

CHAPTER 3

OFFENSIVE OPERATIONS

This chapter deals with planning and executing an offensive operation. It does not cover all of the tactical issues dealing with the TF in the offense, but looks instead at the interface that must occur between the TF and the engineer company during offensive operations.

OFFENSIVE CHARACTERISTICS

The engineer company provides a significant offensive capability to the force. The engineer company is the primary agent of obstacle breaching and fortification reduction available to the TF or the engineer battalion. The engineer company normally fights as part of a TF or with the engineer battalion during the offense.

The offense's main purpose is to defeat, destroy, or neutralize the enemy force. The fundamental characteristics of offensive operations are surprise, concentration, tempo, and audacity. These characteristics are all subcomponents of initiative.

SURPRISE

Surprise is achieved by striking at a time or place or in a way that the enemy is not physically or mentally ready for. Engineers achieve surprise through covert breaching operations and the use of situational obstacles. Surprise avoids the obvious and strikes the enemy's weakest point. Engineers enable surprise by rapidly overcoming obstacles, increasing the force's tempo. Increased situational awareness and terrain visualization will enable the engineer company to achieve surprise because of its better understanding of the enemy's defensive preparation.

SEQUENCE OF THE ATTACK

Generally, the following sequence of events are followed when the TF attacks: *recon-*

CONCENTRATION

Concentration of effort is critical to the attacker's success. Concentration of effort does not necessarily mean the massing of large formations. To achieve concentration, all fires must be used at a decisive place and time to destroy the enemy. Concentrating breaching assets, fortifications, and obstacle effects all directly impact on the maneuver unit's ability to concentrate the terminal effects of its fires. The engineer company concentrates breaching assets to overcome fortifications and obstacles at the point of penetration as part of the TF's breaching plan.

TEMPO

Tempo is the speed of military action. The ability to control or alter tempo is essential for maintaining initiative. Engineer speed and flexibility are crucial to the attack. Rapid mobility operations by engineers ensure the TF's tempo. The ability to quickly breach, mark, and guide units through complex obstacles is the engineer's hallmark.

AUDACITY

Audacity is the bold courage to exercise good judgment and take decisive action in a fast-paced, constantly changing situation. The audacious commander is quick, decisive, and willing to take prudent risks.

nuisance, movement to the LD, maneuver, deployment, attack, and consolidation and reorganization.

RECONNAISSANCE

Reconnaissance begins as soon as practical following the receipt of orders to attack. The engineer company assists in the reconnaissance by developing a detailed enemy obstacle template and ensuring that obstacle intelligence (OBSTINTEL) requirements are included in the R&S plan. Engineer patrols or individual engineers with other reconnaissance elements can be used to observe specific named areas of interest (NAIs) to gain information on the enemy's barrier plan and to determine any weakness that the TF can exploit. Engineer-specific reconnaissance must be integrated into the TF's R&S plan to preclude confusion, reconnaissance overlap, and fratricide.

MOVEMENT TO THE LINE OF DEPARTURE

The TF normally moves from an assembly area or defensive position to the LD. Engineers ensure that the TF can move to the LD without pause. They create passages and provide guides through situational obstacles along the TF's march route. This is especially critical during a forward passage of lines.

MANEUVER

As the TF maneuvers to a place of advantage, the engineer company ensures the TF's mobility. Engineers supporting the TF can quickly breach, bypass, and mark obstacles

along the axis of advance. Engineers place planned situational obstacles protecting the TF's flank during movement.

DEPLOYMENT

The TF deploys to attack or fix the enemy. The engineer company prepares to breach, mark, and guide the TF through the enemy's obstacles.

ATTACK

The TF attacks, bypasses, or assaults the enemy position. The engineers breach the tactical and protective obstacles and mark lanes, guiding the TF through to the objective. Engineers may also assist in the assault breaching of protective obstacles.

CONSOLIDATION AND REORGANIZATION

As the TF eliminates all remaining enemy resistance, the engineer company reduces the enemy obstacle system, consolidates near the objective and, if necessary, starts to prepare hasty defensive positions for the TF. The engineer company plans and emplaces situational obstacles to protect the TF from enemy counterattack. As the TF, along with the engineer company, consolidates on the objective, ACEs rapidly prepare initial vehicle fighting and protective positions. Emplacement excavators move forward from the combat trains to prepare personnel positions,

FORMS OF MANEUVER

The basic forms of offensive maneuver are envelopment, turning movement, infiltration, penetration, and frontal attack. Attacks frequently use multiple forms of maneuver to achieve the desired effect on the enemy. Double envelopment and turning movements normally require large force structures and are more applicable to division level or higher operations and are covered in FM 71-100.

It is imperative that the TF engineer understands each form of maneuver and its impli-

cations to the engineer scheme of operations and task organization.

ENVELOPMENT

An envelopment is the preferred form of offensive maneuver. The envelopment seeks to strike the enemy on his flanks or rear. The envelopment is designed to force the enemy to fight in a direction from which he is least prepared. The envelopment requires an assailable flank. The enemy's defensive positions and obstacle systems and the terrain will define the flank—not the attacker's march direction (see Figure 3-1).

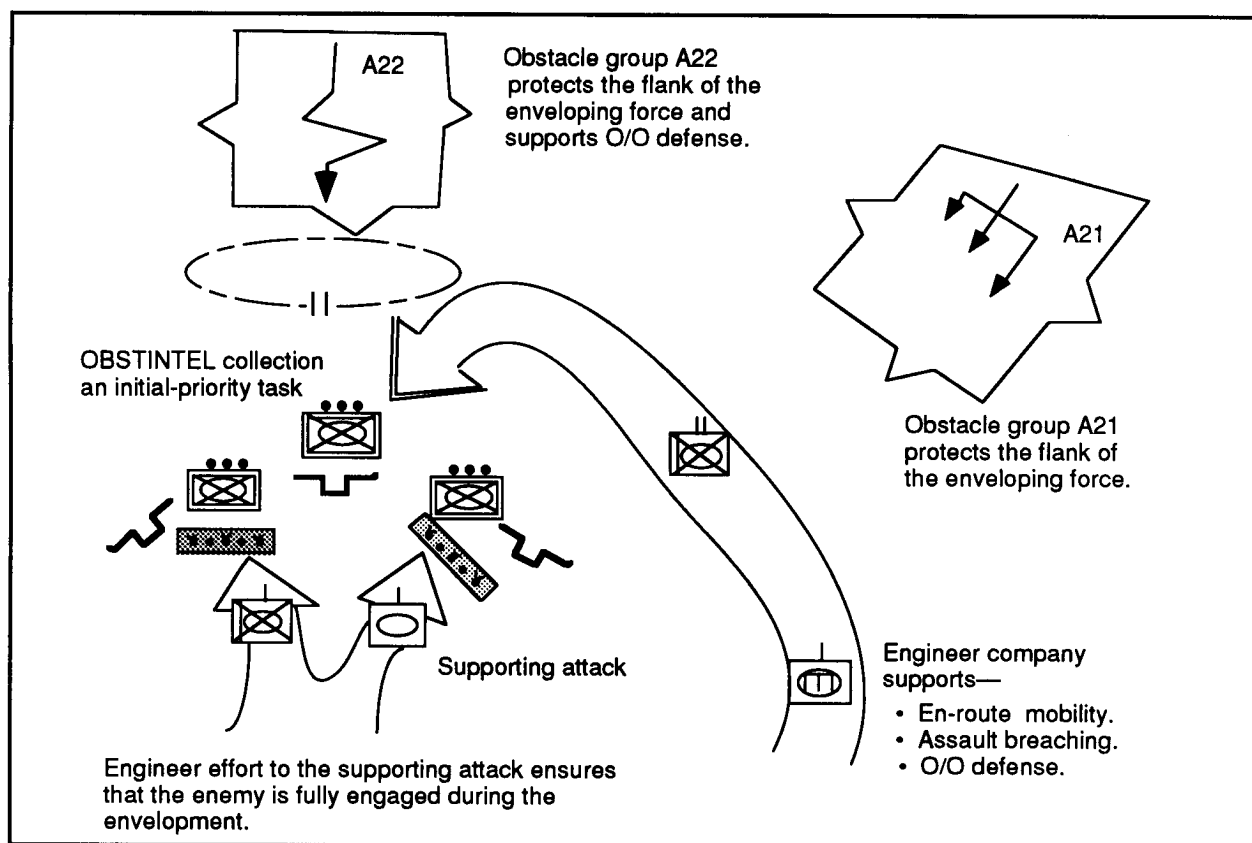


Figure 3-1. Engineer support for envelopment

Engineers plot known and templated enemy obstacles to determine if there is an assailable flank. Breaching an obstacle system can provide the flank the TF commander needs; therefore, the enemy's obstacles and terrain must be adequately studied.

INFILTRATION

During an infiltration, combat elements use stealth to gain the enemy's rear position without fighting. Infiltrations are slow and usually conducted during times of limited visibility. Successful infiltration requires extensive reconnaissance to discover covered, concealed, and undefended routes. Engineers normally support infiltration through covert breaching. The plan's success should not hinge on the covert breaching of minefield due to the possibility of antihandling devices (AHDs) on the mines. All covert breaches should have backup plans to become deliberate breaches if compromised.

PENETRATION

The TF seeks to concentrate on a small front to rupture the enemy's defense. There are three phases of the penetration: rupturing the enemy's position; widening the gap; and securing the objective, thus destroying the continuity of the defense. Normally, the TF will mass on one enemy platoon to create a gap in the enemy's defensive position.

A penetration is normally attempted when the enemy presents no assailable flanks. Engineers support the penetration by breaching the tactical and protective obstacles during the rupture phase. The engineer company widens the gap through obstacle reduction and supports securing the objective by guiding follow-on forces quickly through the gap. The engineer company must prepare to conduct an obstacle hand-over to follow-on engineers and then continue the attack. Engineers plan, and possibly execute, situational obstacles to delay

and disrupt enemy counterattacks (see Figure 3-2).

FRONTAL ATTACK

This is the least preferred offensive maneuver. In a frontal attack, the TF uses the most direct route to attack the enemy and gener-

ally attacks the enemy where he is most prepared to defend. This attack is normally done when the TF, as part of a larger attack, has the mission to fix the enemy or to deceive them. Frontal attacks, unless in overwhelming strength, are seldom decisive (see Figure 3-3).

FORMS OF OFFENSIVE OPERATIONS

Engineers at all levels find or create a weak point in the enemy's defensive obstacles and assist in suppressing the enemy's fires, isolating the enemy, maneuvering against weak points, and exploiting success.

FMs 71-1 and 71-2 contain a description of each offensive form. The engineers in the TF must understand the principles and organizations of each offensive form to provide appropriate planning and force allocation to support the TF's attack.

MOVEMENT TO CONTACT

The TF conducts a movement to contact (MTC) to make or regain contact with the enemy. The engineer company normally participates as part of the TF. Engineers will be positioned in the TF formation depending on the expected enemy disposition. By definition, the enemy situation during an MTC is unclear. However, enemy analysis will indicate whether it is likely that the enemy is expected to be moving or

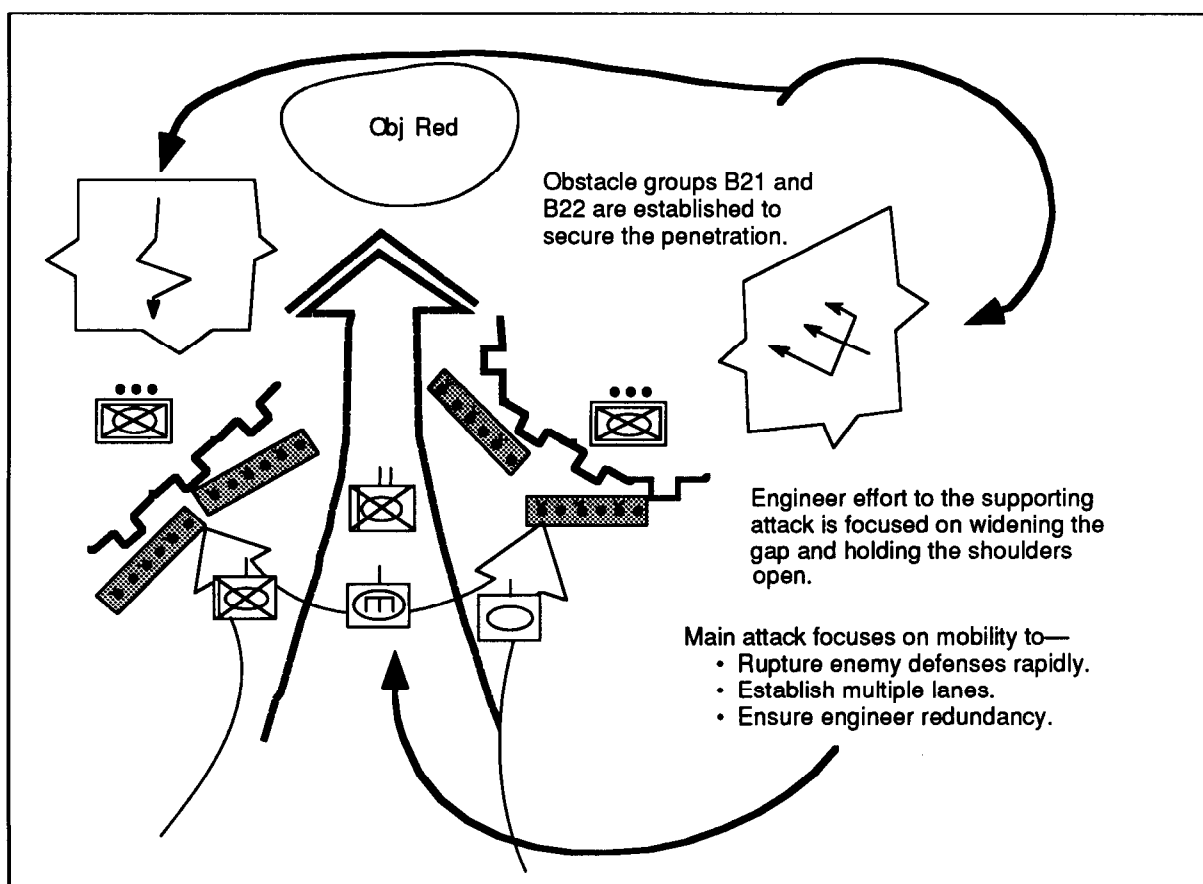


Figure 3-2. Engineer support for penetration

3-4 Offensive Operations

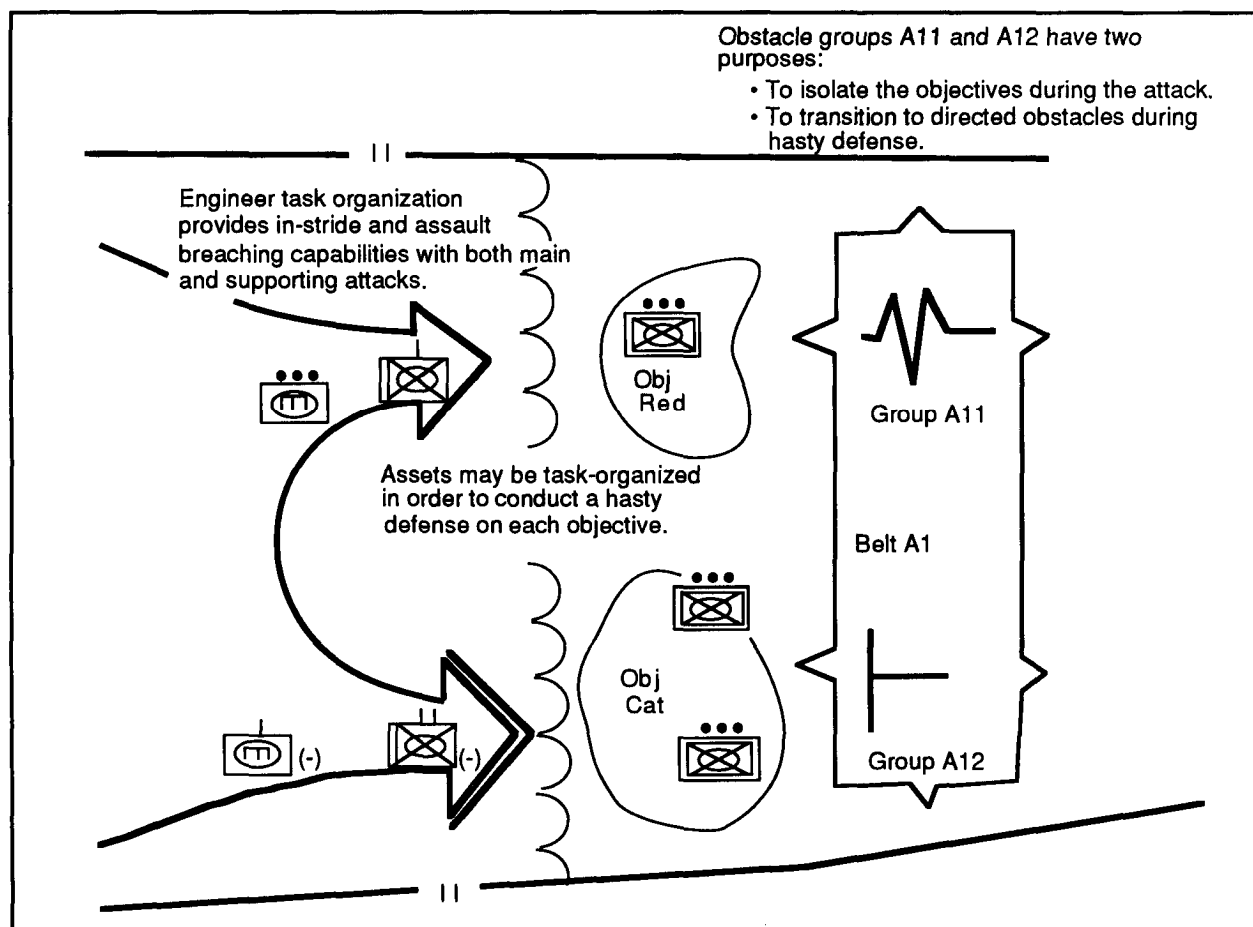


Figure 3-3. Engineer support for frontal attack

stationary. Engineer task-organization guidelines are discussed later in this section.

The desired result of an MTC is to find the enemy. When this occurs, the TF may deploy and conduct an attack or assume a hasty defense. When the TF attacks, engineers are prepared to breach and support flank security for the attacking force. When the TF assumes a hasty defense, engineers rapidly install obstacles and construct fighting positions to support the defense.

The engineer company must be flexible and prepared to deal with any obstacle that restricts the TF's movement. The engineer company will normally move under the company commander's control to facilitate quick movement to a flank, to emplace situational obstacles, or to quickly breach any unfore-

seen obstacles. Key planning considerations include movement and task organization.

Movement

The engineer company will orient on the objective as part of the TF along the axis of advance. The company moves consistent with the following factors:

- The speed required by the TF.
- The available AAs.
- The requirements to maintain mobility, security, and situational-obstacle emplacement.
- Bypassing or in-stride breaching, when possible.

- Reacting to contact faster than the enemy.
- Retaining flexibility in the breaching or bypassing location, technique, and organization.

Task Organization

The TF is normally organized with a security force, advance guard, main body, and flank and rear guards.

Engineer elements can be placed with any of the forces mentioned above. Generally, the engineer company travels behind the advance guard. Engineers can be placed with the security force and scouts to gain OBSTINTEL, to conduct route reconnaissance, and to ensure the advance guard's mobility.

The advance guard is initially the TF's main effort. Its task organization is METT-T dependent. The engineer company follows or attaches elements to the advance guard. The advance guard provides security to the TF's main body and attempts to gain contact and develop the situation for the main body to exploit. Engineers with the advance guard rapidly overcome obstacles, allowing the advance guard to develop the situation.

The main body normally moves 1 to 2 km (0.5 mile to 1.25 miles) behind the advance guard, though METT-T considerations drive its exact location. In many situations, the engineer company will be the main body's lead element. The main body must be close enough to the advance guard to respond to the situation, but not be tied down by the advance guard's fight. The engineer company must be able to move rapidly to overcome obstacles, thus allowing the main body to attack. Engineers provide flexibility to the TF, allowing rapid maneuver to the decisive point to destroy the enemy.

Flank and rear guards protect the TF as it moves, keeping it from being attacked from these directions. Engineers support the

flank and rear guards with situational obstacles, enhancing the TF's protection and security.

The priority of engineer effort is the TF's mobility. Elements of the engineer company will assist the security forces with reconnaissance. Engineers with the advance guard provide rapid mobility for both the advance guard and the main body. The engineer company moves to the advance guard's rear to provide responsive support to the main effort's movement. Situational obstacles are planned to support the security force and the advance guard.

ATTACK

There are two types of attack, hasty and deliberate. The hasty and deliberate attack differ only in the amount of planning and preparation time. The deliberate attack normally requires extensive planning, rehearsal, and reconnaissance. The hasty attack is usually the friendly force's reaction to the enemy situation.

Hasty Attack

Hasty attacks are conducted as the result of a meeting engagement, when bypassing the enemy has not been authorized, or the enemy is discovered in an unprepared or vulnerable position. There are two types of hasty attacks: against a moving enemy force and against a stationary enemy force. During the hasty attack, the first to react and to maneuver to a place of advantage usually wins.

When attacking a moving force, the advance guard seeks to fix the moving enemy while the TF's main body maneuvers to attack the enemy's flank or rear. The TF must interdict the enemy who seeks to do the same thing. Engineers support the attack by rapidly emplacing situational obstacles to assist the advance guard in fixing the attacking enemy force. At the same time, engineers swiftly reduce enemy situational obstacles, allowing the TF to maneuver into the enemy's flank or rear.

3-6 Offensive Operations

A hasty attack against a stationary force is initiated after the TF reconnaissance elements discover flanks or weaknesses in the enemy's defense. Reconnaissance must be done quickly, before the enemy has a chance to counter. As in the attack on a moving force, the TF attempts to fix the enemy with the advance guard while the main body maneuvers to the flank or rear of the enemy's position.

Engineers support the attack by breaching obstacles to allow the advance guard to move into a position to fix the enemy. As the main body maneuvers, engineers emplace obstacles to protect the TF's flanks, and they breach obstacles to allow the main body to attack into the enemy's position.

Deliberate Attack

The deliberate attack is characterized by detailed planning, reconnaissance, and preparation. It generally includes large amounts of preparatory and supporting fire, main and supporting attacks, and deception.

A deliberate attack requires time to collect information about the enemy and his defensive preparations. Reconnaissance confirms the enemy's disposition and extensive planning develops a scheme of maneuver to defeat him. Generally, obstacle reconnaissance should be done by the soldiers who will breach the obstacles. Engineers will be actively involved in the collection of OBSTINTEL as part of the preparation for the attack. Where engineers cannot actively do the reconnaissance, OBSTINTEL is coordinated with other reconnaissance elements. The TF engineer ensures that OBSTINTEL is planned and that obstacles are critical information requirements.

The TF commander should establish support, breach, and assault forces to overcome the enemy's defensive positions. The engineer company will be employed with the forward elements of the main attack to enhance the TF's mobility. Engineer elements will accompany the TF's breaching force (in some cases, the engineer company is task-

organized as the TF's breaching force) and assist in reducing and crossing all obstacles encountered. The decision of who is the breaching force and what type of breach is best is based on careful METT-T analysis. Covert breaching is used to attack the enemy's obstacle system (before the main attack) to gain surprise. Engineers could also task-organize with the assault force to breach enemy protective obstacles and to destroy enemy fortifications. Situational obstacles can be used behind the enemy to prevent repositioning, to delay enemy counterattacks, or to fix the enemy in his defensive positions.

EXPLOITATION

Exploitation is designed to take advantage of the initiative gained from the attack. Exploitation is the desired outcome of a hasty or deliberate attack. This form of maneuver prevents the enemy from reconsolidating an organized defense or conducting an orderly withdrawal. The TF will normally be part of a larger force during an exploitation. The two key components of the exploitation are speed in execution and maintaining pressure on the enemy.

The engineer company supports the exploitation as part of the TF. The engineer's organization is similar to that of an MTC with a responsive, flexible organization that can rapidly overcome any obstacles. Planning and preparation time will be very limited in an exploitation and will require an extremely versatile engineer force that can change organization on the move.

PURSUIT

Pursuit is the natural culmination of a successful exploitation. Pursuit differs from exploitation because it focuses primarily on the enemy force versus a terrain objective. The purpose of the pursuit is to chase the enemy down and kill him.

The engineer company will support the TF through mobility and countermobility. Enemy obstacles must be rapidly overcome

to ensure that the enemy is under constant pressure and is not allowed time to establish a coherent defense. The TF engineer will

recommend situational obstacles that fix the enemy in specific areas and disrupt his withdrawal, facilitating his destruction.

ENGINEER OFFENSIVE PLANNING

The engineer estimate provides the planning framework for the TF engineer to synchronize and integrate engineer-company capability into the TF's scheme of maneuver. Examples of the estimate process are found in Appendix A.

The engineer estimate and offensive planning begin when the TF receives its mission from a higher headquarters. The mission, the higher headquarters' engineer annex, and graphics provide information to develop facts and assumptions. The engineer battalion OPORD and the brigade WO will also provide information necessary to start planning.

The engineer company's primary task during offensive operations is mobility. Generally, this consists of overcoming obstacles presented to the TF along its axis of advance or zone. The engineer company must organize to support the TF's rapid transit of these obstacles. FM 90-13-1 covers in great detail the mechanics, tactics, and procedures for all breaching operations. It should be used as the definitive source for breaching operations.

As part of the planning process, the engineer estimate must provide the framework for the synchronization of engineer forces with the offensive plan. The TF engineer's role is to identify missions, allocate resources, and synchronize and command engineer functions.

ANALYZE THE MISSION

During mission analysis, the engineer company will receive the mission. First the company commander must determine facts and assumptions. For the engineer, this is the EBA. The EBA is part of the engineer estimate and is covered in Appendix A in greater

detail. The EBA seeks to define three things: the terrain, the enemy engineer capabilities, and the friendly engineer capabilities.

Terrain Analysis

The engineer assists the S2 in steps 1 and 2 of the IPB (define the battlefield environment and describe the battlefield's effects). The engineer analyzes the terrain in concert with the S2, if possible. The engineer ensures that the S2 takes into consideration the terrain products available through engineer channels such as the engineer battalion. The engineer also ensures that the S2 considers friendly force mobility based on critical assets (most breaching vehicles have less mobility capability than typical combat vehicles for various reasons, such as terrain affecting them differently).

Enemy Analysis

The engineer assists the S2 in steps 3 and 4 of the IPB (evaluate the threat and determine threat COAs). The engineer is the expert on enemy engineer capabilities. He provides input on how the enemy will employ obstacles, fortifications, and mobility assets during his defense. The engineer templates the enemy's obstacles and develops a detailed analysis of the enemy obstacle effort based on the time available to the enemy. For example, the engineer should estimate—

- The number and type of obstacles the enemy will use, including SCATMINES (regardless of the source).
- The number and type of mines the enemy will most likely use.
- The amount and type of fortifications the enemy will use.

The engineer identifies OBSTINTEL and nominates priority intelligence requirements (PIR) for inclusion into the commander's critical information requirements (CCIR). As the IPB continues (throughout the planning process), the engineer is involved in developing the R&S plan, selecting NAIs, and obtaining reconnaissance assets to gain OBSTINTEL.

Friendly Analysis

The engineer prepares an estimate of friendly capabilities. For example, he should estimate—

- The number and type of breach lanes required.
- The number of gap crossings required.
- The number and type of friendly obstacles required.
- The number and type of friendly fortifications required.

ANALYZE RELATIVE COMBAT POWER

The engineer does a comparison of friendly engineer capabilities with the competing enemy capabilities to determine if the mission is tactically feasible. During this process, the engineer must answer the following questions:

- How much breaching/gap-crossing capability do I have in comparison with the existing obstacles and the enemy's obstacle capability?
- How much obstacle-emplacement capability do I have in comparison with the enemy's capability to breach obstacles?
- How much survivability capability do I have in comparison with the numbers of systems I must protect from the enemy?

ANALYZE ENGINEER BATTALION/ MANEUVER BRIGADE MISSION AND INTENT

The engineer analyzes his mission based on the brigade's missions to the TF and the

engineer battalion. The company commander must understand both missions regardless of task organization to determine the mission of the engineer company. To properly conduct this analysis, the engineer must—

- Understand the mission and the intent of the next two higher echelons.
- Review the task organization, the engineer battalion's/maneuver brigade's concept of the operation, and the AO.
- Identify specified tasks such as creating breach lanes (brigade in-stride breach); acting as the support, breach, or assault force (brigade deliberate breach); passing follow-on forces; emplacing situational, directed, or reserve obstacles; and constructing survivability assets to dig in brigade assets.
- Identify implied tasks to allow the completion of specified tasks.
- Identify any specified or implied tasks that are mission essential for the TF.
- Identify limitations (constraints or restrictions), including obstacle restrictions, zones or belts, manning or widening lanes, restrictions on using breaching assets, and changes to task organization during the mission.
- Determine any risks the commander may need to accept.
- Conduct a continual time analysis.

NOTE: This process involves information sharing within the staff. The engineer and other staff members may initially work independently, then come together to share information, or the staff may work as a group.

SEEK THE COMMANDER'S GUIDANCE

The engineer needs to seek guidance from the commander on each area of engineer capability if it is not given. He should

request guidance on the use of breaching, obstacle, and survivability assets.

DEVELOP THE COURSE OF ACTION

The engineer participates in the development of the maneuver COA. This ensures his complete understanding of the COA. As each COA is developed, the engineer prepares the supporting SOEO. He must consider integrating engineer capability assets into the operation. He considers the capability he determined during his EBA to ensure that his SOEOs are realistic. A matrix provides a technique for identifying the engineer tasks that support a TF offensive operation. The following example illustrates this technique:

TF 1-1 attacks in zone to seize Objective (Obj) Blue to destroy a defending motorized rifle company (MRC) not later than (NLT) 060400 September 19XX. The TF will move from AA Dog to the LD on Route Nut in a column formation.

The TF will cross the LD in a TF box formation. Two companies/teams will occupy attack-by-fire (ABF) positions 1 and 2 and act as the TF support force. A third company/team supported by the engineers will breach vicinity Pop 1. The fourth company/team will assault the Obj. Upon seizure of the Obj, the TF will halt, consolidate, and transition to a hasty defense (see Figure 3-4).

ANALYZE THE COURSE OF ACTION

The staff war-games the COA to determine its viability and to determine the best COA to recommend to the commander. The engineer develops the SOEO within the context of the maneuver COA. There are some specific considerations that the engineer staff officer should consider as he develops his SOEO, including the—

- Breaching capability that makes one breaching technique preferable to another (for example, covert versus

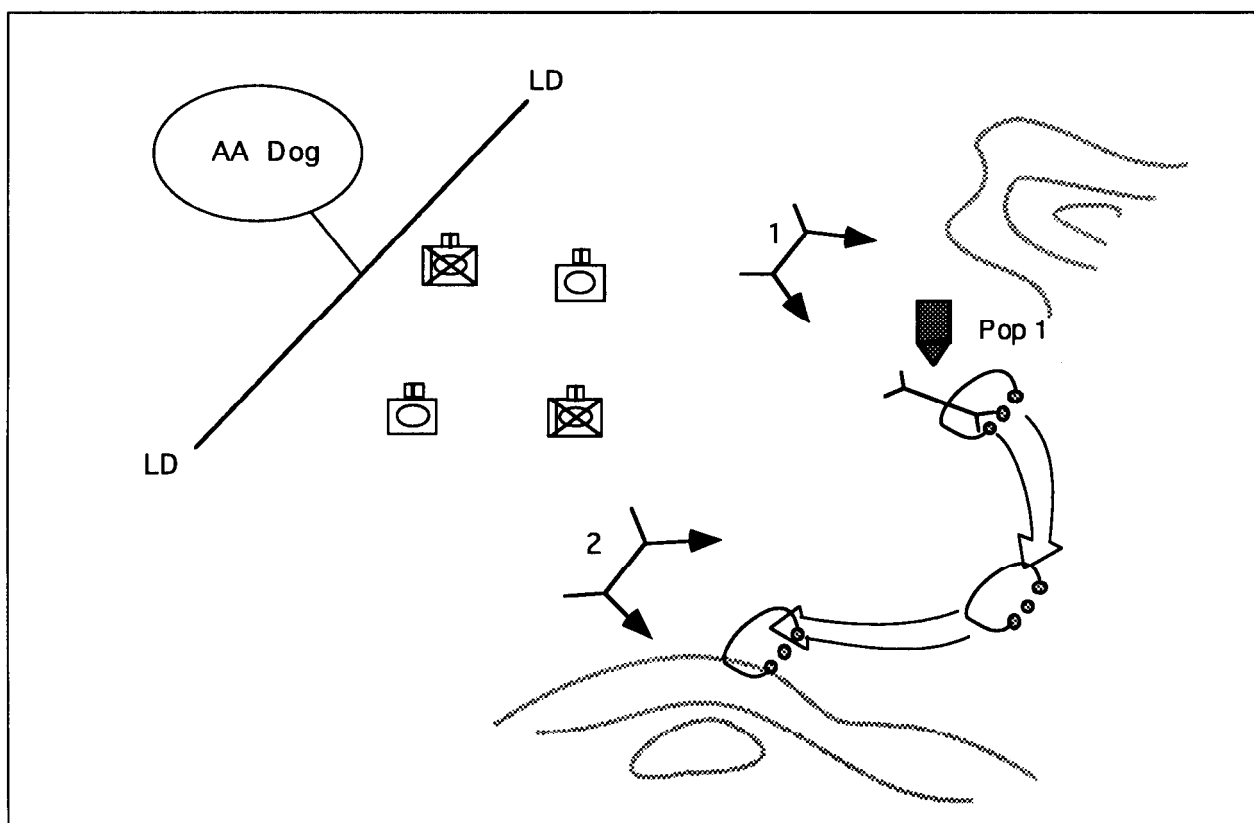


Figure 3-4. COA sketch

in- stride and the mine-clearing line charge (MICLIC) versus the tank plow).

- Obstacle locations that hinder enemy maneuver.
- Enemy's obstacle design and placement within the kill sack.
- Adequate fire-control measures to support breaching. He should coordinate with the FSO for screening/obscuration smoke and suppressive artillery fires to support the breach.
- Locations of suspected enemy artillery concentrations that make one type of breaching preferable to another. He should coordinate with the FSO and consider the location of counterfire radar zones that protect forces in the breach.
- Location and type of enemy situational obstacles that make one type of breaching asset preferable to another.
- Relative locations of friendly obstacle groups that support the attack.
- Friendly reactions at enemy obstacles (breaching capability) versus the desired obstacle effect.
- Friendly force-protection requirements such as hasty position construction required on the objective and protective positions for forces not participating in the attack.

The TF engineer's SOEO recommends the placement of breaching assets and the task organization of the engineer company during the COA analysis phase of the planning process. He must consider all of the TF's breaching assets and their unique capabilities. M1A1 track-width mine plows are not effective in very rocky soils, and the MICLIC will not effectively clear double-impulse

mines. These are examples of the considerations the engineer must make to properly develop a SOEO that supports the scheme of maneuver. The engineer must effectively estimate the amount of reduction that the TF is capable of and articulate that to the S3.

The staff adjusts the COA and the engineer adjusts the SOEO, as follows, after war gaming:

- Breaching location changes.
- Suppress, obscure, secure, and reduce (SOSR) synchronization.
- Additional situational-obstacle groups.
- Identification of other mobility requirements.

The engineer also considers the additional mobility requirements associated with the forward passage of follow-on forces. This could require more counterobstacle capability than the initial TF requirement. It is prudent of the engineer to consider the extra effort to ensure rapid commitment of follow-on forces and easy passage through the TF breaches.

DECIDE AND EXECUTE

The engineer will make adjustments to the SOEO based on the hat the commander approves. The engineer then will provide either an oral, written, or graphical order, with sufficient detail to allow the subordinate units to conduct the operation. The engineer provides critical information using—

- The operational overlay.
- The scheme of obstacle overlay (if situational obstacles are to be employed).
- The SITEMP, with an enemy obstacle system.

TASK-FORCE SCENARIO

The following scenario illustrates a TF attack:

The TF must destroy the northern MRC of a defending motorized rifle battalion (MRB) as the supporting attack to the brigade main effort. The TF's purpose is to protect the northern flank of the brigade's main attack. Based on the TF's mission, the commander directs the staff to develop the COA depicted in Figure 3-5. Previously, the S2 and the engineer developed a SITEMP depicting the enemy's defensive posture, including obstacle and fortifications depicted in Figure 3-6. The engineer used the weapons-range fans and enemy obstacle doctrine coupled with a thorough terrain analysis to define the enemy's kill sack, disposition, and potential obstacle plan. The engineer's EBA is a fundamental product to successfully developing a COA.

The COA calls for a supporting attack in the north with two mechanized companies/teams. These two companies will destroy the enemy combat security outpost, then move to support-by-fire positions to suppress the enemy during the breach. A mechanized team will breach the tactical obstacles in the south and destroy the southern motorized rifle platoon (MRP). The engineer company (-) will reduce the obstacles in the south, allowing the assault force to destroy the remaining enemy platoons.

The SOEO arrays mobility assets for multiple missions. The execution of the envelopment is depicted in Figure 3-7, page 3-14. The mechanized team conducting the supporting attack receives a tank platoon equipped with two tank plows. This is sufficient to breach any protective obstacle around

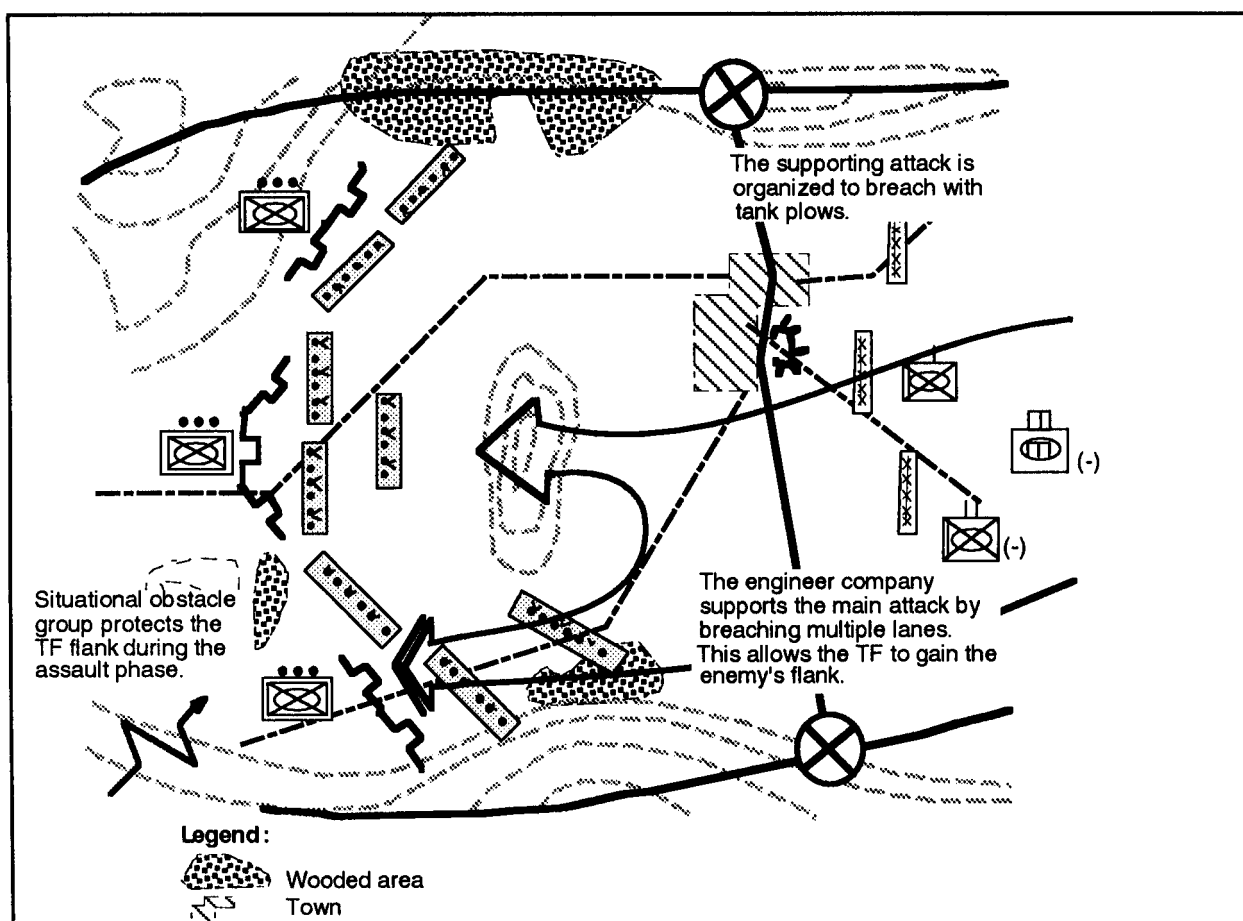


Figure 3-5. TF deliberate-attack scheme of maneuver

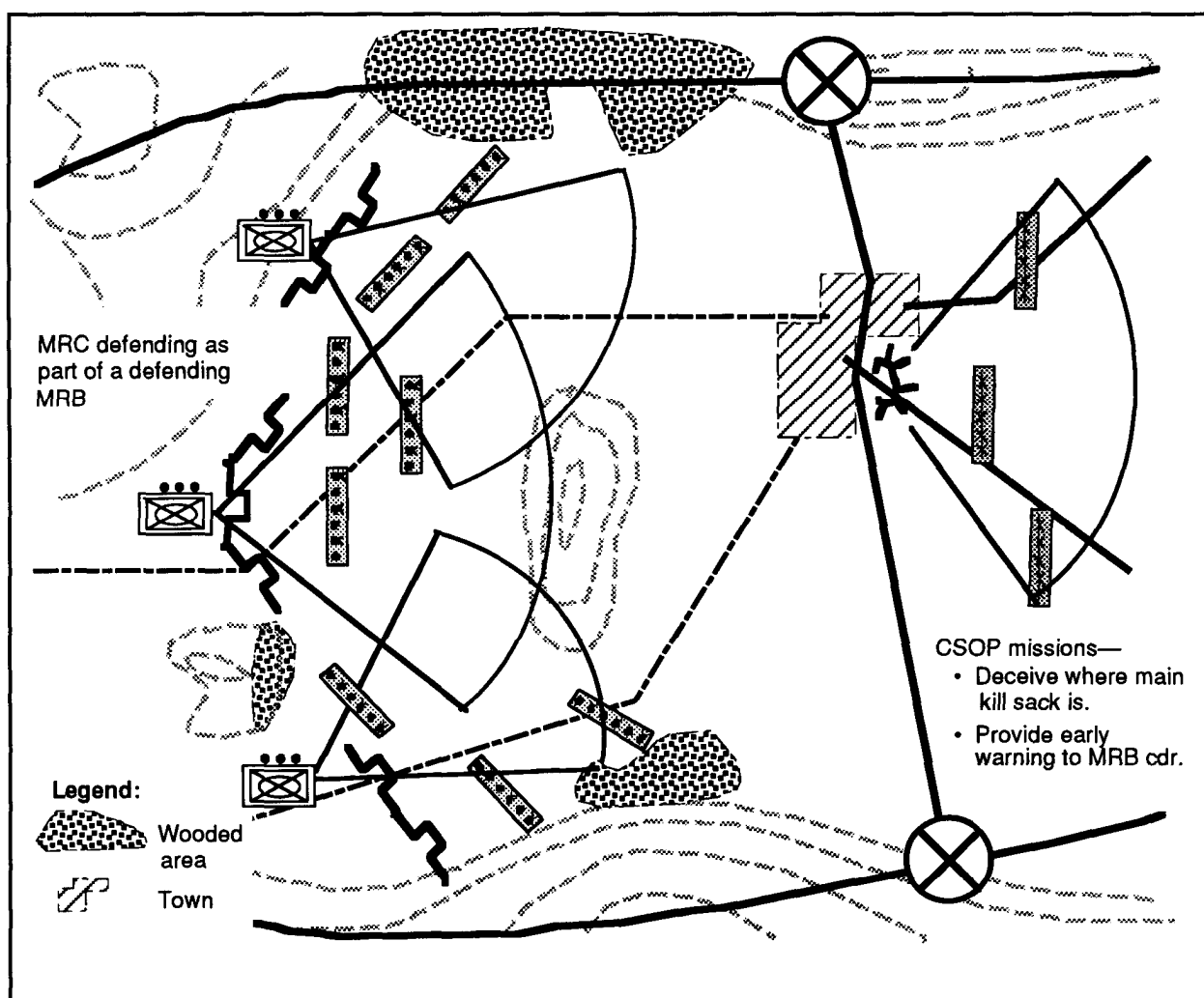


Figure 3-6. Enemy SITEMP with obstacle overlay and weapons-range fans

the combat security outpost and to deal with any obstacles emplaced as part of the enemy's deception. An engineer platoon is cross-attached to the breaching force. This platoon will be equipped with a MICLIC. The breaching team will also have a plow-equipped tank platoon with two plows. The breaching team must create a minimum of four lanes through the tactical obstacles (two lanes in two obstacles) as well as conduct an assault breach of the protective obstacles of the southern platoon. The engineer company (-) follows the breaching team, to widen the four lanes to accept two-way traffic and create additional lanes to recover wounded sol-

diers and damaged equipment. The engineer company is also responsible for marking these lanes and providing guides for the assault force. Both assaulting companies have tank plows to breach protective obstacles encountered during the envelopment.

A situational obstacle group is planned to protect the TF's flank during the assault phase. On order, the engineer company could reinforce the artillery-delivered obstacle with Volcano or conventional mines. The engineer company will also be prepared to start hasty fortification, should the tactical situation require.

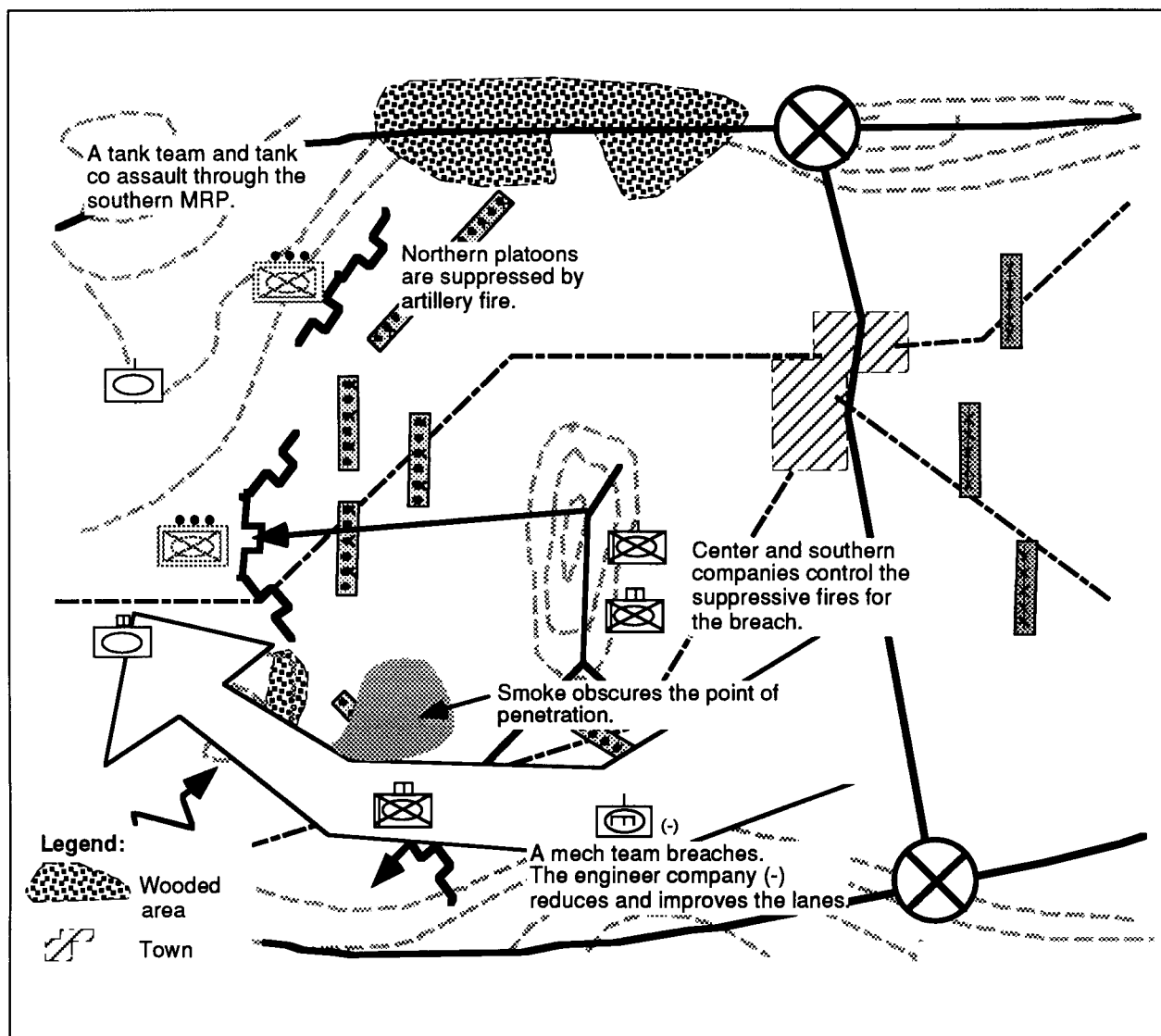


Figure 3-7. TF deliberate-attack execution