

## CHAPTER 12

# COMBAT SUPPORT

*“The third battalion with a platoon of medium tanks, a platoon of tank destroyers, a platoon of engineers, and a 155 mm self-propelled rifle arrived in the Farwick Park section...on 13 October 1944...On 14 October a section of 4.2 chemical mortars was attached to Company ‘M’. A general counterattack all along the battalion front was stopped...on 15 October.”*

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The Siegfried Line Campaign  
U.S. Army in World War II

### 12-1. MORTARS

Mortars are the most responsive indirect fires available to Infantry commanders and leaders. Their mission is to provide close and immediate fire support to the maneuver units. Mortars are well suited for combat in urban areas because of their high rate of fire, steep angle of fall, and short minimum range. Company commanders must plan mortar support with the FIST Chief as part of the total fire support system. (See FM 7-90 for detailed information on the tactical employment of mortars.)

a. **Role of Mortar Units.** The role of mortar units is to deliver suppressive fires to support maneuver, especially against dismounted Infantry. Mortars can be used to obscure, neutralize, suppress or illuminate during urban combat. Mortar fires inhibit enemy fires and movement, allowing friendly forces to maneuver to a position of advantage. The most common and valuable use for mortars is often harassment and interdiction fires. One of their greatest contributions is interdicting supplies, evacuation efforts, and reinforcement in the enemy rear just behind his forward defensive positions. During World War II and the recent Middle East conflicts, light mortar HE fires have been used extensively during urban combat to deny the use of streets, parks, and plazas to enemy personnel. Finally, mortars can be used, with some limitations, against light armor and structures. Effectively integrating mortar fires with dismounted maneuver is key to the successful combat in an urban area.

b. **Position Selection.** The selection of mortar positions depends on the size of buildings, the size of the urban area, and the mission. Rubble can be used to construct a parapet for firing positions. Positions are also selected to lessen counterbattery fire.

(1) **Existing Structures and Masking.** The use of existing structures (for example, garages, office buildings, or highway overpasses) for positions is recommended to afford the best protection and lessen the camouflage effort. Proper masking enhances survivability. If the mortar is fired in excess of 885 mils to clear a frontal mask, the enemy counterbattery threat is reduced. These principles are used in both the offense and the defense.

(2) **Use of Sandbags.** Do not mount mortars directly on concrete but use sandbags as a buffer. Sandbags should consist of two or three layers; butt the sandbags against a curb or wall; and extend at least one sandbag width beyond the baseplate.

(3) **Placement.** Mortars are usually not placed on top of buildings because lack of cover and mask makes them vulnerable. They should not be placed inside buildings with

damaged roofs unless the structure's stability has been checked. Overpressure can injure personnel, and the shock on the floor can weaken or collapse the structure.

c. **Communications.** Initially, radio is the primary means of communication during urban combat. An increased use of wire, messenger, and visual signals are required. However, wire is usually the primary means of communication between the forward observers, fire support team, fire direction center, and mortars since elements are close to each other. Also, FM radio transmissions in urban areas are likely to be erratic. Structures reduce radio ranges; however, remoting the antennas to upper floors or roofs may improve communications and enhance operator survivability. Another technique that applies is the use of radio retransmissions. A practical solution is to use existing civilian systems to supplement the unit's capability, understanding that this is an unsecure method of communication.

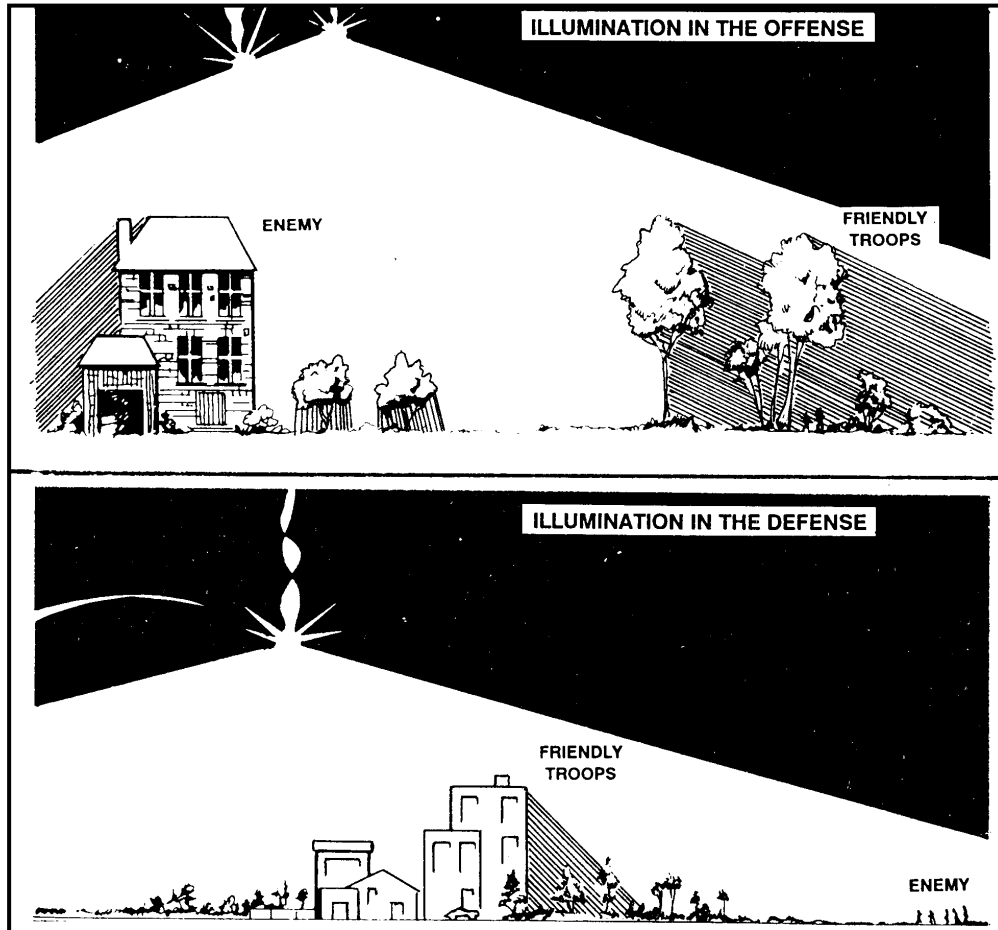
d. **Magnetic Interference.** In an urban environment, all magnetic instruments are affected by surrounding structural steel, electrical cables, and automobiles. Minimum distance guidelines for the use of the M2 aiming circle (FM 23-90) is difficult to apply. To overcome this problem, an azimuth is obtained to a distant aiming point. From this azimuth, the back azimuth of the direction of fire is subtracted. The difference is indexed on the red scale and the gun manipulated until the vertical cross hair of the sight is on the aiming point. Such features as the direction of a street may be used instead of a distant aiming point.

e. **High-Explosive Ammunition.** During urban combat mortar high-explosive (HE) fires are used more than any other type of indirect fire weapon. Although mortar fires are often targeted against roads and other open areas, the natural dispersion of indirect fires will result in many hits on buildings. Leaders must use care when planning mortar fires during UO to minimize collateral damage.

(1) HE ammunition, especially the 120-mm projectile, gives good results when used against lightly built structures within cities. However, it does not perform well against reinforced concrete found in larger urban areas.

(2) When using HE ammunition in urban fighting, only point detonating fuzes should be used. The use of proximity fuzes should normally be avoided, because the nature of urban areas causes proximity fuzes to function prematurely. Proximity fuzes, however, are useful in attacking some targets such as OPs on tops of buildings.

f. **Illumination.** In the offense, illuminating rounds are planned to burst above the objective. If the illumination were behind the objective, the enemy troops would be in the shadows rather than in the light. In the defense, illumination is planned to burst behind friendly troops to put them in the shadows and place the enemy troops in the light. Buildings reduce the effectiveness of the illumination by creating shadows. Continuous illumination requires close coordination between the FO and FDC to produce the proper effect by bringing the illumination over the defensive positions as the enemy troops approach the buildings (Figure 12-1).



**Figure 12-1. Illumination during urban operations.**

g. **Special Considerations.** When planning the use of mortars, commanders must consider the following: (See Appendix K for additional TTP.)

(1) FOs should be positioned where they can get the maximum observation so target acquisition and adjustments in fire can best be accomplished. This is not necessarily on tops of buildings.

(2) Commanders must understand ammunition effects to correctly estimate the number of volleys needed for the specific target coverage. Also, the effects of using WP or RP may create unwanted smoke screens or limited visibility conditions that could interfere with the tactical plan.

(3) FOs must be able to determine dead space in urban terrain. Dead space is the area in which indirect fires cannot reach the street level because of buildings. This area is a safe haven for the enemy. For mortars, the dead space is about one-half the height of the building.

(4) Mortar crews should plan to provide their own security.

(5) Commanders must give special consideration to where and when mortars are to displace while providing immediate indirect fires to support the overall tactical plan.

Combat in urban areas adversely affects the ability of mortars to displace because of rubble and the close nature of urban combat.

## 12-2. FIELD ARTILLERY

A field artillery battalion is normally assigned the tactical mission of direct support (DS) to a maneuver brigade. In certain high-intensity urban operations, a howitzer section may be placed TACON to a company in order to be used in the direct fire role. (See Chapter 10 for more information.)

a. **Considerations.** Appropriate fire support coordination measures should be carefully considered since fighting in urban areas results in opposing forces fighting in close combat. When planning for fire support in a urban area, the company commander, in coordination with his FIST chief, should consider the following:

(1) Target acquisition may be more difficult because of the increased cover and concealment afforded by the terrain. Ground observation is limited in urban areas, therefore FOs should be placed high. Adjusting fires is difficult since buildings block the view of adjusting rounds; therefore, the lateral method of adjustment may be most useful.

(2) Initial rounds are adjusted laterally until a round impacts on the street perpendicular to the FEBA. Airburst rounds are best for this adjustment. The adjustments must be made by sound. When rounds impact on the perpendicular street, they are adjusted for range. When the range is correct, a lateral shift is made onto the target and the gunner fires for effect.

(3) Special consideration is given to shell and fuze combinations when the effects of munitions are limited by buildings.

- Careful use of VT is required to avoid premature arming.
- Indirect fires may create unwanted rubble and collateral damage.
- The close proximity of enemy and friendly troops requires careful coordination.
- WP may create unwanted fires and smoke.
- Fuze delay should be used to penetrate fortifications.
- Illumination rounds can be effective; however, friendly positions should remain in shadows and enemy positions should be highlighted. Tall buildings may mask the effects of illumination rounds.
- VT, TI, and improved conventional munitions (ICM) are effective for clearing enemy positions, observers, and antennas off rooftops.
- Swirling winds may degrade smoke operations.
- FASCAM may be used to impede enemy movements. FASCAM effectiveness is reduced when delivered on a hard surface.

(4) Target acquisition is difficult in urban terrain because the enemy has many covered and concealed positions and movement lanes. The enemy may be on rooftops and in buildings, and may use sewer and subway systems. Aerial observers are extremely valuable for targeting because they can see deep to detect movements, positions on rooftops, and fortifications. Targets should be planned on rooftops to clear away enemy FOs as well as communications and radar equipment. Targets should also be planned on major roads, at road intersections, and on known or likely enemy positions. Employing artillery in the direct fire mode to destroy fortifications should be considered, especially when assaulting well prepared enemy positions. Also, restrictive fire support coordination

measures, such as a restrictive fire area or no-fire area may be imposed to protect civilians and critical installations.

(5) 155-mm self-propelled howitzers are effective in neutralizing concrete targets with direct fire. Concrete-piercing 155-mm rounds can penetrate 36 inches of concrete at ranges up to 2,200 meters. The mounted .50 caliber machine gun is also used as direct fire support. The Infantry closely protects the howitzer when it is used in the direct-fire mode, but the howitzer does not have any significant protection for the crew.

(6) Forward observers must be able to determine where and how large the dead spaces are. This area is a safe haven for the enemy because he is protected from indirect fires. For low-angle artillery, the dead space is about five times the height of the building. For high-angle artillery, the dead space is about one-half the height of the building.

(7) Aerial observers are effective for seeing behind buildings immediately to the front of friendly forces. They are extremely helpful when using the ladder method of adjustment because they may actually see the adjusting rounds impact behind buildings. Aerial observers can also relay calls for fire when communications are degraded due to power lines or masking by buildings.

(8) Radar can locate many artillery and mortar targets in an urban environment because of the high percentage of high-angle fires. If radars are sited too close behind tall buildings, some effectiveness will be lost.

(9) The use of airburst fires is an effective means of clearing snipers from rooftops. HE shells with delay fuzes may be effective against enemy troops in the upper floors of buildings, but, due to the overhead cover provided by the building, such shells have little effect on the enemy in the lower floors. The planning and use of field artillery in offensive, defensive, and other operations are also addressed in Chapters 4, 5, and 10.

b. **Direct Fire Control.** See Chapter 4 for information on direct fire control.

### 12-3. AIR DEFENSE ARTILLERY

This paragraph discusses the role of short-range air defense (SHORAD) artillery in support of UO. The mission of ADA at the tactical level is to protect the maneuver force and critical assets from fixed-wing and rotary-wing aircraft, unmanned aerial vehicles, cruise missiles, and surveillance platforms.

a. **Air Defense Artillery Employment Principles.** Commanders apply four principles when planning active air and missile defense operations. These principles are mass, mix, mobility, and integration.

(1) **Mass.** Mass is the concentration of air and missile defense combat power. It is achieved by assigning enough firepower to successfully defend the force or the asset against air and missile attack or surveillance. To mass air and missile defense combat power, commanders may have to accept risks in other areas of the battlefield.

(2) **Mix.** Mix is the employment of a combination of weapon and sensor systems to protect the force and assets from the threat. Mix offsets the limitations of one system with the capabilities of another and complicates the situation for the attacker. All joint and multinational arms resources are considered when applying this principle. Proper mix causes the enemy to adjust their tactics. Enemy tactics designed to defeat one system may make the enemy vulnerable to another friendly system.

(3) **Mobility.** Mobility is the capability to move from place to place while retaining the ability to perform the air defense mission. The mobility of air and missile defense

resources must be equivalent to the mobility of the supported force. First priority for mobility should be planning moves that support accomplishment of the mission. Tactical situations may dictate additional moves to enhance survivability. Strategic mobility is essential to support force-projection operations.

(4) **Integration.** Integration is the close coordination of effort and unity of action, which maximizes operational effectiveness. It is applicable, regardless of command relationships established. Active air and missile defense operations must be integrated into the supported commander's concept of the operation. The AD plan describes vertical and horizontal integration of air defense systems across the width and depth of the battlefield and includes integration with joint and multinational forces.

b. **Air Defense Artillery Planning.** SHORAD weapon systems provide low-altitude air defense coverage to ensure the force has the freedom to maneuver during combat operations. The basic air defense planning process does not change when the units operate in urbanized terrain. When determining ADA priorities in an urban environment, the air defense officer and ground commander must consider the entire spectrum of air threat, and when and how it is incorporated into the fight. The air portion of the IPB process provides a good picture of what, when, and how of threat air employment. Some basic considerations are:

(1) Rotary-wing aircraft can be employed in a variety of roles to include air assault, fire support, and CSS. They can also conduct the same missions conducted by FW aircraft. UAVs can provide vital intelligence and target acquisition data to threat forces throughout urban operations. Therefore, it is likely that they will be employed throughout the entire operation.

(2) Based on limited maneuverability and difficulty in targeting within a urban area, FW aircraft will normally target key logistics facilities, C2 nodes, and troop concentrations on the outskirts of the city, and infrastructure (key road networks, communications facilities, bridges, and rail networks) both in and out of the urban area.

(3) Air attacks normally will happen just after beginning morning nautical twilight when visibility is greatly reduced. During AD planning, the ADO weighs the risk of placing ADA assets within the urban area. He considers the following:

- Mutual support of weapon systems will be drastically reduced.
- Radar masking and degraded communications reduce air defense warning time for all units. Air defense control measures must be adjusted to permit responsive air defense within this reduced warning environment.
- Moving weapon systems will be difficult.
- Providing security for isolated firing positions will be difficult.
- Communications between elements may be difficult.
- Digital communications will require an enhanced position location reporting system (EPLRS) via SINCGARS to be effective.
- High-altitude ADA systems can protect the force from positions on or outside of the edge of the city.

c. **SHORAD Employment.** Linebackers, Bradley Stinger fighting vehicles (BSFVs), and Avengers are most effective on the outskirts of the urban area in a weighted coverage type defense where they can maximize the effects of their weapon systems, to cover the most likely enemy air avenues of approach. They are employed within the urban area based on METT-TC, and only when absolutely necessary.

Man-portable air defense systems (MANPADS) teams may be deployed outside the urban area in firing positions that are high and clear enough to provide a clear primary target line (PTL). Special cases will put Stinger gunners on rooftops within the urban area only after the area is secured.

d. **Early Warning.** The planning process, the IPB, METT-TC, and the commander's intent will dictate where sensors should be deployed adjacent or forward of the urban area. Sentinel sensor employment should not be thought of as either-or, but as two techniques that may be combined. In any case, the sensor employment design should be the one that best supports the commander's intent. Early warning dissemination during UO will be digital from the Sentinel to the SHORAD elements, and voice from the SHORAD elements to the maneuver elements. The SHORAD elements will broadcast EW IAW TSOP on the appropriate command voice net.

#### 12-4. ENGINEERS

Normally, an engineer *platoon* will be attached to a light infantry company; an engineer *company* will be attached to a mechanized infantry company. Most engineer manual labor tasks (for example, preparing fighting positions) will have to be completed by Infantry units, with reinforcing engineer heavy-equipment support and technical supervision. (See Chapter 11 for discussion of mobility, countermobility, and survivability considerations.)

a. **Offensive Missions.** Engineers may perform the following missions during offensive operations.

- Conduct a technical reconnaissance to determine the location and type of enemy obstacles and minefields, and to make breaching recommendations.
- Clear barricades and heavy rubble with earth-moving equipment or explosives to assist forward movement.
- Use explosives to destroy fortifications and strongpoints that cannot be reduced with the maneuver unit's organic assets.
- Use the ACE, if available, to destroy structures or to clear rubble.
- Lay mines to protect flanks and rear areas.
- Conduct mobility operations (gap crossing).
- Locate and remove mines that may hamper the unit's movement.
- Conduct breaching operations.
- Conduct route reconnaissance.

b. **Defensive Missions.** Engineers may perform the following missions during the defense of a urban area.

- Construct complex obstacle systems.
- Rubble buildings.
- Lay mines.
- Assist in the preparation of defensive positions and strongpoints.
- Maintain counterattack, communications, and resupply routes.
- Enhance movement between buildings, catwalks, bridges, and so on.
- Crater roads.
- Clear fields of fire.
- Fight as Infantry, when needed.

c. **Defense Against Armor.** In defensive situations, when opposed by an armor-heavy enemy, priority should be given to the construction of antiarmor obstacles throughout the urban area. Use of local materials, where possible, makes obstacle construction easier and reduces logistics requirements. Streets should be barricaded in front of defensive positions at the effective range of antitank weapons. These weapons are used to increase the destruction by antiarmor fires, to separate enemy Infantry from their supporting tanks, and to assist in the delay and destruction of the attacker. Antitank mines with anti-handling devices, integrated with antipersonnel mines in and around obstacles and covered by fires, help synchronize a defensive fire plan.

## 12-5. MILITARY POLICE

Military police operations play a significant role by assisting the Infantry commanders in meeting the challenges associated with conducting UO. MPs provide a wide range of diverse support in urban terrain, to include area damage control, area security, and EPW operations and non-combatant operations. MP operations require continuous coordination with host nation civilian police to maintain control of the civilian population and to enforce law and order. These MP assets may be attached or OPCON to infantry units for the duration of a specific mission and then will be released to the control of their parent unit. Their training in urban operations can be of great assistance for help in crowd control, roadblocks/checkpoints, marking and controlling routes, and EPW control.

a. **Area Damage Control.** MP units take measures to support area damage control operations that are frequently found in urban areas. With the increased possibility of rubble, MP units report, block off affected areas, and re-route movement to alternate road networks.

b. **Area Security.** MP units also secure critical areas, such as communications centers and water and electrical supply sources. These MP assets can assist an Infantry unit that is assigned a mission like this. (See Chapter 4 for more information.)

c. **EPW/Noncombatant Operations.** MP units are tasked with EPW operations and civilian operations and to perform them as far forward as possible. MPs operate collecting points and holding areas to briefly retain EPWs and civilians. EPW and civilian operations are of great importance in urban areas because the rate of capture of EPWs and the presence of civilians can be higher than normal. Infantry units can use MP assets to assist them in conducting these types of operations when assigned these types of missions.

d. **Other Urban Operations Considerations.** Other considerations include support for:

(1) **Maneuver and Mobility.** MPs can support breaching operations, passage of lines, and operate straggler control points.

(2) **Area Security.** MPs conduct area damage control, secure critical sites, and conduct response force operations.

(3) **Internment and Resettlement.** MPs collect EPWs/CIs from combat units; safeguard and maintain accountability; protect and provide humane treatment for all personnel under their control including the management of dislocated civilians.

(4) **Law and Order.** MPs can conduct investigations during UO from minor crimes to war crimes.



(5) *Police Intelligence.* MPs gather criminal intelligence, which can affect the operational and tactical environment during UO.

**12-6. COMMUNICATIONS**

See Appendix L for information on communications.