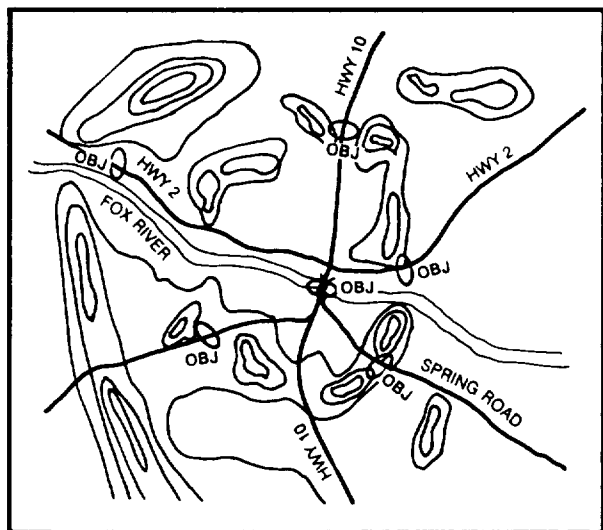


Figure 7-21. Assault objectives

This selection does not necessarily include objectives the force must seize to secure the airhead line. An appropriate assault objective is one which the force must control early in the assault to accomplish the mission or enhance security of the division.

Objectives should allow for accomplishing mission-essential tasks while meeting the commander's intent. They can include key terrain within the airhead or terrain required for linkup. The division is vulnerable from the time it lands until follow-on forces can be delivered to the airhead. A mobile enemy unit attacking the airhead immediately following the airborne assault can completely disrupt the operation. Therefore, the commander selects assault objective terrain that dominates high-speed enemy avenues of approach into the airhead. Enemy positions which threaten the mission and are within the airhead can also be selected as assault objectives. Assault objectives must be seized immediately to establish the airhead and provide security for follow-on forces.

Subordinate commanders decide the size, type, or disposition of the force to gain and maintain control. Division selects brigade assault objectives, while the brigade selects battalion assault objectives. Battalion selects company assault objectives.

Assault objectives are ranked in order. Priorities are chosen based on the most likely threat or

mission requirements. Assault objectives are secured before the airhead line defense is established. The airhead is then cleared of organized enemy resistance and forces are positioned to secure the airhead line.

At the same time commanders select assault objectives, they consider the extent of the airhead. The airhead includes the entire area under control of the airborne force. It acts as a base for further operations and as the lodgment that allows the airborne force to buildup combat power. Once the force secures the airhead, it must clear enemy forces within it to defend it.

The airhead line delineates the specific area to be seized and designates the airhead. Several factors determine the location, extent, and form of the airhead line:

Ž The actual trace of the airhead line reflects the control of key or critical terrain essential to the mission. (Figure 7-22.)

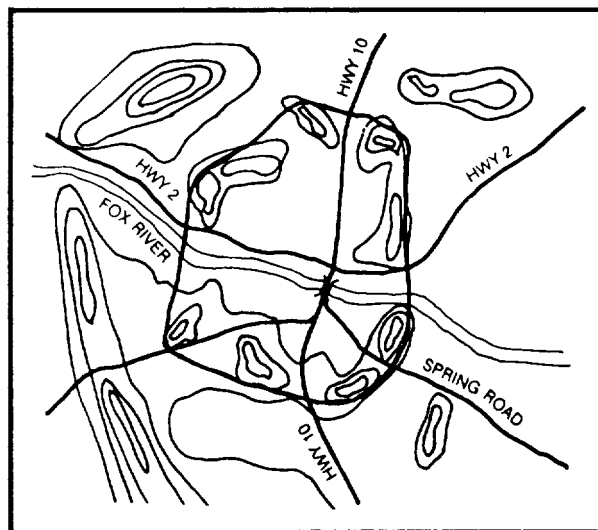


Figure 7-22. Airhead line

- The airhead line anchors on obstacles, and the airhead itself takes advantage of existing natural and man-made obstacles.

Ž The airhead contains enough DZs, LZs, and EZs to ensure interior rather than exterior lines of communication and to permit mass rather than piecemeal assault.

Ž The airhead must allow enough space for dispersion to reduce vulnerability to NBC weapons.

- The airhead must be large enough to provide for defense in depth, yet small enough for the unit to defend. Although this depends largely on METT-T, a battalion can defend an airhead 3 to 5 kilometers in diameter. A brigade can occupy an airhead 5 to 8 kilometers in diameter.

### ***Reconnaissance and Security Forces***

Security in all directions is an overriding consideration in any airborne operation since the airhead is a perimeter defense. In ground operations, there are several security echelons forward of the FEBA.

Security forces are landed in the assault echelon. A reconnaissance and security line is established immediately 4 to 6 kilometers from the airhead line to provide security to the airborne force. In the early stages of an airborne operation, the security force acts as a screening force. In later stages when assault missions have been accomplished and the airhead is relatively secure, it acts as a guard or covering force. The mission of the security force is to—

- Give the airhead early warning.
- Develop intelligence, including the location, direction, and speed of an enemy attack.
- Initially deny the enemy observation of, and his fires on, the airfield.
- Deceive the enemy as to the actual location of the airhead.
- Delay and disrupt the enemy.

The security force includes scouts, AT weapons, engineers, Army aviation, and (sometimes) light armor. When possible, mobile forces are selected to facilitate rapid initial movement to positions and to facilitate withdrawal and adjustment. An aggressive R&S effort at lower echelons augments the security force. The following considerations apply to the selection of positions for the screening force:

- Locate within radio communications and FS range. Range can be extended, if necessary, with retransmission stations; split section indirect-fire operations; and attachment of vehicles, mortars, or other assets.

- Locate as roadblocks, obstacles, ambushes, patrols, or sensors on dominant terrain. This allows long-range observation and fields of fire out to the maximum range of support fires.

- Locate to observe, control, and dominate high-speed avenues of approach into the airhead.
- Locate to deny enemy long-range observation and observed indirect fire into the airhead.
- Locate with routes of withdrawal to the airhead.

Designated forces under control of the airborne commander perform R&S missions beyond the security zone. Emphasis is on likely enemy avenues of approach. The mission of these forces is to gain and maintain contact with enemy units reacting to the airborne assault. This force is mobile and not used to defend a particular part of the airhead. It can include Army aviation, air cavalry, or light armor; it can be supported with fire from AF assets, NGF, or Army missile systems. These forces orient on enemy high-speed avenues of approach to develop intelligence, including the location, direction, and speed of any enemy advance.

Employed beyond the airhead at a distance based on the tactical situation, security forces protect the main force from surprise attack. The airborne commander can extend their range if communications permit. Aviation assets can extend to 50 kilometers or more, although the commander must consider loiter time so forces can provide continuous coverage. (FARPs can increase this distance.) Long-range surveillance teams may observe enemy garrisons and major routes into the airhead. Reconnaissance forces must be mobile and task-organized for the mission from cavalry, armor, scout, LRS, and antiarmor units.

### ***Boundaries and Task Organization***

The division commander visualizes employment of brigades and organizes them for combat commensurate with their assigned missions.

***Boundaries.*** The commander uses boundaries to assign sectors of responsibility to major subordinate combat elements, who then clear AOs of enemy forces. (Figure 7-23, page 7-38.)

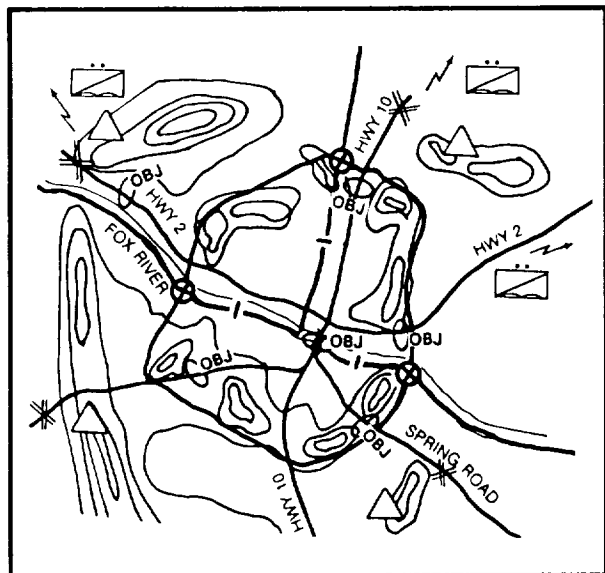


Figure 7-23. Boundaries: division airhead

To assign boundaries, commanders subdivide the area into sectors with fairly equal tasks (not necessarily into equal sectors). This requires a careful analysis of the enemy, tasks to be accomplished, and terrain within the objective area.

Boundaries should avoid splitting (between two units) the responsibility for the defense of an avenue of approach or key terrain. Boundaries should provide adequate maneuver space including key terrain features. Boundaries should provide adequate room to permit maneuver on both sides of the assault objectives.

Boundaries must be recognizable both on the map and ground. Roads should not be used as a boundary because they represent high-speed avenues of approach and need to be covered with a clear understanding of responsibility. Instead, commanders can use such landmarks as rivers, streams, railroad tracks, or the edge of a town, woods, or swamp.

Ideally, each sector should include at least one DZ and LZ to enable the unit and its attachments to land within the assigned sector during the assault. This also facilitates resupply and evacuation of EPWs and casualties. Having an LZ and DZ reduces the problem of coordination with adjacent units.

Boundaries should not require a unit to defend in more than one direction at once. Bound-

aries should extend beyond the trace of the security force as far as necessary to coordinate fires. This allows subordinate units to operate forward of the airhead with minimal coordination. Commanders should plan coordinating points at the intersection of the airhead line and security force ground trace boundaries.

**Task Organization.** Once the commander has determined the principal features of the ground assault plan (scheme of maneuver and fire support), he organizes units to execute their assigned missions. Units determine their boundaries at the same time. To ensure unity of effort or to increase readiness for combat, part of or all subordinate units of any command can be formed into one or more temporary tactical grouping (teams or task forces), each under a designated commander. No standard team organization meets all conditions.

Infantry units usually form the nucleus tactical grouping of the team; infantry unit commanders lead the teams. These teams are tailored for initial assault by the attachment of combat, CS, and CSS units. They are attached as soon as possible in the marshaling area. Many units detach as soon as centralized control can be regained, and the parent unit headquarters can establish itself on the ground. Other units such as higher echelon assault CPs are attached for the movement only. Attachments for airborne brigades usually include the following:

- A FA battalion.
- A combat engineer company.
- A MP platoon.
- A light armored company or platoon.
- An IEW support element, usually from the MI battalion.
- A forward area support team.
- An ADA battery.
- Other assets, as determined necessary by the division commander based on his estimate of the situation.

**Organization for Assault Landing.** After the task organization of soldiers for the assault landing is announced, units organize into assault, follow-on, and rear echelons.

The *assault echelon* comprises those forces required to seize the assault objectives and the initial airhead, plus their reserves and supporting soldiers.

The *follow-on echelon* is not needed by the airborne force in the objective area during the initial assault, but is needed for subsequent operations. When needed, the follow-on echelon enters the objective area as soon as practical by air, surface movement, or a combination of the two. It includes additional vehicles and equipment from assault echelon units, plus more combat, CS, and CSS units. The existence of any one of the following conditions requires an airborne unit to have a follow-on echelon:

- Shortage of aircraft.
- Ž Inability of aircraft to land heavy items of equipment.
- Any enemy situation, terrain, or weather that makes it impossible to land certain soldiers or equipment in the assault echelon.

The *rear echelon* includes the part of an airborne unit that is not considered essential for initial combat operations. It also includes people left at its rear base to perform administrative and service support functions which cannot be done efficiently in the combat area. The rear echelon is normally small for a brigade or battalion. Higher headquarters usually controls the rear echelon for all units. It can rejoin the unit when the brigade remains committed to sustained combat for a prolonged or indefinite period. Also, if the airborne force continues in the ground combat role after linkup, the rear echelon maybe brought forward.

### **Designation of Reserve**

The employment of the reserve element follows the normal employment of a reserve unit in a ground operation.

**Division Reserve.** The division reserve can be held in the departure area ready to be committed by air when and where the situation dictates. A battalion can be the division reserve. This usually happens in large-scale airborne operations when suitable airfields in the airhead are not available; however, it can cause delays in commitment—

Ž If signal communications fail.

Ž If the air move is very long.

Ž If flying weather is unfavorable.

- If time is added for coordination of air cover.

With the reserve element at the departure airfield, the reserve commander must continue planning for possible future commitment of his forces as far as maps, photos, and information of the situation permit.

**Brigade and Battalion Reserves.** These reserves enter the airhead as part of the assault echelon. They provide depth to the airhead by blocking penetrations, reinforcing committed units, and counterattacking the enemy. They consist of not more than a company at brigade level or a platoon at battalion level; however, their small size is dictated by tactical considerations and assigned missions. Commanders should organize, task, and position the reserve to ensure its size is compatible with likely missions, and that the reserve—

- Comes from the unit with the fewest priority tasks.

- Is not assigned assault objectives or a sector of the airhead to defend.

Ž Is near areas of likely employment, such as near the main enemy avenues of approach, to speed commitment.

- Is mobile. (This can be achieved using organic vehicles-antiarmor company, support platoon, light armor, and so on.)

- Is located in an assembly area (both initial and subsequent) or battle position, so that it does not interfere with units assigned assault objectives.

- Is near a LOC in a covered and concealed location to provide ease of movement, to reinforce, or to block.

- Is located within the sector of one unit, if possible.

The reserve's location allows for dispersion of the force. The reserve commander prepares and rehearses commitment contingencies according to guidance received from the commander designating the reserve.

### Execution

Execution of the ground tactical plan involves the initial seizure of DZs and LZs in and around the airfield or the actual seizure of an airfield. (Chapter 3 discusses offensive operations.)

#### ***Conduct of the Assault***

The initial assault emphasizes the coordinated action of small units to seize initial battalion objectives before the surprise advantage has worn off. As assault objectives are seized, the airborne force directs its efforts toward consolidating the airhead.

Tactical surprise and detailed planning should enable units to seize their assault objectives and to establish the airhead before the enemy has time to react in force. Missions of units are changed as required by the enemy's defense of initial objectives. The enemy can be expected to quickly launch uncoordinated attacks along major avenues of approach using local forces. The degree of coordination and strength of these attacks increase progressively; the airborne force must develop correspondingly greater strength in its defensive positions. Preparation of early defense against armored attack is a major consideration.

Units assigned to perform R&S missions land in early serials so that they can establish roadblocks, locate enemy forces, disrupt enemy communication facilities, and provide the commander with early warning, security, and information. Since ground reconnaissance by unit commanders is seldom possible before the airborne operation, it must begin as soon as the unit lands. The flow of information must be continuous. Information requirements do not vary from those employed by other ground units. However, the unit's method of arrival in the combat area makes immediate and thorough reconnaissance and transmission of information to higher headquarters necessary.

If the initial objectives are heavily defended, the bulk of the force has the task of seizing these objectives. When initial objectives are lightly defended, the bulk of the force can clear assigned sectors and prepare defensive positions in depth. Extensive patrolling is initiated early between adjacent defensive positions within the airhead line and between the airhead and the R&S line. Army aircraft are well suited for support of this

patrolling effort. Contact with any friendly guerrilla forces in the area is established as soon as possible.

Personnel are briefed on unit, adjacent and higher units, and alternate plans. This helps units or personnel landing in unplanned areas to direct their efforts to accomplishing the mission. Misdelayed units or personnel establish contact with their respective HQ as soon as practical.

Sufficient communications personnel and equipment must move into the airhead in advance of the CP to ensure the timely installation of vital communications. As soon as communications and the tactical situation permit, commanders regain centralized C<sup>2</sup>. For effective C<sup>2</sup>, immediate establishment of the following is necessary

- Command fire control channels within the airborne forces.
- Communications with supporting air and naval forces.
- Communications with airlift forces concerned with buildup, air supply, and air evacuation.
- Communications with bases in friendly territory.
- Communications between widely separated airborne or ground forces, such as link-up forces, with a common or coordinated mission.

The commander influences the action by shifting or allocating FS means. He may also-

- Move forces.
- Modify missions.
- Change objectives and boundaries.
- Employ reserves.
- Move to a place from which he can best exercise personal influence, especially during the initial assault.

With initial objectives secured, subordinate units seize additional objectives to expedite establishing a coordinated brigade defense or the conduct of future operations. Defensive positions are organized, communications supplemented, and reserves reconstituted. These and other measures prepare the force to repel enemy counterattacks,



minimize the effects of nuclear weapons, or resume the offensive.

Reserves prepare and occupy blocking positions, pending commitment. Typical missions for reserves committed include taking over the missions of misdelivered units, dealing with unexpected opposition in seizing assault objectives, and securing the initial airhead.

### ***Development of the Airhead***

After the force makes the initial assault landings and accomplishes its initial ground missions, commanders must organize the airhead line.

**Size.** The airhead line extends far enough beyond the landing area to ensure uninterrupted landings of personnel, equipment, and supplies. It secures requisite terrain features and maneuver space for such future offensive or defensive operations as the mission calls for.

**Occupation and Organization.** Units occupy and organize the airhead line to the extent the situation demands. Commanders adjust the disposition of units and installations to fit the terrain and the situation. Units take R&S measures, which usually include reinforcing the R&S line. The degree to which the airhead line is actually occupied and organized for defense is largely determined by the mission, enemy capabilities, and defensive characteristics of the terrain.

**Buildup.** This proceeds concurrently with seizure and organization of the airhead line. As more combat personnel arrive and commanders organize them by unit, frontline positions are reinforced, reserves are constituted, and preparations are made for such offensive operations as the mission requires.

### ***Buildup of Combat Power***

The buildup of combat power is the introduction of the follow-on echelon into the airhead. This increase of combat power yields an ability to conduct defense of the airhead and short-term sustainment of forces. The intent of the buildup is to provide a secure operating logistics base for forces working to move the airhead away from the original point of attack. Usually, this distance is equal to the enemy's direct fire capability to harass and destroy incoming aircraft or landing craft (5 to 10 kilometers).

The composition of the follow-on echelon depends on the factors of METT-T. It can comprise a light or long-range field artillery, and combat engineers as well as significant CS and CSS elements. Other forces required can include—

- Infantry.
- Armored and light task forces.
- Armored units task-organized with light forces already in the objective area.
- Field artillery.
- Engineers in addition to those in the assault echelon.
- ADA.
- CSS assets.

The time involved in defensive operations, if any, varies. It depends on the mission assigned, composition and size of the force, enemy reaction, and type of operation contemplated. A well-prepared defense in short-duration missions in isolated objective areas may not be required. Security can be accomplished by completely, or almost completely, destroying or dispersing the enemy forces in the immediate objective area during the assault; then, airlifting the striking force before executing a coordinated enemy counter-attack.

**Defense of an Airhead.** The airborne force usually defends an airhead by securing key terrain with the airhead and dominating likely avenues of approach. Units deny the enemy areas between the occupied positions with a combination of patrols, mines, fire, and natural and man-made obstacles. Units aggressively reconnoiter between positions within the airhead, then forward of the airhead. The airhead configuration allows the commander to shift forces, reserves, and supporting fires quickly to reinforce another sector of the airhead. Regardless of the form of defense chosen, the force prepares positions in depth within its capabilities.

**Defense During Withdrawal.** Should withdrawal from the initial positions be required, the final area to which the airborne force withdraws must contain adequate space for maneuver, for protection of critical installations, and for planned air landing or air evacuation operations.

**Defense Against Armor.** During the initial phases of an airborne operation, one main defense against enemy armored forces is TACAIR support. Aircraft attack enemy armored targets as they appear, as far as possible from the objective area, and continue to attack and observe them as long as they threaten the airborne force. Strongpoints defending the airhead use natural obstacles, mine fields, tank traps, demolitions, and man-made obstacles. Units emplace antitank weapons in depth along avenues of approach favorable for armored forces. They cover all dangerous avenues of approach with planned fires. The Dragons and light antitank weapons (LAWS) of the rifle companies, TOWS of the battalion antiarmor company, AT weapons of division aviation units, and organic light armored forces give the airborne force a substantial amount of antitank firepower. Some of the antitank weapons, organic to battalions that are holding sectors not under armored attack, can be moved to reinforce threatened sectors.

**Defense Against Guerrilla Action and Infiltration.** The defense must include plans for countering enemy guerrilla attacks or infiltrated forces attacking the airhead area.

### LANDING PLAN

The commander finalizes the landing plan after completing the ground tactical plan. The landing plan phases forces into the objective area at the correct time and place to execute the ground tactical plan. The execution of the landing plan is vital to the swift massing of combat power, protection of the force, and subsequent mission accomplishment.

#### Planning

The landing plan links air movement with the ground tactical plan. The landing plan is published at the brigade level and below, but is informal and not published at the joint level. The landing plan is a tabulation of the sequence, method, and destination of paratroopers and materiel into the objective area. The landing plan has five elements:

- Sequence of delivery.
- Method of delivery.
- Place of delivery.

- Time of delivery.
- The assembly plan.

#### Requirement

To develop the landing plan, commanders at each level need to know their commander's priorities, airlift tactics, landing area study, parent and subunit task organization and ground tactical plans, and subunit landing plan. During the backbrief of the ground tactical plan, the commander establishes airlift and delivery priorities and airlift tactics. He provides as much of this information as possible to subunits at the end of the ground tactical plan backbrief.

**Commander's Priorities.** The commander must set the priorities for each assault objective to determine the delivery sequence for units to secure these objectives. This does not necessarily match the sequence in which the units secure objectives. The commander must also know the—

Ž Priorities for deliveries on each DZ (personnel drop, CDS, heavy drops, and LAPES).

- DZ sequence.
- Priorities for delivering the remainder of the force.

Ž Method of delivery for units and equipment.

- Priorities for use of EZs.

Ž Location of the heavy equipment point of impact (HEPI) and the personnel point of impact (PPI).

**Airlift Tactics.** The AF element responsible for selecting airlift tactics develops them with the Army element to best support the ground tactical plan. These tactics include aircraft formations and sequence of personnel drops, heavy drops, and LAPES. The Army element chooses the sequence and time interval between serials, which are groups of like aircraft (C-130s, C-141s) with the same delivery method (personnel drops, heavy drops, LAPES) going to the same DZ.

**Landing Area Study.** The division staff, working with US Army topographic engineers and the Air Force, develops the landing area study and provides it to subunits. This study enables subunits to select the location, size, and orientation of DZs to best support their scheme of maneuver.

**Subunit Landing Plans** Subordinate commanders should develop landing plans to support their own respective schemes of maneuver. Subunits then backbrief their landing plans so higher headquarters can finalize the plan. Units must also know the initial locations of CS and CSS elements. This information should become available as subunits backbrief their ground tactical plan.

### **Considerations**

Commanders should examine the following considerations when developing the landing plan.

**Attacking an Objective.** There are three basic methods of attacking an objective.

Jumping or landing on top of the objective works best for attacking a small objective that is specially fortified against ground attack. However, an airborne landing into an area strongly defended against air attack requires surprise to succeed.

Jumping or landing near the objective works best for the capture of a lightly defended objective which must be seized intact (such as a bridge). If the enemy has strong defenses against air attack, only surprise can enable the unit to achieve success with few casualties.

Jumping or landing at a distance from the objective is the least often used of the techniques available. Airborne forces use this method for large complex objectives that must be seized by deliberate attack. The DZ is selected to emphasize security and preservation of the force. The plan is based on METT-T considerations and should capitalize on the principle of surprise.

**Landing Methods.** There are two basic landing methods—multiple and single drop zones. With *multiple drop zones*, there are a number of small airheads in the objective area. This technique supports the principle of mass by placing the maximum number of paratroopers in the objective area in the minimum amount of time. Additionally, the commander can capitalize on the principle of surprise because the main effort is not easily determined by the enemy. This technique is normally used by division-sized elements and larger.

Brigade and smaller-sized airborne forces often establish an airhead by conducting the air-

borne assault onto a *single drop zone*. This technique allows the assaulting unit to assemble quickly and mass combat power against the enemy.

**Time-Space Factors.** Commanders schedule the delivery sequence and the time between serials to provide the least time and distance separation between each aircraft and serial. The airborne force assembles maximum combat power on the DZ as quickly as possible, using either of the following options:

- Land all elements in the same area. Aircraft approach the DZ in a deep, narrow formation and all soldiers jump into a small area.
- Land all elements at the same time. Aircraft in a wide formation approach various DZs situated close to each other and all soldiers jump at the same time or as near to it as possible.

**Landing Priorities** Airborne units are cross-loaded to land close to their assault objectives.

**Organization.** Airborne forces try to maintain tactical unity. Battalions or battalion TFs normally land intact on a single DZ. A brigade lands in mutually supporting DZs. Two or more battalions land successively on the same DZ or each can land on a separate DZ within a general brigade DZ area.

The airborne force sends as many assault unit personnel and equipment as possible into the area in parachute serials. Commanders must consider the mobility of equipment after the landing. For example, carriers or prime movers deliverable by parachute but difficult to handle on the ground can accompany the weapons in the assault element. Paratroopers accompany their units' principal items of equipment.

### **Sequence of Delivery**

The commander's priorities within the ground tactical plan determine the sequence of delivery. Neither aircraft allocations nor availability of aircraft should influence these decisions. The commander determines final aircraft allocations after the landing plan backbriefs. Aircraft serials may precede the main airlift column to drop AF combat control teams (CCTs) and Army R&S units. The CCT places and operates navigation aids on the drop and landing zones; the R&S units

provide surveillance on NAI and report to the ground force commander.

### **Method of Delivery**

This part of the landing plan addresses how the force arrives in the objective area with its needed supplies and equipment. The assault echelon comes in by parachute. The commander can use a number of other means to introduce additional personnel, equipment, and supplies into the objective area.

**Personnel Airdrop.** The airborne force delivers assault personnel by parachute drop. This method allows quick, nearly simultaneous delivery of the force. Planners choose any terrain free of obstacles that allows the assault force to land on or close to objectives. In some cases and with special equipment, it can deliver personnel into rough terrain. Special teams can use high altitude, high opening (HAHO) or high altitude, low opening (HALO) techniques. These techniques allow for early delivery of the joint airborne advance party (JAAP) without compromising the objective's location.

**Equipment and Supply Airdrop.** Airborne forces can airdrop supplies and equipment directly to units behind enemy lines or in other unreachable areas. The advantages of this are—

Ž Prerigging and storing emergency items for contingencies considerably reduces shipping and handling time and increases responsiveness.

- Since the delivery aircraft does not land, there is no need for forward airfields or LZs or materiel handling equipment for offloading.

- This reduces flight time and exposure to hostile fire and increases aircraft survivability and availability.

Ž Ground forces can disperse more since they are not tied to an airfield or strip.

The disadvantages of airdropping supplies and equipment are—

Ž Airdrops require specially trained rigger personnel and appropriate aircraft.

Ž Bad weather or high winds can delay the airdrop or scatter the dropped cargo.

Ž Ground fire threatens vulnerable aircraft making their final approach, especially if mountains or high hills canalize the aircraft.

Ž Since the aircraft do not land, no opportunity for ground refueling exists. Planned aerial refueling can extend aircraft range and should be considered on long flight legs to increase objective area loiter time and mission flexibility.

- Bulky airdrop rigs for equipment prevent the aircraft from carrying as much cargo as when configured for air landing.

- The possibility of loss or damage to equipment during the airdrop always exists.

Ž Ground forces must secure the DZ to prevent items from falling into enemy hands.

Ž Recovery of airdropped equipment is slow and manpower intensive.

**Air-land Operation.** Airborne forces can accomplish certain phases of airborne operations, or even the entire operation, by using air-land operations to deliver personnel and equipment to the objective area. (See FMs 7-20, 7-30, and 100-27.)

In some cases, air landing rather than airdropping personnel and equipment may be advantageous. Air landing—

- Provides the most economical means of airlift.

- Delivers Army aviation elements, engineering equipment, artillery pieces, and other mission-essential items in one operation.

- Provides a readily available means of casualty evacuation.

- Allows units to maintain tactical integrity and to deploy rapidly after landing.

Ž Allows the use of units with little special training and equipment.

- Does not require extensive preparation and rigging of equipment.

Ž Offers a relatively reliable means of personnel and equipment delivery regardless of weather.

Ž Precludes equipment damage and personnel injuries units may experience in parachute operations.

The disadvantages are that air landing—

- Cannot be used for forced entry.
- Requires moderately level, unobstructed LZs with adequate soil trafficability.
- Requires more time for delivery of a given size force than airdrop, especially for small, restricted LZs.
- Generally requires improvement or new construction of air-land facilities, which adds to the engineer workload.
- Requires some form of airlift control element support at offloading airfields. Mission intervals depend on airlift control element size, offloaded equipment availability, and airfield support capability.

The tactical integrity of participating units is a major consideration in an air-land operation. Small units that are expected to engage in combat on landing, air land organizationally intact with weapons, ammunition, and personnel in the same aircraft whenever possible. Joint planning stresses placing units as close as possible to objectives, consistent with the availability of LZs and the operational capability of the tactical aircraft employed. Because of aircraft vulnerability on the ground, units unload as quickly as possible.

The airborne commander determines the makeup of each aircraft load and the sequence of delivery. The mission, the tactical situation, and the assigned forces influence this decision.

Units should use existing facilities, such as roads and open areas, to reduce the time and effort required for new construction. They should consider layouts that facilitate future expansion and provide maximum deployment and flexibility. As the size and efficiency of an air facility improves, its value to the enemy as a target increases. To reduce this vulnerability, the facilities should be dispersed and simple.

### **Place of Delivery**

The selection of DZs, LZs, and EZs is a joint responsibility. The airlift commander is responsible for the precise delivery of personnel and cargo to the DZ or LZ and for the selection of approaches to the DZ. Both the joint and component commanders must base their decisions on knowledge of their respective problems and on the

needs of the overall operation. The nature and location of landing areas is important when preparing the scheme of maneuver. The mission governs the general area in which they are to be established. At higher echelons, commanders can assign landing areas in broad general terms. In lower units, leaders must describe their locations more specifically. Drop zones are selected only after a detailed analysis. Commanders should consider the following factors when making their selections.

**Ease of Identification.** The DZ should be easy to spot from the air. Airlift pilots and navigators prefer to rely on visual recognition of terrain features to accurately deliver personnel and equipment.

**Straight-line Approach.** To ensure an accurate airdrop, the aircraft should make a straight-line approach to each DZ for at least 10 miles, or about four minutes at drop airspeed, before the start of the drop.

**Out of Range.** The commander should choose a DZ that allows the units to avoid enemy air defenses and strong ground defenses, and puts them outside the range of enemy suppressive fires. To get to the DZ, aircraft should not have to fly over or near enemy antiaircraft installations, which can detect aircraft at drop altitudes. They should fly over hostile territory or positions for the least possible time.

**Close To or On Top of Assault Objectives.** If the enemy situation permits, the commander should choose a DZ directly on top of assault objectives.

**Suitable Weather and Terrain.** The commander must consider seasonal weather and terrain when selecting DZs because these conditions affect their use. Adverse weather effects can be devastating. Ground fog, mist, haze, smoke, and low-hanging cloud conditions can interfere with the aircrew's observation of DZ visual signals and markings. However, they do offer excellent cover for blind or area DZs. Excessive winds also hamper operations.

Flat or rolling terrain is desirable; it should be relatively free, but not necessarily clear of obstacles. Obstacles on a DZ will not prevent paratroopers from landing but will increase jump

casualties. Sites in mountainous or hilly country with large valleys or level plateaus can be used for security reasons. Small valleys or pockets completely surrounded by hills are difficult to locate and should be used only in rare cases. Commanders must avoid man-made obstacles more than 150 feet (46 meters) above the level of the DZ within a radius of 3 nautical miles. High ground or hills need not be considered a hazard unless the hills pose an escape problem that is beyond the aircraft's capability. High ground or hills more than 1,000 feet (305 meters) above the surface of the site should not be closer than 3 nautical miles to the DZ for night operations. The perimeter of the DZ should have one or more open approach sectors free of any obstacles that would prevent the aircrew's sighting of the DZ markings.

**Cover and Concealment.** Cover and concealment near DZs and LZs is a distinct advantage when the airborne forces assemble and when air-land forces land.

**Road Net.** Having a DZ near a good road net expedites moving personnel, supplies, and equipment from that zone. If the landing area contains terrain that is to be developed into an air-landing facility, a road net is of value—not only for moving items from the facility but also for evacuating personnel and equipment.

**Key Terrain.** The DZ site selected should aid in the success of the mission by taking advantage of dominating terrain, covered routes of approach to the objective, and terrain favorable for defense against armored attack.

**Minimum Construction for DZs and LZs.** Because of limited engineer support in the airborne force, selected landing zones should have a minimum requirement for construction and maintenance. Unless more engineer support is requested and received, construction and maintenance restraints can limit the number of areas that can be used or developed.

**Mutual Support.** Commanders should select mutually supporting DZs and LZs which provide initial positions favorable to the attack.

**Configuration.** The division commander gives guidance on DZ size in OPLANs or

OPORDs. Then unit commanders determine the exact shape, size, and capacity they need.

**Shape.** The most desirable shapes for DZs are rectangular or round; these permit a wider choice of aircraft approach directions. However, they also require precise navigation and timing to avoid collisions or drop interference.

**Size.** The DZ should be large enough to accommodate the airborne force employed. One DZ that allows the aircraft to drop all of its load in one pass is desirable. Repeated passes are dangerous because the initial pass can alert enemy antiaircraft and other emplacements. They will be waiting for subsequent drops.

There are certain situations, however, when multiple passes can be used. This occurs mainly when there is no significant AD threat and orbits can be made over areas where enemy antiaircraft systems are not positioned. This applies especially to the seizure of islands where small DZs are the rule. If enough aircraft are available to deliver the force with less personnel on each aircraft, there is no real problem. However, if there are only enough aircraft to deliver the assault echelon in one lift with each aircraft carrying the maximum number of personnel, then the aircraft will have to make multiple passes over the DZ.

A large DZ can permit several PPIs. Although it is desirable to saturate the objective area in the shortest possible time, there is a reasonable limit to the amount of personnel and heavy drop that can be stacked on a single drop zone. Therefore, it can be desirable to use multiple points of impact on a single DZ, provided the drop zone is large enough.

**Capacity.** The DZ capacity is based on the expected number of units to be dropped and their dispersion pattern.

**Orientation.** Thoughtful orientation allows the quickest possible delivery of the airborne force into the objective area.

Ideal DZs offset and parallel each serial. (Figures 7-24 and 7-25.) This allows aircraft to share a flight route until they approach the objective area; then they can split at an impact point (release point) for simultaneous delivery on several DZs.

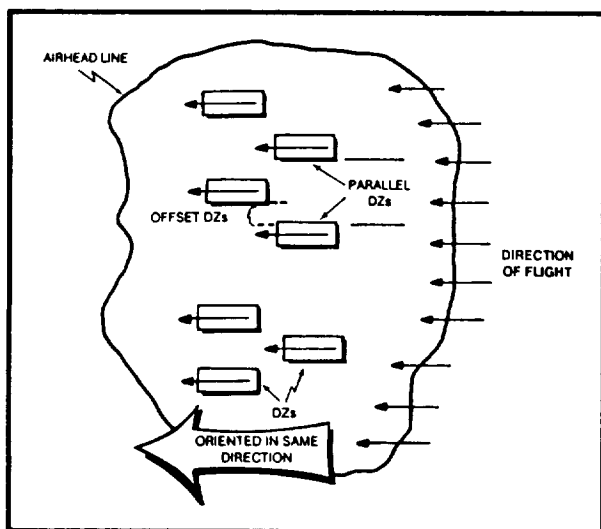


Figure 7-24. Ideal DZ situation

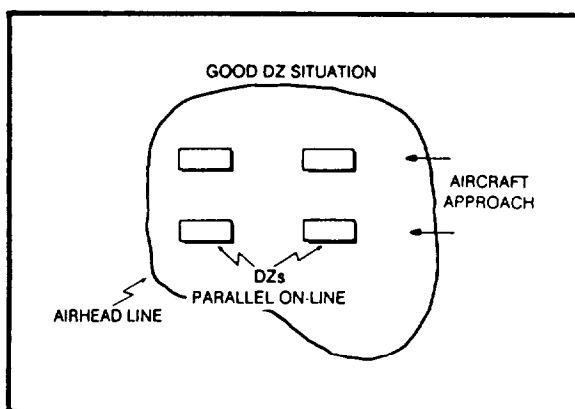


Figure 7-25. DZs parallel on-line

Another technique that can be employed is to make two drops on two DZs in line (thus eliminating a change-of-flight direction between the two drops). The DZs must be far enough apart to permit the navigators to compute the location of the second release point.

Paratroopers are more likely to overshoot the DZ than to undershoot it. Therefore, selection of the trailing edge of the DZ should be at the objective to place personnel responsible for the primary assault objective at the front of the aircraft so that they exit last.

If a fighter aircraft escort or rendezvous is required for the drop, the aircraft must be kept advised of the drop pattern, the direction of all turns

to be flown around the DZ, and the areas to look for possible enemy activity.

Drop zones which require intersecting air traffic patterns should be avoided whenever possible. They delay simultaneous delivery of the force because of the safety requirements to stagger delivery times and clear the air by at least a five- or 10-minute formation separation time. They also require that JSEAD be accomplished for multiple routes instead of one. They may result in piecemeal delivery and an unnecessarily complicated plan, violating the principles of mass and simplicity.

#### ***Alternate Drop Zones or Landing Zones.***

Commanders must select alternate DZs or LZs to compensate for changes that may occur.

#### ***Number of Drop Zones or Landing Zones.***

The number of DZs to be used by the assault parachute element of an airborne infantry brigade depends on the number, size, and relative position of suitable sites; the brigade plan of maneuver; and the expected enemy situation. The battalions of a brigade can land successively on the same DZ, on separate battalion DZs, or on adjacent areas within a single large brigade DZ.

A single brigade DZ on which battalions land successively has these advantages:

- It permits greater flexibility in the plan of maneuver and the plan of supporting fires.

Ž It facilitates coordinating and controlling assault battalions.

Ž It applies the principle of mass.

Ž It makes logistics support easier.

- It decreases the area of vulnerability.

A single DZ also has disadvantages:

- It slows the buildup of combat power.
- It causes later airlift sorties to be vulnerable to enemy air as a result of the loss of surprise.
- It allows the enemy to focus his efforts.

A separate battalion drop zone has these advantages:

- It increases readiness for action by deploying the brigade as it lands.

Ž It reduces confusion on the DZs during the landing and reorganizing.

- It tends to deceive the enemy as to the intention and strength of the landing force.
- It makes capture of the brigade objective easier when there is strong opposition on one drop zone.
- It increases the freedom of maneuver of the assault battalions.

A separate battalion drop zone has these disadvantages:

Ž It makes C2 more difficult.

Ž It reduces flexibility because units are dispersed.

Landing battalions on adjacent areas within a single large brigade DZ has, although to a lesser degree, the same advantages and disadvantages of dropping on separate DZs.

### ***Time of Delivery***

No set rule can be prescribed for the timing of an airborne operation. It varies with each situation; however, the airborne force will try to conduct airborne assaults during limited visibility to protect the force and to surprise the enemy. The commander sets the specific time of delivery. However, for the landing plan, times are stated in terms of P-Hour (when the first paratrooper exits the aircraft). The following considerations affect the timing of the operation.

***Support of the Main Effort.*** The airborne assault can be a supporting attack. If so, the time of commitment of the airborne forces in relation to the main effort is usually directed by orders from higher headquarters. It is determined in advance according to the mission, the situation, and the terrain. For example, the airborne force can be committed in advance of the main effort to give the airborne attack an increased element of surprise. It can be committed during the main effort to neutralize specific areas or to block the movement of enemy reserves. It can also be committed after the main effort to assist a breakthrough or to block an enemy withdrawal.

***Visibility.*** Whether to commit the airborne force by night or by day depends on the estimated degree of air superiority, the need for security

from enemy ground observation, the relative advantage to be gained by surprise, and the experience of both airlift and airborne personnel.

Night airborne operations offer advantages. They greatly increase the chance of surprise and survivability and reduce the chance of attack by enemy aircraft during the air movement. They also reduce vulnerability to antiaircraft fire, conceal preparations for takeoff from the enemy, and reduce the effectiveness of the defender's fires.

Night airborne operations have disadvantages. In zero visibility, they require well-trained soldiers and aircrews to locate the DZ and assemble rapidly. They provide more air and land navigation problems and offer slower rates of assembly than daylight operations. Night operations also reduce the effectiveness of CAS.

Daylight operations provide better visibility both from the air and ground, more accurate delivery, quicker assembly, and more effective friendly fires than night operations. However, daylight operations increase vulnerability to enemy air defense, ground fires, and air attack. They also result in loss of surprise.

***Intervals.*** The time interval between delivery of the assault echelon (P-Hour) and the follow-on echelon depends on the availability of aircraft, the capacity of departure airfields, the number of aircraft sorties that can be flown on D-Day, the availability of DZs or LZs within the objective area, and the enemy situation.

For example, if there are unlimited aircraft, ample departure airfields, numerous DZs or LZs within the objective area, and little or no enemy air defense, the commander could deliver the follow-on echelon immediately after the assault echelon.

Thus, the time interval could be so brief that it would be hard to determine which was the last aircraft of the assault echelon and which was the first aircraft of the follow-on echelon. Regardless of the timing selected, a pattern must be avoided.

### ***Assembly and Reorganization***

Success or failure of the mission can depend on how fast the airborne force can regain tactical integrity. The first goal of any airborne assault must be to deliver and assemble all available



combat power as quickly as possible. The sooner soldiers assemble and reorganize as squads, platoons, and companies, the sooner they can reorganize their equipment and start fighting as cohesive units. How efficiently and rapidly this happens is a direct result of detailed planning, cross loading on the assault aircraft, and assembly on the DZ.

Cross loading of key personnel and equipment is important in rapid assembly. It must be given careful attention in training and on combat jumps. The separation of key personnel is necessary in case any aircraft aborts or fails to reach the DZ. This prevents the loss of more than one key officer or NCO of any one unit. Plans for *heavy-drop loads* must also consider the possibility that one or more aircraft will abort before they get to the DZ, or the equipment will "streamer" in and become unserviceable.

### AIR MOVEMENT PLAN

After development, backbrief, and approval of the landing plan, planners begin to develop the air movement plan. This plan is the third step in planning an airborne operation and supports both the landing plan and the ground tactical plan. It provides the required information to move the airborne force from the departure airfields to the objective area. The plan includes the period from when units load until they exit the aircraft. The air movement annex to the OPORD contains the air movement plan.

### Joint Planning

Although the Air Force component commander is solely responsible for executing the air movement phase, the air movement plan is the product of joint Army and Air Force consulting and planning. The Army contributes its landing plan and the procedures for the control and disposition of personnel at the departure airfields. The Air Force controls takeoff times and, based on the Army's landing plan, coordinates timing between different departure airfields to ensure the proper arrival sequence at the DZ, LZ, or EZ. The Air Force also designates rendezvous points and develops the flight route diagrams. The combination of METT-T and the orientation of DZs, LZs, and EZs determine the orientation of the flight routes.

### Elements

The air movement plan contains the information required to ensure the efficient loading and delivery of units to the objective area in the proper sequence, time, and place to support the ground tactical plan.

The air movement table is the main part of the air movement plan. It includes the following essential elements:

- Ž Departure airfield for each serial.
- Number of aircraft for each serial.
- Chalk numbers for each aircraft, serial, and departure airfield. (Aircraft tail numbers correspond to aircraft chalk numbers.)
- Ž Unit identity of the airlift element.
- Name and rank of each AF serial commander.
- Ž Number and type aircraft.
- Ž Employment method for each aircraft (passage point (PP), heavy drop (HD), CDS, and LAPES).
- Army unit identity.
- Ž Name and rank of each Army commander.
- Ž Load times.
- Station times.
- Takeoff times.
- Designated primary and alternate DZs for each serial.
- P-Hour for the lead aircraft of each serial (given in real time).
- Remarks such as special instructions, key equipment, and location of key members of the chain of command.

Besides the air movement tables, the air movement plan also contains the following information:

- Ž Flight route diagram.
- Ž Serial formation.
- Air traffic control.
- Ž Concentration for movement.
- Allowable cargo loads (ACLs).

- Airfield maximum on ground (MOG) aircraft maneuver space.
- Aircraft parking diagram.
- Army personnel and equipment rigging areas at the departure airfield.
- Army control procedures during preparation for loading.
- Emergency procedures including survival, evasion, resistance, and escape (SERE), and search and rescue (SAR) planning.
- Weather considerations.
- JSEAD, counterair, and AI considerations.

### **Types of Movement**

The type of movement must be considered when determining how to load the aircraft. Is it nontactical or tactical? Airborne units can conduct nontactical movement to an ISB or REMAB, and then transload into assault aircraft by using tactical loading.

Nontactical movements are arranged to expedite the movement of soldiers and equipment and to conserve time and energy. Maximum use is made of aircraft cabin space and ACL.

Tactical movements organize, load, and transport personnel and equipment to accomplish the ground tactical plan. The proper use of aircraft ACL is important, but it does not override the commander's sequence of employment.

### **Aircraft Requirements**

When the airborne unit deploys, planning guidance from higher headquarters indicates the type of aircraft available for the movement. Based on this information, the unit commander determines and requests the number of sorties by the type of aircraft required to complete the move. The air movement planner must ensure that each aircraft is used to its maximum capability. This is based on the information developed on unit requirements, ACLs, and available passenger seats. Methods of determining aircraft requirements are weight and type-load.

#### ***Weight Method***

This method is based on the assumption that total weight, and not volume, is the determining

factor. Since aircraft sometimes run out of space before exceeding the ACL, this method is no longer widely used. It has been replaced by the type-load method. However, during recent operations, it was discovered that aircraft can actually exceed their ACL before running out of space. The long distances involved in reaching an objective area, the necessity of the aircraft to circle for extended periods before landing, and the large amounts of fuel needed to sustain the aircraft can result in the aircraft having to reduce its ACL. As a rule, the longer the deployment, the lower the ACL.

#### ***Type-Load Method***

In any unit air movement, a number of the ACLs contain the same items of equipment and numbers of personnel. Identical type loads simplify the planning process and make the tasks of manifesting and rehearsing much easier. Used for calculating individual aircraft sortie requirements, the type-load method is the most common and widely accepted method of unit air movement planning. It requires consideration of load configuration and condition on arrival at a desired destination, rapid off-loading, aircraft limitations, security requirements *en route*, and anticipated operational requirements. The type-load method, therefore, is more detailed and is used in planning unit movements.

### **MARSHALING PLAN**

After the air movement plan has been developed, backbriefed, refined (if necessary), and approved, the next plan to be developed is the marshaling plan. It supports the previous three plans. The tactical, landing, and air movement plans are used to determine the number of personnel and vehicles to be stationed at or moved through each airfield. The marshaling plan provides the necessary information and procedures by which units of the airborne force complete final preparations for combat, move to departure airfields, and load the aircraft. It also provides detailed instructions for facilities and services needed during marshaling. The procedures in this chapter assist airborne commanders and staffs in planning for marshaling and CSS.

The marshaling plan appears as an appendix to the service support annex of the airborne force OPOD or as an annex to an administrative or

logistics order. The G4 is the principal assistant to the commander for the marshaling plans of specific units. Marshaling begins when force elements are sealed in marshaling areas and terminates when the departure airfield control group (DACG) accepts the chalk at the alert holding area. Procedures are designed to facilitate a quick, orderly launching of an airborne assault under maximum security conditions in minimum possible time.

### **Preparation Before Marshaling**

Units complete the following preparations before marshaling-especially for airdrops. Last-minute marshaling activities include briefing personnel, inspecting, preparing airdrop containers, issuing rations and ammunition, and resting.

As soon as a unit is notified of an airborne operation, it begins the reverse planning necessary to have the first assault aircraft en route to the objective area in 18 hours. The *N-Hour sequence* contains the troop-leading actions that must take place within a flexible schedule, ensuring that the unit is prepared and correctly equipped to conduct combat operations on arrival.

*Rehearsals* are always conducted at every echelon of command. They identify potential weaknesses in execution and enhance understanding and synchronization. Full-scale rehearsals are the goal, but time constraints may limit them.

### **Movement to Marshaling Area**

Unit marshaling areas should be located near departure airfields to limit movement. Higher headquarters can either control the movement to the marshaling area completely, or it can get a copy of the march table and use it to control the traffic out of the assembly area, along the route of march, and into the marshaling area. Advance parties assign soldiers to areas.

The S4 of the unit to be marshaled notifies higher headquarters on the number of organic vehicles that the unit can furnish to move its personnel and equipment to the marshaling areas. This information and the personnel list furnished by the S3 must be available early enough during

planning to procure any other transportation required for the movement.

When marshaling areas are on airfields, they are temporarily placed at the disposal of the airborne unit's higher headquarters. The air base commander's permission is obtained by the tactical units that must conduct activities outside of the camp area.

### **Passive Defense Measures**

Uncommitted airborne forces pose a strategic or operational threat to the enemy. Concentration of forces during marshaling should be avoided to keep impending operations secret and to deny lucrative targets to the enemy. Dispersal techniques include the following:

- Units *move* rapidly under cover of darkness to dispersed marshaling areas near air facilities.
- Commanders *control* movement to loading sites so most personnel arrive after the equipment and supplies are loaded on the aircraft.
- Commanders *prepare* for loading before arrival at the loading site.
- Commanders *avoid* assembling more than 50 percent of a brigade at a single point at any time.

### **Dispersal Procedures**

The degree of dispersal is based on an intimate knowledge of the operation's problems and what is best for the overall operation. Regardless of the dispersed loading procedures, the airlift commander ensures that aircraft arrive over the objective area in the order required by the air movement plan. Depending on the situation, one of the following dispersed loading procedures is used.

*Movement to departure air facilities* moves airborne personnel and equipment to departure air facilities where airlift aircraft may be dispersed. *Movement to the ISB* is another procedure. Before the mission, airlift aircraft fly to an ISB to pick up airborne personnel and equipment. Personnel and equipment are airlifted to dispersed departure airfield the mission originates from these facilities.

A third procedure combines the above two. Airlift aircraft fly to ISBs for the equipment before the mission. The equipment is airlifted to the dispersed departure airfields and the mission originates from these facilities, or airlift aircraft stop en route at ISBs to pick up personnel. Crews load aircraft quickly so that the fewest possible aircraft are at the ISB at one time.

### **Selection of Departure Airfields**

Departure airfield selection is based on the proposed air movement and the capability of airfields to handle the traffic. Marshaling areas near departure airfields are designated after the selection of departure airfields. For any specific situation or operation, one or a combination of the following factors can determine the selection:

- Mission.
- Ž Airfields (number required, location, and type).
- Runway length and weight-bearing capacity.
- Ž Communications facilities.
- Navigational aids and airfield lighting.
- Location of participating units and marshaling areas.
- Ž Radius of action required.
- Vulnerability to enemy action, including NBC.
- Other TACAIR support available or required
- Logistics support available, required, or both.
- Facilities for reception of personnel and cargo.
- Ž Facilities for loading and unloading of personnel and cargo.
- Facilities for dispatch of personnel and cargo.

### **Selection and Operation of Marshaling Camps**

The marshaling area is a sealed area with facilities for the final preparation of soldiers for combat. Commanders select marshaling camps within the marshaling area based on the air movement plan and other considerations. Another way to avoid concentration of personnel is to time-phase the movement of soldiers from their home bases through the marshaling area to the departure airfield, minimizing the buildup of

forces. After departure airfields and marshaling areas are selected, loading sites are then selected near the airfields. The following factors are considered when selecting marshaling areas:

- Ž Distance to airfields.
- Time available.
- Ž Existing facilities.
- Availability of personnel and materials for construction.
- Ž Availability and access of maneuver and training areas.
- Communications requirements.
- Briefing facilities.
- Location of participating units.
- Ž Security or vulnerability to enemy action.
- Logistics support available or required.

### **Support Agencies**

When the airborne brigades deploy and marshaling areas close, the DISCOM acts as the provisional logistics unit at the home station. The theater commander responsible for the AO provides the provisional logistics support unit for the ISB. If a support unit cannot preposition at the ISB, a support unit from the home station command is included in the advance party. Marshaling control agencies assist the airborne and airlift force in the execution of the operation.

To enable the majority of the airborne force to concentrate on preparing for planned operations, support agencies are designated by division headquarters to provide most of the administrative and logistics support. These nonorganic units and certain organic units not participating in the airborne assault are organized into a provisional unit known as the *marshaling area control group (MACG)*. The MACG commander is the principal logistics operator for the deploying force; he executes the logistics plan. Typical assistance provided by this unit includes—

- Transportation.
- Ž All classes of supply.
- Communications.

- Campsite construction, operation, and maintenance.
- Messing.
- Maintenance.
- Rigging.
- Recreation and other morale services.
- Local security personnel to augment the Air Force, when required.
- Health service support.

The *airlift control element (ALCE)* coordinates and maintains operational control of all airlift aircraft while they are on the ground at the designated airfield. This includes aircraft and load-movement control and reporting, communications, loading and off-loading teams, aeromedical activities, and coordination with interested agencies. The ALCE's support function includes activities that relate to the airfield.

The *DACG* ensures that Army units and their supplies and equipment are moved from the marshaling area and loaded according to the air movement plan. The DACG may be a provisional unit or nondeploying element of the deploying force. The deploying force or MACOM commander identifies who executes the DACG support mission.

The organization of the *arrival airfield control group (AACG)* is similar to the DACG's. When personnel, supplies, and equipment are arriving on aircraft and need to be moved to marshaling camps or holding areas, the AACG off-loads them. The AACG may be provided by a unit already located at the arrival airfield or an element of the deploying force that is with the advance party and positioned at the airfield. As EAD forces arrive, an air terminal movement control team (ATMCT) may replace the requirement for an AACG.

### Outload Operations

Complex outload operations are more difficult because they are usually conducted at night under blackout conditions. Since most of the airborne units' vehicles are rigged for air delivery, airborne units rely on the supporting unit for transportation during outload. These requirements are closely related to and dictated by the loading plans developed for the operation.

### Contents of Loading Plan

Loading preparations are included in the marshaling plan. Loading plans outline the procedures for moving personnel and HD loads from the alert holding area to plane side. They also outline the use of available materiel handling equipment. Loading plans are closely coordinated with the supporting airlift units.

### Formulation of Loading Plan

A loading plan is formulated at joint conferences. It contains information about the number of personnel, amount of equipment to be airlifted, ACLs, and general sequence of movement.

### Adherence to Loading Plan

Strict adherence to the loading timetable is needed. Loading of equipment and supplies must be completed in time to permit inspection, joint pretake-off briefing, and personnel loading by the designated station time.

### Loading Responsibility

Loading responsibilities in the airborne operation are as follows. The airlift commander—

- Develops plans for specific loads and sequence of movement in conjunction with the unit being moved.
- Establishes and disseminates instructions for documenting and manifesting all cargo and personnel.
- Provides instructions for loading and unloading of aircraft and for tie down of cargo.
- Parks aircraft according to the parking plan.
- Provides loading ramps, floor conveyors, tie downs, load spreaders, and other auxiliary equipment, such as operation ejection equipment.
- Prepares aircraft for ejection of cargo and safe exit of parachutists from aircraft in flight. Cargo to be ejected in flight is tied down by AF personnel.
- Ensures that an AF representative is present to provide technical assistance and supervise the loading unit during the loading of each aircraft.
- Verifies documentation of personnel and equipment.

- Furnishes and operates materiel handling equipment required in aircraft loading and unloading if the Army unit needs it.

The airborne commander establishes the priority and sequence for movement of airborne personnel, equipment, and supplies. Further, he—

- Prepares cargo for airdrop, air landing, or extraction according to applicable safety instructions.
- Marks each item of equipment to show its weight and cubage and, when appropriate, its center of gravity. Ensures hazardous cargo is properly annotated on DOD Form 1387-2.

- Documents and manifests all loads of Army personnel and equipment.

Ž Directs and monitors movement of ground traffic to the departure airfield or loading area, and accepts delivery at the destination.

- Delivers properly rigged supplies and equipment to the aircraft according to the loading plan.
- Loads, ties down, and unloads accompanying supplies and equipment into and from the aircraft with technical assistance from an AF representative. Cargo to be ejected in flight is tied down and ejected by Air Force personnel.

Ž Assigns chalk leaders for each chalk.

## Section IX. MOVEMENT OPERATIONS

Division movements must ensure units arrive at the right place, at the right time, and can accomplish their missions. An infantry division, without augmentation, will field 1,400 or more vehicles, depending on the type of division.

Divisions always execute tactical movements. There are no nontactical movements in a tactical environment, even moving from a sea or aerial port to a corps assembly area. Tactical movements assume enemy contact may occur *en route* or soon after arrival at the destination. The G3 plans and supervises tactical movements.

The division moves in five phases. Phase one includes movement of elements of the reconnaissance squadron, MP company, and ADA and engineer battalions to conduct reconnaissance and prepare the route for movement. Phase two includes movement of C<sup>2</sup> elements, ground maneuver brigades, DIVARTY, and battalion quartering parties of subordinate units. Phase three includes movement of the division rear CP, and quartering parties of the DISCOM, aviation brigade, and their battalions and companies. Phase four is the movement of the division main body. Phase five is closure of support elements along the march route.

### TACTICAL ROAD MARCH

Infantry divisions normally plan, prepare, and execute tactical road marches as part of a

corps or higher echelon operation. The planning considerations for a tactical road march are—

Ž Missions on arrival and dispositions that best accomplish those missions.

Ž Nature and extent of the probable enemy interference.

- Present unit disposition.

Ž Available routes.

- March rates of elements.
- Time internals between units.
- Impact of darkness or limited visibility.
- Flexibility and vulnerability of the drawn formation.
- Degree of TACON.

The mission following the move affects routes selected as well as organization of the march. Following the tactical road march, units either move into assembly areas or tactically deploy to complete follow-on missions. Selection of routes and march organization must expedite this.

The nature and extent of probable enemy interference impacts on the organization of march units and security operations during the march. For example, an air threat may require prepositioning AD assets along the route and at choke points. A threat of route interdiction may require prepositioning additional engineer assets

along the route of march. A threat from bypassed units or the threat of ambush may require increased reconnaissance and security forces along routes.

Routes and march organizations should allow units to conduct an orderly move from their current locations to march routes. This allows units to form into march organization and attain prescribed rates of march before entering the march route. Any changes to task organization and unit locations and dispositions should be considered when selecting routes and march organization.

Available routes will impact the march organization. The division normally plans to move on multiple routes to allow more rapid completion of the move, enhance dispersion, and aid security. If multiple routes are not available, the division must adjust its march organization to a single route. The division TSOP should include standardized march organizations for both single and multiple routes. This increases speed and simplicity in planning, preparing for, and executing tactical road marches. It also reduces the time required to prepare and issue orders.

Route planning includes selection of start point and release points. The start point provides all units of a march column a common point for beginning their integrated movement. When the division uses multiple routes, each has a start point. The start point should be easily recognizable on both a map and the ground, but not be in a defile, on a hill, or at a sharp curve. It should be far enough from assembly areas to allow units to organize and be moving at the prescribed rate when they reach it. Units must not move early or late to start points due to congestion.

The release point provides a common point for units to revert to the control of their commanders. Like the start point, it should be a point easily recognizable on both a map and the ground. It should not cause a unit to countermarch or go through other units to reach its area. Guides meet units as they arrive at the release point to guide them into their assembly areas, or units should deploy tactically for the follow-on mission if applicable.

When selecting routes, the G3 must consider using checkpoints and TCPs at critical locations along the route. The G3 uses them to monitor and

control progress along the route or routes of march.

Halts and refueling points must be planned along the route. The G3 must also allow time for refueling, maintenance, and rest halts on long road marches. Rest halts should be on terrain that is large enough to accommodate multiple march units. Alternate (on-order) holding areas should be specified for emergencies. This simplifies moving march units off the route of march should unforeseen events occur. For example, if the enemy interdicts a route, the G3 can direct march units into these holding areas until the route is repaired or they can be directed onto alternate routes. (See Figure 7-26.)

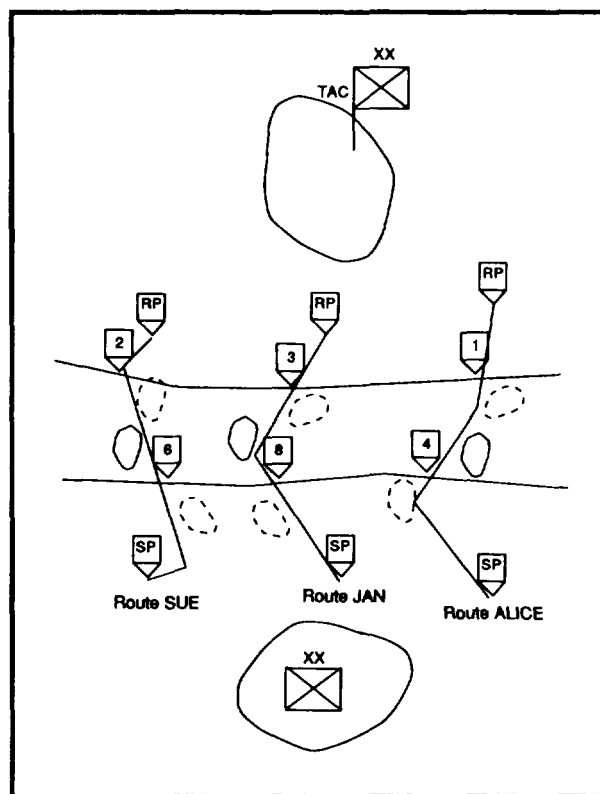


Figure 7-26. March units and holding areas

Rates of march are also important and vary with road and terrain conditions. Wheeled vehicles in column travel at the optimum speed of the slowest vehicles. Factors determining rates of march are—

- Grades, sharp turns, cities, towns, and other route restrictions.

Ž Surface conditions, such as dust, ice, mud, and snow.

Ž Condition of drivers and crews, including their training and experience.

- Condition of vehicles.
- Visibility conditions.

Rates of march for foot troops must be tempered by considerations of soldier load and terrain. As a rule, the total distance marched by soldiers in six hours decreases by 2 kilometers for every 10-pound increase in soldier load over 40 pounds. (See Figures 7-27 and 7-28.)

Average Rates of March for:	On Roads		Cross-Country	
	Day	Night	Day	Night
Foot Troops	4	3.2	2.4	1.6
Trucks, general	40	40 (lights) 16 (blackout)	12	8
Towed Artillery	40	40 (lights) 16 (blackout)	12	8

Figure 7-27. Rates of march

Soldier Load	On Roads		Cross-Country	
	Day	Night	Day	Night
40 pounds	24km	19km	14km	10km
50 pounds	22km	17km	12km	8km
60 pounds	20km	15km	10km	6km
70 pounds	18km	13km	8km	4km

Figure 7-28. Degraded rates of march

A second factor affecting rate of movement is terrain gradient. Distances-traveled may be reduced by half if march gradients exceed 10 percent. Units may exceed these guidelines, but risk a decrease in unit effectiveness. FM 21-18 provides additional information on fast marches.

The G3 controls the march by organizing the division into march columns, serials, and march units. When planning the tactical road march, march units of roughly uniform size should be used.

Infantry battalion packages are the division's basic combat elements and the principal building blocks for tactical planning. They are the first

elements to consider when organizing for movement and should march as serials in nearly equally sized time blocks to simplify planning. Some supporting units may precede the main body to establish refueling points, install communications, and prepare forward bases.

A serial of 55 to 65 vehicles generally corresponds to the size of a light infantry battalion moving in 5-ton trucks and organic vehicles. This 55 to 65 vehicle serial is divisible into company-sized march units. Its size is manageable for CSS commanders, movement planners, and traffic controllers.

Tactical control depends on the chain of command established. The force should be organized into manageable echelons which preserve unit integrity as much as possible. Movement groups, composed of vehicles from more than one unit, must have a single commander.

The TAC CP controls the division road march. It will normally be augmented with division transportation and PM representatives to help control the road march.

The G3 also must consider the type of tactical road march to use—the day march, limited visibility march, forced march, or shuttle march. Each has its own strengths, weaknesses, and planning considerations. Each may be conducted mounted or dismounted.

The division conducts the day march when there is little enemy threat. It permits faster movement and is less tiring for soldiers. Dispersed formations and ease of control and reconnaissance characterize the day march. However, it is more vulnerable to enemy observation and air attack.

The limited visibility march is characterized by closed formations, more difficult C<sup>2</sup> and reconnaissance, and slower rate of march. However, this type of march provides good concealment from enemy observation and air attack and exploits darkness to gain surprise.

Forced marches are characterized by speed, exertion, and a greater number of hours marched. Forced marches normally increase the number of hours marched rather than rate of march. The division conducts them only when tactically required since they decrease unit effectiveness.



Shuttle marches alternate riding and marching. Shuttling requires transporting troops, equipment, and supplies by a series of round-trips with the same vehicles. It can be accomplished by hauling a load an entire distance and then returning for another, or by carrying successive parts of a unit for short distances while conducting a foot march.

### **Planning**

The G3 has staff responsibility for tactical road marches. The plans element at the main CP plans tactical road movements, and the TAC CP controls the march. The division rear CP supports the main CP during planning and the TAC CP during execution of the march by temporarily providing transportation and PM representatives to help control movement. The rear CP, in coordination with DISCOM and CSS representatives at the main CP, plans and coordinates march logistics support.

### ***March Warning Order***

Planning for tactical road marches begins with receipt of the corps order. As soon as possible, the G3 should issue a march warning order alerting units of the impending move. The warning order contains as much information as the G3 can provide. Based on the warning order, major subordinate commanders begin to plan, prepare, and conduct reconnaissance for the march.

Development of plans for the tactical road march follows the planning considerations listed above. Plan development culminates in issuing a road movement or an operations order.

The OPORD contains instructions for movement of units from one location to another within a stated time. Preparation of this order normally follows completion of reconnaissance. When available time and tactical conditions prevent detailed planning or reconnaissance, the division may prepare an initial march plan and issue FRAGOs to modify the plans as needed.

If conditions and time permit, information in the order includes—

Ž Destination and routes.

- Rate of march, maximum speeds, and march order.

Ž Start points and times.

- Halts, vehicle distances, and release points.
- Communications.

Ž Location of the commander.

- Strip maps.

The order also includes route or unit markers, TCPs, and checkpoints.

### **Staff Responsibilities**

The G3 has staff responsibility to plan, prepare, and conduct tactical road marches. He prioritizes and allocates routes and resources, and synchronizes the march.

When corps or a higher headquarters directs the division to move, a corps order normally provides routes, times, assembly areas, and follow-on missions. The G3 plans element, with the assistance of the DTO, develops the division plan. This involves determining priorities of movement and development of movement tables. Use of standard march and task organizations in the divisional SOP can reduce time required to plan, prepare, and distribute orders.

The G3 dispatches liaison teams to units whose AOs include the final location to which the division is moving. Liaison officers obtain information and coordinate movement and terrain requirements.

The G2 conducts an IPB for the march. He identifies possible enemy interference and key terrain for likely interdiction points for the march. With the engineer terrain team, DTO, and PM, the G2 develops and recommends locations of TCPs to the G3. He also presents the effects of terrain, weather, and visibility on rate of march.

The division FSE plans and coordinates tire support for the conduct of the march. It coordinates with the rear CP of units through which the division will move, and obtains existing and planned FS coordination measures. It provides this information to the TAC CP's FSE to coordinate and clear fires during movement.

The ADA representative at the main CP coordinates AD protection with corps and with units through which the division is to move. The air IPB and early warning frequencies and

procedures from those units are key considerations. The division air defense officer recommends AD coverage to protect the division during the march to the G3.

The ADE, working with the G2, corps engineers, and engineer element of units through which the division will march, develops and recommends mobility requirements for the march. These include prepositioning of engineer assets along the march route.

The ADSO integrates communications and information systems requirements to support the march. These include signal support preceding march units for command and control of the march and follow on mission.

The PM coordinates MP support for road movement. This includes placement of traffic control elements to assist in movement through choke points and critical areas where units could easily get lost from their route of march. Military police may also assist in route marking to assist unit marches.

The NBC element coordinates NBC support. This includes NBC route reconnaissance and smoke use in deception or concealment at choke points. The NBC element plans for locations and priorities of hasty and deliberate decontamination points. It coordinates with engineers for route decontamination and the effects of enemy nuclear or chemical attack on primary and alternate routes.

The A2C2 element coordinates airspace for the march. This includes use of airspace to support route reconnaissance, aviation brigade displacement, and incorporation of existing and planned airspace coordination measures into the division order.

The rear CP coordinates logistics support. It prepositions CSS assets prior to movement and arranges for support from corps or from units through which the division will march, and HN support. The rear CP also coordinates and integrates civil affairs.

### **Preparation**

Preparation for the tactical road march begins during the planning process. On receipt of the movement order from higher headquarters,

the division begins reconnaissance, dispatches liaison teams to units through which the division will march, and requests required support and supplies from corps. Other preparations include-

- Movement of DTO and PM representatives from the rear CP to the TAC CP.
- Movement of the TAC CP to control the march.
- Dispatch of TCPs.

Ž Execution of any task organization changes.

Ž Unit preparations including refueling vehicles, receipt and distribution of supplies, and receipt and integration of any external support into march serials and units.

- Dispatch of communications support packages to support C2.

Ž Dispatch of engineers, maintenance, and, if required, petroleum, oils, and lubricants (POL) support.

Ž Reconnaissance by unit commanders from their positions to the march start point.

- Dispatch of unit quartering parties or guides.

### **Execution**

The division executes the tactical road march according to its movement or operations order and its SOP. Units move according to the movement tables minus the time required to reach their respective start points. Serial commanders monitor conduct of the march and submit reports to the TAC CP according to the division's SOP, order, and tactical situation.

March discipline is necessary for uninterrupted movement and reduced vulnerability. Traffic control points monitor traffic flow along routes. They report to the TAC CP and adjust the march as directed. For example, march units may be moved into holding areas while routes are repaired or units diverted to alternate routes.

Movement on multiple routes during periods of reduced visibility can increase traffic control problems. Major intersections, defiles, and detours along routes can also add to the problem. The G3 must request additional MP support when — organic assets are not sufficient.

Army aircraft are an efficient means of monitoring tactical road marches. Consistent with tactical security, air control teams can land and control situations until a ground control team arrives.

The TAC CP monitors movement through reports submitted by units and TCPs. Based on the movement or OPORD, the TAC CP commands and controls division movement and submits required reports to the corps. The TAC CP provides information to units through which the division moves. It resolves conflicts and issues instructions as required.

At the release point, guides assist units in clearing the route. The road march terminates when all units have cleared the march route and occupy their assigned positions for the follow-on mission.

### ***Road Movement Table***

The road movement table normally is an annex to the movement order. It contains information and instructions on march serials, including their identification serial numbers, rates of march, start points, time for crossing start points, critical points, and other details.

A march column may have difficulty maintaining a constant density, speed, and uniform distance between march units depending on the state of unit training, weather, light, road conditions, and the tactical situation. The addition of a safety time factor to calculations is often necessary.

### ***Standard Infantry Division March Tables***

The division uses the infantry battalion as the basic building block for planning tactical road marches. (Foot march planning is found in FM 21-18.) For example, a light infantry battalion has 35 organic HMMWVs. For planning purposes, it is assumed the battalion will have twenty-one 5-ton trucks available to conduct a mounted road march, a total of 56 vehicles. Nineteen other vehicles (from CS and CSS assets) move with the battalion, an average of 75 vehicles. At least 9 of these vehicles operate independently of the road march, either in

advance of it or trailing. The remaining 64 vehicles are subdivided into four 16-vehicle march units.

If road space or time is critical, planners may conduct a detailed road movement plan. A simplified road movement planning formula to expedite movement planning follows. It is based on the following data:

Ž Gap between vehicles is 100 meters for day moves and 50 meters for night or limited visibility moves.

- Rate of march is 30 kilometers per hour for day moves and 15 kilometers per hour for night or other limited visibility moves.

- Pass time for a march unit (up to and including 20 vehicles) is five minutes. (Actual pass time will be less when there are fewer vehicles, but to simplify planning and execution, the five-minute pass time per march unit is used here. This pass time includes a one-minute gap between march units.)

Ž A 5-minute time gap is planned between march units and a 10-minute gap, between serials.

Ž Pass times for serials include pass times of all its march units plus the five-minute gap between serials.

Therefore, a serial with five march units has a pass time of 30 minutes. This is five minutes pass time for each march unit and the five-minute gap following the last march unit and the next serial. (Five march units x five minutes + the five-minute gap.)

Standardized march units for each divisional unit are as follows.

Division HQ	3	Recon Sqdn	2
Inf Bde HQ	2	DISCOM HQ	2
Inf Bns	4	FSB	3
DIVARTY HQ	2	MSB	4
DS Arty Bn	4	Engr Bn	4
GS Arty Btry	2	ADA Bn	6
Avn Bde HQ	2	MI Bn	4
Atk Hel Bn	2	Sig Bn	7
Aslt Hel Bn	2	MP Co	2

The table indicates pass time for each march column. It applies for either day (30 kph) or night (15 kph) marches. To obtain total time, the pass time is added to the time distance factor for the route. For example, if the route is 90 kilometers, the time distance factor is three hours for day (30 kph) or six hours for night (15 kph). (Reference is FM 55-10.) The total time is shown below.

<b>Day</b>	
3 hours 40 min	pass time
+ 3 hours	time distance factor
<hr/> 6 hours 40 min	
<b>Night</b>	
3 hours 40 min	pass time
+ 6 hours	time distance factor
<hr/> 9 hours 40 min	

Standardized march columns on three routes and march units, serials and pass times are as shown in table below. Remaining divisional units are inserted into march columns as required by the situation and movement order. These include division headquarters elements, DIVARTY, DISCOM and the MSB, and remaining portions of the separate battalions.

### ASSEMBLY AREA OPERATIONS

The division occupies an assembly area for a variety of reasons. These include preparation for offensive operations, reserve operations, or reconstitution.

The division will be assigned its assembly area by the corps or higher headquarters. The division organizes the assembly area based on the IPB and METT-T. An example of how a division might occupy an assembly area is at Figure 7-29.

The division normally occupies the assembly area task-organized for the follow-on mission. The G3 must ensure that the assigned assembly area contains sufficient space for the division to occupy and prepare for future operations. The division establishes two separate and distinct assembly areas with the assigned division assembly area. These are the division forward assembly area (FAA) and division rear assembly area (RAA). They are normally 10 to 15 kilometers apart. Normally, the clock method will be used for occupation. Division forces occupy the assembly area according to the TSOP. During the occupation of all assembly areas, 12 o'clock is always forward and is the side nearest the enemy. The main CP controls the FAA and the rear CP controls the RAA.

<b>Route One</b>	<b>March Units/Serials</b>	<b>Route Two</b>	<b>March Units/Serials</b>	<b>Route Three</b>	<b>March Units/Serials</b>
Inf Bde HQ	2/1	Inf Bde HQ	2/1	Inf Bde HQ	2/1
Inf Bn x 3	12/3	Inf Bn x 3	12/3	Inf Bn x 3	12/3
DS Arty Bn	4/1	DS Arty Bn	4/1	DS Arty Bn	4/1
FSB	3/1	FSB	3/1	FSB	3/1
Engr Bn	1/1	Engr Bn	1/1	Engr Bn	1/1
ADA Bn	2/1	ADA Bn	2/1	ADA Bn	2/1
MI Bn Co	1/1	MI Bn	1/1	MI Bn	1/1
Sig Bn Co	1/1	Sig Bn	1/1	Sig Bn	1/1
Total: (in each case) 26/10 (3 hrs, 40 min)					

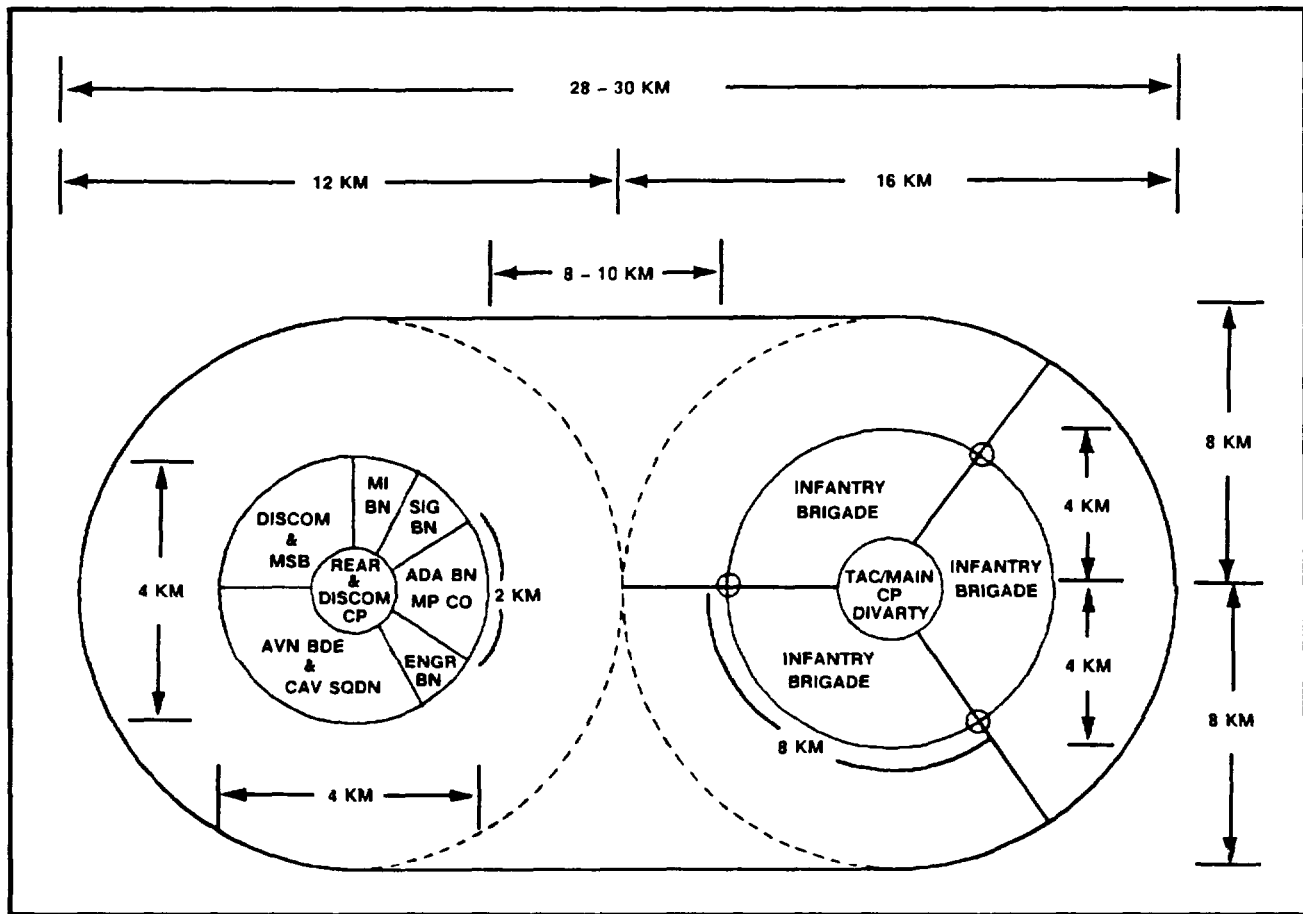


Figure 7-29. Corps-assigned division assembly area

The FM is normally occupied by the following elements.

UNIT	LOCATION
TAC CP and main CP (collocated)	Center Sector
DIVARTY	Center Sector
Inf Bde	10-2
Inf Bde	2-6
Inf Bde	6-10

The RAA is normally occupied by the following elements.

Rear and DISCOM CP	Center Sector
ADA Bn/MP Co	11-1
Engr Bn/Chem Co	1-2
Avn Bde/Cav Sqdn	2-6
MI Bn	10-11
DISCOM/MSB	6-8
Sig Bn	9-10

The division occupies the assembly area in phases as discussed in the previous section on tactical road marches. Guides meet units at release points and direct them to their positions in the assembly area. Units move from release points to their positions in the assembly area without stopping.

Each CP ensures occupying units establish perimeter security. The division plan and graphics establish coordinating points between units to ensure gaps do not exist on the perimeter and to coordinate fire support.

The perimeter of the assembly area can be equated to the FEBA in a defensive sector. This is where elements of the division conduct their close operations. The division's security area is outside the perimeter to the limits of the assembly area assigned by the higher headquarters. In this area

the division conducts counterreconnaissance actions to protect the force from enemy ground reconnaissance and to detect threats.

Routes into and out of the FM and RAA are secured by the units through which the routes pass. The division occupation plan establishes NAIs and assigns surveillance responsibilities. The main CP in the FAA coordinates and synchronizes the security actions of both the FAA and the RAA.

As in rear operations, each unit in the assembly area must be prepared to conduct Level I responses to rear area threats. Both the FAA and the RAA designate a Level II response. The division designates a Level III (TCF) response to significant threats. Division intelligence assets are employed to support the security of the assembly area and support division OPSEC. Ground surveillance radars, communications interceptions, and direction finding systems are employed as part of the counterreconnaissance effort.

The intelligence system also continues to update IPB products for the follow-on mission. The all-source production section continues to coordinate with higher and adjacent units to update the enemy situation. Dependent on the situation, division-level reconnaissance assets may be used to further develop combat information and intelligence for the follow-on mission.

Maneuver forces conduct security operations as directed by the division. If the division is occupying an assembly area in the corps rear, it may be required to provide a response force for corps rear. The main CP coordinates this action with the corps rear CP.

## **Section X. ARMORED-LIGHT OPERATIONS**

This chapter focuses on the use of armored forces in support of the infantry division, specifically an armored brigade supporting an infantry division. Detailed information on armored-light operations is found in FM 17-18.

Employing light units with armored units can be a combat power multiplier. Armored-light unit operations effectively use the infantry division's ability to operate in restrictive terrain, such as urban areas, forests, and mountains. This maximizes the force's survivability and capabilities.

Fire support for the RAA is a concern. The division may position artillery with the RAA to provide responsive fires *or* position artillery, especially 155-millimeter artillery, in the FAA to range the RAA and beyond. Attack helicopters from the aviation brigade in the RAA may also provide fire support to the RAA.

Engineers continually improve survivability positions within the assembly area. They also assist in conducting reconnaissance for follow-on missions. The division engineer and ADE coordinate with higher and adjacent units to ensure the division knows the location of obstacle zones and belts. For defensive operations, the engineers, in coordination with the G2, determine the location and status of enemy obstacles and disseminate this information to division elements.

Air defense of the assembly area is coordinated with the corps AD effort. Divisional FAAD assets are employed throughout the assembly area. Priority is provided to the RAA and the aviation brigade. The AD officer, in coordination with the G2, prepares and coordinates the air IPB. The division positions its FAAD assets and employs them to counter the threat.

Division CSS assets continue to man, arm, fix, and sustain the soldier and his equipment. Depending on the follow-on mission, priority is class V distribution.

The division continues to refine its plan for the follow-on mission. Rehearsals of the follow-on mission are conducted in the assembly area to the extent possible.

The armored-light force should be mutually supporting, based on the commander's concept of employment, to ensure assets of both forces are integrated and synchronized. This chapter discusses the division commander's considerations in planning and executing tactical operations with armored forces.

### **EMPLOYMENT CONSIDERATIONS**

The purpose of employing armored and light forces together is to capitalize on the unique strengths of each type of force while minimizing

its limitations. To accomplish this, commanders must understand the capabilities and limitations of each force and synchronize all combat, CS, and CSS assets.

The augmentation of an armored brigade to an infantry division is a combat power multiplier for the division only if three conditions are met. First, use of the armored brigade must support the division mission. Division commanders must ensure the tactics, techniques, and procedures used by their forces and the armored brigade are compatible. Artillery, engineer, AD, intelligence, attack helicopters, signal, and divisional CSS assets must be properly coordinated with the armored brigade to support armored-light operations.

Second, the armored brigade must bring its own logistics support. The armored brigade should be OPCON to the division. This relieves the division of supporting the brigade. The infantry division's FSBs are not able to support the armored brigade with fuel, ammunition, and repairs.

Third, the commander must remember the differences in tempo between light and armored forces and use these differences to his advantage. Differences in mobility change the way the infantry division fights. The armored brigade's agility allows it to move quickly. It depends on mobility and fire power to survive. Integration of speed and mobility is vital when conducting operations as an armored-light force.

### **Capabilities and Limitations**

The employment of a mixed force must be based on sound METT-T analysis. By maximizing capabilities and minimizing limitations, commanders can effectively integrate armored and light forces. A discussion of capabilities for armored forces and considerations for minimizing limitations follows.

#### ***Armored Force Capabilities***

Specifically, armored forces can operate as attack or counterattack forces and accomplish rapid movement in exploitations and pursuits. Further, they can-

- Seize terrain and penetrate or envelop enemy defenses or strongpoints.

• Conduct defensive operations by dispersing over great distances and by concentrating rapidly. They can also defend from strongpoints.

• Rapidly exploit success in the offense or defense, including the effects of nuclear, chemical, and conventional fires.

- Conduct delaying actions against larger enemy armored forces.
- Conduct security missions.
- Provide organic air defense against low-altitude hostile aircraft.

#### ***Armored Force Limitations***

Armored forces depend mainly on radio communications. This makes them vulnerable to EW reconnaissance. However, understanding the commander's intent, doctrine, drills, and control measures for the operations ensures that execution of plans is less disrupted when radio communications break down from jamming or inoperable systems.

Armored forces have a high consumption rate of supply items, especially classes III, V, and IX. Anticipation of these supply needs, integration of supply assets into the BSA at optimum times, and extensive use of LOGPACs can reduce this burden.

Armored forces are vulnerable to antiarmor weapons and mines. Proper integration of dismounted infantry and use of artillery, terrain driving, and extensive reconnaissance to locate and target enemy antiarmor positions and minefields reduce this vulnerability.

Because of the limited number of dismounts available in armored units, these units have difficulty defending positions against enemy infantry. When armored forces are positioned to defend on mechanized avenues of approach, they should be augmented with infantry to reduce this vulnerability.

The armored brigade brings armored protection, mobility, and firepower to the infantry division. The division can use these capabilities to exploit success or reinforce the defense. The integration and synchronization of these capabilities can overwhelm a numerically superior force.

### Task Organization

Cross attachment of an armored brigade to an infantry division must be thoroughly considered. Planners must consider the capabilities and limitations of the combined force with respect to the—

- Size and mission of the force.
- Location of the deploying unit in relation to its parent unit.
- Support capability of the deploying force.
- Source of support for the deploying force.
- Self-sustaining capability of the armored force.

Options for task organizing an armored division brigade to support an infantry division are, in priority—

- Separate armored brigade OPCON to an infantry division.
- Armored division brigade OPCON to an infantry division.
- Armored division battalion OPCON to an infantry brigade.

The recommended command relationship for an armored brigade supporting a light division is OPCON. Under this relationship, the division is not burdened with the heavier brigade's logistics support. The division staff must plan for the increased requirements for terrain, movements in the rear area, and for the increased logistics support structure.

When requesting the support of an armored brigade, the division should routinely expect to receive a brigade task-organized as shown in Figure 7-30. The armored division provides additional assets to the armored brigade within its capability. Additional division assets are three heavy equipment transporters (HETs) (3,500 - gallon tankers), two MSE nodes, and one MP platoon. This is the minimum essential organization required to support the infantry division. This is what the parent armored division should provide the armored brigade and still remain capable of conducting and supporting armored division operations. Normally, additional augmentation for the armored brigade comes from corps if the parent armored division is committed.

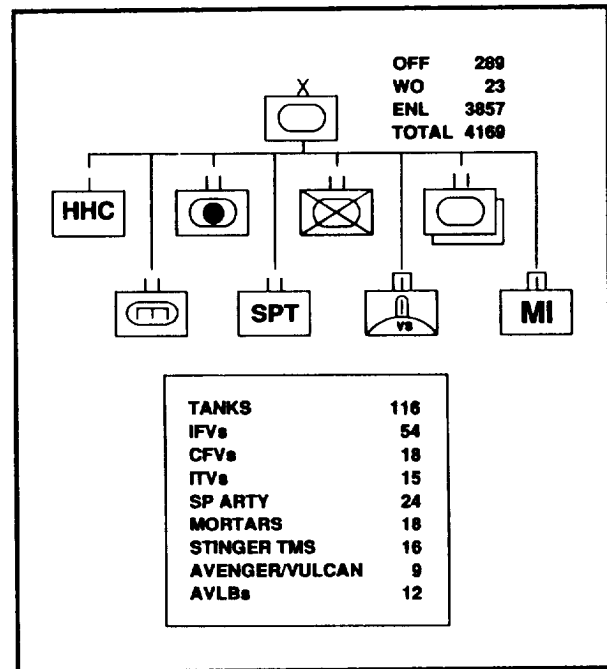


Figure 7-30. Armored brigade

### PLANNING CONSIDERATIONS

The effective employment of a force with both armored and light elements requires detailed planning. Mutual planning, development of orders, rehearsals, and coordination between respective commanders and staffs must take place. Critical areas in the planning process include the command and support relationship, composition of CS and CSS support, and effective use of terrain. A common SOP or understanding of each unit's SOP is essential to synchronizing all combat, CS, and CSS units. A discussion of specific planning considerations follows.

#### Intelligence

Detailed intelligence is critical to the success of armored-light force integration. Intelligence requirements for each force must be understood and integrated into the IPB process. Armored forces orient on unit concentrations, tank and antitank locations, counterattack routes, armor obstacles, EAs, and artillery and AD assets. Both forces' PIR and DSTs must be combined, compared, and explained to both staffs in detail. The R&S plans of both units should be jointly developed and coordinated. The armored force mainly



uses its long-range observation devices to conduct reconnaissance. Armored force systems provide enhanced mobility, range, and protection when contrasted to light infantry assets. These enhancements must be integrated into the intelligence plan.

### **Maneuver**

Either the armored or light force can fix the enemy while the maneuver force attacks. In either case, the armored force requires adequate terrain to maneuver. Some important considerations follow.

Armored forces are best suited to open and mixed terrain. Mobility and organic firepower make it easier for mechanized and armored forces to disperse and rapidly concentrate at the decisive point on the battlefield.

The difference in operational tempo between light and armored units must always be a consideration, including the scheduling of rehearsals. It may dictate an early rehearsal time to allow both forces to take part.

Both units' direct and indirect fires should mutually support each other. The armored brigade can use its long-range direct fires to provide suppression and overwatch fires for the light division. The light division should plan to use the armored force's long-range antiarmor fires. In armored-light operations, differences in equipment may dictate different techniques in marking TRPs.

### **Fire Support**

The armored force must recognize that dismounted infantry operations focus on stealth, which could preclude preparation and other preliminary fires. Planners must integrate available fire support for each force into the fire plan. Planners must be familiar with the organization, capabilities, and limitations of all forces involved. During planning and preparation phases, a liaison team should facilitate the synchronization of fire support. Restrictive fire control measures must be jointly developed and understood by everyone.

### **Air Defense**

Commanders should direct their attention to the ADA resupply requirements. Centralized

planning is required to orchestrate ADA support for armored-light organizations. The division can consolidate ADA units to provide more dense coverage around critical targets. Armored forces provide excellent coverage and capability in air defense and can carry the resupply of Stinger missiles.

### **Mobility and Survivability**

The division G3 and engineer must develop a common obstacle plan, and consider using light infantry to clear choke points and obstacles for the armored force. Division planners must also consider weapons' disparities in range, their impact on prepared obstacles, and use of terrain during battle handoff to an armored force. The priorities of M/S may be different for each force. The light force must be prepared to take full advantage of armored force engineer assets. When light forces breach obstacles for armored forces, planners make sure the breach is large enough for the widest vehicle in the operation.

### **Combat Service Support**

FMs 17-18 and 63-2-1 provide detailed CSS planning information for armored-light operations. CSS requires an understanding of the current, ongoing, and forecasted needs of both forces. Commanders must be able to cross-level CSS to support overall support requirements and be prepared to receive CSS augmentation from the corps support group. The division can coordinate use of transportation assets of the armored force to facilitate this cross leveling. The light division emphasizes replacing parts; the armored unit emphasizes repair. This requires continuous attention throughout the operation. The armored force performs maintenance continuously. The light commander must understand this requirement and provide an opportunity for such maintenance. Also, armored forces can provide the light force with limited water, resupply, and casualty evacuation.

### **Command and Control**

The directing headquarters defines the authority and responsibility within the armored-light force by designating command relationships. The armored and light force must exchange LOs. The planning process is jointly conducted and the development of orders and overlays is

coordinated. Backbriefs are required at brigade level of combat, and at CS and CSS units, to ensure timing, synchronization, and understanding of intent. Standard operational terms and symbols must be used, and codes, recognition signals, and SOIs exchanged. The directing headquarters may need to set up a retransmission site to compensate for the shorter range of the light unit's communications equipment.

### **Nuclear, Biological, and Chemical**

The light division is more limited in its decontamination capabilities than the armored force. The mobility of the light division is affected by the need for soldiers to carry protective clothing in addition to their standard load. The use of armored unit vehicles should be planned to assist in transporting NBC equipment. An armored battalion has expedient devices and water-haul capabilities that can offset light force shortfalls.

### **TACTICAL MOBILITY**

Infantry units use terrain to attack when and where the enemy least expects it and to force him to fight on terrain that puts him at a disadvantage. The augmentation of the infantry with an armored brigade occurs when the infantry commander decides the terrain provides an advantage or an armored brigade is needed to overcome a terrain disadvantage.

The abilities of an armored brigade to move rapidly, penetrate enemy defenses, and kill armor with its firepower are the greatest capabilities it brings to the infantry division.

To obtain synchronization of infantry and armored forces, the infantry commander must coordinate movement of the armored brigade with the maneuver units of the division. He must provide maneuver space for the armored brigade to the objective if it is part of the attack. If it is not possible to attack simultaneously with other maneuver forces, the infantry division commander must decide—

- How much separation to accept prior to the commitment of the armored force.
- How much of the armored force to commit and keep close to the infantry.

- What obstacles or fortifications along the armored maneuver route require infantry to expedite movement of the armored force.

The infantry division can attain increased mobility when it obtains dedicated transportation assets. A discussion of options for providing dedicated transportation follows.

### **Corps Transportation Assets**

The ideal TOE for movement of an infantry division is one light-medium truck company per infantry brigade. This organization has sixty 2 1/2-ton trucks, and ten 5-ton tractors with stake and platform beds. The company has a haul capacity of 1,700 personnel or 1,300 personnel and 276 short tons of supplies in one lift. At approximately 20 passengers per each 2 1/2-ton truck, each infantry battalion could move its companies with 18 trucks (with the other 2 for the support platoon). Of course, tactical expediency may dictate overloading each truck with personnel. This is a METT-T decision based on safety and mission requirements.

The flexibility gained by attaching these companies to an infantry division is extremely important. With this single attachment, the infantry division commander increases his ability to tailor his forces and his tactics.

The infantry division commander can allocate the 2 1/2-ton trucks and stake and platform trucks to synchronize armored-light operations. The only liability is that the infantry division organization cannot support this augmentation. Recovery and maintenance augmentation will be required to support the truck companies. In terms of firepower each truck carries a ring mount and a .50 caliber heavy machine gun. These can be used to provide additional firepower during movement.

### **Infantry Mounted on a Tank Unit**

It is possible to ride infantrymen on the tops of armored vehicles. As a rule, a tank battalion can carry a rifle company of an infantry battalion. Task organizing armor and all infantry provides greater agility and flexibility when committing forces. All tanks have troop-carrying capability; however, strict safety guidelines are essential. (See FM 17-18.)

Mounting infantry on an armored unit is a viable, but a last-resort, solution. Safety is an obvious concern. Continuous exposure to the elements is debilitating to soldiers riding on tanks. Retrograde operations make it difficult to mount and dismount infantry on armored vehicles.

When tanks and infantry must advance or withdraw rapidly, infantrymen may ride on tanks. Infantrymen are extremely vulnerable to antitank, artillery, and small-arms fires and ambushes. It is preferable that infantry ride in trucks or mechanized infantry vehicles. However, commanders can use an armored force to avoid marching dismounted infantry over long distances in emergency circumstances.

### **Army Aviation**

The use of Army aviation assets to move infantry depends on the mission. When a mission requires air assault of infantry, the division may have to request additional aviation assets from corps. Heavy aviation cargo assets support the resupply operations to the armored brigade.

### **Host Nation Support**

If tactical constraints preclude using dedicated transportation, the G5 may be able to arrange for contracting of vehicles under agreements with the host nation.

## **TACTICAL EMPLOYMENT**

Assign complementary missions to each force is the guiding principle for employing armored and light forces. The infantry division can expect to conduct tactical operations with armored units in all combat environments. The most common employment of armored forces by infantry divisions occurs when terrain and vegetation favor use of infantry, but an enemy may have small numbers of motorized, mechanized, or armored units.

Under the proper circumstances, the infantry division normally receives one armored brigade from the corps. The brigade normally comes with additional task-organized maintenance, class III, and class IV.

The armored-light force can conduct a multitude of missions and tasks. (See FM 71-100.)

Examples of offensive and defensive missions and tasks follow.

Armored-light operations in the offense include light missions of movement to contact, attack, and raid which are supported by armored tasks such as reserve, overwatch, counterattack, attack by fire, covering force, and deception. When the infantry division is conducting an attack (Chapter 3), the armored force can support it as a mobile reserve to conduct counterattacks.

During the planning phase of the deliberate attack as described in Chapter 3, the infantry commander perceives the possibility of an enemy counterattack and requests augmentation of an armored brigade to be a reserve or counterattacking force to counter this potential threat. (See Figure 7-31, page 7-68.) The corps commander agrees and augments the infantry division with an armored brigade. The infantry commander positions the armored brigade forward. He coordinates for the rapid movement of the armored brigade with corps and the attacking armored division. If the enemy attacks the initial objectives (FOX and WOLF), the infantry TAC CP directs the armored brigade to positions which will counter enemy efforts. Success depends on the ability of the armored-light forces to ensure the uninterrupted conduct of their air assault to secure river crossing sites and the movement of the corps main attacking force.

Armored-light operations in the defense include light missions of defend, delay, and withdrawal. Armored tasks to support these mission include counterattack, reserve, covering force, overwatch, reinforce, and detachment left in contact.

During the planning of the defense (see Chapter 4), the commander recognizes a weakness in his defense and requests an armored brigade from corps to provide him a reserve. The corps commander agrees with the division commander and augments the division with an armored brigade. The armored brigade is OPCON to the infantry division. The armored brigade is positioned to rapidly counterattack enemy penetrations or to reinforce infantry positions as required, (See Figure 7-32, page 7-68.)

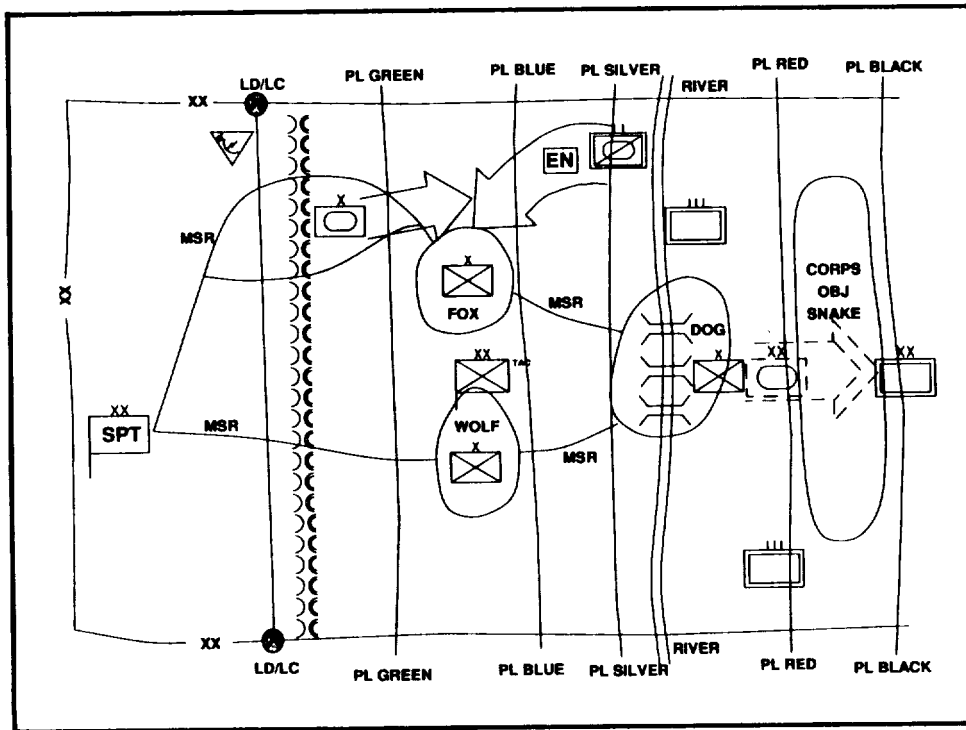


Figure 7-31. Armored-light offensive operations

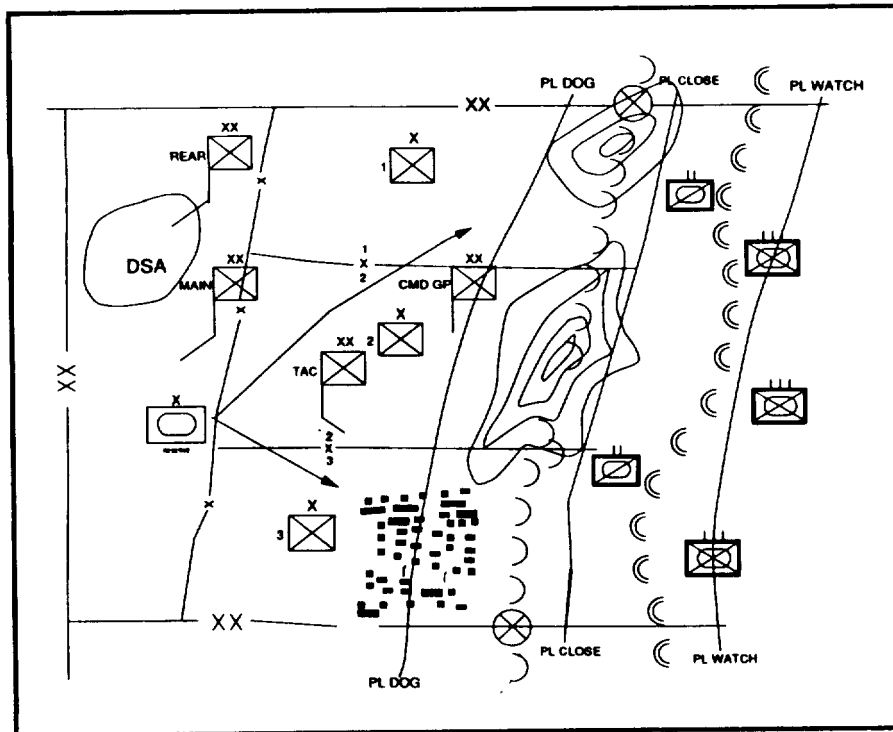


Figure 7-32. Armored-light defensive operations

## UNIT ARMORED SYSTEMS

Figures 7-33 through 7-49 illustrate typical systems found in an armored brigade slice. Other pieces of equipment maybe present, depending on the mission and task organization. Knowledge of their organization, equipment capabilities, and limitations is a key element in preparing for battle.

### M577 Command Post Carrier

The M577 CP carrier is a full-tracked light-weight carrier used as an operational staff office and command post. It is organic to all armored and mechanized divisions. It is the primary C<sup>2</sup> vehicle at the division TAC CP. The M577 is intended primarily for operations over cross-country terrain. It is also amphibious and can cross lakes and streams. It accommodates a driver and a four-man team to perform CP functions.

### M1 Abrams Tank

The M1 Abrams tank is the Army's primary ground combat weapon system for closing with and destroying enemy forces using mobility, firepower, and shock action. Its special armor, compartmentalization of fuel and ammunition stowage, automatic fire detection and suppression system, and high agility and mobility provide crew protection levels which exceed those of any other tank. The M1A1 Abrams has a 120-millimeter smoothbore cannon, a NBC microclimatic cooling system, thermal sight, laser rangefinder, and full stabilization to provide a combat vehicle capable of operating under all climate and light conditions, as well as in an active chemical environment. (See Figure 7-34, page 7-70.)

### M60A3 Tank

The M60A3 is an improved version of the M60 series tank. Improvements include gun stabilization, a laser rangefinder, a solid state computer, and a thermal shroud which enhance its first-round hit capability. A tank thermal-imaging sight extends the fighting capabilities of the M60A3 during periods of reduced visibility. (See Figure 7-35, page 7-71.)

### M213 Bradley Fighting Vehicle

Bradley fighting vehicles provide a full-track, lightly armored fighting vehicle for mechanized infantry, and a vehicle for screening, reconnaissance, and security missions for scout and armored cavalry units. Both the infantry fighting vehicle (IFV) and cavalry fighting vehicle (CFV) have two-man turrets which mount the 25-millimeter automatic stabilized cannon, its primary armament, supported by the TOW anti-tank guided missile system, and the 7.62-millimeter coaxial machine gun. The IFV has, in addition, six (M2A2 IFV has only two) 5.56-millimeter firing port weapons positioned along the side and rear of the vehicle. Its mobility is comparable to the M1 tank. The IFV carries a nine-man squad—commander, gunner, driver, and six squad members. (See Figure 7-36, page 7-71.)

### M113 Armored Personnel Carrier

The M113 is an aluminum-armored, full-tracked personnel carrier designed to transport troops, equipment, and cargo during combat operations. It has span suppression liners, armored external fuel tanks, an upgraded engine and transmission to accommodate the added weight, and fining points for bolt-on armor. The M113 family of vehicles is used in numerous roles including infantry and engineer squad carrier, mortar carrier, missile carrier, CP, MEDEVAC carrier, and maintenance support vehicle. (See Figure 7-37, page 7-72.) Because of its mobility, firepower, and armored protection limitations, the M113 cannot fulfill the role of a fighting vehicle.

### M901 Improved Tube-launched, Optically Tracked, Wire-guided (TOW) Vehicle (ITV)

The M901 ITV is the TOW missile weapon carrier in mechanized infantry units. The M901 is an M113 fitted with an elevating two missile-launcher TOW turret that allows the missiles to be fired from de filade with the gunner under protection.

Lifting arms raise and lower the launcher pod. It incorporates TOW day and night sights as well as a 12-power, target-acquisition sight that can detect tanks at more than 4,200 meters on a normal day. (See Figure 7-38, page 7-72.)

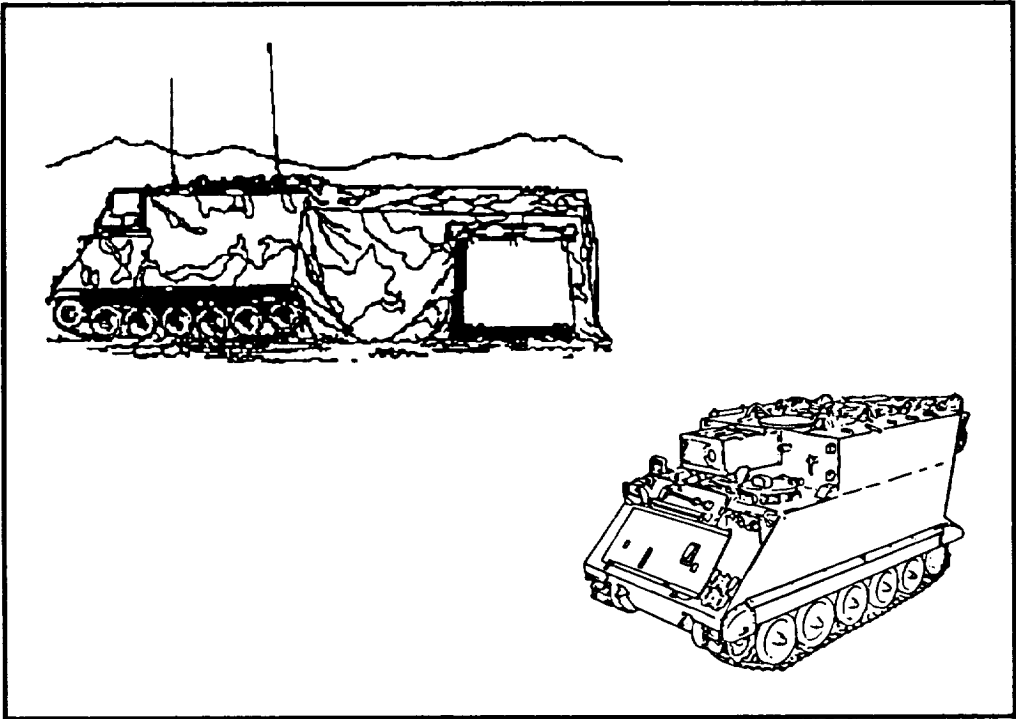


Figure 7-33. M577 command post carrier

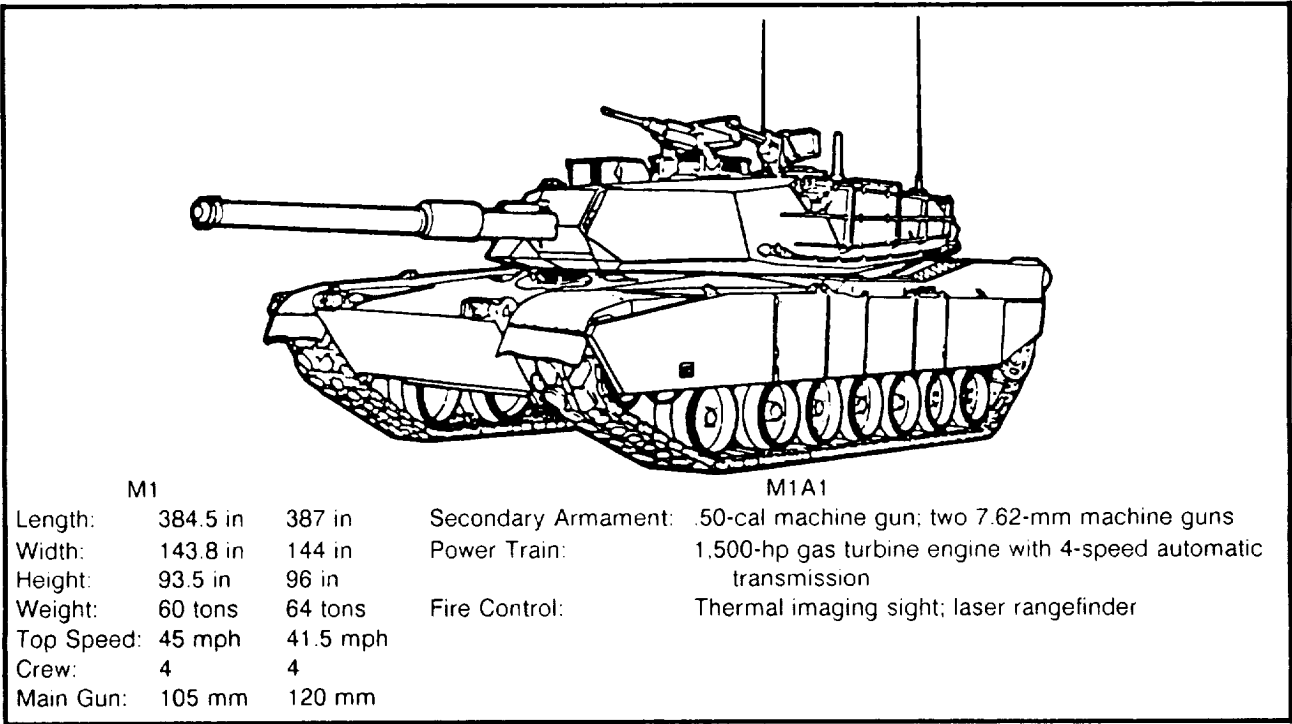
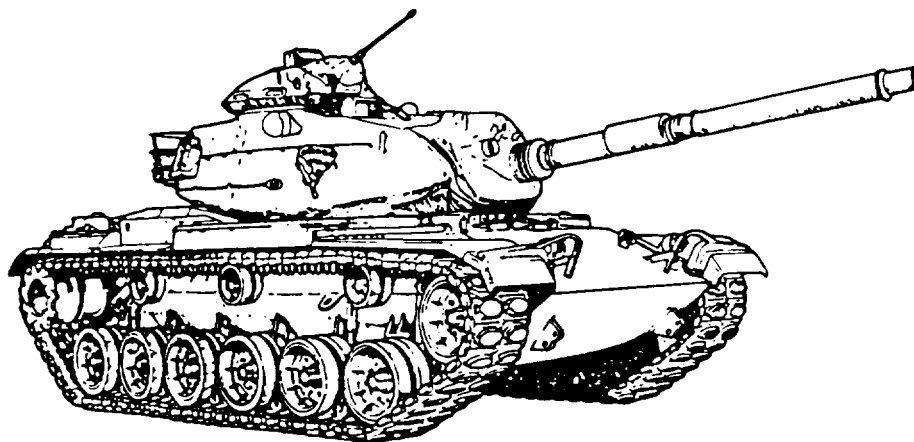
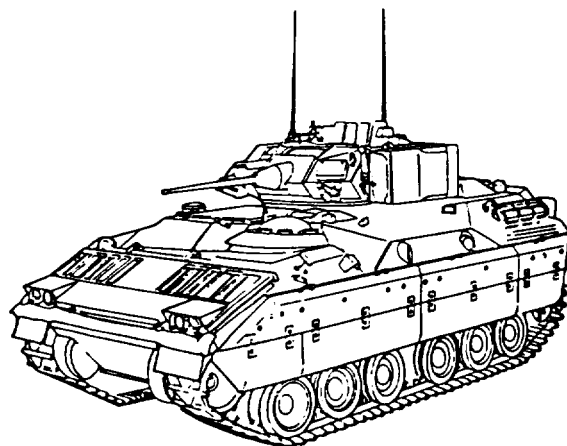
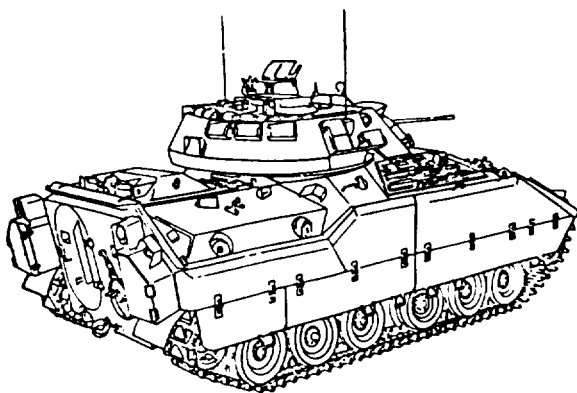


Figure 7-34. M1 Abrams tank



Length:	371.5 in	Secondary Armament:	.50-cal machine gun; 7.62-mm machine gun
Width:	144 in	Power Train:	12-cylinder, 750 hp, air cooled diesel engine with 2-speed automatic transmission
Height:	129 in		
Weight:	57.3 tons		
Top Speed:	30 mph	Cruising Range:	280 miles at 20 mph
Crew:	4	Fire Control:	Tank thermal sight; laser rangefinder
Main Gun:	105 mm		

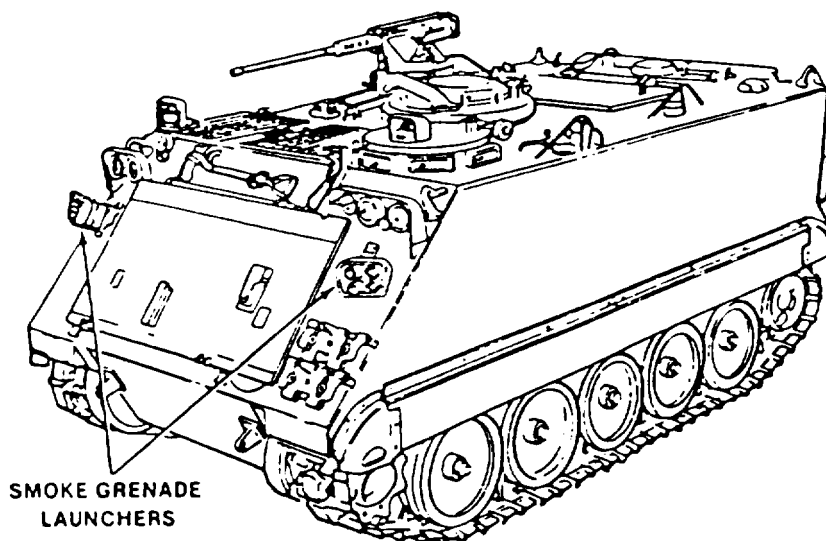
Figure 7-35. M50A3 tank



Weight:	50,000 lbs (combat)
Length:	21.5 ft
Height:	9.75 ft
Width:	10.5 ft
Main Armament:	25-mm cannon
Secondary Armament:	TOW; 7.62-mm coaxial machine gun; firing port weapons

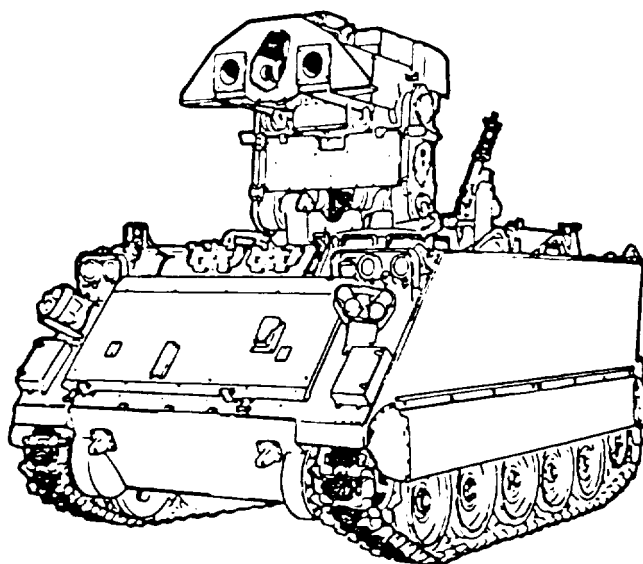
Crew:	3
Power Train:	500-hp diesel
Cruising Range:	300 miles
Road Speed:	42 mph
Swim Speed:	4.5 mph

Figure 7-36. M213 Bradley fighting vehicle



Weight:	27,200 lbs	Road Speed:	42 mph
Armament:	.50-cal machine gun	Troop Capacity:	11
Aarmor:	Aluminum	Cross-Country:	20 mph
Horsepower:	275		

Figure 7-37. M113 armored personnel carrier



Crew:	4-man TOW squad	Fuel capacity:	95 gals, diesel
Armament:	M220A1 TOW; 7.62-mm machine gun	Cruising range:	300 miles
TOW Encased Missiles:	10 missiles (HEAT) stowed and 2 missiles loaded	Land:	0 to 40 mph

Figure 7-38. M901 improved TOW vehicle



### **M30 107-millimeter Mortar; M106 Mortar Carrier**

The 107-millimeter mortar has a minimum range of 920 meters and a maximum range of 6,800 meters. Ammunition available includes HE, white phosphorus, illumination, chemical, and smoke rounds. The 107-millimeter mortar round provides area coverage of 20 meters by 40 meters. Maximum rate of fire is 20 rounds per minute with a sustained rate of two rounds per minute.

The M106 mortar carrier is an M113 armored personnel carrier modified to carry the 107-millimeter mortar on a specially designed mount. It is an armored, full-tracked, self-propelled vehicle capable of swimming streams and small bodies of water. A .50-caliber machine gun is mounted on the cupola for the vehicle commander's use. The mortar and its components can be removed from the carrier for ground-mount firing. The base plate, bridge, and rotator assemblies of the ground mount are stowed outside the carrier. The M106 has a crew of five and has stowage space for 93 mortar rounds, 54 fuzes, 600 rounds of .50 caliber, and 720 rounds of 7.62 millimeter. The M106A1 carries 88 mortar rounds. (See Figure 7-39, page 7-74.)

### **M109A2/A3 Self-propelled Howitzer**

The M109A2 is an improved version of the M109 self-propelled howitzer. The M109A3 is a depot-modified M109A1 with the same performance capabilities as the production M109A2. The M109 provides primary indirect fire support to the maneuver brigades of the armored and mechanized infantry divisions. The M109A2/A3 can fire both conventional and nuclear munitions. (See Figure 7-40, page 7-74.)

### **Multiple Launch Rocket System**

The MLRS is a free-flight, area fire, artillery rocket system. Its primary missions are counter-tire and SEAD. It supplements cannon artillery fires by delivering large volumes of firepower in a

short time against critical, time-sensitive targets. The basic warhead carries improved conventional submunitions. (See Figure 7-41, page 7-75.)

### **Firefinder Radars—Artillery Locating Radar AN/TPQ-37; Mortar Locating Radar AN/TPQ-36**

Firefinder radars locate and bring immediate fire upon enemy mortar, artillery, and rocket-launching positions. Firefinder radars function by spotting enemy projectiles in flight and mathematically backplotting their trajectory. The position of the weapon is reported in grid coordinates fed automatically into artillery fire direction centers, enabling them to target the enemy weapons with guns, rockets, or other ordnance. (See Figure 7-42, page 7-75.)

### **Bradley Stinger Fighting Vehicle**

The Bradley Stinger fighting vehicle (BSFV) is the current line-of-sight forward heavy family of FAAD systems. The BSFV provides short-range air defense to forward area combat elements and other critical assets from attack by low-altitude hostile aircraft. (See Figure 7-43, page 7-76.)

### **Avenger Air Defense Weapon System**

The Avenger is the line-of-sight rear (LOS-R) component for the FAAD system. Avenger converted to MANPAD systems operates forward (in light and special divisions), and a normal configuration Avenger operates in brigade rear areas. In armored divisions, the Avenger platoon should allow the forward divisional AD assets, such as the BSFV, to fight forward to provide depth. The Avenger platoon should be employed to protect critical rear area assets such as maneuver reserves, field artillery, C<sup>2</sup>, and logistics facilities. Avenger can also provide coverage for choke points along the route of march or provide convoy defense for units moving forward. It is imperative that Avenger not become involved in the direct fire fight and disengagement criteria is understood to ensure survivability.

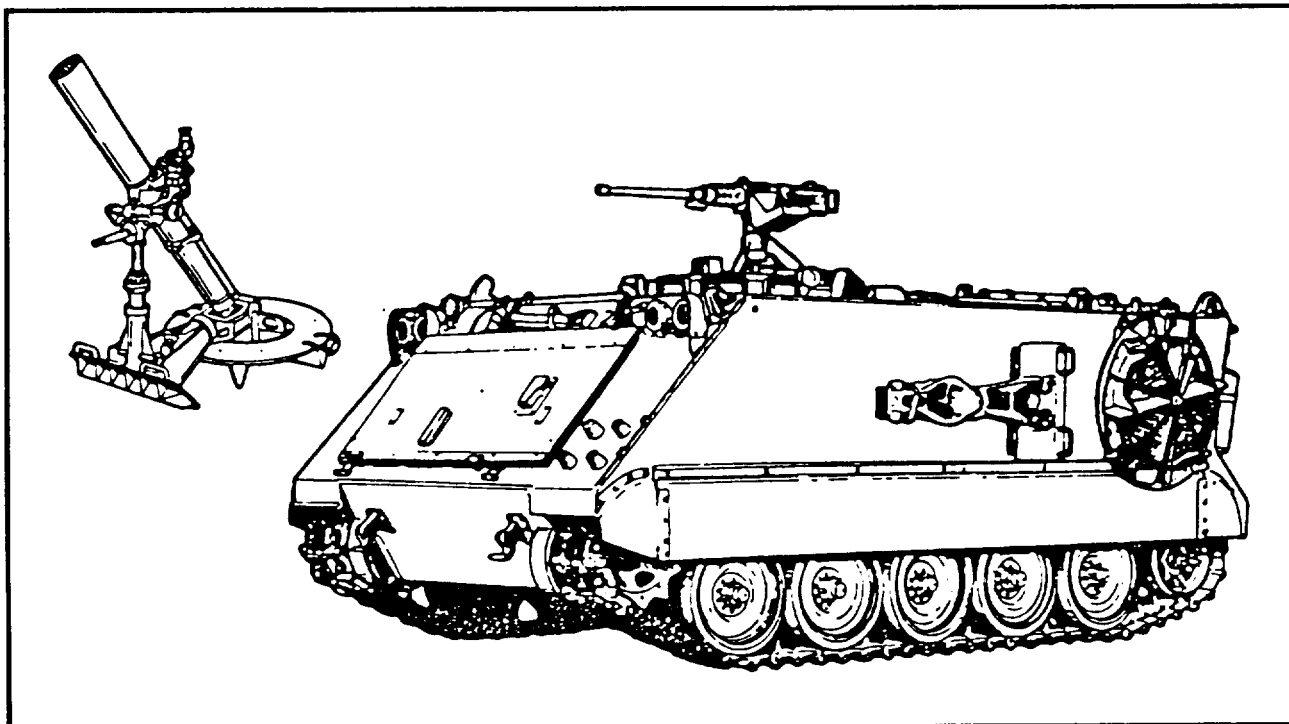


Figure 7-39. M30 107-mm mortar; M106 mortar carrier

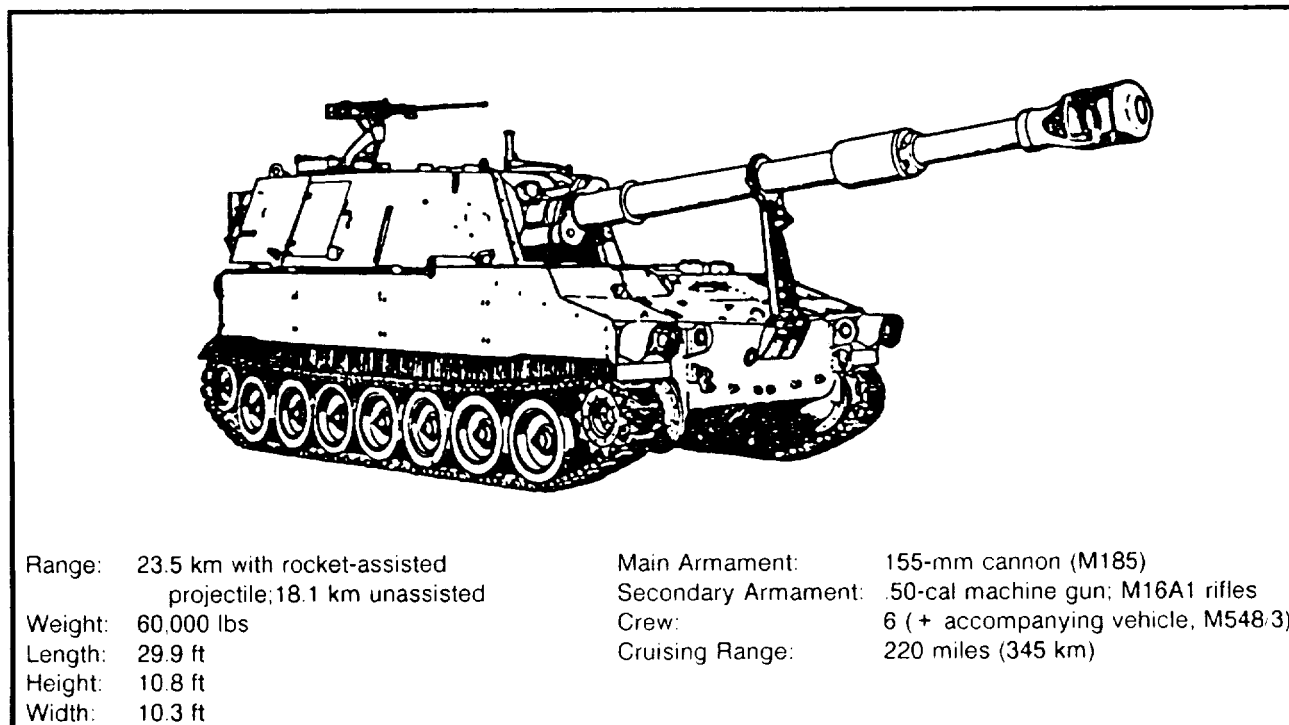


Figure 7-40. M109A2/A3 SP howitzer

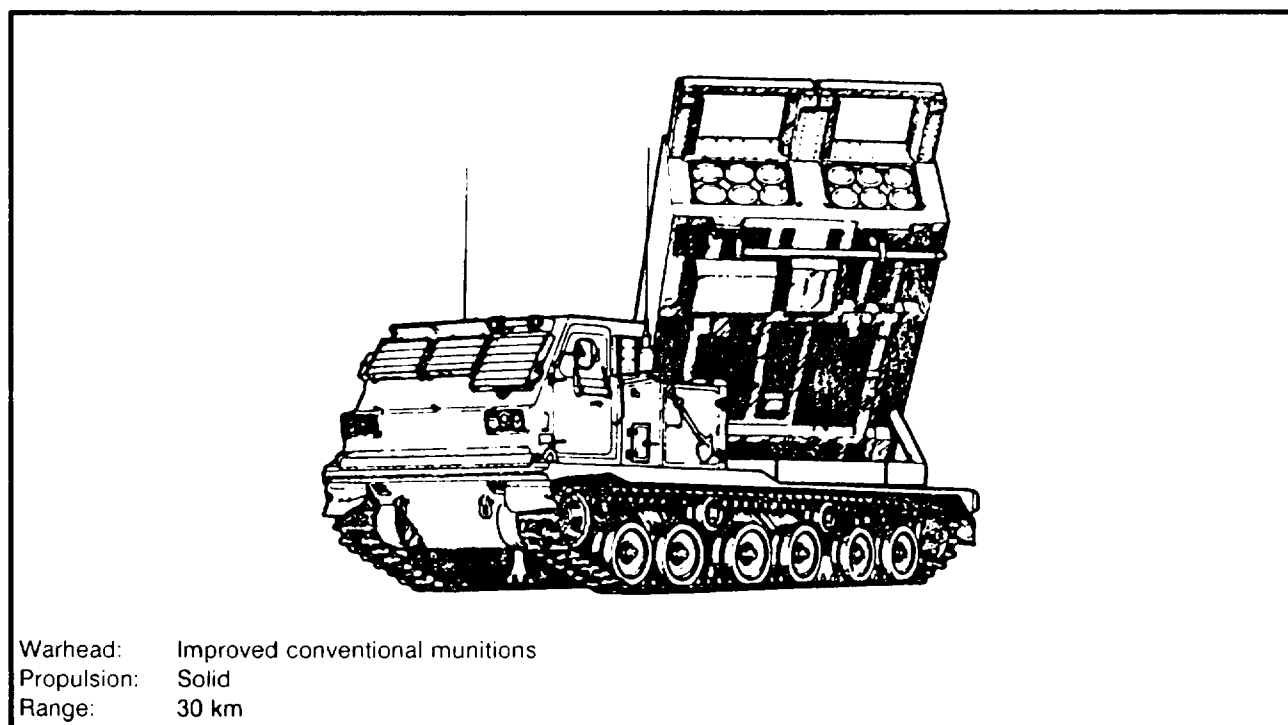


Figure 7-41. Multiple launch rocket system.

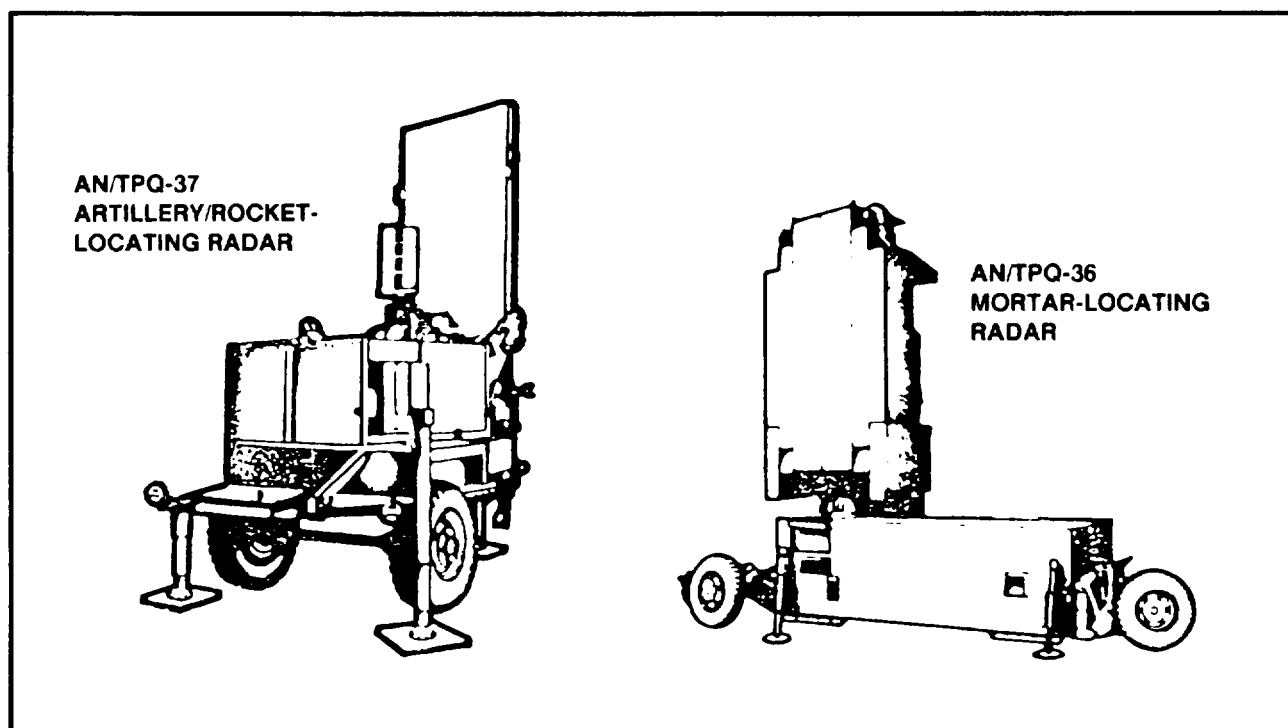


Figure 7.42. AN/TPQ-37 and AN/TPQ-36 Fire finder radars

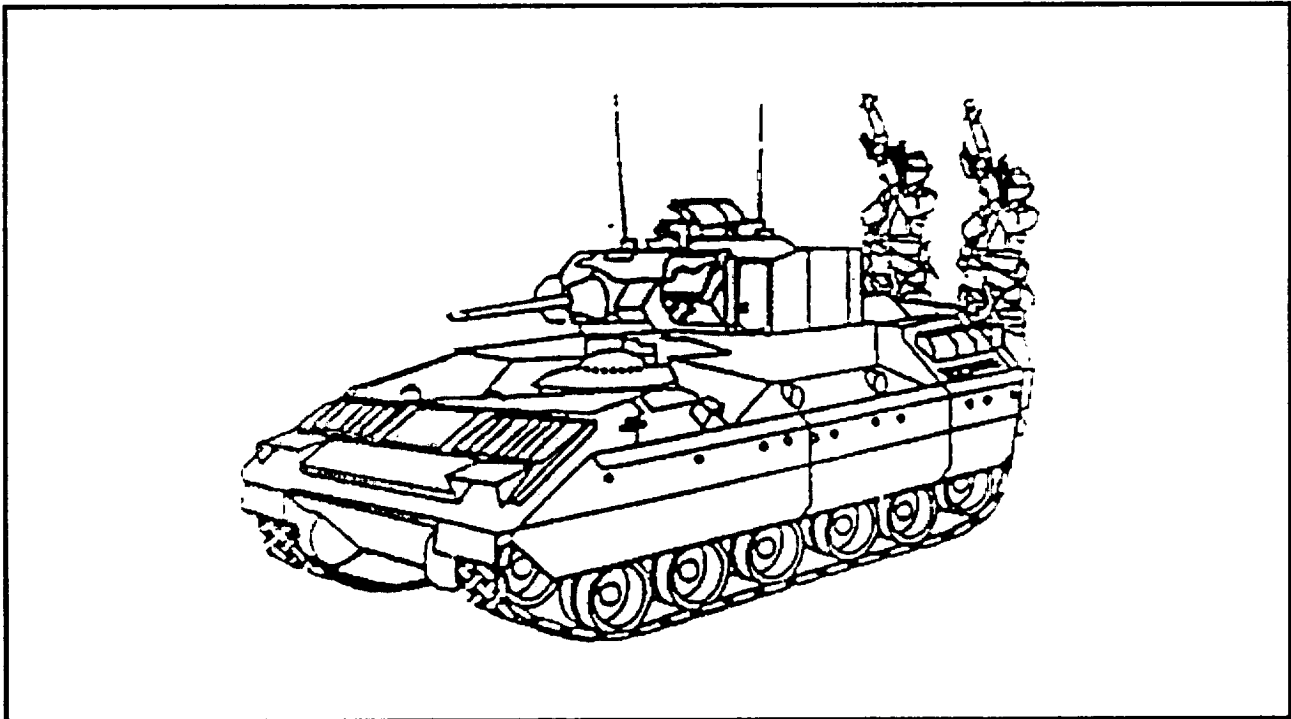


Figure 7-43. Bradley Stinger fighting vehicle

The Avenger team can conduct stationary or mobile operations. Under degraded operations or mission requirements, the Avenger team can revert to a MANPAD configuration. The major components of the Avenger are a rotatable turret with two standard vehicle missile launchers (SVML), a gun system (.50 caliber machine gun), a forward looking infrared (FLIR), a laser range finder (LRF), identification friend or foe (IFF), and a remote control unit (RCU). (See Figure 7-44.)

#### **M113 Mounted Smoke Generator**

The armored division chemical company smoke platoon has an organic capability to smoke large areas. The platoon has two squads with three smoke vehicles per squad. There are six smoke generators per squad (see Figure 7-45). This vehicle provides some protection to the crew and gives them the mobility to keep up with mechanized forces.

#### **M9 Armored Combat Earthmover (ACE)**

The M9 armored combat earthmover is used for a variety of missions. (See Figure 7-46, page 7-78.) The M9 ACE is a highly mobile, tracked, amphibious, armored, earthmoving vehicle that

can move, survive, and work with the flow of battle, responding immediately to the maneuver commander's need for—

- Elimination of enemy obstacles.
- Creation of obstacles to enemy maneuver.

Ž Preparation of fighting positions for the fighting forces.

Ž Expedient antitank ditching.

- Maintenance of roads and supply routes.

It enables digging, dozing, hauling, scraping, and grading farther forward on the battlefield than ever before.

#### **Armored Vehicle Launched Bridge**

The AVLB is used in assault crossings of short gaps by the heavy brigade. (See Figure 7-47, page 7-78.) The AVLB is suitable for spanning narrow streams, antitank ditches, craters, canals, partially blown bridges, and similar obstacles. If the banks and the bottom of a stream or gap permit, the AVLB bridges can be "stacked" to provide 90 to 100 feet of crossing. The AVLB can be used with components of the class 60 bridge to construct rafts.

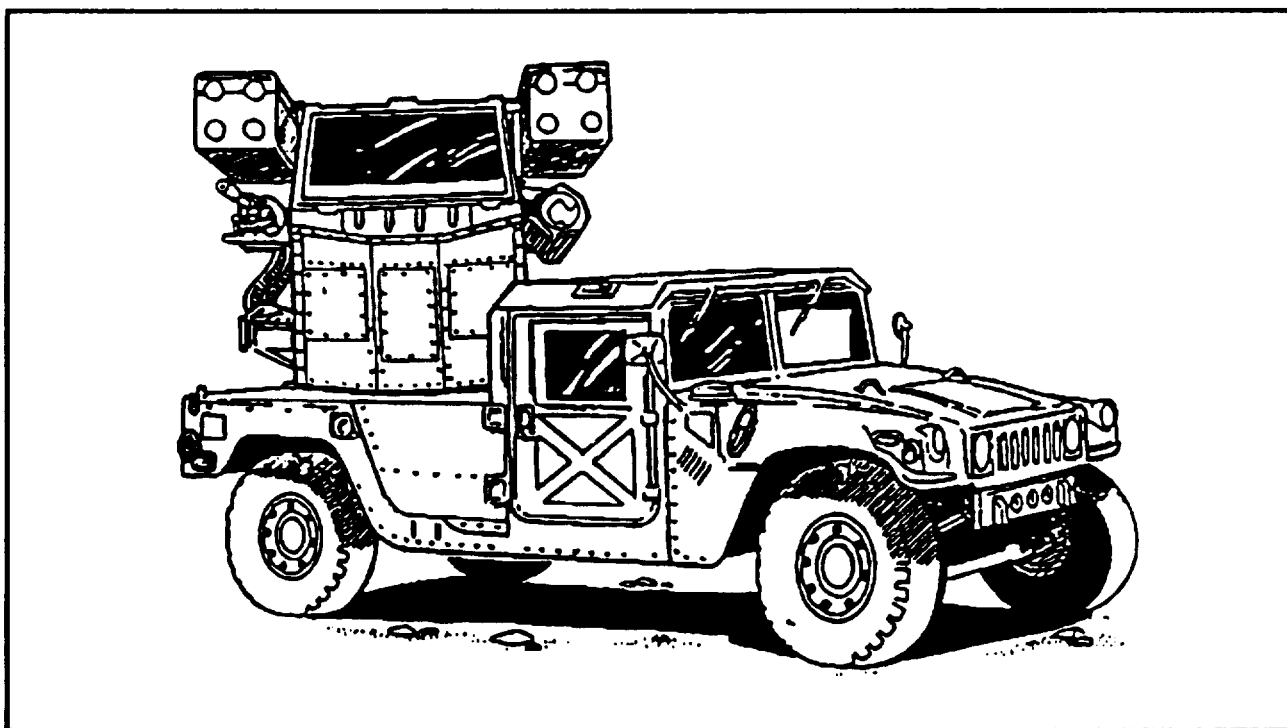


Figure 7-44. Avenger air defense weapon system.

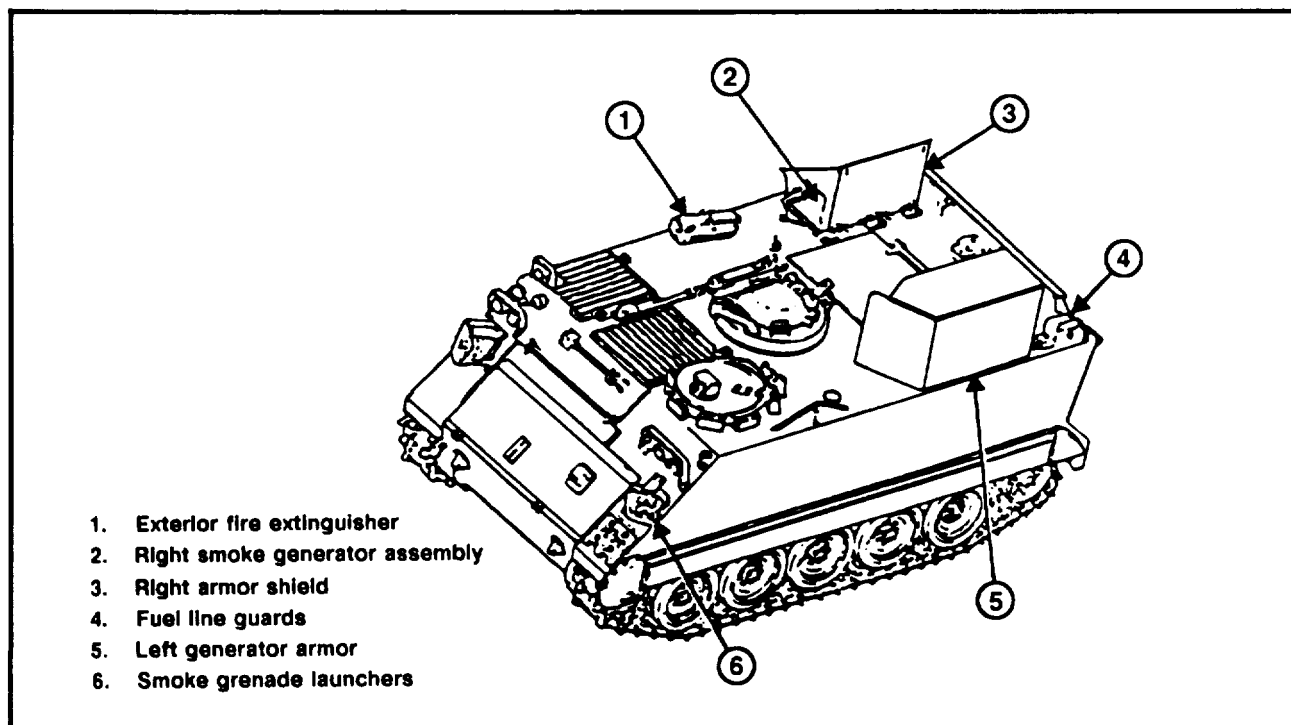


Figure 7-45. M113-mounted smoke generator

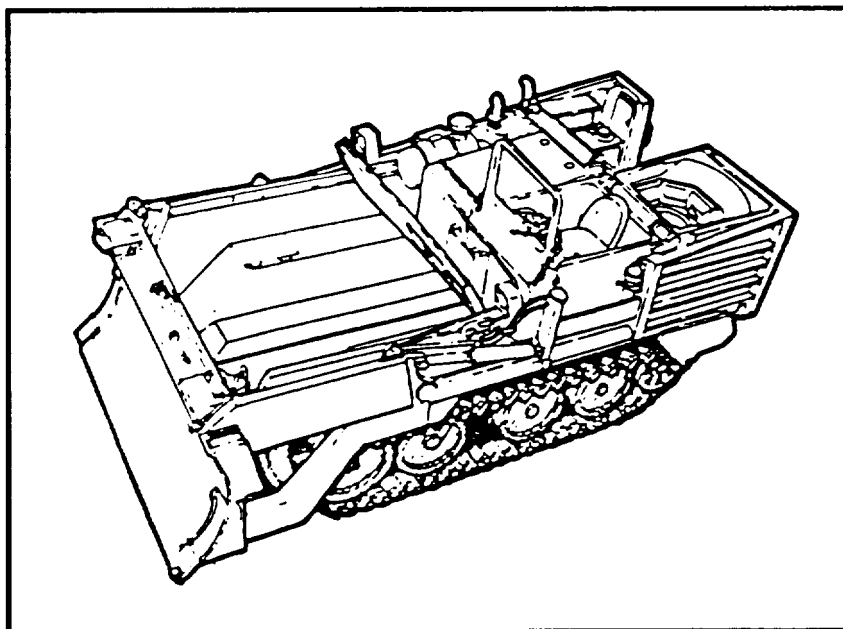


Figure 7-46. M9 armored combat earthmover

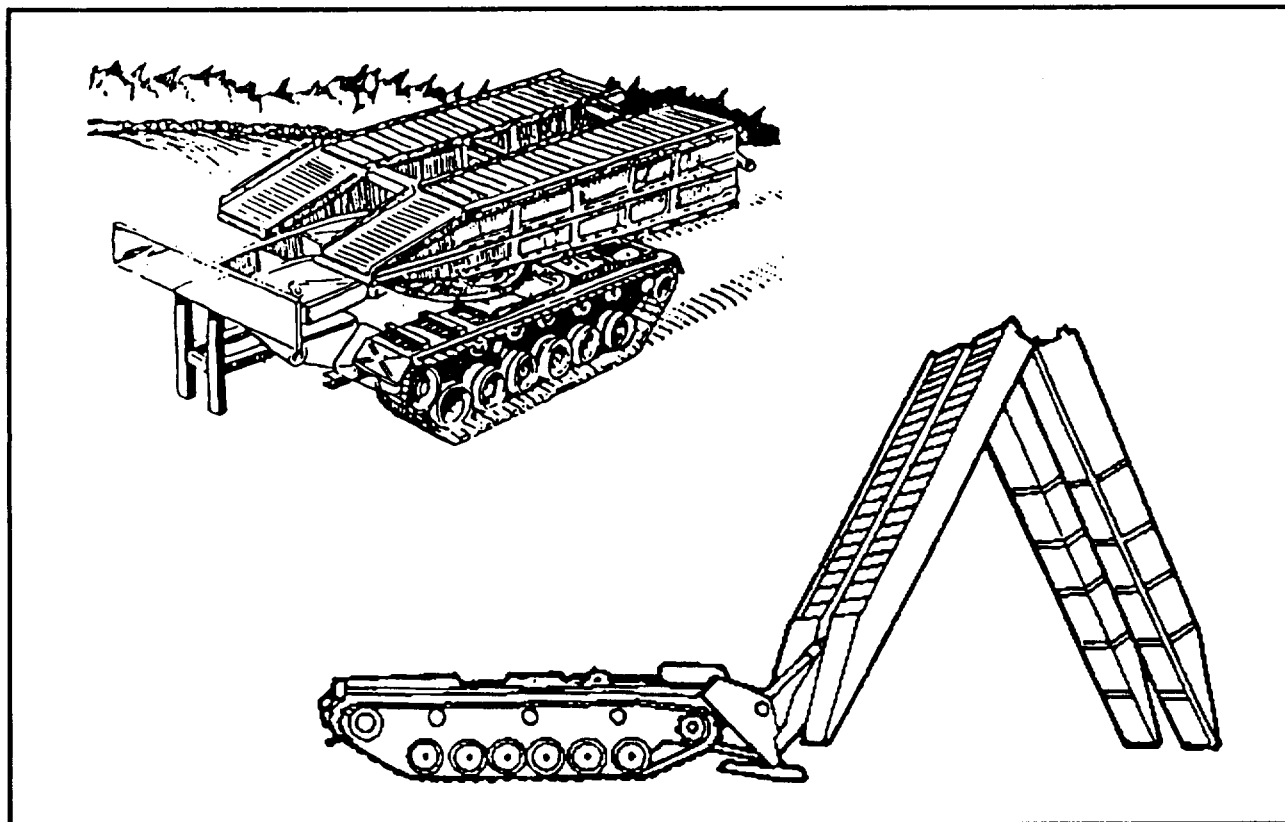


Figure 7-47. Armored vehicle launched bridge

### Small Emplacement Excavator

The primary mission of the front loader small emplacement excavator (SEE) wheeled tractor FLU 404 (DSL four with excavator and front loader) (Figure 7-48) is to dig small-sized combat emplacements for crew-served weapons positions and CPs, and individual fighting positions for units in the MBA. It is not well suited for digging in vehicles.

The SEE is a rubber-tired, diesel engine-driven, multipurpose engineer vehicle, equipped with a bucket loader attachment at the front and backhoe attachment in the rear. The SEE has a

hydraulic-driven front end loader, a backhoe, and a family of driven tools, such as a drill, hammer, and chain saw.

### Heavy Expanded Mobility Tactical Truck

The heavy expanded mobility tactical truck (HEMTT) is a 10-ton, eight-wheel drive, tactical truck with tandem front and rear axle (Figure 7-49). This vehicle has five body styles: cargo, two types of tractor styles, wrecker, and fuel tanker. The 10-ton HEMTT is an assemblage of commercial components and meets high priority ammunition and fuel transport needs and requirements for the MLRS.

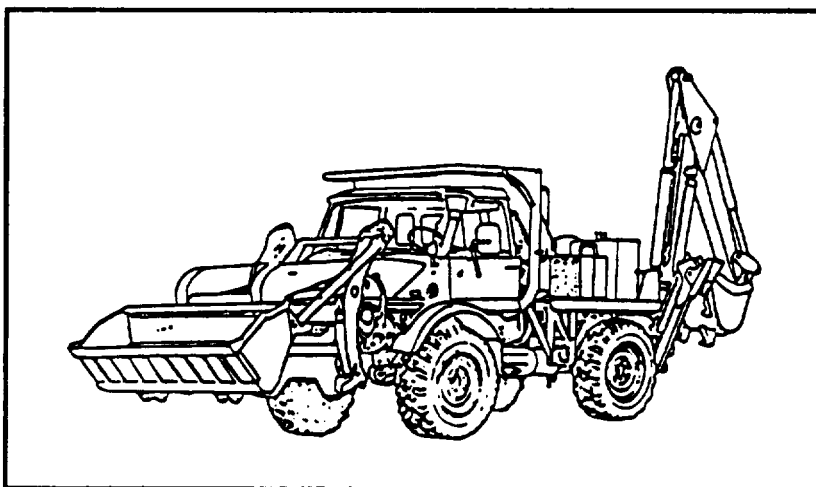


Figure 7-48. Small emplacement excavator

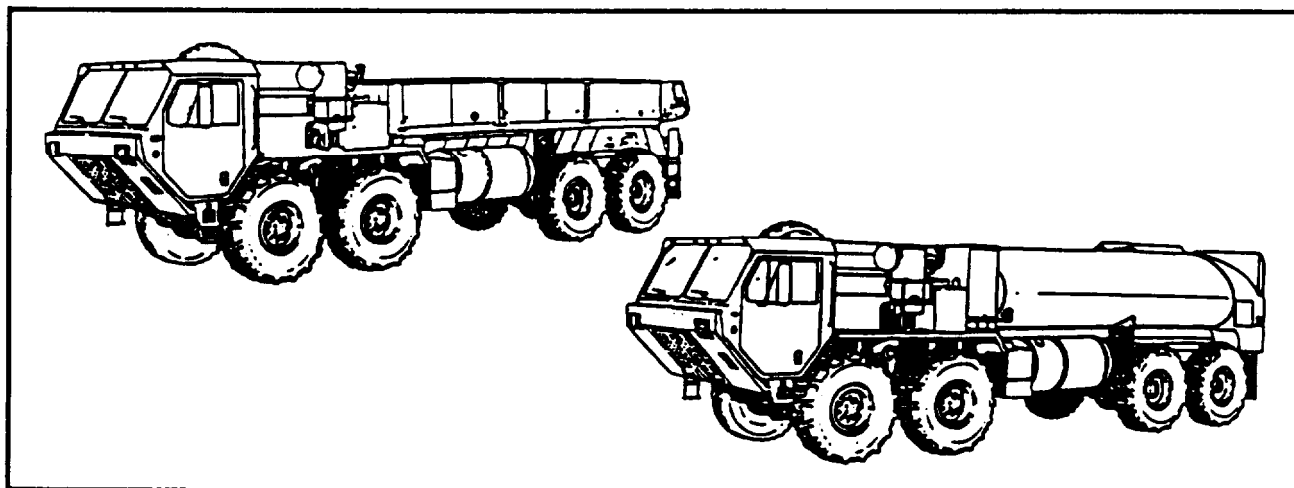


Figure 7-49. Cargo and fuel HEMTT

## Section XI. TWO-BRIGADE DIVISION OPERATIONS

The concepts presented in this section apply to a two-brigade division across the conflict spectrum. Higher headquarters' primary concern must be the two-brigade division's mission. A two-brigade division reaches its culminating point sooner than a three-brigade division. FM 100-5 defines a culminating point in terms of an attacking force. However, the principle also applies to the defender. There will come a time when the defending two-brigade division has suffered sufficient losses, extended its lines, or maneuvered back to less beneficial terrain. Then the division has reached its culminating point. It begins to lose cohesion or is unable to defend to the conditions or intent of its original orders—even though it may still be a viable combat force capable of some division-level missions. The corps commander must be aware of this culminating point concept for both the offense and defense when war-gaming courses of action. He must assign appropriate missions with realistic aims and expectations.

Massed and accurate fires are key to destroying the enemy. This is especially true for infantry divisions. The corps must consider providing additional artillery, attack helicopter, and CAS and AI support to the two-brigade division. Fires become the killer mechanism; maneuver forces help create conditions which enhance massed fires. Massed fires can compensate for the lack of a large reserve or a missing maneuver brigade.

This section describes how a two-brigade division may be employed and how it fights. This type of division consists of two organic ground maneuver brigades and appropriate corps DS and GS CS and CSS assets. A third organic maneuver brigade is available.

Functions and systems of divisions with two brigades or three or more brigades are essentially the same. The two-brigade division has two ground maneuver brigades. A three-brigade division fights as a two-brigade division when one of its brigades has been task-organized to another HQ, has been destroyed, or is reconstituted.

Current divisional doctrine missions also apply to the two-brigade infantry division. However, some employment considerations apply only

to the two-brigade division. A two-brigade division fights best when higher headquarters assigns it realistic missions.

Not all two-brigade divisions are task-organized in exactly the same way. A typical two-brigade division has—

- Two ground maneuver brigades with three infantry battalions each.

Ž An aviation brigade with only one AHB in the infantry divisions and three in the air assault divisions.

- A cavalry squadron with two air cavalry troops and only one ground troop.

Ž A DIVARTY with only two 105-millimeter towed battalions, one 155-millimeter towed battery, and a target acquisition attachment.

- An ADA battalion consisting of two AD batteries with nine Vulcans and 20 Stinger teams in each battery.

- An engineer battalion, headquarters company, and two combat engineer companies. (Three is normal.)

- A MI battalion with one—
  - Collection company.
  - Intelligence and surveillance company.
  - Long-range surveillance platoon.
  - Quickfix platoon (OPCON).

- A DISCOM with a main support battalion, two FSBs, and an aviation intermediate maintenance (AVIM) company. One task-organized FSB with supporting MSB contact teams and supply and service elements is missing.

### MANEUVER

Corps should assign a two-brigade division missions which are consistent with its reduced combat power and flexibility. Such missions should attempt to minimize the two-brigade division's deficiencies and capitalize on firepower and maneuver capabilities. (For example, the two-brigade division loses the flexibility inherent in having a strong reserve.)



Some missions appropriate to the structure and capabilities of the two-brigade division in the offense are—

- Movement to contact (in leading corps in restrictive terrain against dismounted infantry).

Ž Corps reserve.

Ž Supporting attack and feints.

- Follow and support.

Ž Deep operations in support of a corps attack.

Missions appropriate in the defense are—

Ž Corps reserve.

- Area defense in economy of force role.
- Rear area security and counterreconnaissance operations.

Ž Spoiling attack or raids.

Figure 7-50, page 7-82 and Figure 7-51, page 7-83, illustrate concepts of a two-brigade division employed by corps in offensive and defensive operations. Figure 7-52, page 7-84, and Figures 7-53 and 7-54, page 7-85, represent techniques for employing a two-brigade division's maneuver assets.

The division commander must take every advantage of the strengths and synergy of his division. He must make full use of all combat multipliers in combat, CS, and CSS units (organic and supporting). He must form a small, strong, and mobile reserve to provide tactical flexibility and to offset a decrease in ground maneuver combat power. He can best do this by designating the aviation brigade as a maneuver brigade headquarters or augmenting the reconnaissance squadron. Both units have the C<sup>2</sup> capabilities to become the divisional reserve. Since the division lacks reserve strength, the concept of maneuvering or massing fires is critical for reserve operations. Designation of a small, but strong and mobile reserve is the key to the division's ability to retain flexibility. Rapid massing of air, aviation, and artillery fires at the critical point alters the combat power ratios where the reserve is needed. This compensates for the lack of a large ground reserve.

Techniques for the employment of the two-brigade division are relatively unaffected by the absence of a third brigade. The loss of one-third of the division's maneuver and firepower is in part

offset by simplified C<sup>2</sup> due to decreased span of control of support requirements.

In the defense, the corps must assign missions based on the enemy and terrain consistent with the two-brigade division strengths. Depending on the situation, the aviation brigade or division cavalry squadron, augmented with an infantry company, may be the best choice to form a reserve or counterattack force. The use of the division cavalry squadron as a reserve must be weighed against other security operations. In all cases, the reserve should be augmented with an infantry unit (battalion and below).

The two-brigade division's deep operations are not different than those of the full division. The principal concern for both is the volume of deep attack missions. Without corps support, heavy reliance is placed on GS 155-millimeter battery, an AHB, and whatever AI sorties are available. Deep attack missions are then scheduled fires or allocated missions rather than having specific assets dedicated to them. The priority of GS fires is close operations' main brigade, deep operations, and then the supporting effort brigade. The division G3 must establish priorities (for example, deep targets which would preempt main effort brigade fires).

When the aviation brigade is designated a maneuver headquarters, the commander must provide the personnel and equipment to plus-up the organization for continuous operations (CONOPS). The aviation brigade, even when augmented, may be limited in its ability to perform CONOPS more than 24 to 72 hours. This is due to maintenance and crew rest requirements, and the possible need to run all aircraft into maintenance phase at once. The division reconnaissance squadron should be augmented with an infantry unit. With only one ground cavalry troop, the squadron cannot effectively perform reconnaissance and security missions. The addition of an infantry company provides flexibility and combat power for ground operations. It provides a stronger economy of force element, maneuver force, or reserve. The two-brigade division commander will have to accept some decrement or risk in rear security, or reserve operations. With limited assets, the focus must be on the close operations. Other areas become economy of force operations.

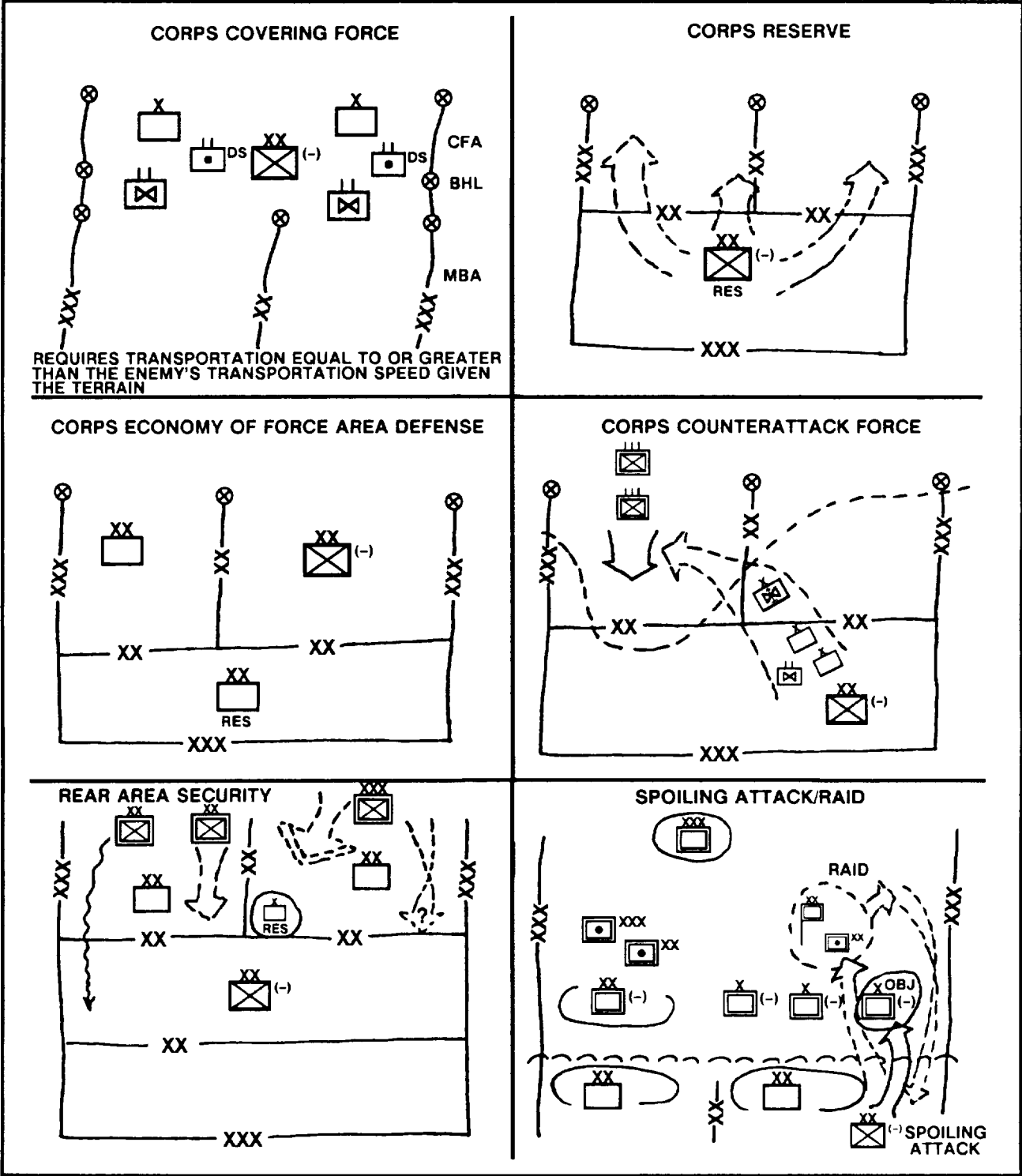


Figure 7-50. Corps defense: two-brigade division missions

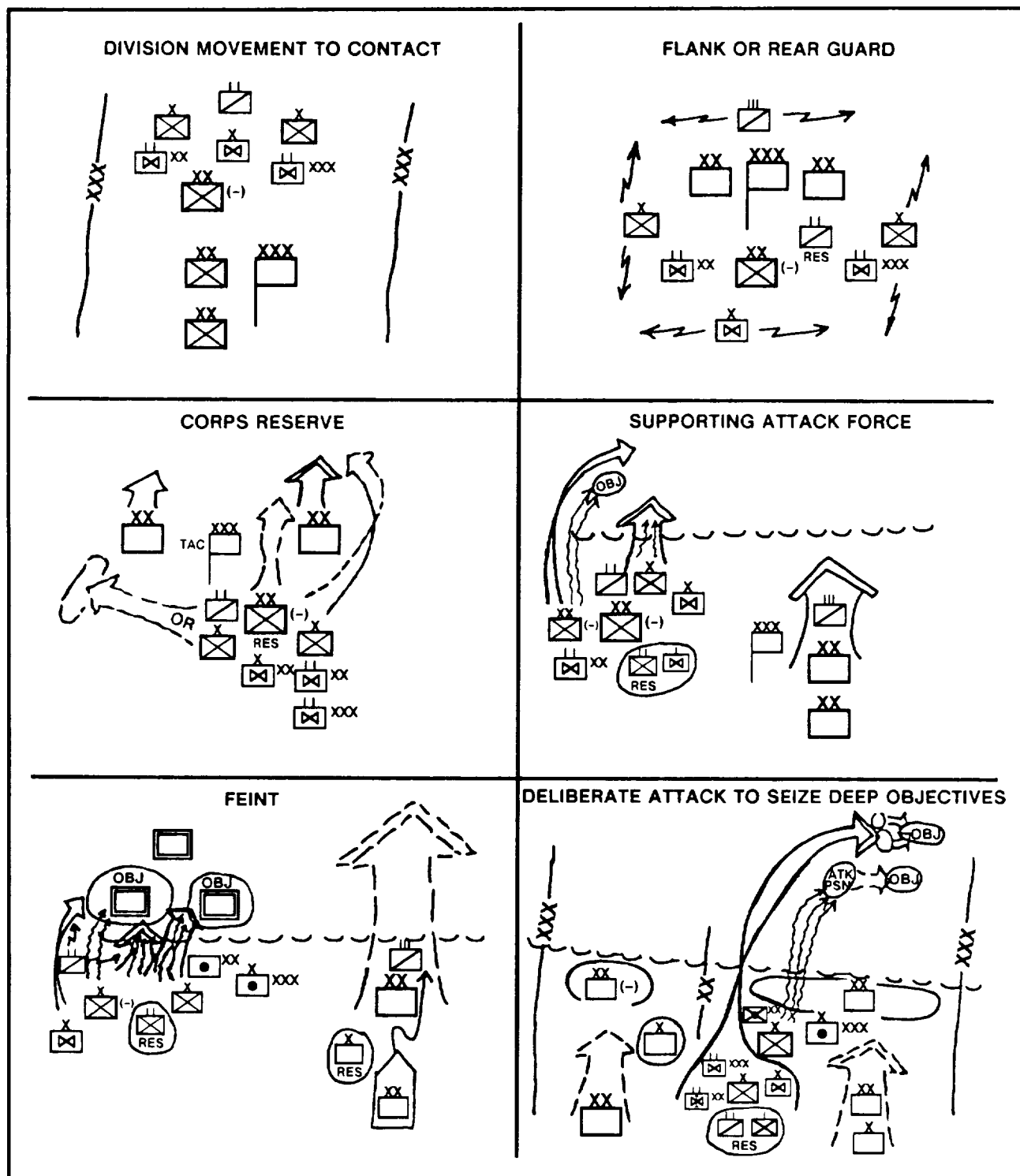


Figure 7.51. Corps offense: two. brigade division missions

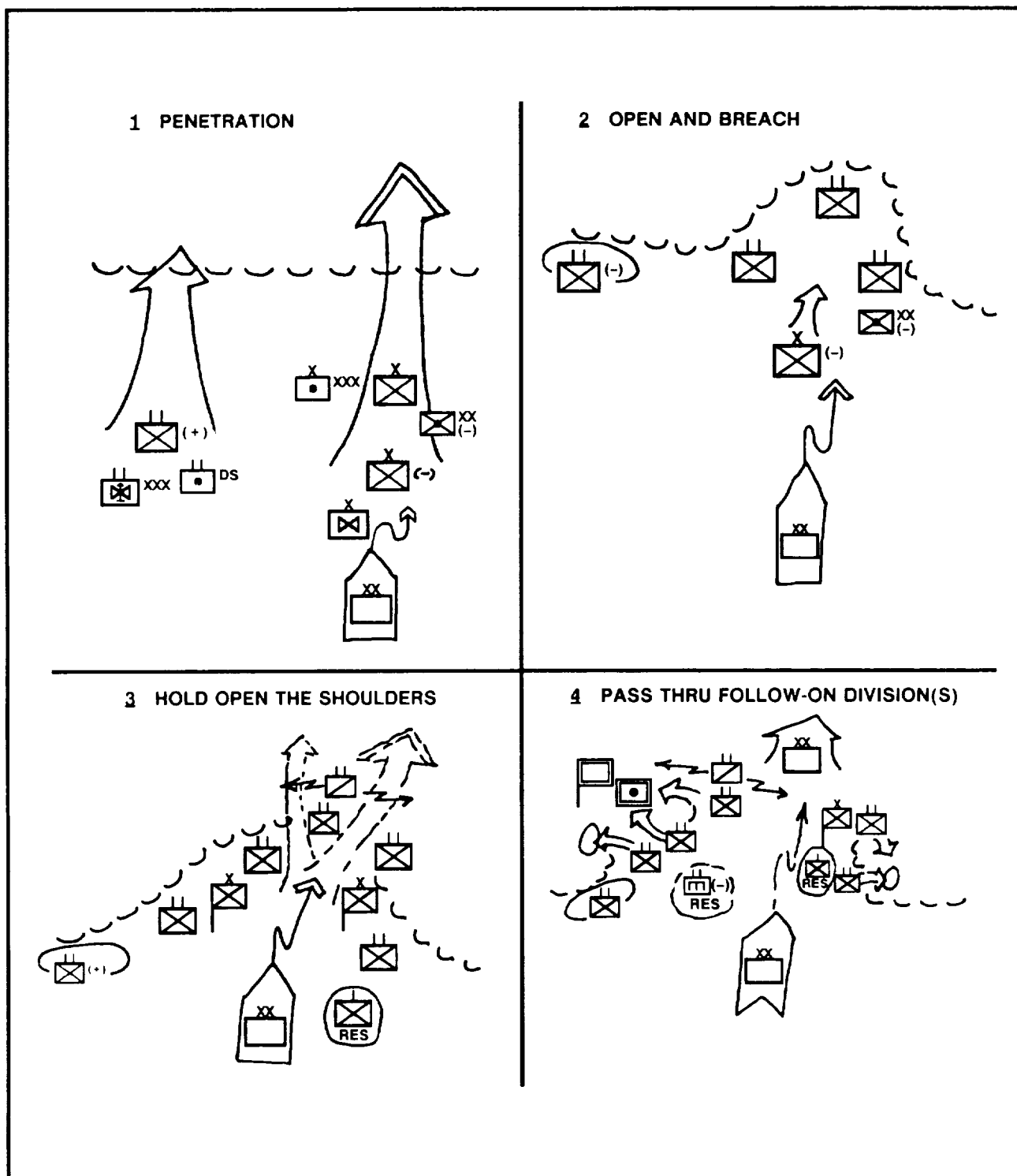


Figure 7.52. Two-brigade division: offensive techniques

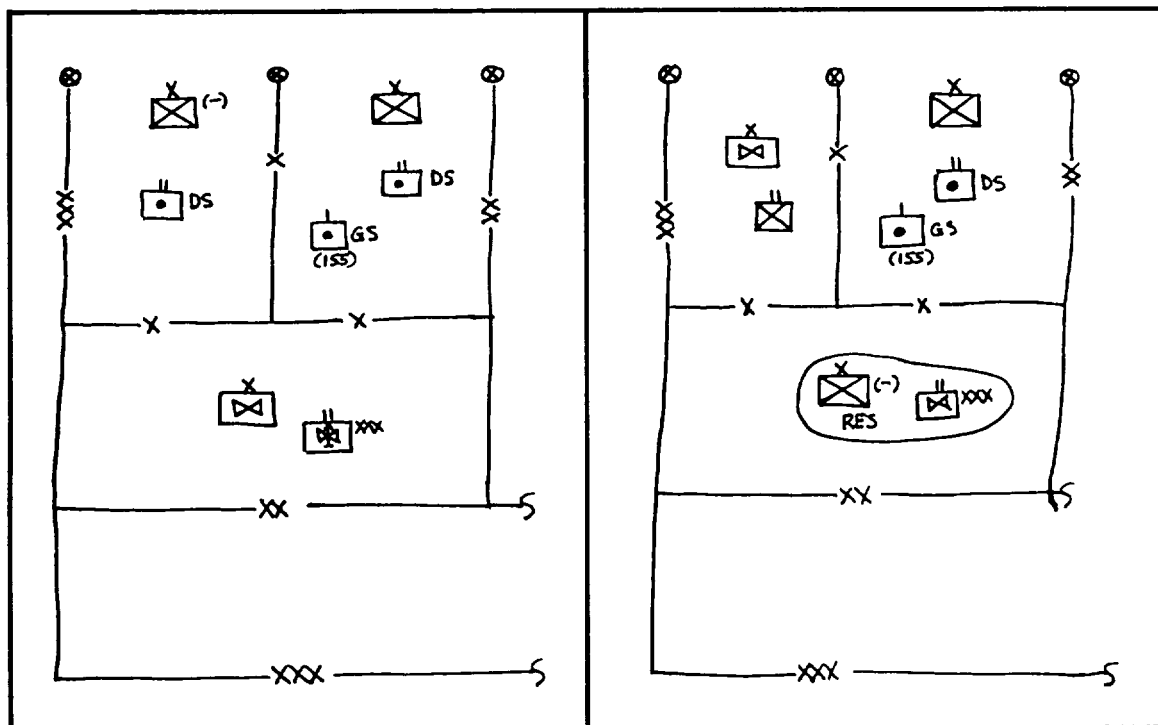


Figure 7-53. Two-brigade division: defense in sector

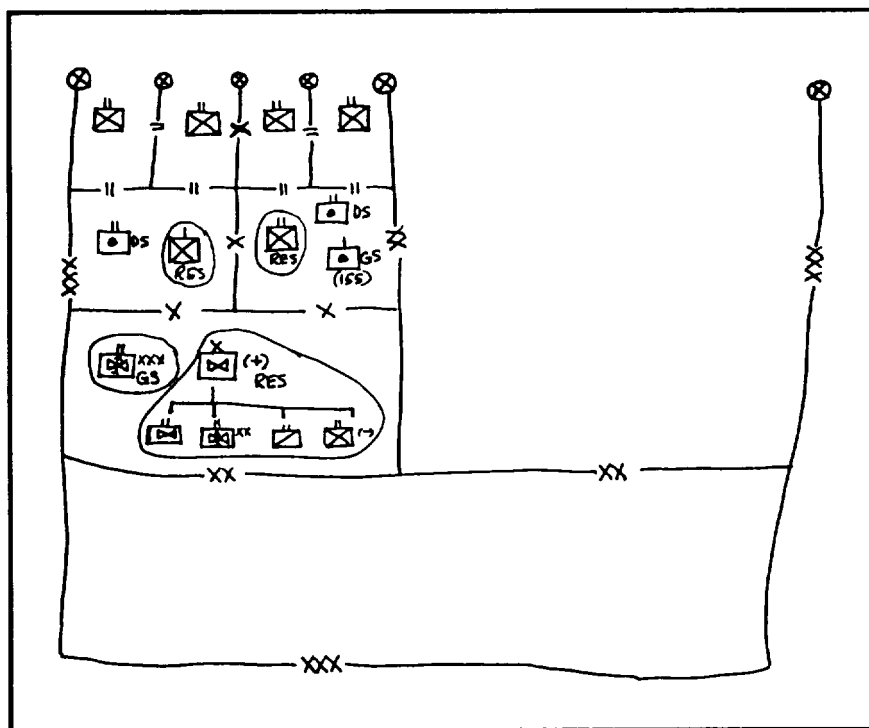


Figure 7-54. Two-brigade division: defense in sector (economy of force mission)

### **FIRE SUPPORT**

The two-brigade division normally has only two DS field artillery battalions (one battalion DS to each infantry brigade and one 155-millimeter towed battery in the division). The division 155-millimeter towed battery is retained in GS of the division. Corps should attach at least two artillery battalions to the two-brigade division. The division should then reinforce the main effort brigade with a reinforcing corps battalion, reinforce the supporting effort brigade with its 155-millimeter battery, and retain one corps FA battalion in general support. If a corps FA brigade supports the division, each brigade receives one reinforcing battalion. The divisional 155-millimeter FA battery is attached to the corps battalion supporting the main effort. The FA brigade (-) is then retained in GS to the division. If the division receives a FA brigade (-), the DIVARTY commander recommends task organization to the division commander who approves the plan.

### **MOBILITY AND SURVIVABILITY**

The division's three combat engineer companies provide direct support to each ground maneuver brigade. Corps should provide one OPCON corps wheeled engineer battalion with one CSE company attached and delegates authority to subassign missions. These corps engineers provide GS engineer mission support and weight the main effort with one additional corps company. The reserve is given one corps engineer platoon.

### **AIR DEFENSE ARTILLERY**

The division ADA battalion will probably be short of FAAD systems. With a smaller division

AO and one less brigade, there may be little decrement in ADA coverage and support. However, the division may assume more risk to achieve weapons systems mutual support and weight the main effort or priority. This is not a problem when the USAF has achieved air superiority. If not, the corps must provide ADA assets to protect the division and brigade rear area as well as corps support units.

### **INTELLIGENCE**

Intelligence assets in the two-brigade division are used the same as for a three-brigade division. Organic assets are appropriate for all missions. Interface with corps and brigades is unchanged. The two-brigade division's military intelligence battalion is employed in the same manner as a full-strength division's MI battalion. The MI battalion is at full strength unless one MI company team was task-organized to the missing brigade. The corps must provide synchronized situation intelligence development since the light division's organic assets are not as robust as an armored division's MI battalion.

### **COMMAND AND CONTROL**

The two-brigade division's C<sup>2</sup> can fight up to five maneuver brigades. There is no direct impact on the brigade division's command and control. Commanders acknowledge the lack of a triad of subordinate maneuver C<sup>2</sup> headquarters for doctrinal tasks like main, supporting, reserve, or follow and support with other elements for security and TCF operations.

### **COMBAT SERVICE SUPPORT**

Since DISCOM has a MSB and a FSB for each ground maneuver brigade, the level of support provided division forces remains the same.