CHAPTER 5

OTHER TACTICAL OPERATIONS

There are several other tactical operations that the engineer company could be involved with. These include retrograde, passage-of-lines, breakout, linkup, river-crossing, and heavy/light forces operations; military operations on urbanized terrain (MOUT); and contingency operations. See Appendix E for formation examples.

RETROGRADE OPERATIONS

A retrograde operation is an organized and controlled movement of forces toward the rear or away from the enemy. Retrogrades are organized to economize forces, create or maintain freedom of maneuver, or avoid decisive combat. The engineer company participates in a retrograde as part of a larger force, typically a battalion/TF.

TYPES OF RETROGRADE OPERATIONS

There are three types of retrograde operations: delays, withdrawals, and retirements. Delays trade space for time, preserve the force, or avoid decisive engagements. Withdrawals break contact with the enemy to conduct other missions. Retirements move the unit to the rear when not in enemy contact.

Delay

A delay is an operation in which the TF trades space for time. The TF must not become decisively engaged. It must emphasize force preservation and mobility maintenance to be successful. The TF may attack, defend, or conduct ambushes to destroy the enemy or slow his forward progress. The TF may delay as the covering force of a larger unit or as an economy-of-force operation that allows others to attack. To control an enemy penetration, the TF could delay, allowing others to counterattack.

A delay's basic concept is to retain freedom of maneuver while forcing the enemy to deploy repeatedly against successive battle positions. Engineers support the delay by attacking the enemy's freedom of maneuver with obstacles and bridge and road destruction. The engineer company builds fortifications that allow the TF to deploy successfully to protected positions. The engineer company's priority is to ensure that the TF can quickly disengage and move to subsequent battle positions.

Maximum use of terrain must be made to protect the force effectively and to gain the maximum effect from obstacles. Obstacles must be used to reinforce natural choke points and existing obstacles. They must slow the enemy's use of high-speed AAs and force him to deploy repeatedly and use his organic breaching assets. Slowing the enemy's forward progress is essential to gain time for the TF to disengage (see Figure 5-1, page 5-2).

Withdrawal

A withdrawal is an operation in which the TF breaks contact with the enemy to conduct another mission. There are two types of withdrawals: in enemy contact and not in enemy contact. Both begin with the TF in enemy contact; however it is preferably made without heavy enemy interference.

A withdrawal not under enemy pressure depends on speed and deception. The engineer company primarily assists the TF by ensuring that it can rapidly overcome any threat to mobility. Engineers help with deception by building false fighting positions and dummy obstacles and by unit activity. Obstacles are normally employed to cover the TF as it breaks contact. Artillery-delivered

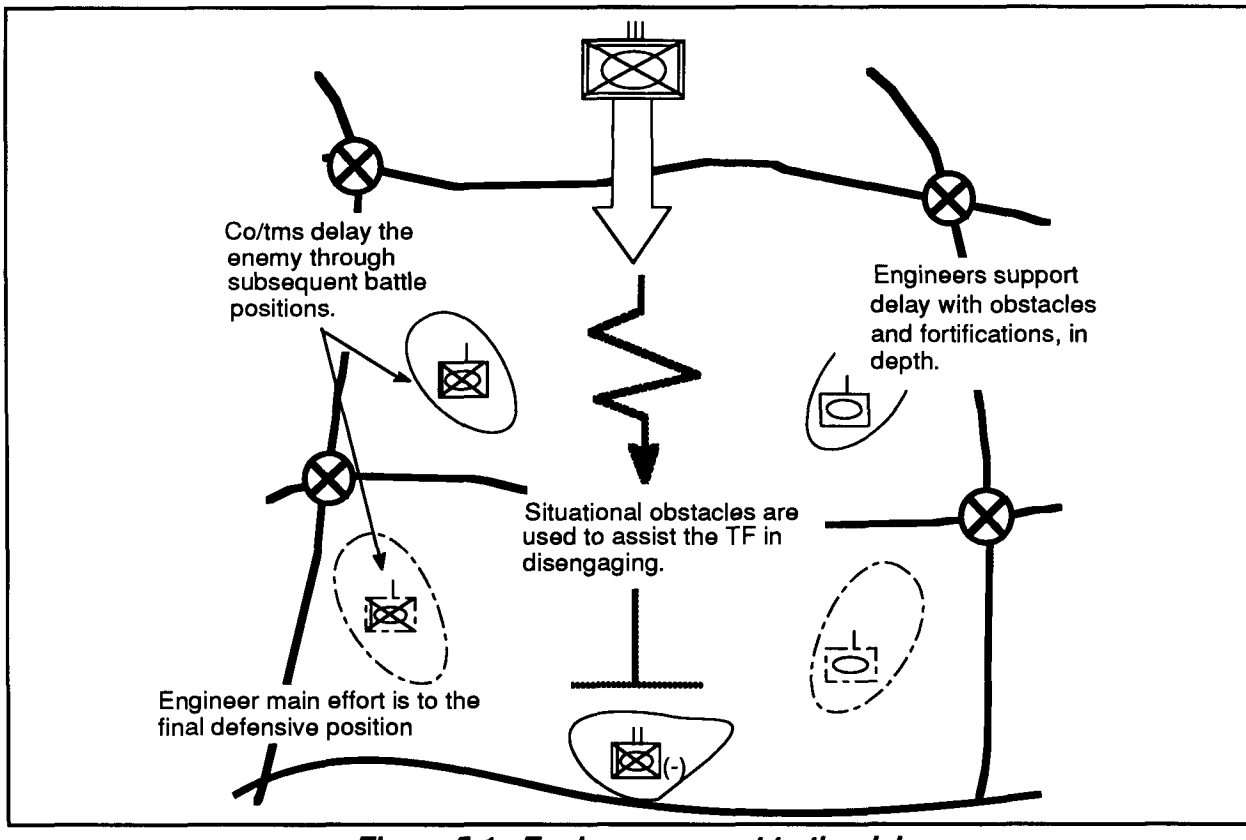

Figure 5-1. Engineer support to the delay

minefield are emplaced on stationary enemy forces or on suspected enemy AAs to delay the enemy's approach. Fortifications are not normally constructed in a withdrawal not under enemy pressure.

A withdrawal under enemy pressure uses firepower and maneuver to break contact with the enemy. Engineer reconnaissance is critical to determine where and what assistance the engineer company must render to the TF to ensure its mobility. Obstacles and fortifications are planned and developed to allow the TF to move to subsequent battle positions until contact can be broken with the enemy. Maximum use of situational obstacles must counter the enemy's maneuver, allowing the TF's rear security element to disengage and break contact. The engineer-emplaced obstacle groups must assist the TF in stopping, disorganizing, or reducing the enemy's ability to pursue effectively. The engineer company must focus its mobility assets quickly, overcoming any enemy remotely emplaced obstacles, battlefield debris, or other impediments to mobility.

Retirement

A retirement is a retrograde operation where the TF *is not in contact* and moves to the rear in an organized manner. This operation is normally conducted at night. A retirement may have an adverse impact on the engineer company's morale. It is imperative that the commander maintain positive leadership and keep his company briefed on future operations and intentions of the chain of command.

The engineer company commander should anticipate a change in task organization during a withdrawal, unless the entire force withdraws. Normally, if only one TF withdraws, the engineer company will be task-organized with another unit in contact or anticipating contact with the enemy. Normally, the TF will retire as part of a larger force.

CONSIDERATIONS FOR RETROGRADE OPERATIONS

All retrogrades are risky and inherently dangerous. They must be well-organized and well-executed to succeed. There are four major underlying considerations in planning and executing retrograde operations. They are—

- Leadership and morale.
- R&S.
- Mobility.
- Battlefield deception.

Leadership and Morale

Leadership and morale are essential for maintaining the offensive spirit. The engineer leaders in a retrograde operation must ensure that soldiers have confidence and do not perceive the retrograde as a preliminary to defeat. The engineer commander must ensure that his soldiers know their purpose and role in the retrograde.

Reconnaissance and Surveillance

The TF must locate the enemy to deny him information about the TF's disposition and to counter the enemy's efforts to pursue, outflank, isolate, or bypass the TF or any of its elements. The TF normally constitutes a security force that is strong enough to secure the enemy AAs; to defeat enemy intelligence-collection efforts; to overwatch retrograding units; and to provide rear-guard, flank, and choke-point security.

The engineer company supports the security force through the construction of obstacle groups that limit the enemy's maneuver, lane closure, situational-obstacle emplacement to protect the security force, and hasty fortification that affords the security force additional protection.

Mobility

The engineer company's primary mission in a retrograde operation is ensuring that the TF can quickly complete the retrograde. Engineers improve the TF's mobility by—

- Conducting route reconnaissance.
- Positioning mobility assets at critical points.
- Improving routes and providing guides through friendly obstacles along the retrograde routes.
- Rehearsing lane closure, situational-obstacle emplacement, and movement.
- Acquiring, treating, and medically evacuating casualties rapidly.
- Evacuating recoverable supplies and materials and excess equipment before the retrograde.
- Displacing nonessential company assets early in the operation.

Engineers degrade the enemy's advance by—

- Constructing obstacles at choke points or on routes not used by the TF.
- Fortifying construction for forces occupying key terrain that dominates high-speed AAs.
- Destroying roads, bridges, and rafting on avenues not required by the TF.
- Improving existing obstacle groups with conventional or SCATMINE systems.
- Planning situational obstacles to delay and disrupt the enemy's maneuver.

Deception

Deception targets the enemy force to cause indecision and to delay the enemy attack. It is essential to the retrograde's success. Engineers must ensure that their preparations do not give away the TF's intention. Dummy obstacles, deception fortification, equipment

movement, and camouflage can all be used as part of the TF's deception efforts. Situational obstacles are normally planned but not executed until required. This ensures that the TF's deception plans are not compromised by premature obstacle emplacement.

PASSAGE OF LINES

A passage of lines is an operation where the TF moves through another unit. Passages of lines are characterized as either forward or rearward. The considerations for the engineer company are similar and differ only if the TF is stationary or passing. The major considerations for the engineer company are the exchange of information between passing engineers and the passing force's mobility. The company, if part of the stationary TF, assists in the control of the passage, particularly in regard to the passage of any emplaced obstacles.

Passage control between the passing and stationary TFs is a key consideration in a passage of lines. Normally, both TFs' TOCs will collocate. This allows both engineer company CPs to also collocate. Collocation allows both CPs to control the engineer passage and exchange scheme-of-obstacle overlays and allows the passing engineer company the necessary information required to assume control of the obstacle effort in sector.

Both engineer companies must jointly plan and closely coordinate to ensure the passage's success. They exchange information that includes individual obstacle locations and their markings, situational obstacles planned, cleared routes through the sector, and standards for lane marking. Details of reserve obstacles and situational-obstacle triggers and execution criteria are also exchanged.

The stationary TF is responsible for the passing TF's mobility. The stationary engineer company normally provides guides through existing obstacles and positions breaching assets to move the passing TF through quickly. In a rearward passage, the stationary engineer company is prepared to close obstacle lanes after the passage of the rearward moving unit (see Figures 5-2 and 5-3).

The passing TF generally organizes for instride breaching before starting its passage. The passing force must be prepared to breach enemy remotely delivered mines rapidly during passage as well as breach any friendly obstacles that do not have lanes. **NOTE: Creating lanes through the stationary unit's obstacles requires permission from the stationary force and should only be done in extreme situations.** Authority to reduce obstacles may be delegated to subordinate units of the passing force in the coordinating instructions of the brigade OPORD. Any breaching required or undertaken by the passing force must be reported so that the stationary unit can repair the obstacle. This is especially important during a rearward passage of lines.

BREAKOUT OPERATIONS

A breakout is an operation performed by a bypassed or encircled TF. The TF conducts a breakout to regain freedom of maneuver or to regain contact with friendly units. Encirclement does not imply that the TF is surrounded by strong enemy forces (see Figure 5-4, page 5-6).

Regardless of initial command/support relationships, all forces encircled become attached, including the engineer company with the TF. The TF organizes for the breakout with four forces: the rupture force, the reserve force, the main body, and the rear guard.

Engineers support the breakout in a similar fashion as they would a deliberate breaching operation. The engineer company organizes

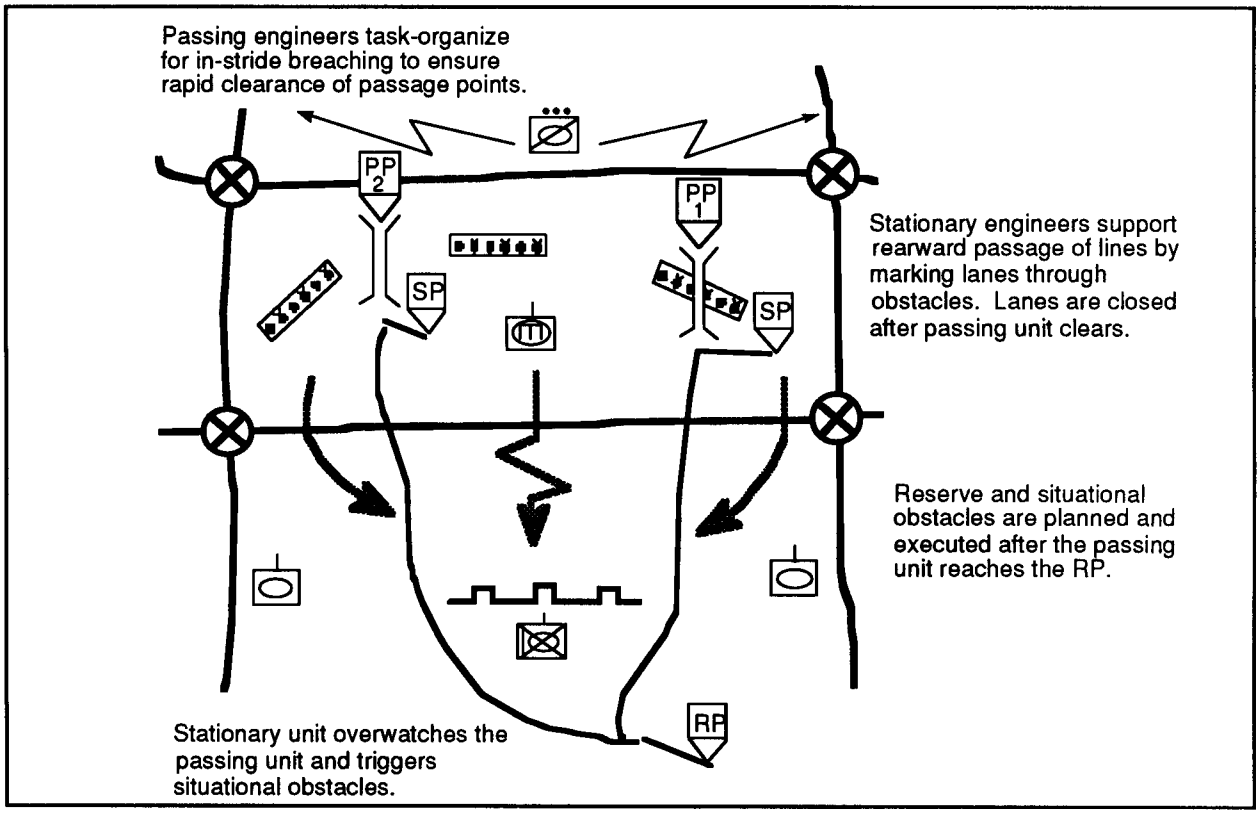

Figure 5-2. Rearward passage of lines

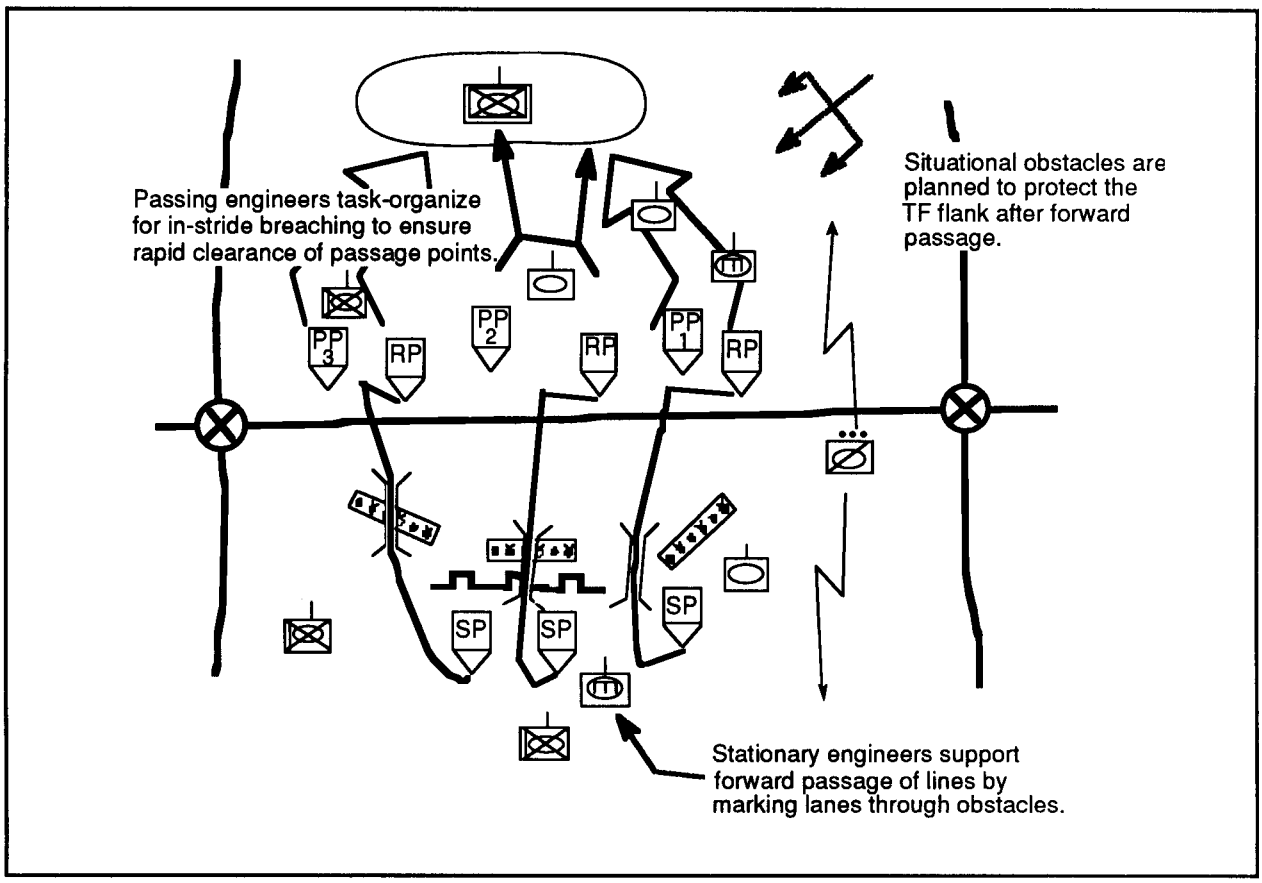

Figure 5-3. Forward passage of lines

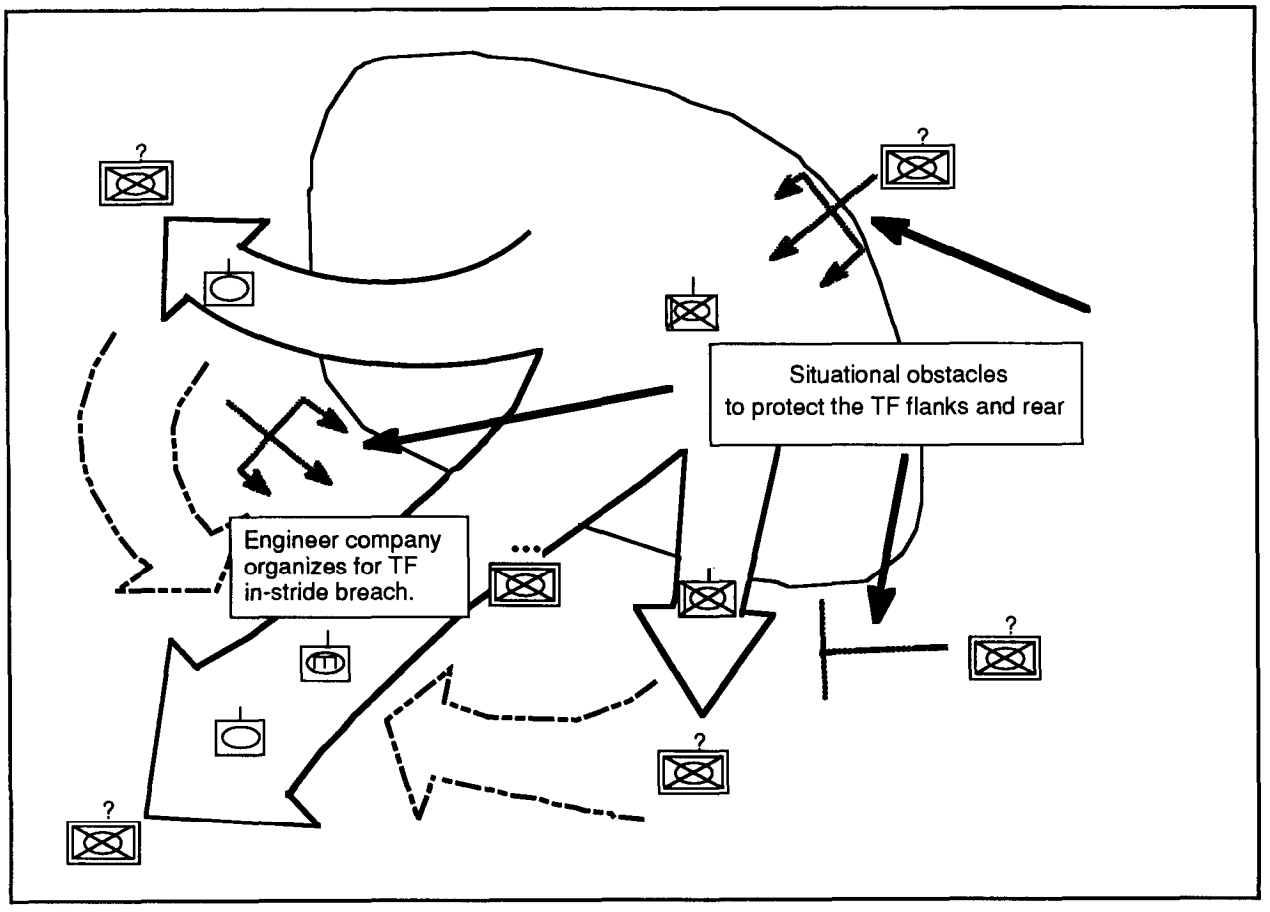

Figure 5-4. Breakout

to support the four breakout forces as follows:

- The rupture force must penetrate the enemy positions and open a gap for the remainder of the TF to pass. The engineer company must ensure the mobility of the rupture force and be prepared to rapidly breach any obstacle the rupture force encounters. Once the gap is opened, the rupture force must hold the shoulders of the gap until the TF passes. Situational obstacles are normally planned to protect the TF's flanks as they pass through the penetration. The rupture force would trigger any obstacles emplaced.

- The reserve force follows and assists the rupture force. The reserve force normally passes through the rupture force to maintain the momentum of the breakout. The reserve force would also organize to breach any obstacles encountered following the initial rupture of the encirclement.

- The TF's main body consists of the command group, the main CP, and CS and CSS assets. The engineer company assets that are not actively involved with the breakout are in the main body (specifically, the A&O platoon and the engineer company trains element).

- The rear guard protects the TF's rear as it moves through the rupture and links up with friendly forces. The rear guard would also employ situational obstacles to assist in disrupting and delaying the enemy's pursuit.

LINKUP OPERATIONS

The TF will conduct a linkup as part of a larger force. The engineer planning considerations are similar to those of the passage of lines. The engineer must carefully plan situational obstacles so that their execution will not interfere with the linkup operation. Also, the linkup may require the moving force to breach obstacles emplaced by the stationary force.

RIVER-CROSSING OPERATIONS

There are three types of water crossings that can be conducted by a battalion/TF: hasty, deliberate, and retrograde. Hasty crossings are done by the TF with its organic assets. Hasty crossings normally include fording, crossing on existing bridges, and swimming vehicles. The engineer company assists in hasty crossings by improving fords, emplacing armored vehicle-launched bridges (AVLBs), and providing a thorough crossing site reconnaissance.

The TF participates in deliberate or retrograde river crossings as part of a larger force. FMs 90-13 and 71-2 provide detailed explanations for planning these operations. Generally, the TF organizes for in-stride breaching during these operations to facilitate rapid transition through the crossing area.

The TF approaches a hasty water crossing in much the same way as an in-stride breaching operation. FM 71-2 details the following characteristics of a hasty crossing:

- Speed, surprise, and a minimum loss of momentum.
- Decentralized operations with organic, existing, or expedient resources.
- Weak or no enemy defenses on both banks.
- Minimum concentration of forces.
- Quick continuation of the operation.

The engineer company provides AVLBs to cross relatively narrow gaps. The AVLB can also be used to improve river bottoms for fording. The engineers can also improve both entrance and exit banks for the TF with the ACE.

HEAVY/LIGHT FORCES OPERATIONS

The engineer company must prepare to support, and be supported by, light forces in a variety of situations. An armored or mechanized TF could receive a light infantry company for both offensive and defensive operations. Normally, the light forces will augment the armored or mechanized TF during operations in restricted terrain. Similarly, the engineer company could be augmented by a light engineer platoon or squad. Finally, the engineer company, or one of its subordinate elements, could be task-organized to support a light infantry brigade.

There is an overlap of situations where both heavy and light engineers can operate. The integration of heavy and light engineers capitalizes on the enemy's force structure to attack its weakness and then seize the initiative (see Figure 5-5, page 5-8).

SUPPORT TO A LIGHT INFANTRY COMPANY ATTACHED TO A TASK FORCE

The light infantry company offers the TF commander unique capabilities in both the offense and the defense. However, with those unique capabilities comes a corresponding set of requirements for engineer support.

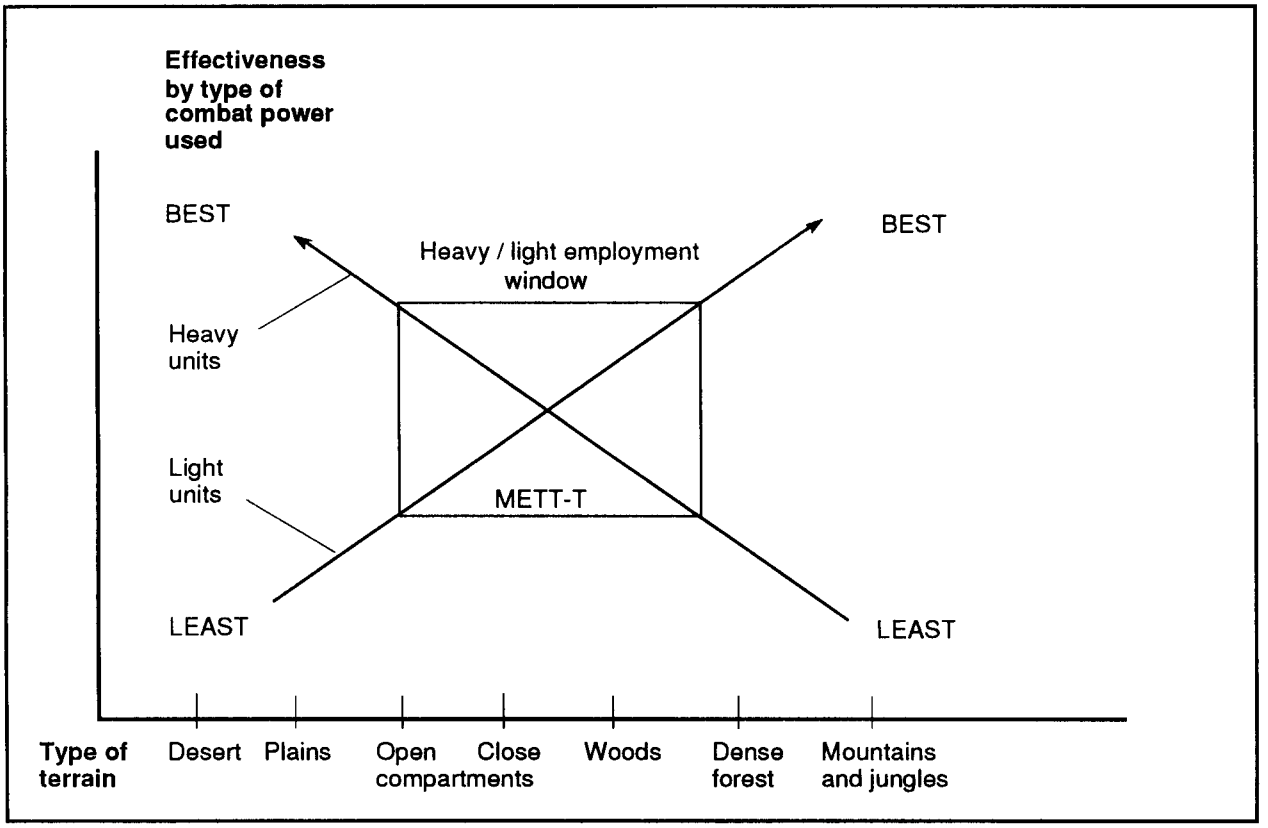

Figure 5-5. Heavy/light employment window

Normally, a light infantry company attached to an armored or mechanized TF will not have any light engineers. The TF engineer must be aware of the distinctive requirements and capabilities of the light infantry company. He must also plan and allocate engineer assets to provide optimum support to the TF as a whole.

Defense

In the defense, light infantry forces will normally defend in restrictive terrain. Obstacles in restrictive terrain will usually be point obstacles emplaced in depth to support antiarmor ambushes. In less restrictive terrain, the light infantry forces will normally be employed in strongpoints integrated throughout the defense. These light infantry strongpoints are ideal for providing anchor points for turning or blocking obstacle groups.

Regardless of the type of terrain, obstacles must support the capabilities of the light infantry company. The light infantry company has few antitank (AT) weapons and must destroy enemy vehicles from within small-arms ranges using flanking and rearward fires. Obstacles must be constructed so that flanking fires from the light force can stop the enemy and force him to dismount to breach.

The light infantry force will also require substantial fortification for sustained combat. The TF engineer must plan for providing mechanical digging assets for the preparation of individual and crew-served weapon positions. The TF engineer must also plan to allocate and transport hand tools, construction materials, and obstacle materials to allow the light infantry to build and improve their own fortifications and to construct protective obstacles.

Offense

In the offense, light infantry forces fight best in restrictive terrain. If employed in less

restrictive terrain, they should be employed during periods of limited visibility.

The light infantry can be very effective during covert breaching operations. They bring to the TF an expanded dismounted capability as well as a broader experience base for dismounted, covert operations. This capability allows them to create or prepare lanes through enemy tactical obstacles which can be exploited by rapidly moving mounted forces. Light forces employed in this manner may require additional allocations of demolitions or hand tools. More importantly, the TF engineer must ensure that the TF covert breach plan includes contingency plans. These contingency plans should include transition to a deliberate breach or extraction of the light forces if the covert breach is unsuccessful or is prematurely discovered by the enemy.

The light infantry company is also extremely effective at providing close-in, far-side security during mounted breaching operations. They are an ideal force for neutralizing enemy dismounted strongpoints that serve as anchor points for enemy obstacles. The light forces must be provided the time to properly infiltrate and establish positions to support the breaching site. Fire-control measures must also include restrictions to prevent fratricide.

LIGHT ENGINEER AUGMENTATION

In some situations, the engineer company may receive a light engineer platoon or squad in attachment. If the light engineers are supporting a light infantry unit, the relationship between the light infantry and light engineers should be maintained. This increases the likelihood that the infantry commander will have an engineer advisor that he is familiar with.

The light engineer platoon normally has limited vehicular haul capability (at best, utility trucks). Care must be taken when supplying light units with Class IV/V barrier material. The TF engineer must ensure that the plan drops small loads to specific points along the obstacle group that the light platoon is emplacing. This will facilitate obstacle construction without overtaxing the platoon's haul capability. The light platoon could also require transportation assistance if the TF if forced to move. The TF engineer must be aware of the light platoon's capabilities and limitations when planning operations.

ENGINEER COMPANY SUPPORTING A LIGHT INFANTRY BRIGADE OR TASK FORCE

An engineer company may find itself supporting a light infantry brigade or TF in one of three situations. First, it may be supporting an armored or mechanized TF task-organized to a light infantry brigade. Second, one of its subordinate elements may be supporting an armored or mechanized company/team that is in support of a light infantry brigade or TF. Third, the engineer company may be supporting a pure light force which requires additional augmentation by engineers.

The engineer company supporting the armored or mechanized TF will operate much the same as it does in a heavy environment. The engineer company, however, must ensure that it is a sustainable force between its own attached or organic assets and those of the supported TF. The light infantry forward support battalion (FSB) is unlikely to be able to provide sustainment assets to either the TF or the engineer company.

Similarly, if an engineer platoon is supporting an armored or mechanized company/team in support of a light brigade or TF, the CSS element with the company/team must be capable of supporting the platoon, or the platoon must operate at distances that allow support from the engineer company. Additionally, because of its greater firepower, the armored or mechanized company/team is frequently given light TF-level missions. Armored or mechanized TFs often provide additional staff to assist in planning and to provide liaison between the company/team

and the light brigade or TF. In the same way, the engineer company commander may augment the supporting engineer element with a LO who can assist in planning and liaison.

If the engineer company is supporting a pure, or primarily, light force, the engineer company must go to the light force as a fully self-sufficient organization. The company commander should coordinate with the light brigade to develop common mobility, countermobility, and survivability plans. The light brigade has limited capability to haul barrier material for the engineer company. The light brigade will require additional haul assets from its division to accomplish this. The TF engineer should also adjust his plans to fit the supported light force. The light infantry TF or brigade will require extensive survivability support. They will require numerous dismounted weapons, AT, artillery, mortar, and C^2 positions to stand and fight. The mechanized engineer company is also more mobile than the supported light unit and may be used as a reserve to rapidly emplace mines or to protect the brigade's support area or artillery. These contingencies are predicated on the company's command/support relationship. Normally, the engineer company will be DS to the light infantry to prepare defensive positions and construct obstacles. After completion, they will return to the engineer battalion's control for other missions and tasks.

MILITARY OPERATIONS IN URBANIZED TERRAIN

Operations in a MOUT environment are planned, coordinated, and executed in the same fashion as an operation in any other type of environment. Urbanized terrain does not change the nature of the operation, but rather it causes the company commander to plan, coordinate, and execute using additional considerations. The following paragraphs address additional planning considerations for the company commander and the platoon leader:

The **company commander—**

- Secures blueprints of buildings and sewer, electrical, and water systems.
- Determines the location of utilities (power, water, telephone system, mass transit hubs, and mass fuel locations) through subterranean analysis (subways and sewers) and by using local city and road maps.
- Determines the availability of host-nation (HN) equipment, construction, and fortification resources, civilian workforce assets, and HN civilian subject-matter experts (SMEs) (guides, electricians, and so forth).
- Determines the unexploded ordnance (UXO) characteristics in the AO (type, number, density, and location).
- Considers centralized planning and decentralized execution.
- Determines how the rules of engagement (ROE) affect engineer capabilities and missions.
- War-games engineer support during the following phases:
  - — Isolate the area.
  - — Control dominant terrain (no traffic or resupply in or out).
  - — Seize a foothold.
  - — Clear the urban area.
- Establishes common obstacle-control measures.
  - — Obstacle marking.
  - — Obstacle-lane marking.
- Establishes demolition blast signals (visual and audible).

- Establishes common route markings.
- Ensures that engineers breach or reduce tactical obstacles and the infantry breaches or reduces protective obstacles.
- War-games SOSR in MOUT and ensures rehearsals.
- Plans for mobility teams (task-organized based on METT-T).
- Plans in three dimensions (above ground, ground, and below ground).
- Plans an engineer contingency mission for explosive ordnance disposal (EOD).
- Plans for a hasty defense.
- Plans for follow-on engineer requirements.
- Plans and resources route-clearance operations.
- Addresses special obstacle-reduction requirements.
- Addresses and requests engineers to support TF general-engineering tasks.
- War-games and plans for the contingency of MOUT-peculiar follow-on mission requirements.
- Addresses and resources the increase of demolition / Class V requirements in MOUT.
- Plans for additional "bunker-busting" capabilities.
- Requests special mission-essential equipment, such as 120-foot rope and grapnels.
- Plans for the procurement of additional materials (locally fabricated, if required), such as—
  - — Satchel charges (field expedient, if conventional satchel charges are not available).
  - — Rope ladders and ladders.
  - — Marking materials (paint, chalk, engineer tape, and chemical lights).
  - — Bangalore torpedoes.
  - — Fragmentation or concussion grenades.
- Determines and disseminates booby-trap-neutralization equipment and techniques.

The **platoon leader—**

- Identifies special-equipment needs for the platoon.
- Plans for the continuous resupply of engineer-specific logistics, especially demolition.
- Ensures that combined-arms rehearsals are conducted for all operations.
- Teaches infantry demolition / breaching techniques.
- Plans for decentralized operations (team-leader level).
- Ensures that every soldier understands the ROE and how they affect engineer support of the operation.

CONTINGENCY OPERATIONS

Organizing and training for war fighting remains the primary mission of the engineers. However, the company can be called upon to conduct contingency operations. The commander quickly identifies situations that may require contingency operations. This facilitates planning and execution based on METT-T. Force-projection

planning includes the possibility that forces committed to the contingency operation may become involved with combat operations. The engineer company may participate in a wide variety of contingency operations, including—

- Attacks and raids.
- Combating terrorism.
- Disaster relief.
- Humanitarian assistance.
- Nation assistance.
- Support to insurgency and counterinsurgency.
- Noncombatant evacuation operations (NEOs).
- Peace operations.
- Demonstrations and shows of force.
- Support to civil authorities.
- Support to counterdrug operations.
- Countermine operations.
- Force-protection operations.

All engineers cooperate fully with and act in support of federal, state, and local civil authorities during domestic contingency operations. Overseas, the company could be part of a unified effort with joint and multinational forces and with the HN's civil, military, and police agencies.

ENGINEER SUPPORT TO CONTINGENCY OPERATIONS

Engineer support is fully integrated with the TF or engineer battalion contingency-operation planning processes. Versatile engineer forces provide unique personnel and equipment capabilities that can effectively support complex and sensitive situations in any contingency operation. All contingency-operation situations relate directly to wartime engineer missions and tasks. In many cases, the only difference between a wartime engineer mission and a contingency-operation engineer mission is the threat level. The basic engineer tasks remain the same in both environments.

Attacks and Raids

The TF conducts attacks and raids for specific purposes other than gaining or holding terrain. The TF conducts them to—

- Create situations that permit seizing and maintaining political initiative.
- Place considerable pressure on governments and groups supporting terrorism.
- Damage, destroy, or seize high-value targets (HVTs), equipment, or facilities that threaten national-security interests.
- Demonstrate US capability and resolve to achieve a favorable result.
- Support counterdrug operations by destroying narcotics production or transshipment facilities or by supporting HN activities in this arena.

Engineers construct rehearsal sites for the force involved in attacks and raids. The engineer company may participate in the mission and require refresher training in specialized skills such as air-assault techniques, MOUT, or reorganization to fight as infantry. During attacks or raids, engineers may be tasked to—

- Protect flanks, withdrawal routes, and landing zones.
- Emplace and man roadblocks.
- Breach obstacles.
- Move or destroy captured equipment.
- Use captured equipment to perform missions.

Combating Terrorism

Combating terrorism has two major components: antiterrorism (defensive) and counterterrorism (offensive). The company combats terrorism mainly through antiterrorism. This includes those active and passive measures taken to minimize vulnerabilities to terrorist attack. Antiterrorism is a form of force protection. Counterterrorism is the full range of offensive operations against terrorists or those who support terrorists. The engineer company rarely participates in counterterrorism operations.

Engineers may become targets for terrorists because of how and where they perform their missions, especially construction projects and other wide-area missions. Equipment parks and supply yards are large and difficult to defend. Soldiers operating equipment or hauling materials are vulnerable to ambush by direct and indirect fires, mines, and booby traps. Engineer leaders support antiterrorism by—

- Developing a good IPB and EBA of threat forces.
- Establishing and enforcing sound operating procedures.
- Organizing security elements.
- Constructing secure Class IV/V supply points and CPs.
- Constructing protective shelters for key facilities.
- Emplacing vehicle barriers.
- Clearing standoff zones around facilities.
- Erecting predetonation screens to protect units and installations.

Disaster Relief

The engineer company participates in disaster-relief operations to promote human welfare and to quickly reduce the loss of life, pain and suffering, and destruction of property as a result of natural or man-made disasters. These operations may be a combination of joint, multinational, and interagency support. FM 100-19 provides further details for domestic support operations.

The engineer company can provide personnel and equipment capabilities that are extremely useful during disaster-relief operations in the following areas:

- Removing debris.
- Rebuilding lines of communication (LOC).
- Assisting with the distribution of aid, including food and clothing.
- Building temporary facilities and structures for displaced persons.

Humanitarian Assistance

The engineer company can respond to emergencies that are caused by natural or man-made disasters or other endemic conditions such as human pain, disease, famine, or privation in countries or regions.

Engineer assistance may include constructing and repairing rudimentary surface-transportation systems, basic sanitation facilities, and rudimentary public facilities and utilities. Other tasks may include constructing feeding centers and disposing of human and hazardous waste.

Nation Assistance

Nation assistance includes the civil and military assistance actions (other than humanitarian assistance) rendered to a nation by the engineers within that nation during war, conflict, and peace. Typical engineer company missions in support of nation-assistance operations include the following:

- Engineers visit and exchange engineer SMEs between the US and the foreign nation to discuss specific engineer topics.

- Companies deploy to perform multinational engineer training with the HN's military.

Support to Insurgency and Counterinsurgency

Engineer support to insurgency forces is limited to providing topographic products and constructing special operations forces (SOP) operating bases located outside the AO. Engineer missions for counterinsurgency operations are similar to those for humanitarian and nation assistance. They include water supply and sanitation improvements, road and airfield construction, and multinational training.

NEOs

NEOs are conducted to evacuate threatened US and authorized HN or third-country citizens from locations in a foreign nation or a safe haven. A NEO involves swift, temporary occupancy of an objective. It ends with a preplanned withdrawal. If the use of force is involved, the minimum amount of force to accomplish the mission will be used. A NEO is normally conducted as a joint operation and sometimes involves multinational forces.

Engineers that support a NEO generally operate as part of a joint force and may conduct a wide variety of tasks, including—

- Constructing temporary facilities and protective structures in country or in another country for either US forces or the evacuees.
- Conducting route reconnaissance and mobility operations for land evacuation.
- Repairing airfields and clearing helicopter landing zones for use in air-evacuation operations.

Peace Operations

Peace operations encompass three types of predominantly diplomatic activities: preventive diplomacy, peacemaking, and peace building. It also includes two complementary, predominantly military activities—peacekeeping and peace enforcement. The engineers' involvement in shows of force, preventive deployments, military-to-military relations, and security-assistance programs all support preventive diplomacy and peacemaking efforts. Engineers support peace building primarily through postconflict missions such as repairing utilities and roads. FM 100-23 provides further details for peace operations.

Peacekeeping Operations. Peacekeeping operations support diplomatic efforts to establish or maintain peace in areas of potential or actual conflict. They are undertaken with the consent of all belligerents. Peacekeeping forces monitor and facilitate the implementation of an existing truce or cease-fire and they support diplomatic efforts to reach a long-term political settlement. Strict appearance of neutrality, an adequate means of self-protection, and the availability of timely and effective support are critical. The engineer company may be tasked to conduct peacekeeping operations over a considerable time period, under multinational control (such as the United Nations [UN]), or under a unilateral peacekeeping umbrella.

Engineer missions in peacekeeping operations range from facilities construction to minefield clearance. Although the requirement for combat engineers may be small, there is a possible need to construct barriers, provide assistance and training in engineering skills, or conduct countermine operations, either in contested areas or along peacekeeping-force patrol routes.

Combat-engineering tasks (such as mobility, countermobility, and survivability tasks) may be conducted by US engineer units in support of peacekeeping operations. Engineer missions specifically related to peacekeeping operations include—

- Constructing CPs, bunkers, and OPs.
- Constructing force-protection structures such as earth revetments, wire obstacles, and defensive positions.

- Clearing fields of observation.
- Demolishing fortifications.
- Clearing or marking minefield (including minefield-fence maintenance).
- Clearing mines and booby traps.
- Providing backup support for identifying, marking, removing, or destroying explosive ordnance.

Peace-Enforcement Operations. Peace-enforcement operations are military intervention operations in support of diplomatic efforts to restore peace or to establish conditions for conducting peacekeeping operations. Peace-enforcement operations are intended to halt violence and restore more normal civil activities. The engineer company's mission during peace-enforcement operations will be the same as their normal wartime tasks.

Demonstrations and Shows of Force

Demonstrations and shows of force portray American resolve in a situation vital to our national interests to potential adversaries. They can take the form of multinational training exercises, rehearsals, forward staging of units, or force buildup in the AO. Engineer support to demonstrations and shows of force is normally a joint and multinational effort.

Support to Civil Authorities

These operations provide temporary support to domestic civil authorities when permitted by law. They are normally taken when an emergency overwhelms the capabilities of civil authorities. The type of support is divided into four categories: disaster relief, environmental assistance, community assistance, and law enforcement.

Engineer forces may be called upon to support civil authorities in various missions such as fighting forest fires, removing snow, removing hazardous waste, providing riot control, and constructing emergency bridges and airfields. FM 100-19 describes in detail how engineers support civil authorities.

Support to Counterdrug Operations

Because of US Code restrictions, combat engineers do not normally participate in domestic counterdrug operations. National Guard units may participate in counterdrug operations while under the state's control.

Engineers supporting domestic counterdrug operations perform missions focused on supporting local law-enforcement agencies. Engineers are sensitive to the legal aspects of support to civilian authorities and abide by the Posse Comitatus Act. They are also aware of the capabilities of the threat, which is primarily heavily armed narcotics traffickers. Typical support tasks include—

- Constructing or rehabilitating law-enforcement target ranges; helipads; and fuel-storage, billet, CP, and maintenance facilities.
- Constructing or upgrading access roads for drug-interdiction patrols.
- Clearing observation fields for counterdrug teams.

Countermine Operations

It is estimated that there are more than 100 million uncleared land mines spread throughout 62 countries. This equates to approximately one land mine for every 50 people on our planet. Land mines are cheap and easily obtained or constructed. They have become the third world's weapon of choice. They directly threaten civilian populations and forces during contingency operations. US forces do not conduct demining operations; they clear mines only as required for military operations (see Appendix F for more information). It is critical that the engineer company ensures that the following functions are accomplished when providing countermine support to a contingency operation that is threatened with land mines:

- Work closely with the S2 to determine the land-mine threat in the contingency

operation's AO. Exploit all sources of intelligence to identify mined areas in the contingency operation's AO.

- Ensure that the company is trained to identify, mark, and report encountered land mines.
- Ensure that engineers are fully confident in the employment of countermine equipment and that the equipment is operational. Conduct land-mine detection, marking, and removal training for soldiers conducting countermine missions.
- Provide necessary individual protective equipment and mine-resistant vehicles to soldiers conducting countermine operations.
- Establish, disseminate, and enforce route and area land-mine clearance and marking procedures for the contingency operation's AO. Include these procedures with established ROE.

Force Protection

Engineers have unique equipment and personnel capabilities that can be used to support deployed force-protection efforts during contingency operations. Engineers construct protective facilities, bunkers, emplacements, vehicle barriers, fences, and other structures needed to protect the force. The engineer ensures that the following functions are accomplished when providing force-protection support to a joint TF (JTF) or Army forces operation:

- Establish with the JTF or Army forces commander the required level of protection needed in the contingency operation's AO, based on the expected threat.
- Develop force-protection construction standards for operating and life-support bases, including the need for security fencing, lighting, obstacles, and guard posts.
- Ensure that adequate force-protection construction materials are provided to early-entry forces.
- Establish facility security-inspection procedures with military and local law-enforcement personnel to quickly identify and repair breaches.

ENGINEER CONSIDERATIONS

Contingency operations are joint, multiagency, and multinational efforts. Effective engineer liaison with all involved military units and civilian agencies is critical to mission success. The engineer company commander tailors his support plan based on mission requirements. This support may be radically different than for supporting combat operations.

ENGINEER ASSESSMENT

An early, on-the-ground assessment by the engineer company is critical. The following are critical considerations for the contingency-operation engineer assessment:

- Threat engineer capabilities in likely lodgment areas, including combat-engineering requirements for force protection, countermine, counterobstacle, and early-entry force-support operations.
- Existing topographic product availability and requirements for new terrain-visualization products.
- Specialized engineer requirements such as prime-power, fire-fighting, water-detection, and well-drilling support.
- Engineer liaison requirements, including linguists and civil-affairs personnel.
- Mission objectives and end-state, mission-success, and liaison procedures.