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## CHAPTER 3

# URBAN COMBAT SKILLS

*Successful combat operations in urban areas depend on the proper employment of the rifle squad. Each member must be skilled in moving, entering buildings, clearing rooms, employing hand grenades, selecting and using fighting positions, navigating in urban areas, and camouflage.*

### Section I. MOVEMENT

Movement in urban areas is the first fundamental skill the soldier must master. Movement techniques must be practiced until they become habitual. To reduce exposure to enemy fire, the soldier avoids open areas, avoids silhouetting himself, and selects his next covered position before movement.

#### 3-1. CROSSING OPEN AREAS

Open areas, such as streets, alleys, and parks, should be avoided. They are natural kill zones for enemy crew-served weapons or snipers. They can be crossed safely if the individual or small-unit leader applies certain fundamentals including using smoke from hand grenades or smoke pots to conceal movement. When employing smoke as an obscurant, keep in mind that thermal sighting systems can see through smoke. Also, when smoke has been thrown in an open area, the enemy may choose to engage with suppressive fires into the smoke cloud.

a. Before moving to another position, the soldier makes a visual reconnaissance, selects the position offering the best cover and concealment, and determines the route he takes to get to that position.

b. The soldier develops a plan for his own movement. He runs the shortest distance between buildings and moves along the far building to the next position, reducing the time he is exposed to enemy fire.

#### 3-2. MOVEMENT PARALLEL TO BUILDINGS

Soldiers and small units may not always be able to use the inside of buildings as routes of advance and must move on the outside of the buildings (Figure 3-1, page 3-2). Smoke, suppressive fires, and cover and concealment should be used to hide movement. The soldier moves parallel to the side of the building (maintaining at least 12 inches of separation between himself and the wall to avoid *rabbit rounds*, ricochets and rubbing or bumping the wall), stays in the shadow, presents a low silhouette, and moves rapidly to his next position (Figure 3-2, page 3-2). If an enemy gunner inside the building fires on a soldier, he exposes himself to fire from other squad members providing overwatch. An enemy gunner farther down the street would have difficulty detecting and engaging the soldier.

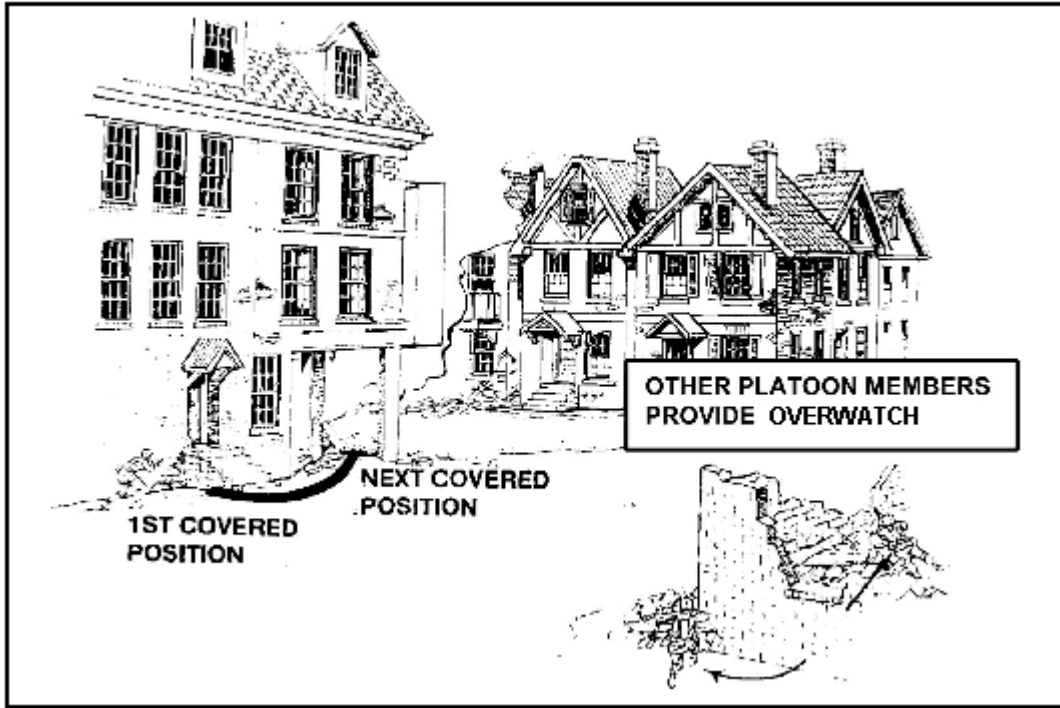


Figure 3-1. Selection of the next position.

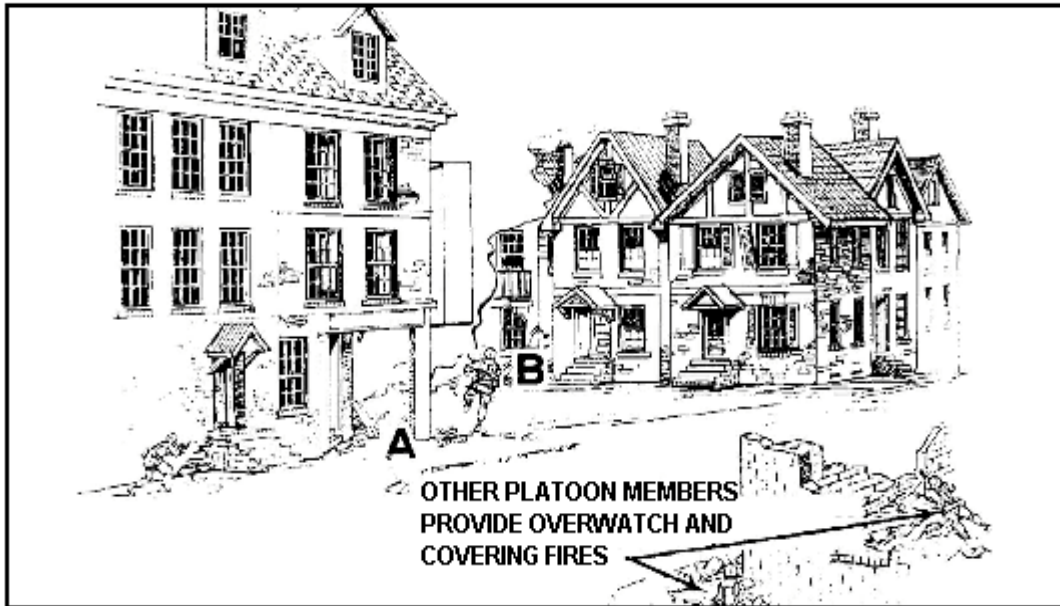


Figure 3-2. Soldier moving outside building.

### 3-3. MOVEMENT PAST WINDOWS

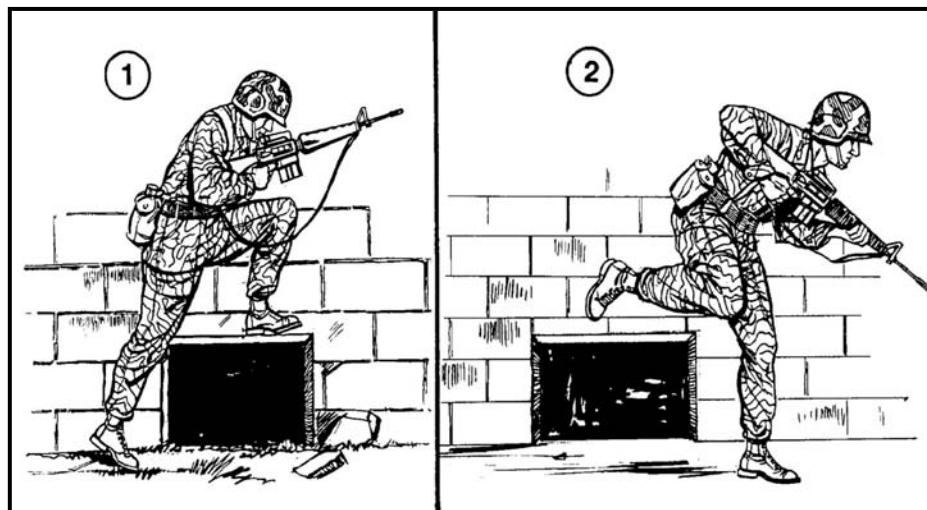
Windows present another hazard to the soldier. The most common mistakes are exposing the head in a first-floor window and not being aware of basement windows.

a. When using the correct technique for passing a first-floor window, the soldier stays below the window level and near the side of the building (Figure 3-3). He makes sure he does not silhouette himself in the window. An enemy gunner inside the building would have to expose himself to covering fires if he tried to engage the soldier.



**Figure 3-3. Soldier moving past windows.**

b. The same techniques used in passing first-floor windows are used when passing basement windows. A soldier should not walk or run past a basement window, since he presents a good target to an enemy gunner inside the building. The soldier should stay close to the wall of the building and step or jump past the window without exposing his legs (Figure 3-4).



**Figure 3-4. Soldier passing basement windows.**

### 3-4. MOVEMENT AROUND CORNERS

The area around a corner must be observed before the soldier moves. The most common mistake a soldier makes at a corner is allowing his weapon to extend beyond the corner exposing his position (this mistake is known as *flagging* your weapon). He should show his head below the height an enemy soldier would expect to see it. The soldier lies flat on the ground and does not extend his weapon beyond the corner of the building. He wears his Kevlar helmet and only exposes his head (at ground level) enough to permit observation (Figure 3-5). Another corner clearing technique that is used when speed is required is the *pie-ing* method. This procedure is done by aiming the weapon beyond the corner into the direction of travel (without flagging) and side-stepping around the corner in a circular fashion with the muzzle as the pivot point (Figure 3-6).

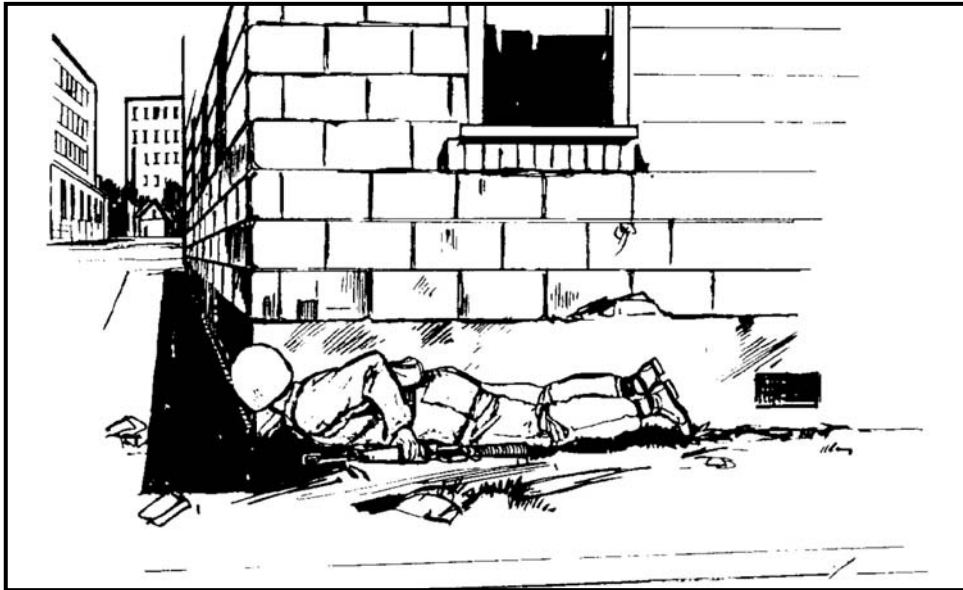


Figure 3-5. Correct technique for looking around a corner.

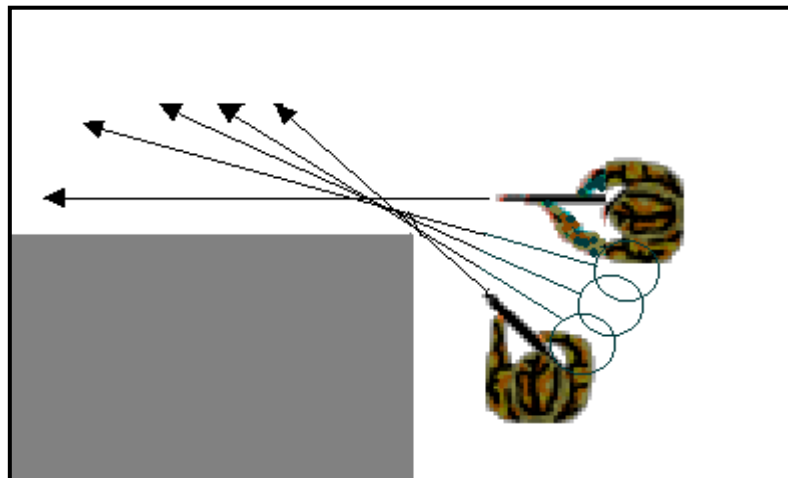


Figure 3-6. Pie-ing a corner.

### 3-5. CROSSING A WALL

Each soldier must learn the correct method of crossing a wall (Figure 3-7). After he has reconnoitered the other side, he rolls over the wall quickly, keeping a low silhouette. Speed of his move and a low silhouette deny the enemy a good target.



Figure 3-7. Soldier crossing a wall.

### 3-6. USE OF DOORWAYS

Doorways should not be used as entrances or exits since they are normally covered by enemy fire. If a soldier must use a doorway as an exit, he should move quickly to his next position, staying as low as possible to avoid silhouetting himself (Figure 3-8). Preselection of positions, speed, a low silhouette, and the use of covering fires must be emphasized in exiting doorways.

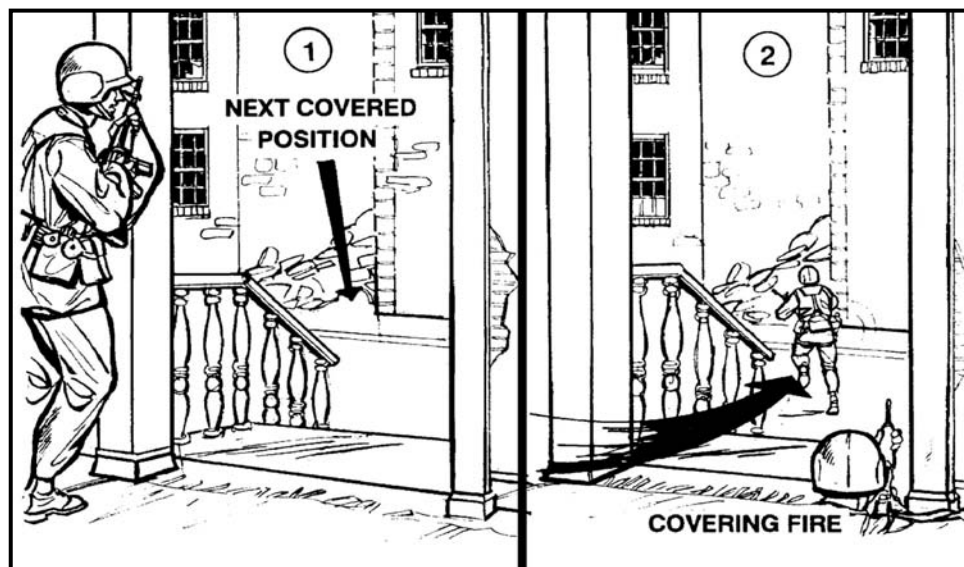


Figure 3-8. Soldier exiting a doorway.

### 3-7. MOVEMENT BETWEEN POSITIONS

When moving from position to position, each soldier must be careful not to mask his supporting fires. When he reaches his next position, he must be prepared to cover the movement of other members of his fire team or squad. He must use his new position effectively and fire his weapon from either shoulder depending on the position.

a. The most common errors a soldier makes when firing from a position are firing over the top of his cover and silhouetting himself against the building to his rear. Both provide the enemy an easy target. The correct technique for firing from a covered position is to fire around the side of the cover, which reduces exposure to the enemy (Figure 3-9).

b. Another common error is for a right-handed shooter to fire from the right shoulder around the left corner of a building. Firing left-handed around the left corner of a building takes advantage of the cover afforded by the building (Figure 3-10). Right-handed and left-handed soldiers should be trained to adapt cover and concealment to fit their manual orientation. Soldiers should be able to fire from the opposite shoulder.

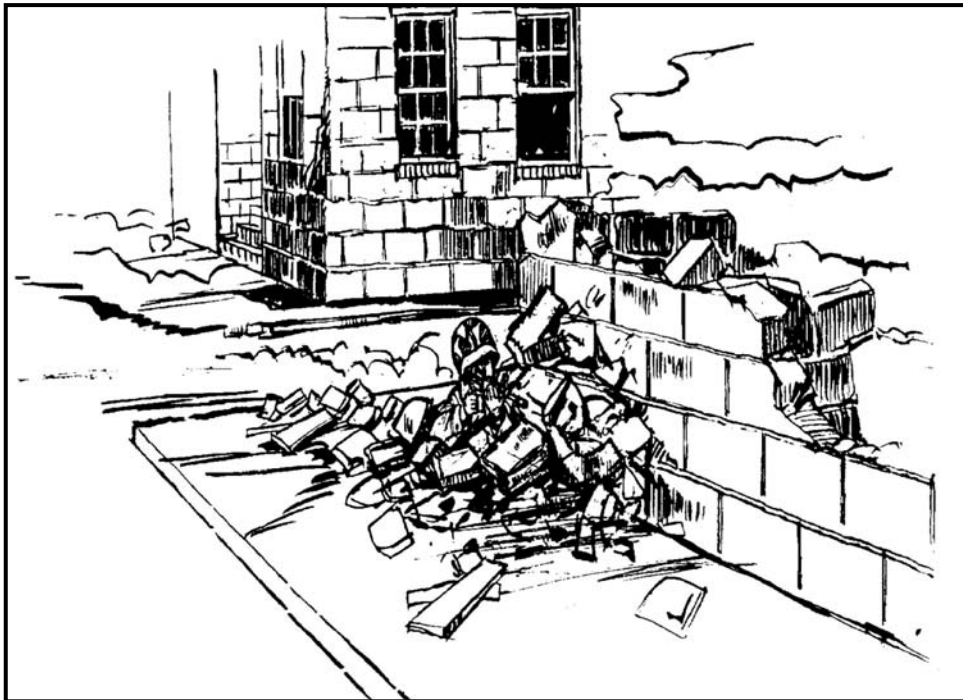


Figure 3-9. Soldier firing from a covered position.



**Figure 3-10. Firing left-handed around the corner of a building.**

### **3-8. FIRE TEAM EMPLOYMENT**

Moving as a fire team from building to building or between buildings presents a large target for enemy fire (Figure 3-11). When moving from the corner of one building to another, the fire team should move across the open area in a group. Moving from the side of one building to the side of another presents a similar problem and the technique of movement employed is the same. The fire team uses the building as cover. In moving to an adjacent building (Figure 3-12, page 3-8) team members should keep a distance of 3 to 5 meters between themselves and, using a planned signal, make an abrupt flanking movement (on line) across the open area to the next building.



**Figure 3-11. Fire team movement.**



**Figure 3-12. Movement to adjacent building.**

## **Section II. ENTRY TECHNIQUES**

When entering buildings a soldier must minimize the time he is exposed. Before moving toward the building he must select the entry point. When moving to the entry point the soldier should use smoke to conceal his advance. He must avoid using windows and doors except as a last resort. He should consider the use of demolitions, tank rounds, and other means to make new entrances. If the situation permits he should precede his entry with a grenade, enter immediately after the grenade explodes, and be covered by one of his buddies.

### **3-9. UPPER BUILDING LEVELS**

Although entering a building from any level other than the ground floor is difficult, clearing a building from the top down is the preferred method. Assaulting or defending a building is easier from an upper story. Gravity and the building's floor plan become assets when throwing hand grenades and moving from floor to floor.

a. An enemy who is forced to the top of a building may be cornered and fight desperately or escape over the roof. An enemy who is forced down to ground level may withdraw from the building, thus exposing himself to friendly fires from the outside.

b. Various means, such as ladders, drainpipes, vines, helicopters, or the roofs and windows of adjoining buildings, may be used to reach the top floor or roof of a building. One soldier can climb onto the shoulders of another and reach high enough to pull himself up.

c. Ladders offer the quickest method to access the upper levels of a building (Figure 3-13). Units deploying into an urban environment should be equipped with a

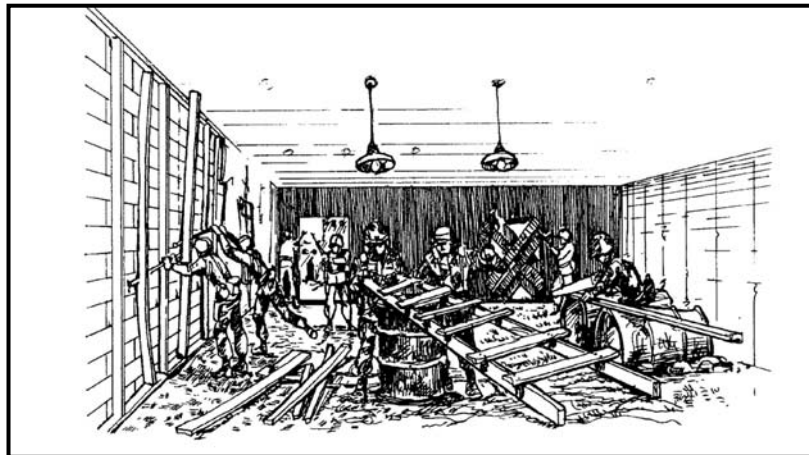


lightweight, man-portable, collapsible ladder as referenced in the platoon urban operations kit.



**Figure 3-13. Entering using portable ladder**

(1) If portable ladders are not available, material to build ladders can be obtained through supply channels. Ladders can also be built with resources available throughout the urban area; for example, lumber can be taken from inside the walls of buildings (Figure 3-14).



**Figure 3-14. Getting lumber from inside the walls.**

(2) Although ladders do not permit access to the top of some buildings, they do offer security and safety through speed. Ladders can be used to conduct an exterior assault of an upper level if soldiers' exposure to enemy fire can be minimized.

### 3-10. USE OF GRAPPLING HOOK

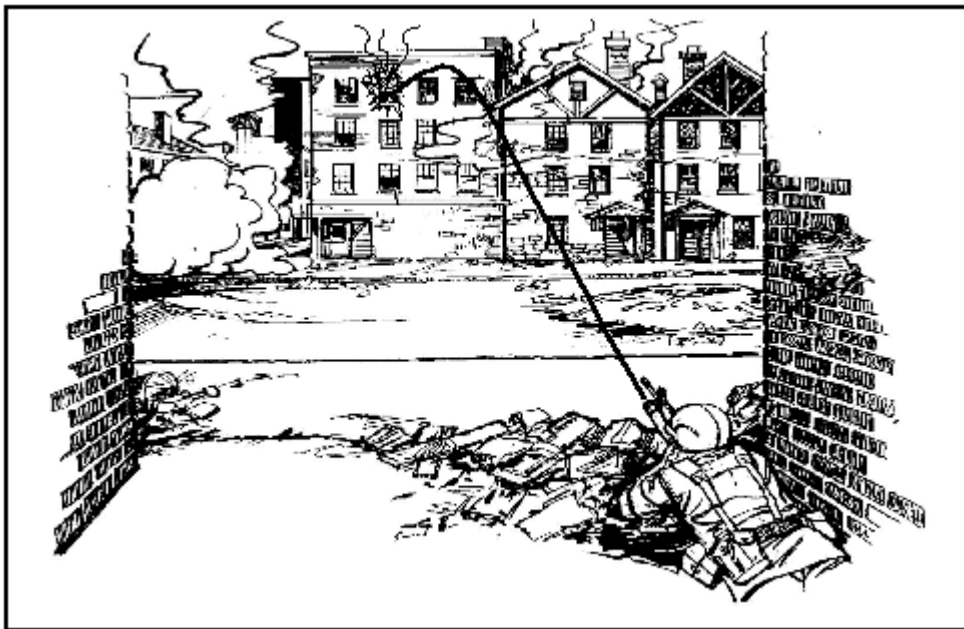
The use of a grappling hook and rope to ascend into a building is not recommended. Experimentation and training has determined that using the grappling hook and rope to ascend is extremely difficult for the average soldier, and makes a unit more likely to fail their mission. Grappling hooks are still a viable tool for accomplishing the following tasks:

- Clearing concertina or other tangle wire.
- Clearing obstacles or barricades that may be booby trapped.
- Descending to lower floors.

### 3-11. SCALING OF WALLS

When required to scale a wall during exposure to enemy fire, all available concealment must be used. Smoke and diversionary measures improve the chances of success. When using smoke for concealment, soldiers must plan for wind direction. They should use suppressive fire, shouting, and distraction devices from other positions to divert the enemy's attention.

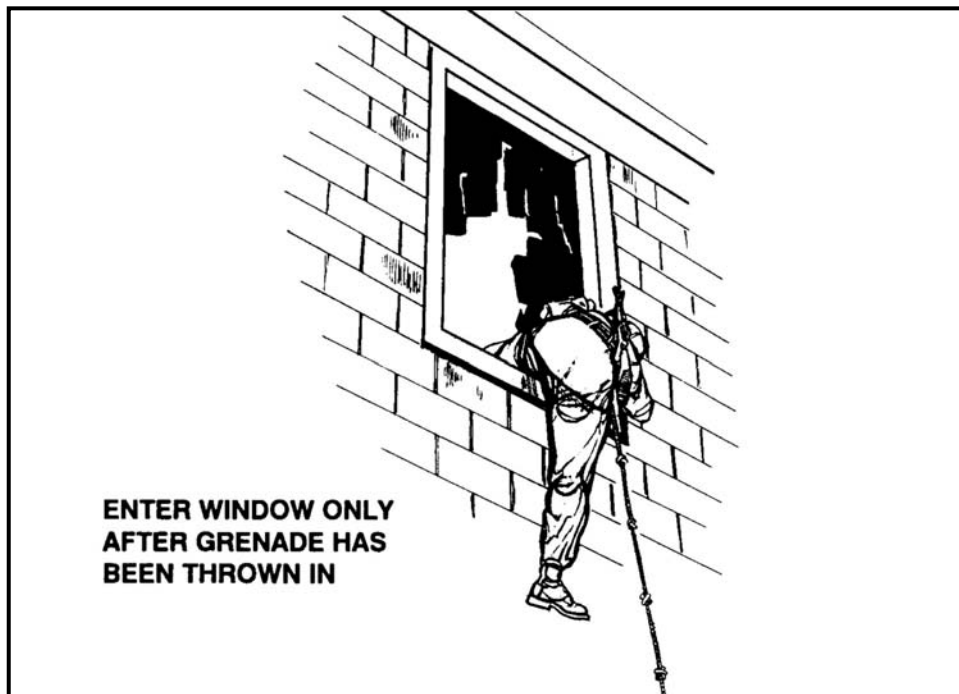
a. A soldier scaling an outside wall is vulnerable to enemy fire. Soldiers who are moving from building to building and climbing buildings should be covered by friendly fire. Properly positioned friendly weapons can suppress and eliminate enemy fire. The M203 grenade launcher is effective in suppressing or neutralizing the enemy from rooms inside buildings (Figure 3-15).



**Figure 3-15. Employment of M203 grenade launcher for clearing enemy snipers.**

b. If a soldier must scale a wall with a rope, he should avoid silhouetting himself in windows that are not cleared and avoid exposing himself to enemy fires from lower windows. He should climb with his weapon slung over the firing shoulder so he can bring it quickly to a firing position. If the ROE permits, the objective window and any lower level windows in the path of the climber should be engaged with grenades (hand or launcher) before the soldier begins his ascent.

c. The soldier enters the objective window with a low silhouette (Figure 3-16). Entry can be head first; however, the preferred method is to hook a leg over the window sill and enter sideways straddling the ledge.



**Figure 3-16. Soldier entering the objective window.**

### 3-12. RAPPELLING

Rappelling is an entry technique that soldiers can use to descend from the rooftop of a tall building into a window (Figure 3-17), or through a hole in the floor, in order to descend to the lower floor. (See TC 21-24 for more information on rappelling.)



**Figure 3-17. Rappelling.**

### 3-13. ENTRY AT LOWER LEVELS

Buildings should be cleared from the top down. However, entering a building at the top may be impossible. Entry at the bottom or lower level is common and may be the only course of action. When entering a building at lower levels, soldiers avoid entering through windows and doors since both can be easily booby trapped and are usually covered by enemy fire. (Specific lower-level entry techniques are shown in Figure 3-18 on pages 3-13 through 3-15. These techniques are used when soldiers can enter the building without receiving effective enemy fire.)

a. When entering at lower levels, demolitions, artillery, tank fire, antiarmor weapons fire, or similar means can be used to create a new entrance to avoid booby traps. This procedure is preferred if the ROE permit it. Quick entry is then required to take advantage of the effects of the blast and concussion.

b. When the only entry to a building is through a window or door, supporting fire is directed at that location to destroy or drive away enemy forces. The assaulting soldiers should not leave their covered positions before the support by fire element has accomplished this procedure.

c. Before entering, soldiers may throw a cooked off hand grenade into the new entrance to reinforce the effects of the original blast. The type grenade used, fragmentation, concussion, or stun, is based on METT-TC factors and the structural integrity of the building.

(1) When making a new entrance in a building, soldiers consider the effects of the blast on the building and on adjacent buildings. If there is the possibility of a fire in

adjacent building, soldiers coordinate with adjacent units and obtain permission before starting the operation.

(2) In wooden frame buildings, the blast may cause the building to collapse. In stone, brick, or cement buildings, supporting fires are aimed at the corner of the building or at weak points in the building construction.

**NOTE:** Armored vehicles can be positioned next to a building allowing soldiers to use the vehicle as a platform to enter a room or gain access to a roof.

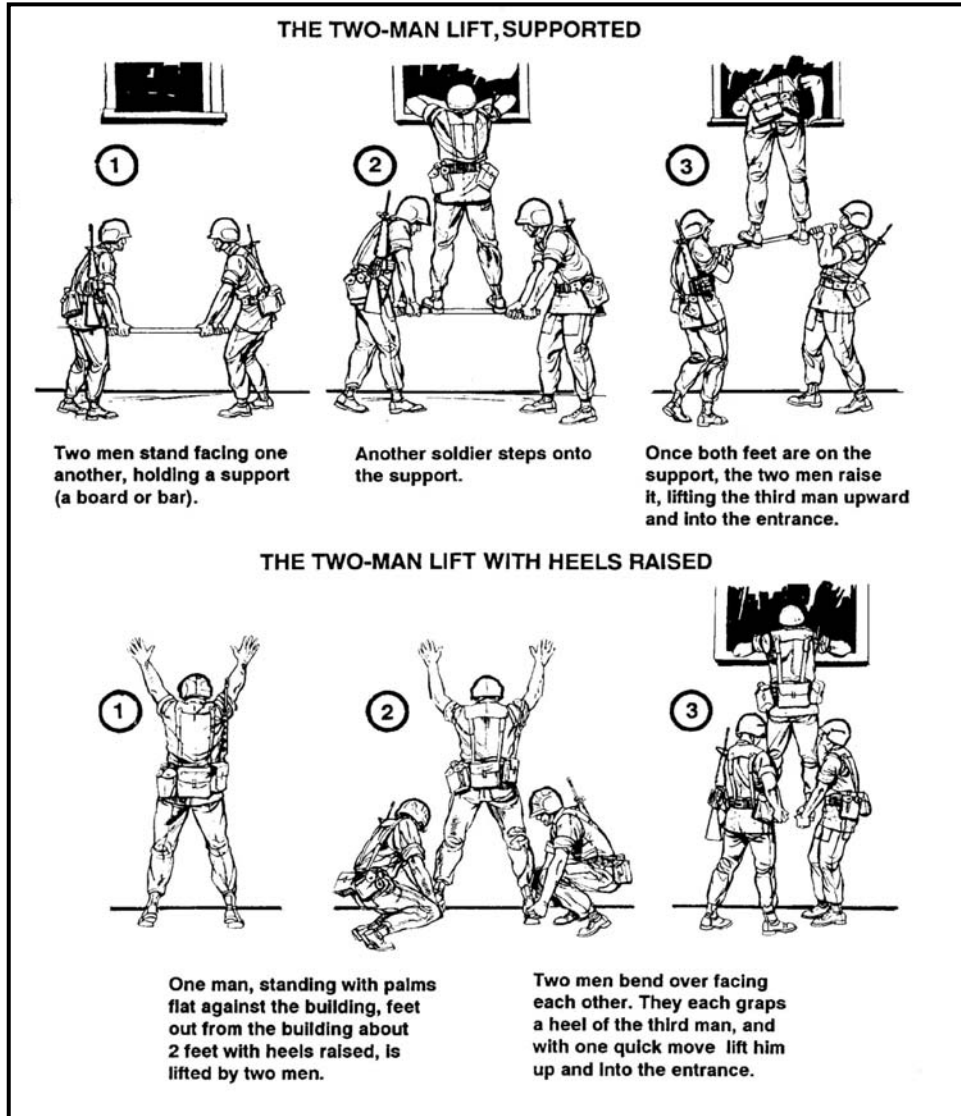


Figure 3-18. Lower-level entry technique.

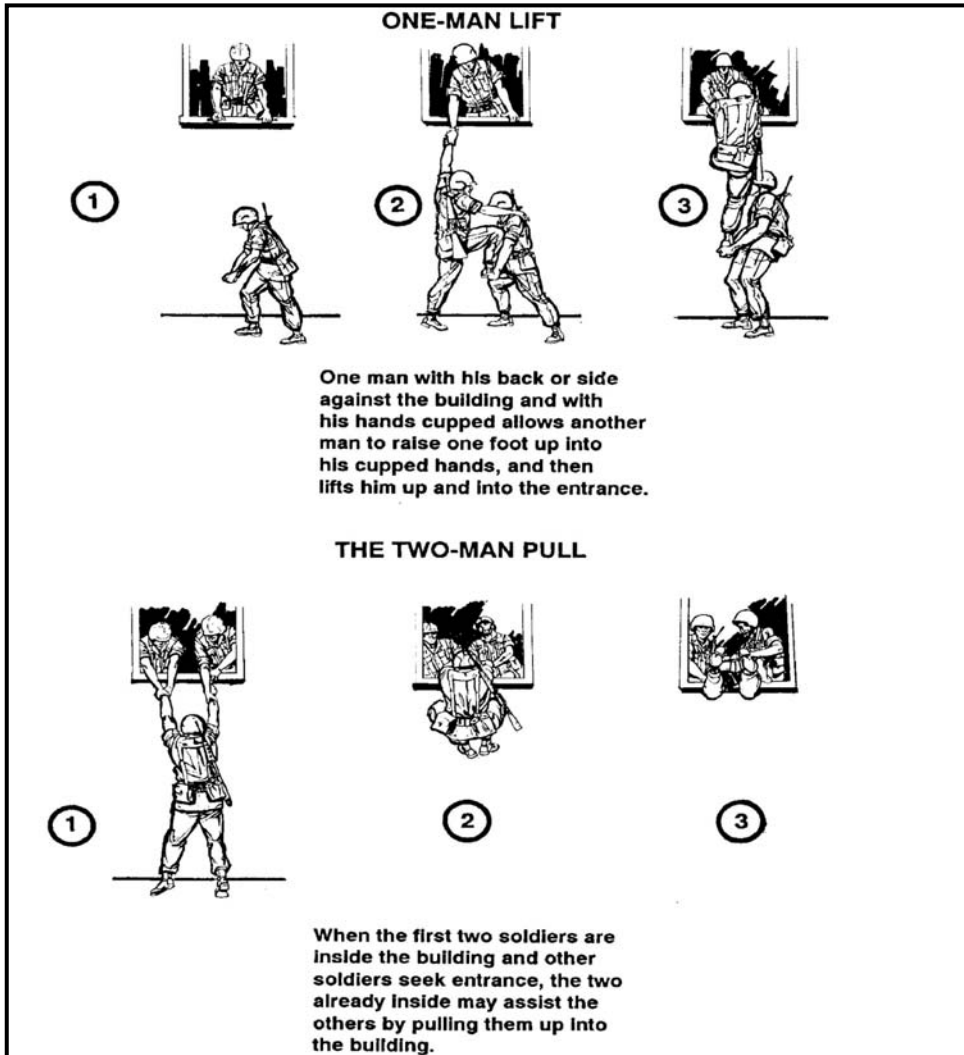
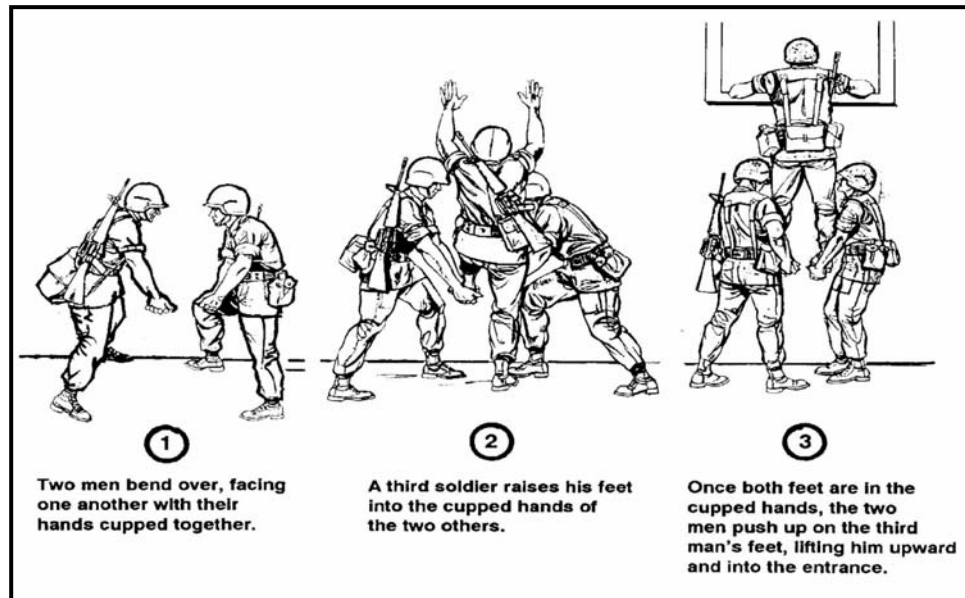


Figure 3-18. Lower-level entry technique (continued).



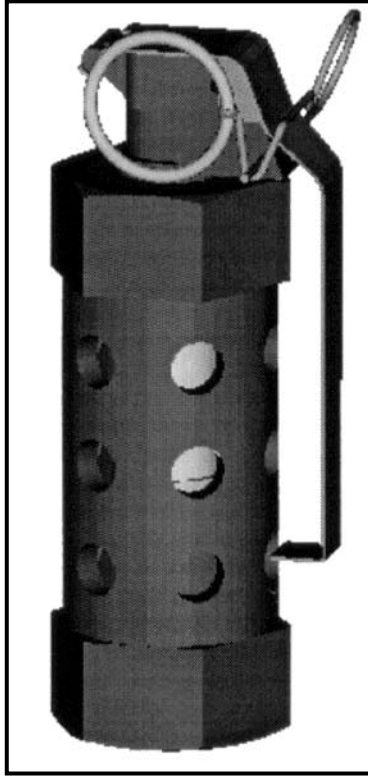
**Figure 3-18. Lower-level entry technique (continued).**

### 3-14. USE OF HAND GRENADES

Combat in urban areas often requires extensive use of hand grenades. Unless the ROE prevent it, use grenades before assaulting defended areas, moving through breaches, or entering unsecured areas. Effective grenade use in urban areas may require throwing overhand or underhand, with both the left and right hand. Normally, the fragmentation grenade should be cooked off for two seconds to prevent the enemy from throwing them back.

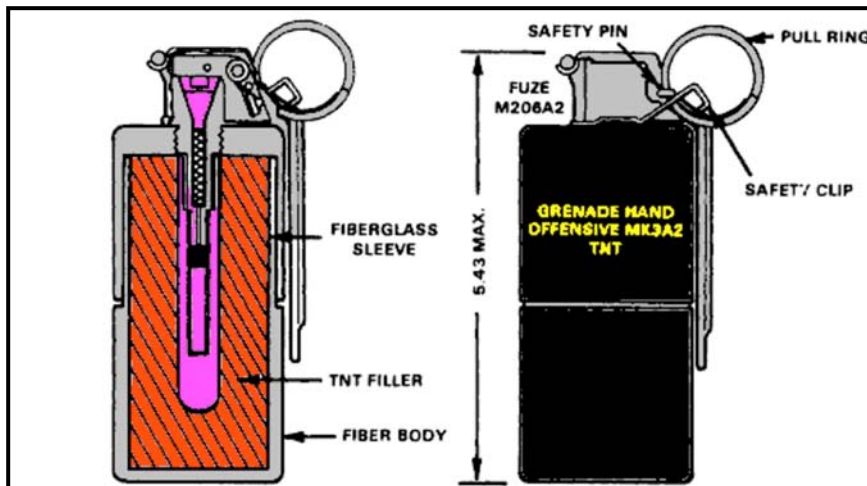
a. Three types of hand grenades can be used when assaulting an urban objective: stun, concussion, and fragmentation. METT-TC factors and the type of construction materials used in the objective building influence the type of grenades that can be used.

(1) The M84 stun hand grenade is a *flash-bang* distraction device, which produces a brilliant flash and a loud bang to momentarily surprise and distract an enemy force (Figure 3-19, page 3-16). The M84 is often used under precision conditions and when the ROE demand use of a nonlethal grenade. The use of stun hand grenades under high intensity conditions is usually limited to situations where fragmentation and concussion grenades pose a risk to friendly troops or the structural integrity of the building.



**Figure 3-19. M84 stun hand grenade.**

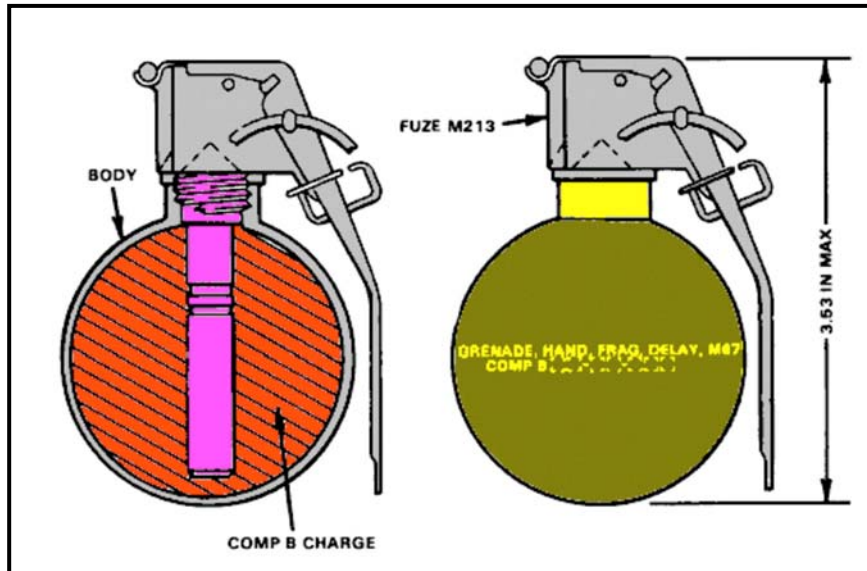
(2) The concussion grenade causes injury or death to persons in a room by blast overpressure and propelling debris within the room (Figure 3-20). While the concussion grenade does not discard a dangerous fragmentation from its body, the force of the explosion can create debris fallout that may penetrate thin walls.



**Figure 3-20. MK3A2 (concussion grenade).**



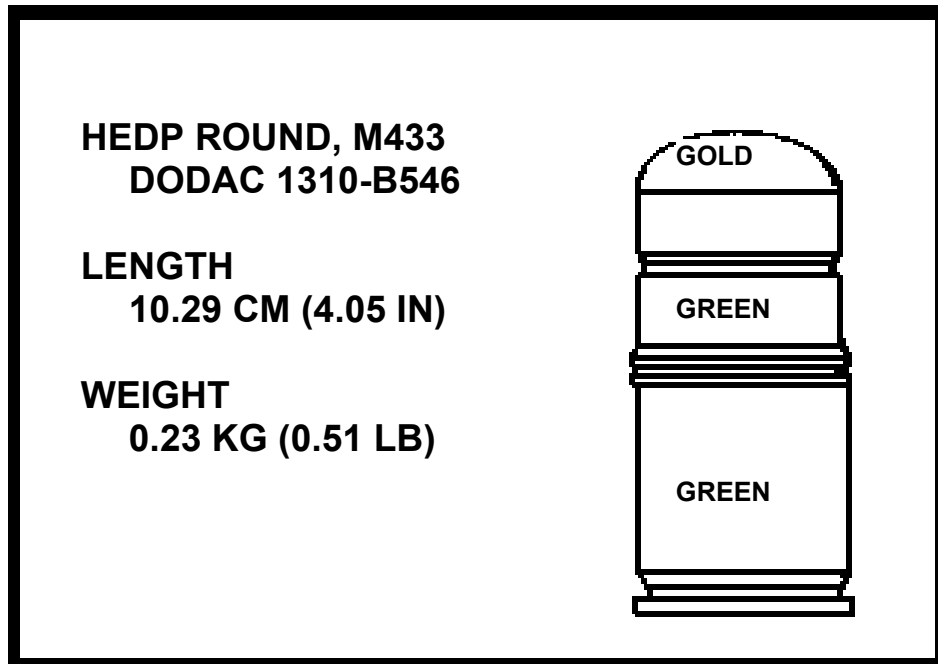
(3) The fragmentation grenade (Figure 3-21) produces substantial overpressure when used inside buildings and, coupled with the shrapnel effects, can be extremely dangerous to friendly soldiers. If the walls of a building are made of thin material, such as Sheetrock or thin plywood, soldiers should either lie flat on the floor with their helmet towards the area of detonation, or move away from any wall that might be penetrated by grenade fragments.



**Figure 3-21. Fragmentation grenade.**

b. Soldiers should engage upper-level openings with grenades (by hand or launcher) before entering to eliminate enemy that might be near the entrance.

(1) The M203 grenade launcher is the best method for putting a grenade in an upper-story window. The primary round of ammunition used for engaging an urban threat is the M433 high-explosive, dual-purpose cartridge (Figure 3-22, page 3-18). Throwing a hand grenade into an upper-story opening is a task that is difficult to do safely during combat.

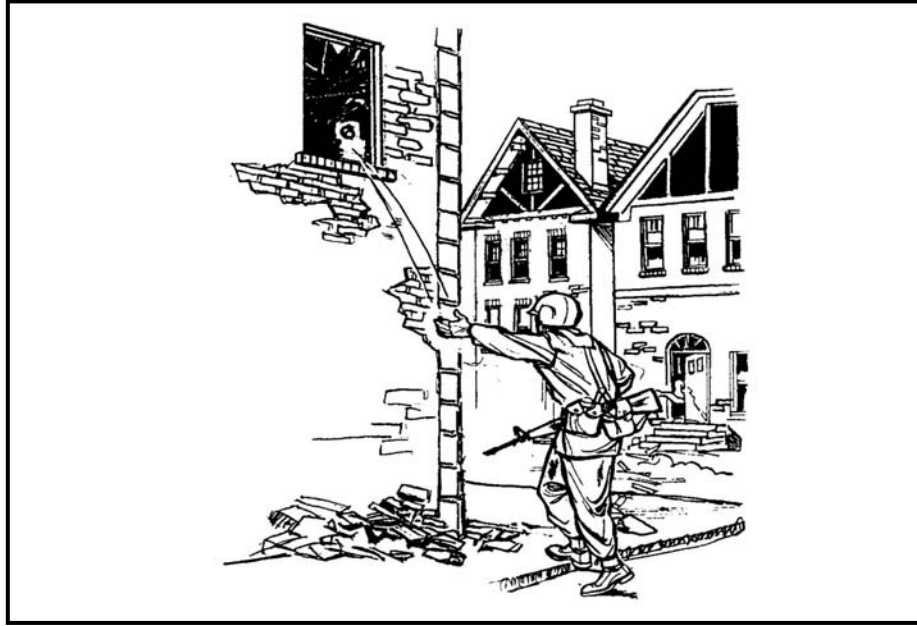


**Figure 3-22. 40-mm, tube-launched, high-explosive, dual-purpose (HEDP) grenade.**

(2) When a hand grenade must be thrown into an upper-story opening, the thrower should stand close to the building, using it for cover. This technique should only be employed when the window opening is free of glass or screen.

(3) The thrower should allow the grenade to cook off for at least two seconds, and then step out far enough to lob the grenade into the upper-story opening (Figure 3-23). He should keep his weapon in the nonthrowing hand, to be used if needed. The weapon should never be laid outside or inside the building. At the same time, everyone should have a planned area to move to for safety if the grenade does not go through the window but falls back to the ground.

(4) Once the grenade has been thrown into the opening and detonates, assaulting troops must move swiftly to enter the building.



**Figure 3-23. Hand grenade thrown through window.**

c. If soldiers must enter the building by the stairs, they must first look for booby traps, then engage the stairwell door with a grenade (by hand or launcher), let it detonate, and quickly move inside. They can then use the staircase for cover.

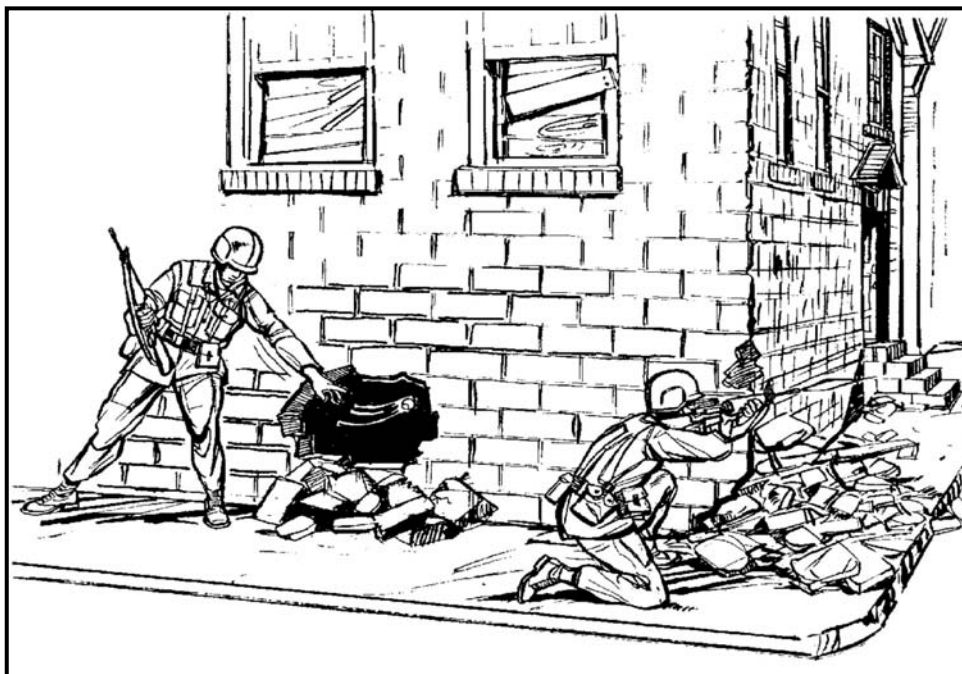
#### **WARNINGS**

- 1. If stealth is not a factor, after throwing the grenade the soldier must immediately announce *frag out* to indicate that a grenade has been thrown. He then takes cover since the grenade may bounce back or be thrown back, or the enemy may fire at him.**
- 2. When the M203 grenade launcher is used to deliver the grenade into a window or doorway, ensure proper standoff for arming the round. Also, the assaulting element should take cover around a corner or away from the target area.**

d. Breachholes and mouseholes are blown or cut through a wall so soldiers can enter a building. (See Chapters 4 and 7 for more information.) These are safer entrances than doors because doors can be easily booby trapped and should be avoided, unless explosive breaching is used against the door.

(1) A grenade should be thrown through the breach before entering. Use available cover, such as the lower corner of the building (Figure 3-24), for protection from fragments.

(2) Use stun and concussion grenades when engaging through thin walls.



**Figure 3-24. Soldier entering through a mousehole.**

e. When a door is the only means of entering a building, soldiers must beware of booby traps and fire from enemy soldiers within the room.

(1) Locked doors can be breached (forced open) using one of the four breaching methods: mechanical, ballistic, explosive, or thermal (see Chapter 8). If none of these methods are available, soldiers can resort to kicking the door open. This method is the least preferred since it is difficult and tiring to the soldier. It rarely works the first time, and gives any enemy soldiers in the room ample warning and time to shoot through the door. Once the door is breached, a grenade should precede the soldier's entry.

(2) When opening an unlocked door by hand, the assault team should be sure not to expose themselves to enemy fire through the door. The soldiers should stay close to one side of the doorway to minimize exposure in the open doorframe

(3) Once the door is open, a hand grenade should be tossed in. After the grenade explodes, soldiers enter and clear the room IAW the tactics, techniques, and procedures discussed in Section III.

f. Although buildings are best cleared from the top down, this procedure is not always possible. While clearing the bottom floor of a building, soldiers may encounter stairs, which must also be cleared. Once again, grenades play an important role.

(1) To climb stairs, first inspect for booby traps, then toss a grenade to the head of the stairs (Figure 3-25). Soldiers must use voice alerts when throwing grenades.

(2) Using the staircase for cover, soldiers throw the grenade underhand to reduce the risk of it bouncing back and rolling down the stairs.

(3) Once the first grenade has detonated, another grenade should be thrown over and behind the staircase banister and into the hallway, neutralizing any exposed enemy in the hallway.

(4) When the second hand grenade has detonated, soldiers proceed to clear the stairway in accordance with prescribed TTP.

**NOTE:** Large quantities of hand grenades are used when clearing buildings. A continuous supply must be available.



**Figure 3-25. Soldier tossing grenade up stairway.**

**CAUTION**

Throwing fragmentation grenades up a stairway has a high probability for the grenades to roll back down and cause fratricide. Soldiers should avoid clustering at the foot of the stairway and ensure that the structural integrity of the building permits the use of either a fragmentation or concussion grenade.

### **3-15. INDIVIDUAL WEAPONS CONTROL WHEN MOVING**

As in all combat situations, the clearing team members must move tactically and safely. Individuals who are part of a clearing team must move in a standard manner, using practiced techniques known to all.

a. When moving, team members maintain *muzzle awareness* by holding their weapons with the muzzle pointed in the direction of travel. Soldiers keep the butt of the rifle in the pocket of their shoulder, with the muzzle slightly down to allow unobstructed vision. Soldiers keep both eyes open and swing the muzzle as they turn their head so the rifle is always aimed where the soldier is looking. This procedure allows to soldier to see what or who is entering their line of fire.

b. Team members avoid *flagging* (leading) with the weapon when working around windows, doors, corners, or areas where obstacles must be negotiated. Flagging the weapon gives advance warning to anyone looking in the soldier's direction, making it easier for an enemy to grab the weapon.

c. Team members should keep weapons on safe (selector switch on SAFE and index finger outside of trigger guard) until a hostile target is identified and engaged. After a team member clears his sector of all targets, he returns his weapon to the SAFE position.

d. If a soldier has a weapons malfunction during room clearing, he should immediately announce "gun down" and drop to one knee and conduct immediate action to reduce the malfunction. The other members of the team should engage targets in his sector. Once the weapon is operational, he should announce "gun up" and remain in the kneeling position until directed to stand-up by the team leader.

## **Section III. CLEARING**

Infantry units often use close combat to enter and clear buildings and rooms. This section describes the TTP for clearing.

### **3-16. HIGH INTENSITY VERSUS PRECISION CLEARING TECHNIQUES**

Precision clearing techniques do not replace other techniques currently being used to clear buildings and rooms during high-intensity combat. Specifically, they do not replace the clearing technique in which a fragmentation or concussion grenade is thrown into a room before the US forces enter. Precision room clearing techniques are used when the tactical situation calls for room-by-room clearing of a relatively intact building in which enemy combatants and noncombatants may be intermixed. They involve increased risk in order to clear a building methodically, rather than using overwhelming firepower to eliminate or neutralize all its inhabitants.

a. From a conceptual standpoint, standard high-intensity room clearing drills can be thought of as a deliberate attack. The task is to seize control of the room with the purpose being the neutralization of the enemy in the room. The fragmentation and or concussion grenades can be thought of as the preparatory fires used before the assault. As in a deliberate attack against any objective, the assaulting elements move into position using covered and concealed routes. The preparatory fires (fragmentation and or concussion grenades) are initiated when soldiers are as close to the objective as they can get without being injured by the fires. The assault element follows the preparatory fires onto the

objective as closely as possible. A rapid, violent assault overwhelms and destroys the enemy force and seizes the objective.

b. Compared to the deliberate attack represented by high-intensity room clearing techniques, precision room clearing techniques are more conceptually like a reconnaissance in force or perhaps an infiltration attack. During a reconnaissance in force, the friendly unit seeks to determine the enemy's locations, dispositions, strength, and intentions. Once the enemy is located, the friendly force is fully prepared to engage and destroy it, especially if surprise is achieved. The friendly force retains the options of not employing preparatory fires (fragmentation and or concussion grenades) if they are not called for (the enemy is not in the room) or if they are inappropriate (there are noncombatants present also). The attacking unit may choose to create a diversion (use a stun grenade) to momentarily distract the defender while they enter and seize the objective.

c. The determination of which techniques to employ is up to the leader on the scene and is based on his analysis of the existing METT-TC conditions. The deliberate attack (high-intensity techniques), with its devastating suppressive and preparatory fires, neutralizes everyone in the room and is less dangerous to the assaulting troops. The reconnaissance in force (precision techniques) conserves ammunition, reduces damage, and minimizes the chance of noncombatant casualties. Unfortunately, even when well-executed, it is very stressful and hazardous for friendly troops.

d. Certain precision room clearing techniques, such as methods of squad and fire team movement, the various firing stances, weapon positioning, and reflexive shooting, are useful for all combat in confined areas. Other techniques, such as entering a room without first neutralizing known enemy occupants by fire or explosives, are appropriate in only some tactical situations.

e. Generally, if a room or building is occupied by an alerted enemy force that is determined to resist, and if most or all noncombatants are clear, overwhelming firepower should be employed to avoid friendly casualties. In such a situation, supporting fires, demolitions, and fragmentation grenades should be used to neutralize a space before friendly troops enter.

f. In some combat situations the use of heavy supporting fires and demolitions would cause unacceptable collateral damage or would unnecessarily slow the unit's movement. In other situations, often during stability and support operations, enemy combatants are so intermixed with noncombatants that US forces cannot, in good conscience, use all available supporting fires. Room-by-room clearing may be necessary. At such times, precision room clearing techniques are most appropriate.

### 3-17. PRINCIPLES OF PRECISION ROOM CLEARING

Battles that occur at close quarters, such as within a room or hallway, must be planned and executed with care. Units must train, practice, and rehearse precision room clearing techniques until each fire team and squad operates smoothly. Each unit member must understand the principles of precision room clearing: surprise, speed, and controlled violence of action.

a. **Surprise.** Surprise is the key to a successful assault at close quarters. The fire team or squad clearing the room must achieve surprise, if only for seconds, by deceiving, distracting, or startling the enemy. Sometimes stun grenades may be used to achieve

surprise. These are more effective against a nonalert, poorly trained enemy than against alert, well-trained soldiers.

b. **Speed.** Speed provides a measure of security to the clearing unit. It allows soldiers to use the first few vital seconds provided by surprise to their maximum advantage. In precision room clearing, speed is not how fast you enter the room, rather it's how fast the threat is eliminated and the room is cleared.

c. **Controlled Violence of Action.** Controlled violence of action eliminates or neutralizes the enemy while giving him the least chance of inflicting friendly casualties. It is not limited to the application of firepower only, but also involves a soldier mind-set of complete domination. Each of the principles of precision room clearing has a synergistic relationship to the others. Controlled violence coupled with speed increases surprise. Hence, successful surprise allows increased speed.

### **3-18. FUNDAMENTALS OF PRECISION ROOM CLEARING**

The ten fundamentals of precision room clearing address actions soldiers take while moving along confined corridors to the room to be cleared, while preparing to enter the room, during room entry and target engagement, and after contact. Team members—

- Move tactically and silently while securing the corridors to the room to be cleared.
- Carry only the minimum amount of equipment. (Rucksacks and loose items carried by soldiers tire them, slow their pace, and cause noise.)
- Arrive undetected at the entry to the room in the correct order of entrance, prepared to enter on a single command.
- Enter quickly and dominate the room. Move immediately to positions that allow complete control of the room and provide unobstructed fields of fire.
- Eliminate all enemy in the room by fast, accurate, and discriminating fires.
- Gain and maintain immediate control of the situation and all personnel in the room.
- Confirm whether enemy casualties are wounded or dead. Disarm, segregate, and treat the wounded. Search all enemy casualties.
- Perform a cursory search of the room. Determine if a detailed search is required.
- Evacuate all wounded and any friendly dead.
- Mark the room as cleared using a simple, clearly identifiable marking in accordance with the unit SOP.
- Maintain security and be prepared to react to more enemy contact at any moment. Do not neglect rear security.

### **3-19. COMPOSITION OF THE CLEARING TEAM**

Precision room clearing techniques are designed to be executed by the standard four-man fire team. Because of the confined spaces typical of building- and room-clearing operations, units larger than squads quickly become unwieldy. When shortages of personnel demand it, room clearing can be conducted with two- or three-man teams, but four-man teams are preferred. Using fewer personnel greatly increases the combat strain and risks.



### 3-20. BREACHING

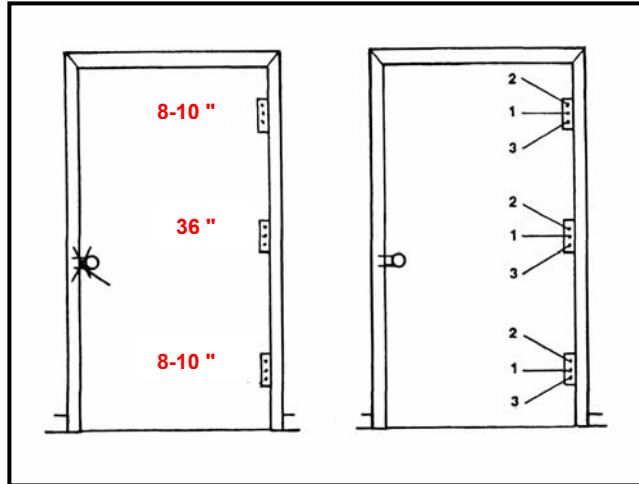
An integral part of precision room clearing is the ability to gain access quickly to the rooms to be cleared. Breaching techniques vary based on the type of construction encountered and the types of munitions available to the breaching element. Techniques range from simple mechanical breaching to complex, specialized demolitions.

a. A useful method of breaching is the *shotgun ballistic* breach for forced entry of standard doors. A 12-gauge shotgun loaded with buckshot or slugs can be used to breach most standard doors quickly. Number 9 shot works equally well with reduced collateral damage on the other side of the door. When done properly, the shotgun breach requires only a few seconds. The two standard techniques of shotgun breaching are the *doorknob breach* and the *hinge breach*. When attempting either technique, the gunner is announcing his presence by using the shotgun and is completely exposed to fire through the door. Therefore, exposure time must be minimized and the number 1 man must be ready to gain entry and return fire as soon as possible. While holding the stock of the shotgun in the pocket of his shoulder, the gunner places the muzzle tightly against the door, and aims down at a 45-degree angle.

**NOTE:** If the shotgun muzzle is not held tightly against the door, splatter may occur that could affect friendly troops. Also, buckshot and rifled slugs can overpenetrate doors and may kill or wound occupants in the room.

(1) For the doorknob breach, the aim point is a spot halfway between the doorknob and the frame, not at the doorknob itself. The gunner fires two quick shots in the same location, ensuring the second shot is aimed as carefully as the first. Weak locks may fly apart with the first shot, but the gunner should always fire twice. Some locks that appear to be blown apart have parts still connected that can delay entry. If the lock is not defeated by the second shot, the gunner repeats the procedure. Doors may not always open after firing. The gunner should be prepared to kick the door after firing to ensure opening of the entry point.

(2) The hinge breach technique is performed much the same as the doorknob breach, except the gunner aims at the hinges. He fires three shots per hinge—the first at the middle, then at the top and bottom (Figure 3-26, page 3-26). He fires all shots from less than an inch away from the hinge. Because the hinges are often hidden from view, the hinge breach is more difficult. Hinges are generally 8 to 10 inches from the top and bottom of the door; the center hinge is generally 36 inches from the top, centered on the door. Regardless of which technique the gunner uses, immediately after he fires, he kicks the door in or pulls it out. He then pulls the shotgun barrel sharply upward and quickly turns away from the doorway to signal that the breach point has been cleared. This rapid clearing of the doorway allows the following man in the fire team a clear shot at any enemy who may be blocking the immediate breach site.



**Figure 3-26. Aim points for shotgun breach of a standard door, doorknob target on left and hinge targets on right.**

**NOTE:** The use of small arms (5.56-mm or 7.62-mm) as a ballistic breach on doorknobs and hinges is unsafe and should only be used as a last resort.

b. Demolitions are often needed to defeat more elaborate barriers or to produce a desired effect to aid the initial entry. (See Chapter 8 for a discussion of expedient demolitions for breaching common urban barriers.)

c. Mechanical breaching is planned as a backup to a ballistic or explosive breach. Mechanical breaching is an assumed capability within all units. Taking the time to defeat weak barriers, such as doors or windows, by means of crowbars, saws, sledgehammers, battering rams, axes, or other breaching tools is a decision that must be made based on the conditions of METT-TC.

d. Clearing team members must approach the breach point quickly, quietly, and in standard order. This approach preserves the element of surprise and allows for quick entry and domination of the room. The order of movement to the breach point is determined by the method of breach and intended actions at the breach point. The members of the fire team are assigned numbers 1 through 4, with the team leader normally designated number 2. If one member of the clearing team is armed with the SAW rather than an M16 rifle or carbine, he should be designated number 4.

(1) **Ballistic (Shotgun) Breach.** The order of movement for a shotgun breach has the gunner up front, followed by the number 1 man, number 2 man (team leader), and then the number 3 man. After the door is breached, the gunner moves to the rear of the lineup and assumes the position of the number 4 man.

(2) **Explosive (Demolition) Breach.** The order of movement for an explosive breach without engineer support is number 1, number 2 (team leader), number 3, and then number 4. The number 1 man provides security at the doorway. The number 2 man (team leader) carries the demolition charge and places it. The number 3 man provides security overhead, and the number 4 man provides rear security. After the demolition charge is placed, the team moves to covered positions and prepares to enter in the standard 1, 2, 3, 4 order. (Refer to Chapter 8 for information concerning minimum safe distances.)

(3) **Mechanical Breach.** A suggested order of movement for a mechanical breach is the initial assault team in order, followed by the breach man or element. At the breach point, the assault team leader brings the breach team forward while the assault team provides local security. After the breach is conducted, the breach team moves aside and provides local security as the assault team enters the breach.

### 3-21. CONSIDERATIONS FOR ENTRY

The entire team enters the room as quickly and smoothly as possible and clears the doorway immediately. If possible, the team moves from a covered or concealed position already in their entry order. Ideally, the team arrives and passes through the entry point without having to stop.

a. The door is the focal point of anyone in the room. It is known as the *fatal funnel*, because it focuses attention at the precise point where the individual team members are the most vulnerable. Moving into the room quickly reduces the chance anyone being hit by enemy fire directed at the doorway.

b. On the signal to go, the clearing team moves from covered or concealed positions through the door quickly and takes up positions inside the room that allow it to completely dominate the room and eliminate the threat. Team members stop movement only after they have cleared the door and reached their designated point of domination. The first man's position is deep into the near corner of the room. The depth of his movement is determined by the size of the room, any obstacles in the room, such as furniture, and by the number and location of enemy and noncombatants in the room.

c. To make precision room clearing techniques work, each member of the team must know his sector of fire and how his sector overlaps and links with the sectors of the other team members. Team members do not move to the point of domination and then engage their targets. They engage targets as they move to their designated point. However, engagements must not slow movement to their points of domination. Team members may shoot from as short a range as 1 to 2 inches. They engage the most immediate enemy threats first. Examples of immediate threats are enemy personnel who—

- Are armed and prepared to return fire immediately.
- Block movement to the position of domination.
- Are within arm's reach of a clearing team member.
- Are within 3 to 5 feet of the breach point.

d. Each clearing team member has a designated sector of fire unique to him initially and expands to overlap sectors of the other team members.

(1) The number 1 and number 2 men are initially concerned with the area directly to their front, then along the wall on either side of the door or entry point. This area is in their path of movement, and it is their primary sector of fire. Their alternate sector of fire is from the wall they are moving toward, back to the opposite far corner.

(2) The number 3 and number 4 men start at the center of the wall opposite their point of entry and clear to the left if moving toward the left, or to the right if moving toward the right. They stop short of their respective team member (either the number 1 man or the number 2 man).

e. The team members move toward their points of domination, engaging all targets in their sector. Team members must exercise fire control and discriminate between hostile and noncombatant room occupants. Shooting is done without stopping, using

reflexive shooting techniques. Because the soldiers are moving and shooting at the same time, they must move using careful hurry. (Figure 3-31 in paragraph 3-23, page 3-32, shows all four team members at their points of domination and their overlapping sectors of fire.)

### **3-22. TECHNIQUES FOR ENTERING BUILDINGS AND CLEARING ROOMS**

Battle Drill 6 is the standard technique used by the four-man fire team when they perform the task, Enter Building/Clear Room. However, ROE may not allow for, nor the enemy situation requires, such aggressive action on the part of the assaulting unit. Based on the aforementioned conditions, commanders may determine to use the following techniques when entering and clearing buildings and rooms.

a. **Situation.** Operating as part of a larger force (during daylight or darkness), the squad is tasked to participate in clearing a building. The platoon leader directs the squad to enter the building or to clear a room. An entry point breach has already been identified, or will be created before initiating the entry.

b. **Special Considerations.** Platoon and squad leaders must consider the task and purpose they have been given and the method they are to use to achieve the desired results.

(1) To seize or gain control of a building may not always require committing troops into the structure or closing with the enemy. The following steps describe effective techniques to be used when training soldiers to the toughest possible conditions. These techniques and procedures can be trained, rehearsed, and modified to a specific situation and mission. Before initiating this action the employment of all organic, crew-served, and supporting weapon systems should be directed onto the objective area in order to suppress and neutralize the threat, providing the mission and ROE permit.

(2) When conducting urban operations, soldiers must be equipped at all times with a night vision device or light source to illuminate the immediate area.

**NOTE:** The following discussion assumes that only the platoon's organic weapons are to support the infantry squad. Urban situations may require precise application of firepower. This situation is especially true of an urban environment where the enemy is mixed with noncombatants. Noncombatants may be found in the room, which can restrict the use of fires and reduce the combat power available to a squad leader. His squad may have to operate with *no fire* areas. Rules of engagement can prohibit the use of certain weapons until a specific hostile action takes place. All soldiers must be aware of the ROE. Leaders must include the specific use of weapons in their planning for precision operations in urban terrain.

c. **Required Actions.** Figures 3-27, 3-28, 3-29, and 3-30 (on pages 3-30 through 3-32) illustrate the required actions for performing this task.

(1) The squad leader designates the assault team and identifies the location of the entry point for them.

(2) The squad leader positions the follow-on assault team to provide overwatch and supporting fires for the initial assault team.

(3) Assault team members move as close to the entry point as possible, using available cover and concealment.

(a) If an explosive breach or a ballistic breach is to be performed by a supporting element, the assault team remains in a covered position until the breach is made. They may provide overwatch and fire support for the breaching element if necessary.

(b) All team members must signal one another that they are ready before the team moves to the entry point.

(c) Team members avoid the use of verbal signals, which may alert the enemy and remove the element of surprise.

(d) Assault team members must move quickly from the covered position to the entry point, minimizing the time they are exposed to enemy fire.

(4) The assault team enters through the breach. Unless a grenade is being thrown prior to entry, the team should avoid stopping outside the point of entry.

(a) The number 2 man may throw a grenade of some type (fragmentation, concussion, stun) into the room before entry.

(b) The use of grenades should be consistent with the ROE and building structure. The grenade should be cooked off before being thrown, if applicable to the type of grenade used.

(c) If stealth is not a factor, the thrower should sound off with a verbal indication that a grenade of some type is being thrown (“frag out,” “concussion out,” “stun out”). If stealth is a factor, only visual signals are given as the grenade is thrown.

#### **CAUTION**

If walls and floors are thin, fragments from fragmentation grenades and debris created by concussion grenades can injure soldiers outside the room. If the structure has been stressed by previous explosive engagements, the use of these grenades could cause it to collapse. Leaders must determine the effectiveness of these types of grenades compared to possibilities of harm to friendly troops.

(5) On the signal to go, or immediately after the grenade detonates, the assault team moves through the entry point (Figure 3-27, page 3-30) and quickly takes up positions inside the room that allow it to completely dominate the room and eliminate the threat (Figure 3-30). Unless restricted or impeded, team members stop movement only after they have cleared the door and reached their designated point of domination. In addition to dominating the room, all team members are responsible for identifying possible loopholes and mouseholes in the ceiling, walls and floor.

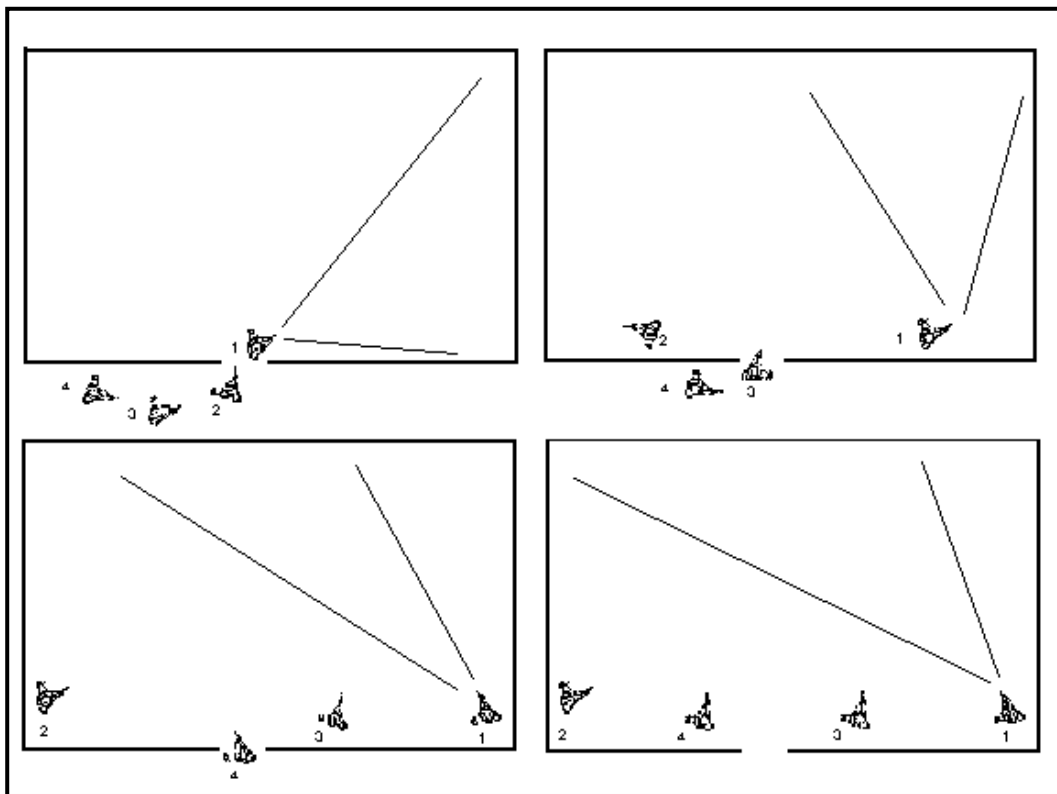
**NOTE:** Where enemy forces may be concentrated and the presence of noncombatants is highly unlikely, the assault team can precede their entry by throwing a fragmentation or concussion grenade (structure dependent) into the room,

followed by bursts of automatic small-arms fire by the number one man as he enters.

(a) The first man (rifleman), enters the room and eliminates the immediate threat. He has the option of going left or right, normally moving along the path of least resistance to one of two corners. When using a doorway as the point of entry, the path of least resistance is determined initially based on the way the door opens; if the door opens inward he plans to move away from the hinges. If the door opens outward, he plans to move toward the hinged side. Upon entering, the size of the room, enemy situation, and furniture or other obstacles that hinder or channel movement become factors that influence the number 1 man's direction of movement.

(b) The direction each man moves in should not be preplanned unless the exact room layout is known. Each man should go in a direction opposite the man in front of him (Figure 3-27). Every team member must know the sectors and duties of each position.

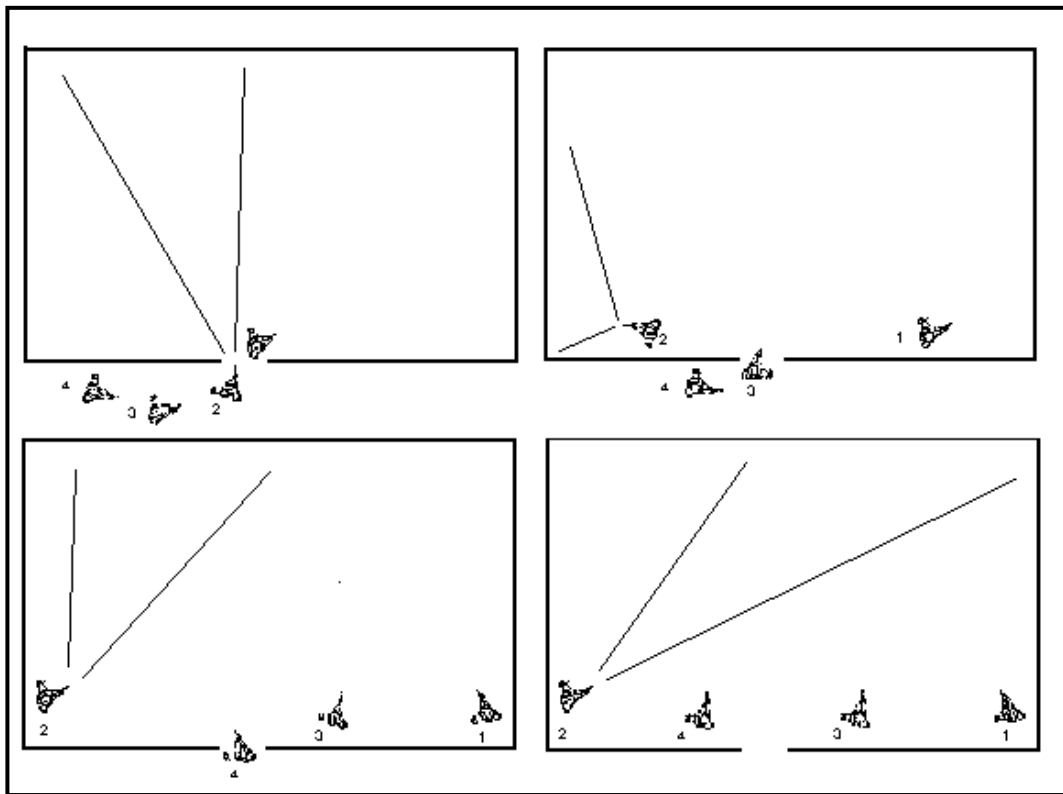
(c) As the the first man goes through the entry point, he can usually see into the far corner of the room. He eliminates any immediate threat and continues to move along the wall if possible and to the first corner, where he assumes a position of domination facing into the room.



**Figure 3-27. First man enters a room.**

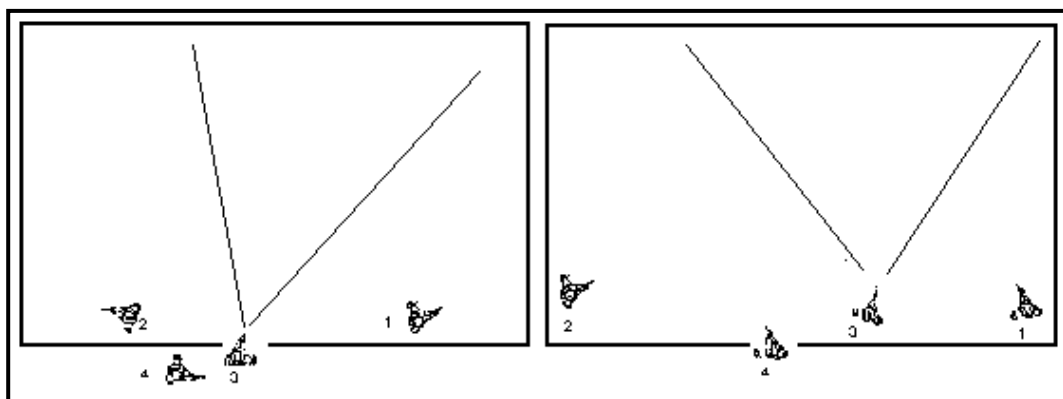
(6) The second man (team leader), entering almost simultaneously with the first, moves in the opposite direction, following the wall and staying out of the center

(Figure 3-28). The second man must clear the entry point, clear the immediate threat area, clear his corner, and move to a dominating position on his side of the room.



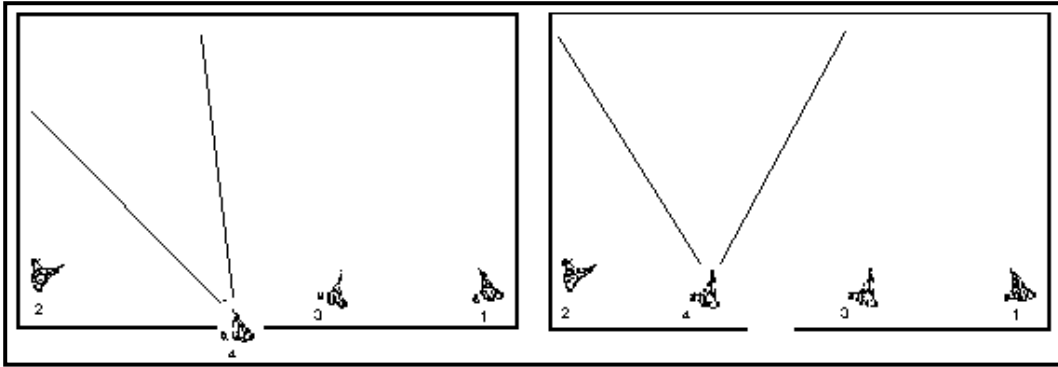
**Figure 3-28. Second man enters a room.**

(7) The third man (grenadier) simply goes opposite of the second man inside the room at least one meter from the entry point and moves to a position that dominates his sector (Figure 3-29).



**Figure 3-29. Third man enters a room.**

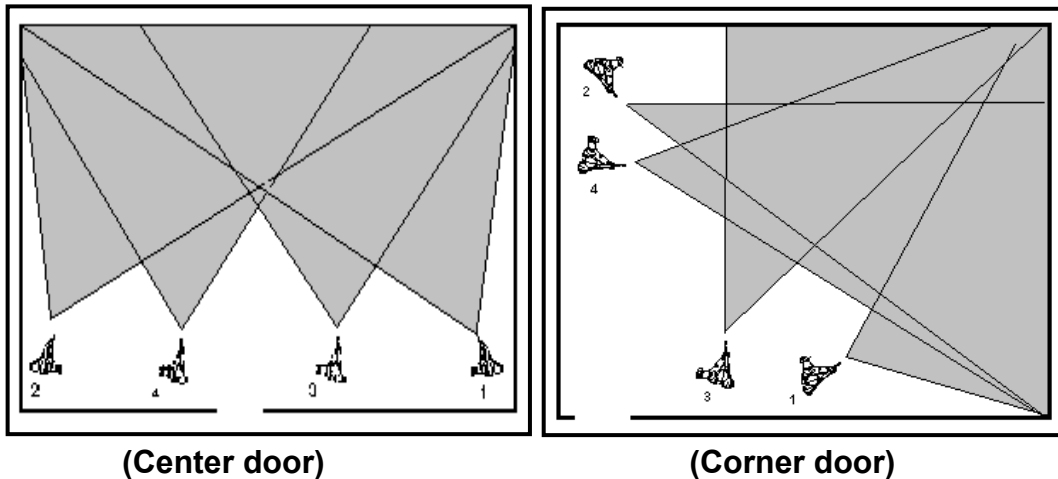
(8) The fourth man (SAW gunner) moves opposite of the third man and moves to a position that dominates his sector (Figure 3-30).



**Figure 3-30. Fourth man in a room.**

**NOTE:** If the path of least resistance takes the first man to the left, then all points of domination are the mirror image of those shown in the diagrams.

(9) Points of domination should not be in front of doors or windows so team members are not silhouetted to the outside of the room (Figure 3-31). No movement should mask the fire of any of the other team members.



**Figure 3-31. Points of domination and sectors of fire.**

(10) On order, any member of the assault team may move deeper into the room overwatched by the other team members.

(11) Once the room is cleared, the team leader signals to the squad leader that the room has been cleared.

(12) The squad leader marks the room (IAW unit SOP). The squad leader determines whether or not his squad can continue to clear through the building.

(13) The squad reorganizes as necessary. Leaders redistribute the ammunition.

(14) The squad leader reports to the platoon leader when the room is clear.

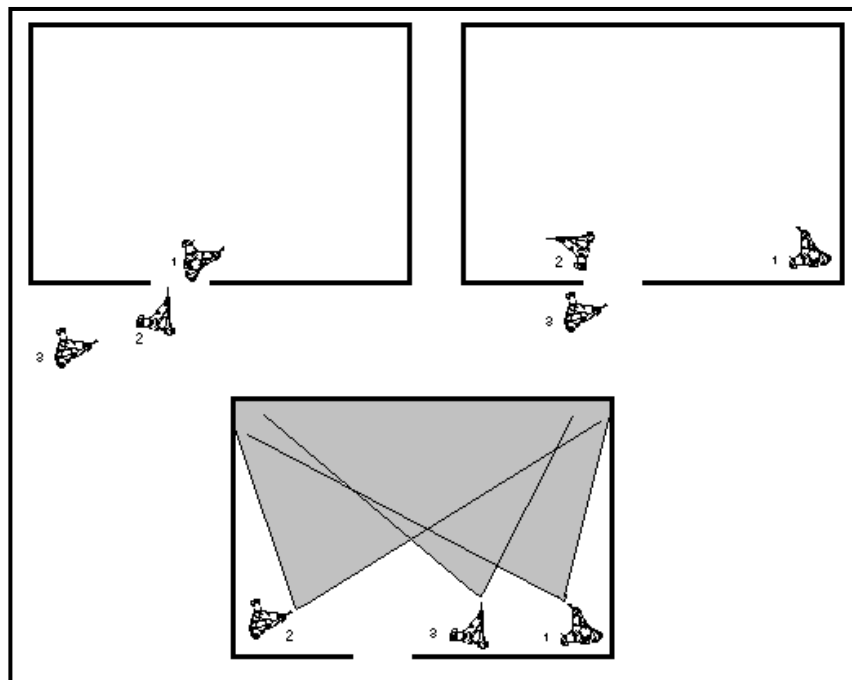


d. **Reasons for Modifying the Entry Technique.** Although this technique is an effective procedure for clearing a room, leaders may be required to modify the existing action to meet their current situation. Some example reasons and methods of modifying the technique are shown in Table 3-1.

REASON	METHOD
Objective rooms are consistently small.	Clear with two or three men.
Shortage of personnel.	Clear in teams of two or three.
Enemy poses no immediate threat.	One or two men search each room to ensure no enemy or noncombatants are present.
No immediate threat, and speed is of the essence	One man visually searches each room.

**Table 3-1. Reasons and methods for modifying entry techniques.**

e. **Three- and Two-Man Teams.** When full four-man teams are not available for room clearing three- and two-man teams can be used. Figures 3-32 (below) and 3-33 (page 3-34) show the points of domination and sectors of fire for a three-man clearing team. Figures 3-34 and 3-35 (pages 3-34 and 3-35) show the same thing for a two-man team. Leaders should use the entry technique *blueprint* when modifying their techniques.



**Figure 3-32. Points of domination and sectors of fire (three-man team, center door).**

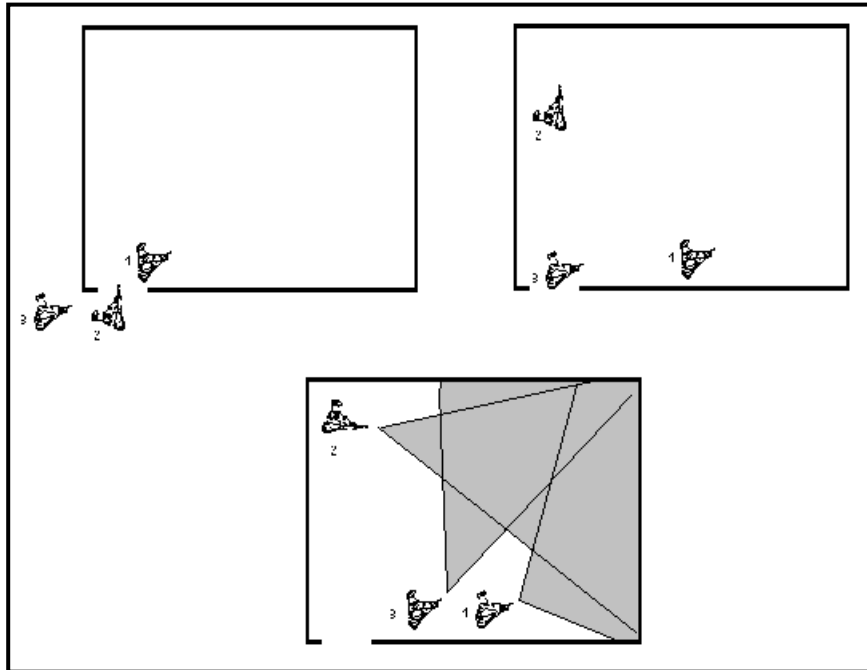


Figure 3-33. Points of domination and sectors of fire (three-man team, corner door).

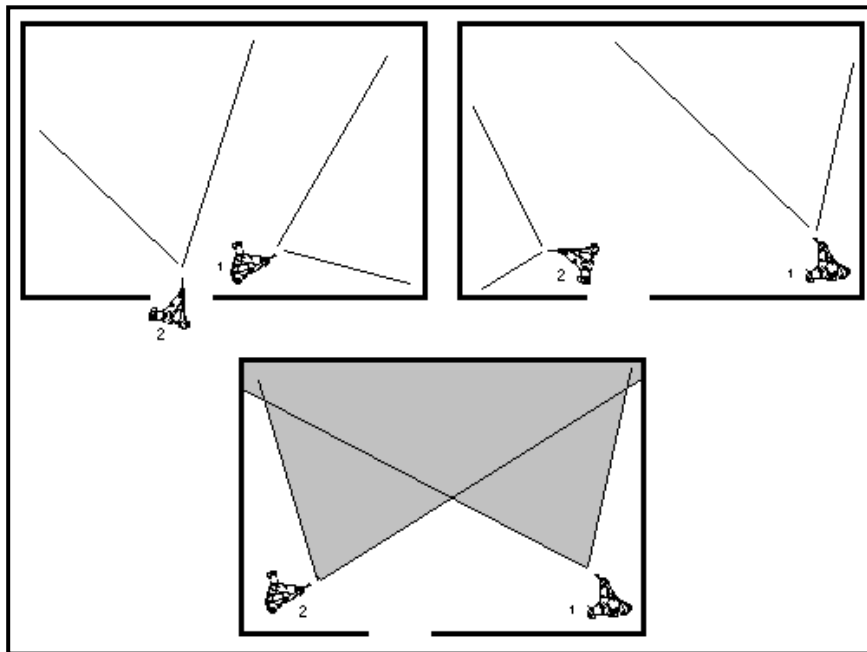
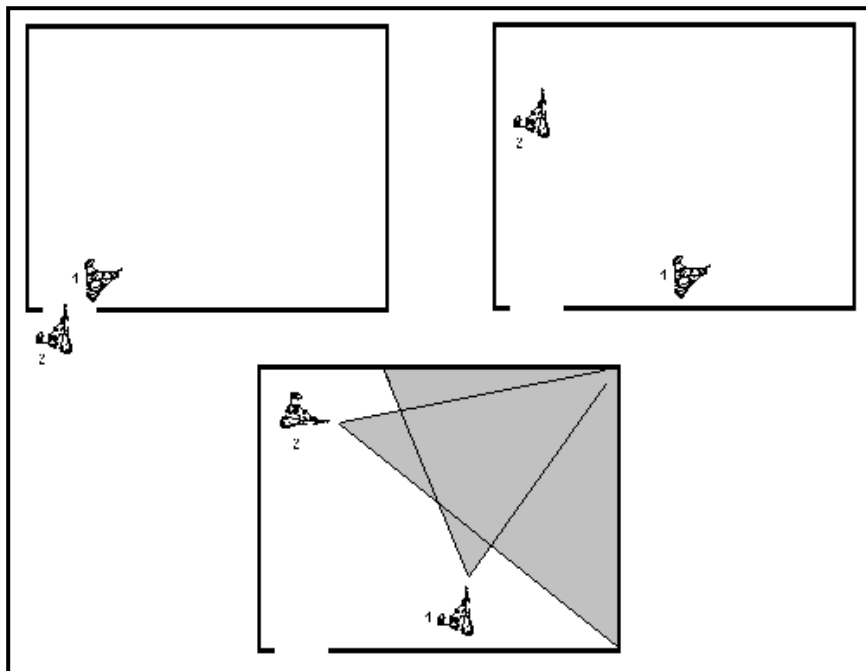


Figure 3-34. Points of domination and sectors of fire (two-man team, center door).



**Figure 3-35. Points of domination and sectors of fire (two-man team, corner door).**

#### **CAUTION**

Ricochets are a hazard. All soldiers must be aware of the type of wall construction of the room being cleared. The walls of an enclosed room present many right angles. Combined with hard surfaces such as concrete, a bullet may continue to ricochet around a room until its energy is spent. After hitting threat personnel, ball ammunition may pass through the body and ricochet. Body armor and the Kevlar helmet provide some protection from this hazard.

### **3-23. REFLEXIVE SHOOTING**

Precision room clearing allows little or no margin for error. Too slow a shot at an enemy, too fast a shot at a noncombatant, or inaccurate shots can all be disastrous for the clearing team. Proper weapon ready technique, stance, aiming, shot placement, and trigger manipulations constitute reflexive shooting. Reflexive shooting techniques are used by all members of the fire team, to include M203 and M249 gunners.

a. **Weapon Ready Positions.** The two weapon ready positions are low ready and high ready (Figure 3-36, page 3-36).

(1) **Low Ready Position.** The butt of the weapon is placed firmly in the pocket of the shoulder with the barrel pointed down at a 45-degree angle. This position is the safest

carry position. It should be used by the clearing team while inside the room, except when actually entering and clearing.

(2) **High, Ready Position.** The butt of the weapon is held under the armpit, with the barrel pointed slightly up, keeping the front sight assembly under the line of sight but within the gunner's peripheral vision. To engage a target, the gunner pushes the weapon out as if to bayonet the target. When the weapon leaves the armpit, he slides it up into the firing shoulder. This technique is used when moving in a single file.



**Figure 3-36. Ready positions for the M16A2.**

b. **Stance.** Feet are about shoulder-width apart. Toes are pointed to the front (direction of movement). The firing side foot is slightly staggered to the rear of the non-firing side foot. Knees are slightly bent and the upper body is leaned slightly forward. Shoulders are square and pulled back, not rolled over or slouched. The head is up and both eyes are open. When engaging targets, the gunner holds the weapon with the butt in the pocket of his shoulder.

c. **Aiming with Iron Sights.** The four aiming techniques all have their place during combat in urban areas, but the aimed quick-kill technique is the one most often used in precision room clearing.

(1) **Slow Aimed Fire.** This technique is the most accurate. It consists of taking up a steady, properly aligned sight picture and squeezing off rounds. It is normally used for engagements beyond 25 meters or when the need for accuracy overrides speed.

(2) **Rapid Aimed Fire.** This technique features an imperfect sight picture in which windage is critical but elevation is of lesser importance. When the front sight post is in line with the target, the gunner squeezes the trigger. This technique is used against targets out to 15 meters and is fairly accurate and very fast.

(3) **Aimed Quick Kill.** This technique consists of using a good spot weld and placing the front sight post flush on top of the rear peep sight. It is used for very quick shots out to 12 meters. Windage is important, but elevation is not critical with relation to the target. This technique is the fastest and most accurate. With practice, soldiers can become deadly shots at close range.

(4) **Instinctive Fire.** This technique is the least desirable. The gunner focuses on the target and points the weapon in the target's general direction, using muscle memory to compensate for lack of aim. This technique should be used only in emergencies.

d. **M68 Close Combat Optic.** The M68 close combat optic (CCO) is an excellent close combat aiming system when used properly. Remember, the M68 is not a telescope sight.

(1) **Aimed Fire.** This technique requires looking through the CCO with both eyes open and focusing on the target. An optical illusion places a red aiming dot in front of the firer. The dot is placed on the target then the target is engaged with fire. The aiming dot does not have to be centered in the optic. The CCO is used in the same manner at all ranges. Therefore, there is no distinction between slow aimed fire, rapid aimed fire, and aimed quick kill techniques.

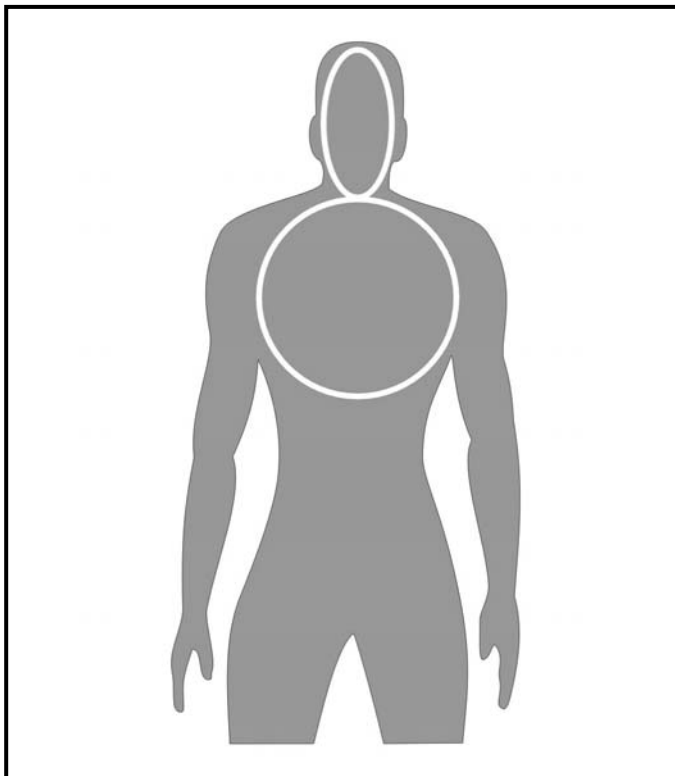
(2) **Instinctive Fire.** This technique remains the same with the CCO.

e. **Trigger Manipulation.** Rapid, aimed, semiautomatic fire is the most effective method of engaging targets during precision room clearing. As each round is fired from the aimed quick-kill position, the weapon's recoil makes the front sight post move in a small natural arc. The gunner should not fight this recoil. He should let the weapon make the arc and immediately bring the front sight post back onto the target and take another shot. This two-shot combination is known as firing a *controlled pair*. Soldiers must practice a *controlled pair* until it becomes instinctive. Clearing team members continue to fire *controlled pairs* until the target goes down. If there are multiple targets, team members engage with a controlled pair and then return to reengage any enemy left standing or still trying to resist.

f. **Shot Placement.** In precision room clearing, enemy soldiers must be incapacitated immediately. Shots that wound or are mortal but do not incapacitate the target instantaneously are better than misses but may allow the enemy to return fire. While a solid *head-shot* is expected to instantaneously incapacitate the enemy, a target area of 5 by 8 inches may be difficult to hit when moving rapidly in a low crouch position.

(1) Members of clearing teams should concentrate on achieving solid, well-placed shots (controlled pairs) to the upper chest, then to the head (Figure 3-37, page 3-38). This shot placement increases the first round hit probability and allows for a second round incapacitating shot.

(2) This engagement technique is more reliable than attempting *head-shots* only and is easy for soldiers to learn, having been taught previously to aim at center of mass.



**Figure 3-37. Lethal to incapacitating shot placement.**

g. **Reflexive Shooting Techniques During Limited Visibility.** Reflexive shooting techniques are also used during periods of limited visibility.

(1) **Visible Illumination.** When using flashlights or other visible illumination, treat all engagements as day engagements and use the applicable technique as described above. Bright light shone into the enemy's eyes can limit his effectiveness; also, be aware that a flashlight marks your location as well.

(2) **AN/PAQ-4 and AN/PEQ-2 Aiming Lights.** When using IR aiming lights in conjunction with night vision goggles (NVGs), use the instinctive fire technique to point the weapon at the target while activating the aiming light. This technique should place the aiming dot within the field of view of the NVGs and on or near the target. Adjust placement of the aiming dot onto the target and fire. Note that target discrimination is more difficult when using NVGs. IR illumination provided by flashlights with IR filters, or the illuminator that is integral with the PEQ-2, can aid in target identification and discrimination. IR illumination is also required inside buildings when there is no ambient light.

(3) **AN/PAS-13 Thermal Weapons Sight.** The thermal weapons sight (TWS) offers some distinct advantages over IR viewers. It does not require any ambient light and does not *bloom* out when encountering a sudden light source. However, its weight and bulk are a disadvantage when performing reflexive firing techniques. With the sight in the ON position, the TWS has a power saving feature that turns off the viewer after a period of inactivity. The soldier reactivates the sight by placing his eye against the rubber eyecup. When reactivated, it takes a few seconds for the sight to cool itself down enough to

regain an image. This delay is not acceptable for soldiers using TWS while conducting room and building clearing tasks. When performing precision clearing tasks, the TWS must remain in the EMERGENCY setting, which allows it to remain continuously active.

**NOTE:** The *emergency* setting on the TWS greatly reduces the battery life, which requires more frequent battery changes.

(4) When using the TWS during periods of limited visibility, it is best to use the PAQ-4 aiming light, with the AN/PVS-14 Monocular NVG for reflexive shooting engagements. Use the TWS when the slow aimed fire technique is appropriate. For daytime and high visibility periods, soldiers using the TWS should not be placed on *point*, or be among the numbers 1 through 3 men of a room clearing team. When employed in urban operations, soldiers must be aware that the TWS cannot detect targets through window glass. The TWS is effective in daytime for locating targets hidden in shadows.

### **3-24. TARGET DISCRIMINATION**

Target discrimination is the act of quickly distinguishing between combatant and noncombatant personnel and engaging only the combatants. US forces engage in precision room clearing to apply discriminating combat power and limit unnecessary casualties among noncombatants. Target discrimination is vital in precision room clearing. If there are no noncombatants then there is less of a need for selective engagements. However, even if an area is known to be free of noncombatants, other soldiers moving through the area may be mistaken as enemy and engaged unless clearing team members are disciplined and well-trained in fire control and target discrimination. Even with well-trained, disciplined soldiers, precision room clearing can result in unintentional casualties among noncombatants. Commanders must recognize this and take steps to relieve the stress it causes soldiers.

### **3-25. MOVEMENT WITHIN A BUILDING**

When operating under precision conditions, movement techniques may be modified based on the room clearing technique being used. The terrain, the enemy situation, visibility, and the likelihood of contact dictate movement techniques.

a. **Individual Movement.** When moving within a building, the soldier avoids silhouetting himself in doors and windows (Figure 3-38, page 3-40). When moving in hallways, he never moves alone—he always moves with at least one other soldier for security. The soldier should try to stay 12 to 18 inches away from walls when moving; rubbing against walls may alert an enemy on the other side, or, if engaged by an enemy, ricochet rounds tend to travel parallel to a wall.



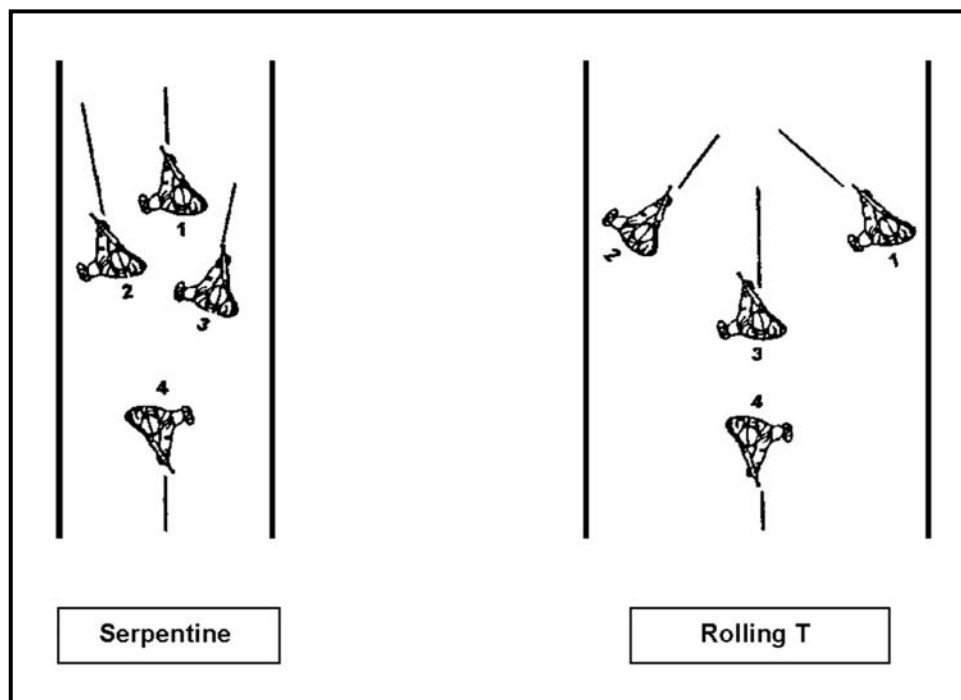
**Figure 3-38. Movement within a building.**

b. **Hallway Clearing Techniques.** The clearing team must always be alert. Team members provide security at the breach point and to the rear. Inside buildings they provide security laterally down corridors, and upward if near stairs or landings. The two basic techniques for moving down hallways are shown in Figure 3-39. Hallway intersections are dangerous areas and should be approached cautiously (Figures 3-40 and 3-41, pages 3-42 through 3-44).

(1) **Serpentine.** The serpentine technique is used in narrow hallways. The number 1 man provides security to the front. His sector of fire includes any enemy soldiers who appear at the far end of the hall or from any doorways near the end. The number 2 and number 3 men cover the left and right sides of the number 1 man. Their sectors of fire include any soldiers who appear suddenly from nearby doorways on either side of the hall. The number 4 man, normally carrying the M249, provides rear protection against any enemy soldiers suddenly appearing behind the clearing team.

(2) **Rolling T.** The rolling-T technique is used in wide hallways. The number 1 and number 2 men move abreast, covering the opposite side of the hallway from the one they are walking on. The number 3 man covers the far end of the hallway from a position behind the number 1 and number 2 men, firing between them. Once again, the number 4 man provides rear security.





**Figure 3-39. Hallway clearing techniques.**

(3) **Clearing “T” Intersections.** Figure 3-40 (page 3-42) depicts the fire team’s actions upon reaching a hallway “T” intersection when approaching from the *base* of the “T”. The fire team is using the serpentine formation for movement.

- The team configures into a 2-by-2 formation with the numbers 1 and 2 men left, and the 3 and 4 men right. (When clearing a right-hand corner, use the left-handed firing method to minimize exposure.)
- The numbers 1 and 3 men move to the edge of the corner and assume a low crouch or kneeling position. On signal, the numbers 1 and 3 men simultaneously turn left and right, respectively.
- At the same time, the numbers 2 and 4 men step forward and turn left and right, respectively maintaining their (high) position. (Sectors of fire interlock and the *low/high* positions prevent soldiers from firing at another.)
- Once the left and right portions of the hallway are clear, the fire team resumes the movement formation.

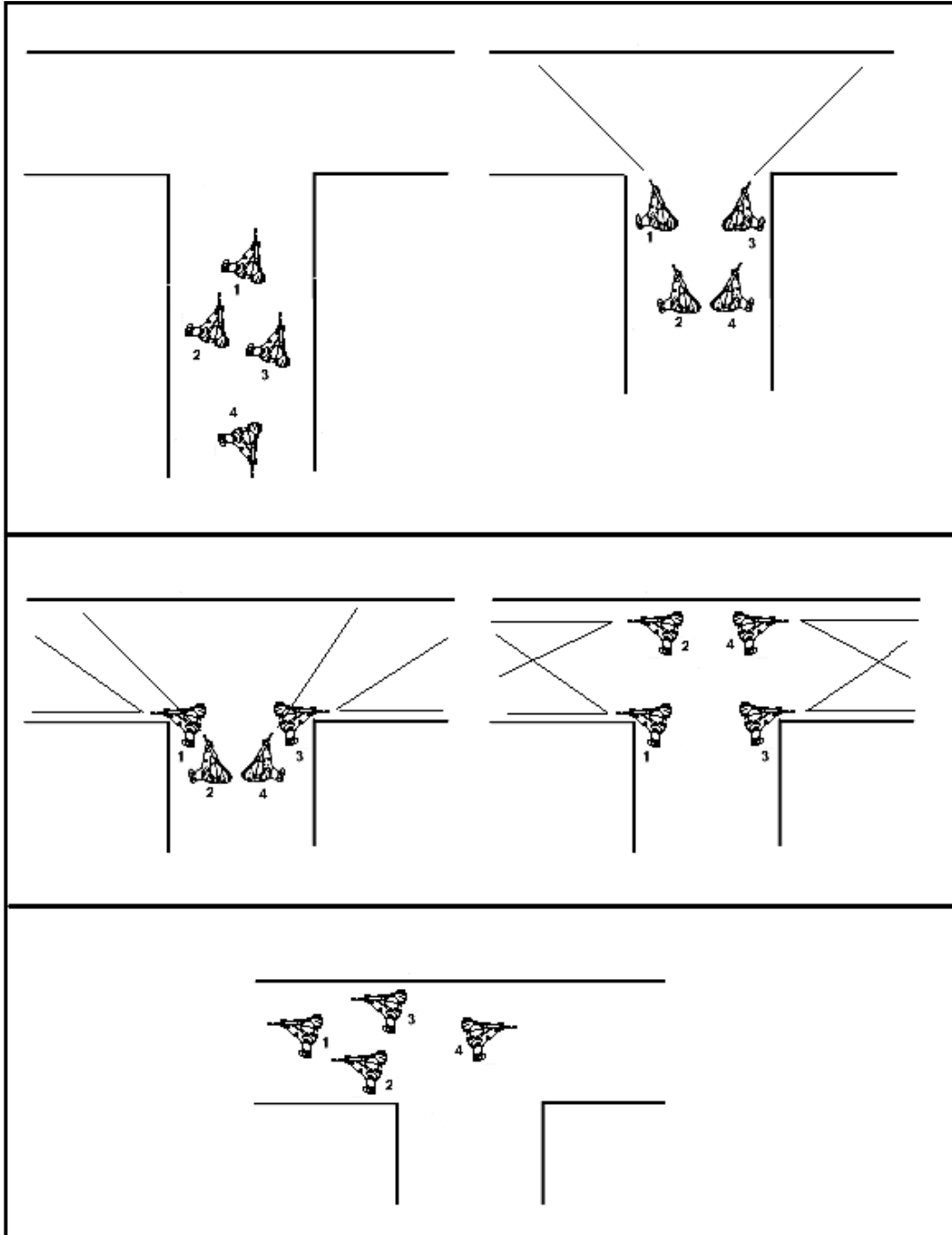
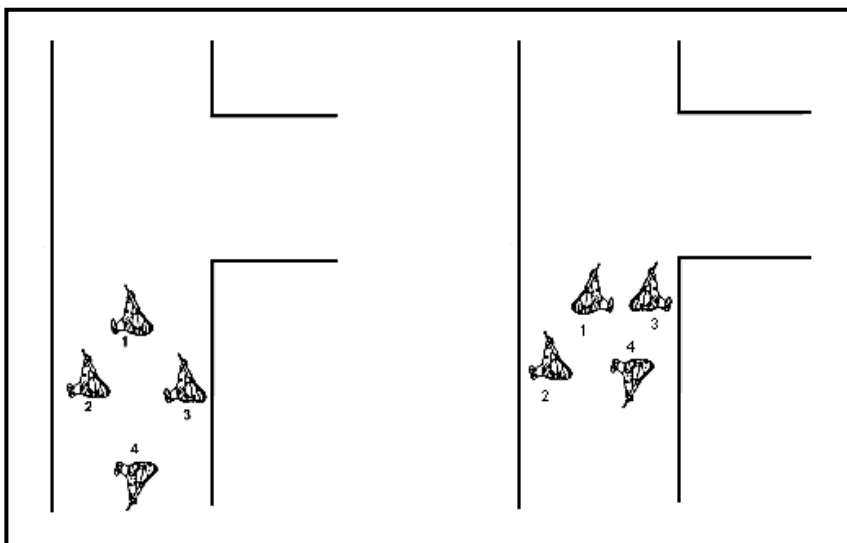


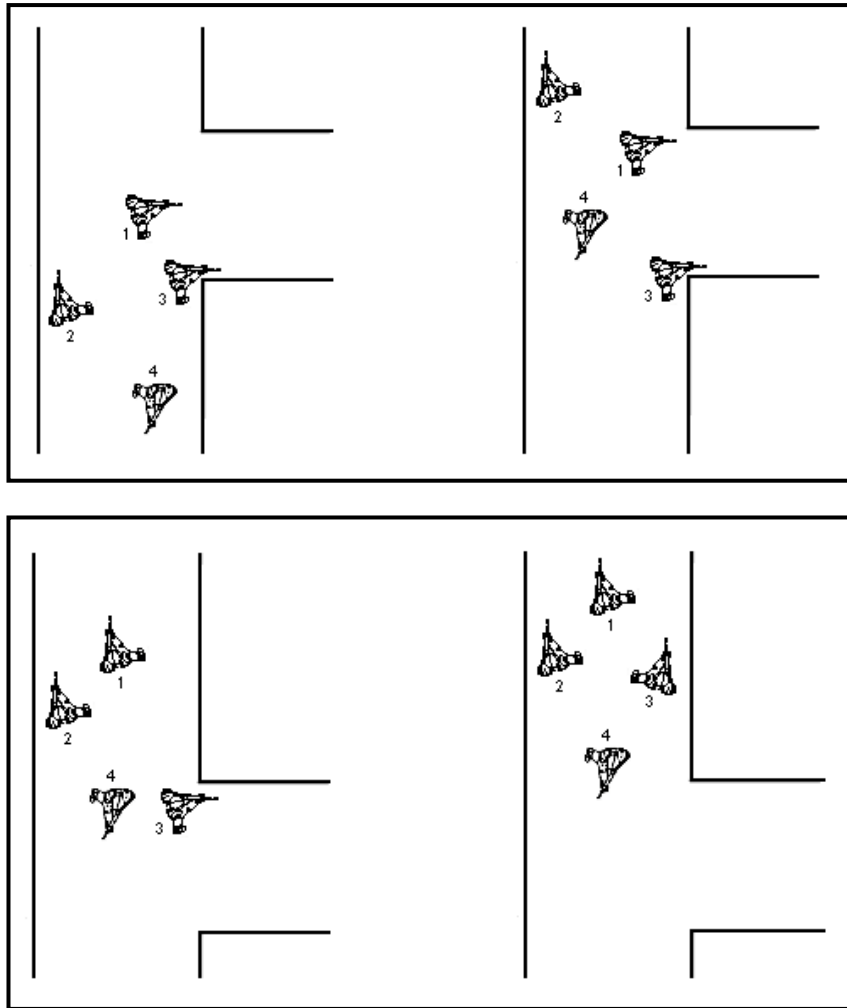
Figure 3-40. T-shaped hallway intersection clearing positions.

Figure 3-41 depicts the fire team's actions upon reaching a hallway "T" intersection when approaching along the *cross* of the "T". The fire team is using the serpentine formation for movement.

- The team configures into a modified 2-by-2 formation with the numbers 1 and 3 men abreast and toward the right side of the hall. The number 2 man moves to the left side of the hall and orients to the front, and the number 4 man shifts to the right side (his left) and maintains rear security. (When clearing a right-hand corner, use the left-handed firing method to minimize exposure.)
- The numbers 1 and 3 men move to the edge of the corner and the number 3 man assumes a low crouch or kneeling position. On signal, the number 3 man turns right around the corner keeping low, the number 1 man steps forward while turning to the right and staying high. (Sectors of fire interlock and the *low/high* positions prevent soldiers from firing at one another.)
- The numbers 2 and 4 men continue to move in the direction of travel. As the number 2 man passes behind the number 1 man, the number 1 man shifts laterally to his left until he reaches the far corner.
- The numbers 2 and 4 men continue to move in the direction of travel. As the number 4 man passes behind the number 3 man, the number 3 man shifts laterally to his left until he reaches the far corner. As the number 3 man begins to shift across the hall, the number 1 man turns into the direction of travel and moves to his position in the formation.
- As the numbers 3 and 4 men reach the far side of the hallway, they too assume their original positions in the serpentine formation, and the fire team continues to move.



**Figure 3-41. Hallway junction clearing.**



**Figure 3-41. Hallway junction clearing (continued).**

c. **Clearing Stairwells and Staircases.** Stairwells and staircases are comparable to doorways in that they create a *fatal funnel*; however, the danger is intensified by the three-dimensional aspect of additional landings. The ability of the squad or team to conduct the movement depends upon which direction they are traveling and the layout of the stairs. Regardless, the clearing technique follows a basic format:

- The squad leader designates an assault element to clear the stairs.
- The squad or team maintains 360-degree, three-dimensional security in the vicinity of the stairs.
- The squad leader then directs the assault team to locate, mark, bypass and or clear any obstacles or booby traps that may be blocking access to the stairs.
- The assault element moves up (or down) the stairways by using either the two-, three-, or four-man flow technique, providing overwatch up and down the stairs while moving. The three-man variation is preferred (Figure 3-42).

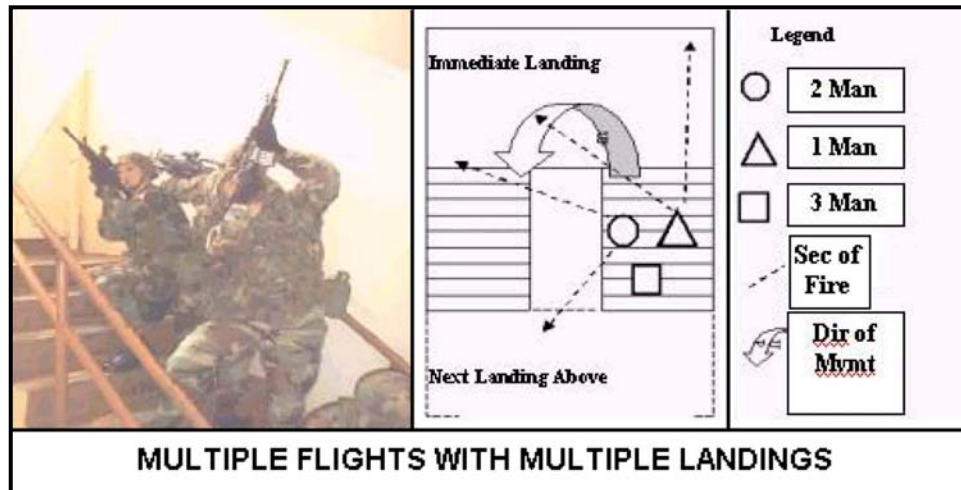


Figure 3-42. Three-man flow clearing technique.

**3-26. VERBAL COMMANDS AND SIGNALS**

When conducting precision clearing, soldiers are very close to each other as they engage targets. The high volume of noise makes communications extremely difficult. The command and control techniques used during precision combat must consist of terms and actions that soldiers are familiar with and to which they know how to respond.

a. The use of verbal commands and signals within the assault element are extremely important. The soldier must always let others in the assault element know where he is and what he is doing.

b. As an example, terms similar to the ones listed in Table 3-2 should be a part of each soldier’s vocabulary IAW unit SOP.

TERM	EXPLANATION
“STATUS!”	Signal by an element leader that requires all members to report whether their sectors are clear and if they are prepared to continue the mission.
“CLEAR!”	Signal given by individuals to report their sector is clear.
“UP!”	Signal given by individuals to report they are ready to continue the mission (weapon loaded, equipment accounted for).
“ROOM CLEAR!”	Signal from team leader to team members, squad leader, and follow-on teams that the room is secure and cleared.
“COMING OUT!”	Signal given by an individual or team that they are about to exit a room.
“COME OUT!”	Reply given by security element or follow-on team that it is safe to exit the room.
“COMING IN!”	Signal given by an individual who is about to enter an occupied room.
“COME IN!”	Reply given by an occupant of a room stating it is safe to enter.
“COMING UP (DOWN)!”	Signal given by an individual or team that is about to ascend or descend a stairway.

Table 3-2. Verbal commands and signals.

TERM	EXPLANATION
"COME UP (DOWN)!"	Reply given by security element that it is safe to ascend or descend a stairway.
"MAN DOWN!"	Signal given when an individual has been wounded or injured and cannot continue his mission.
"SHORT ROOM!"	Signal given by either the number 1 man or the number 2 man to indicate a small room, and that all team members should not enter.
"GRENADE!"	A command given by any soldier, when an enemy grenade has been thrown. All soldiers need to take immediate actions. Although difficult, the soldier should identify the location of the grenade, if possible.
"GO LONG!"	A command given by one member of the team to tell another team member to take up security farther into the room or farther down a hallway.
"GUN DOWN"	A signal given when an individual's weapon has malfunctioned and is being corrected.
"GUN UP"	A signal given when an individual has corrected a malfunction and is ready for action.
"RELOADING"	A signal given when an individual is reloading any weapon system. This signal is followed by "GUN UP" when ready.

**Table 3-2. Verbal commands and signals (continued).**

**NOTE:** The use of loud verbal commands may reveal to the enemy the location and immediate intent of friendly forces. Although code words may be substituted, they can be heard and used by enemy forces if friendly forces use them too loudly.

### 3-27. SAFETY AND FORCE PROTECTION

Precision clearing is high risk, and even training for it can be hazardous. Only well-trained, disciplined soldiers are able to execute these techniques successfully.

a. Leaders at all levels must enforce safe handling of weapons and demolitions. The concern that individual soldiers not be injured in accidents is essential to mission accomplishment. Unintentional and unsafe weapons fire or detonation of explosives or munitions can jeopardize the mission of the clearing team and subsequently the entire unit.

b. Soldiers engaged in precision clearing should wear all their protective equipment.

(1) Soft body armor, such as the standard Army-issue Kevlar vest, is effective in preventing death or serious injury from high-velocity fragments that strike the torso area. Although the Kevlar protective vest is effective, flexible, and relatively comfortable, it is not designed to stop bullets. As a rule, soft body armor stops some low-power handgun rounds but not rifle or carbine ammunition.

(2) Some versions of hard body armor stops almost any round fired at it. They tend to be heavy and stiff, but they have proven effective during precision clearing. If a commander knows his unit is going to conduct lengthy precision room clearing, he requests a special issue of threat level III or IV protective equipment. This equipment is excellent, but soldiers must train and rehearse wearing it before they enter combat.

All precision clearing is tiring, and soldiers wearing threat level III or IV protection tire or overheat more quickly.

(3) The standard Army Kevlar helmet and ballistic protective eyeglasses have also been proven to significantly reduce casualties during precision room clearing.

(4) Hard plastic knee and elbow protectors are available on special request. They are useful, especially during prolonged search and clear operations. They prevent injury from rubble and broken glass when kneeling or prone.

c. Detailed knowledge of weapons and munitions effects is important to the safety of members of the clearing team, as well as to mission accomplishment. Most interior building walls do not stop rifle fire. Fragments from grenades often penetrate interior walls. Standard home furnishings or office furniture offer little protection from high-velocity rounds. Excessive amounts of demolitions used to breach a wall may knock it down instead, perhaps even bring the roof of the building down also.

#### CAUTION

Goggles or ballistic eye protection should always be worn to protect soldiers from debris caused by explosives, tools, weapons, grenades, and so forth.

### Section IV. FIGHTING POSITIONS

Whether a unit is attacking, defending, or conducting retrograde operations, its success or failure depends on the ability of the individual soldier to place accurate fire on the enemy with the least exposure to return fire. Consequently, the soldier must immediately seek and use firing positions properly.

#### 3-28. HASTY FIGHTING POSITION

A hasty fighting position is normally occupied in the attack or the early stages of the defense. It is a position from which the soldier can place fire upon the enemy while using available cover for protection from return fire. The soldier may occupy it voluntarily or he may be forced to occupy it due to enemy fire. In either case, the position lacks preparation before occupation. Some of the more common hasty fighting positions in an urban area are: corners of buildings, behind walls, windows, unprepared loopholes, and the peak of a roof.

a. **Corners of Buildings.** The soldier must be capable of firing his weapon both right- and left-handed to be effective around corners.

(1) A common error made in firing around corners is firing from the wrong shoulder. This exposes more of the soldier's body to return fire than necessary. By firing from the proper shoulder, the soldier can reduce exposure to enemy fire.

(2) Another common mistake when firing around corners is firing from the standing position. The soldier exposes himself at the height the enemy would expect a target to appear, and risks exposing the entire length of his body as a target for the enemy.

b. **Walls.** When firing from behind walls, the soldier must fire around cover and not over it (Figure 3-43, page 3-48).



**Figure 3-43. Soldier firing around cover.**

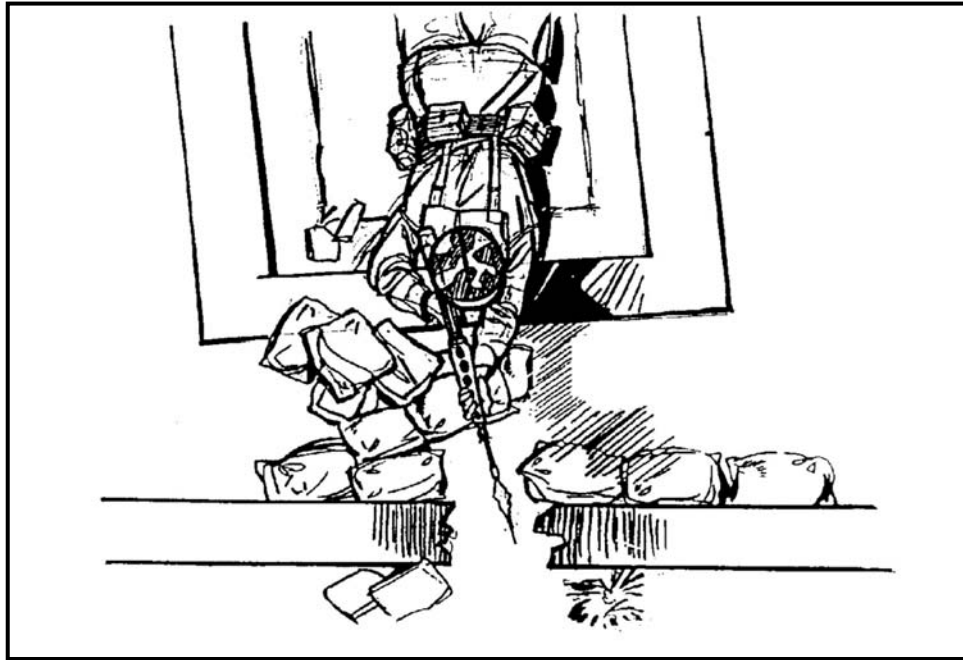
c. **Windows.** In an urban area, windows provide convenient firing ports. The soldier must avoid firing from the standing position since it exposes most of his body to return fire from the enemy and could silhouette him against a light-colored interior beyond the window. This is an obvious sign of the soldier's position, especially at night when the muzzle flash can easily be observed. In using the proper method of firing from a window (Figure 3-44), the soldier is well back into the room to prevent the muzzle flash from being seen, and he is kneeling to limit exposure and avoid silhouetting himself.



**Figure 3-44. Soldier firing from window.**

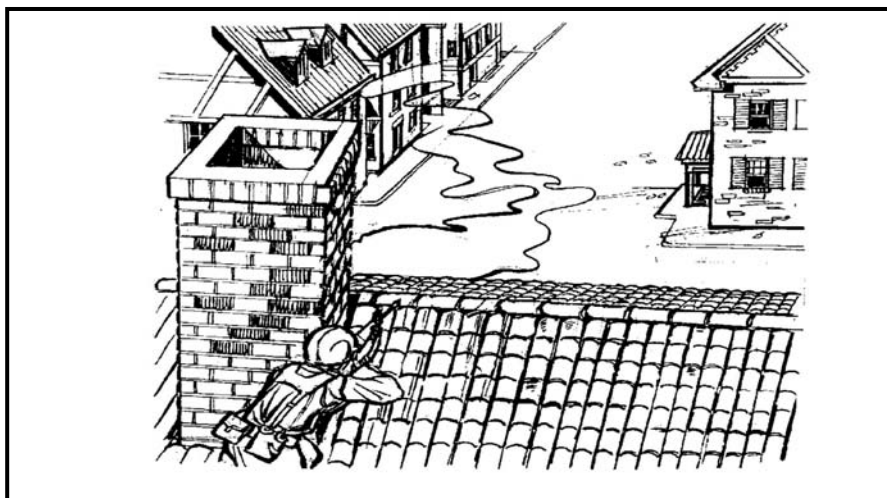


d. **Loopholes.** The soldier may fire through a hole created in the wall and avoid windows (Figure 3-45). He stays well back from the loophole so the muzzle of the weapon does not protrude beyond the wall, and the muzzle flash is concealed.



**Figure 3-45. Soldier firing from loophole.**

e. **Roof.** The peak of a roof provides a vantage point for snipers that increases their field of vision and the ranges at which they can engage targets (Figure 3-46). A chimney, a smokestack, or any other object protruding from the roof of a building can reduce the size of the target exposed and should be used.



**Figure 3-46. Soldier firing from peak of a roof.**

f. **No Position Available.** When the soldier is subjected to enemy fire and none of the positions mentioned above are available, he must try to expose as little of himself as possible. The soldier can reduce his exposure to the enemy by lying prone as close to a building as possible, on the same side of the open area as the enemy. To engage the soldier, the enemy must then lean out the window and expose himself to return fire.

g. **No Cover Available.** When no cover is available, the soldier can reduce exposure by firing from the prone position, by firing from shadows, and by presenting no silhouette against buildings.

### 3-29. PREPARED FIGHTING POSITION

A prepared firing position is one built or improved to allow the soldier to engage a particular area, avenue of approach, or enemy position, while reducing his exposure to return fire. Examples of prepared positions include barricaded windows, fortified loopholes, sniper positions, antiarmor positions, and machine gun positions.

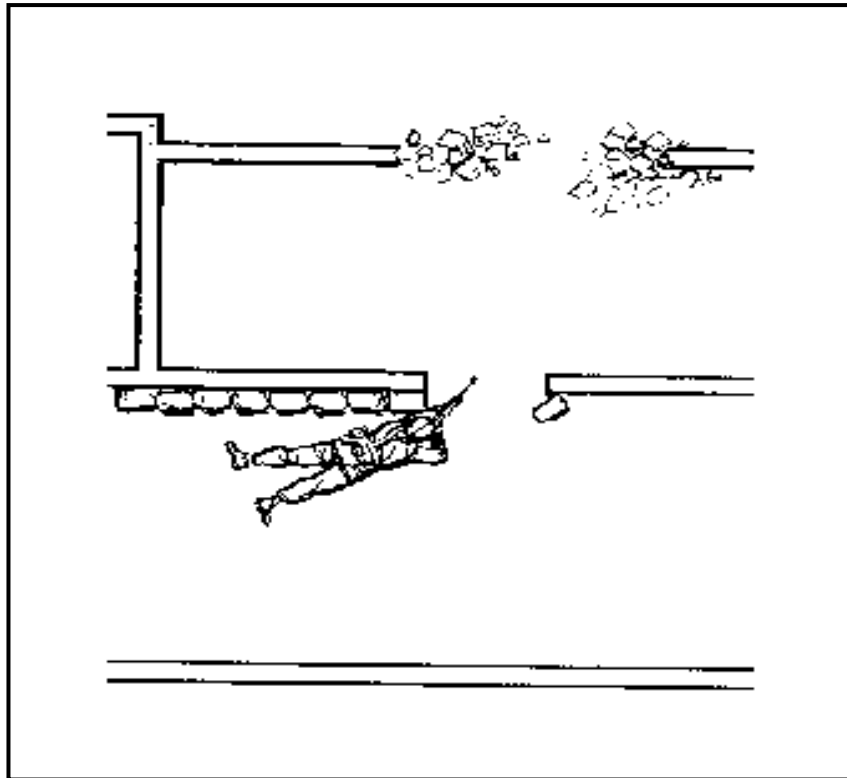
a. The natural firing port provided by windows can be improved by barricading the window, leaving a small hole for the soldier's use. Materials torn from the interior walls of the building or any other available material may be used for barricading.

(1) When barricading windows, avoid barricading only the windows that are going to be used as firing ports. The enemy can soon determine that the barricaded windows are fighting positions.

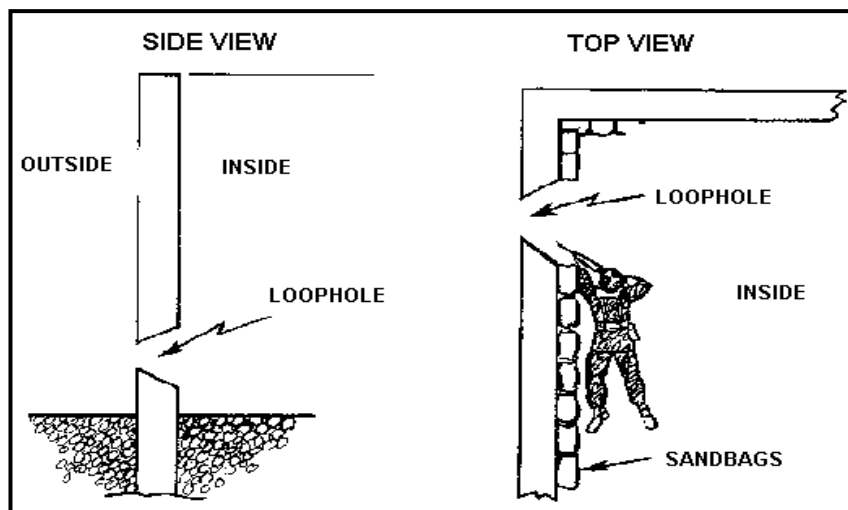
(2) Also avoid neat, square, or rectangular holes that are easily identified by the enemy. A barricaded window should not have a neat, regular firing port. The window should keep its original shape so that the position of the soldier is hard to detect. Firing from the bottom of the window gives the soldier the advantage of the wall because the firing port is less obvious to the enemy. Sandbags are used to reinforce the wall below the window and to increase protection for the soldier. All glass must be removed from the window to prevent injury to the soldier. Lace curtains permit the soldier to see out and prevent the enemy from seeing in. Wet blankets should be placed under weapons to reduce dust. Wire mesh over the window keeps the enemy from throwing in hand grenades.

b. Although windows usually are good fighting positions, they do not always allow the soldier to engage targets in his sector.

(1) To avoid establishing a pattern of always firing from windows, an alternate position is required such as in an interior room and firing through a rubble outer wall (Figure 3-47), or a prepared loophole (Figure 3-48). The prepared loophole involves cutting or blowing a small hole into the wall to allow the soldier to observe and engage targets in his sector.



**Figure 3-47. Interior room position.**



**Figure 3-48. Prepared loophole.**

(2) Sandbags are used to reinforce the walls below, around, and above the loophole (Figure 3-49, page 3-52). Two layers of sandbags are placed on the floor under the soldier to protect him from an explosion on a lower floor (if the position is on the second floor or higher). A wall of sandbags, rubble, furniture, and so on should be constructed to the rear of the position to protect the soldier from explosions in the room.

(3) A table, bedstead, or other available material can provide overhead cover for the position. This cover prevents injury to the soldier from falling debris or explosions above his position.

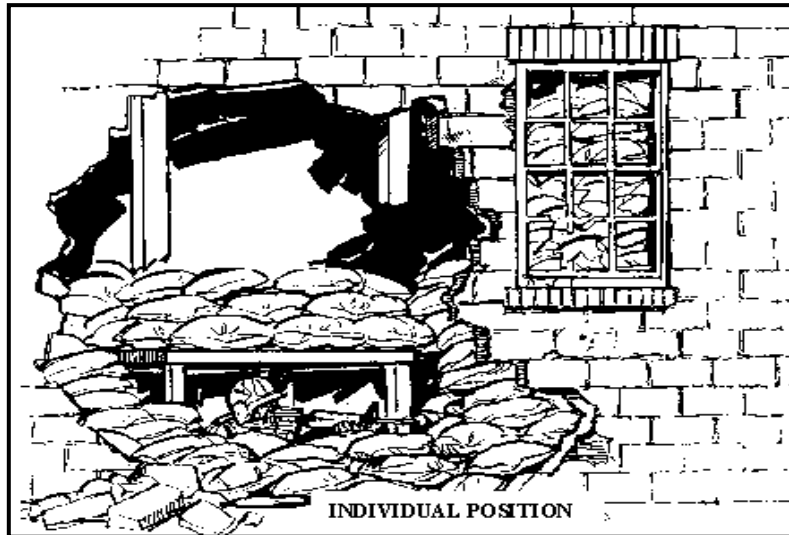


Figure 3-49. Cut-away view of a sandbag reinforced position.

(4) The position should be camouflaged by knocking other holes in the wall, making it difficult for the enemy to determine which hole the fire is coming from. Siding material should be removed from the building in several places to make loopholes less noticeable.

(5) Because of the angled firing position associated with loopholes, primary and supplementary positions can be prepared using the same loophole (Figure 3-50). This procedure allows the individual to shift his fire onto a sector that was not previously covered by small arms fire.

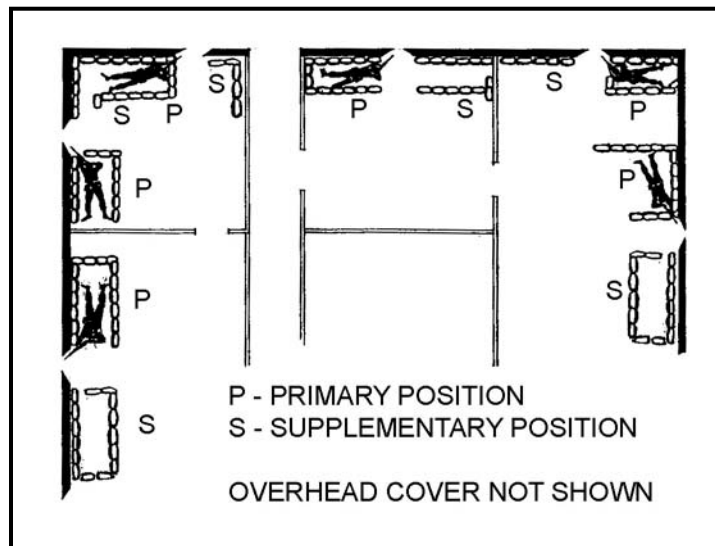


Figure 3-50. Loopholes with primary and supplementary positions.

c. A chimney or other protruding structure provides a base from which a sniper position can be prepared. Part of the roofing material is removed to allow the sniper to fire around the chimney. He should stand inside the building on the beams or on a platform with only his head and shoulders above the roof (behind the chimney). Sandbags placed on the sides of the position protect the sniper's flanks.

d. When the roof has no protruding structure to provide protection, the sniper position should be prepared from underneath on the enemy side of the roof (Figure 3-51). The position is reinforced with sandbags, and a small piece of roofing material should be removed to allow the sniper to engage targets in his sector. The missing piece of roofing material should be the only sign a position exists. Other pieces of roofing should be removed to deceive the enemy as to the true sniper position. The sniper should be invisible from outside the building and the muzzle flash must be hidden from view.



**Figure 3-51. Sniper position.**

- e. Some considerations for selecting and occupying individual fighting positions are:
- Make maximum use of available cover and concealment.
  - Avoid firing over cover; when possible, fire around it.
  - Avoid silhouetting against light-colored buildings, the skyline, and so on.
  - Carefully select a new fighting position before leaving an old one.
  - Avoid setting a pattern; fire from both barricaded and non-barricaded windows.
  - Keep exposure time to a minimum.
  - Begin improving your hasty position immediately after occupation.

- Use construction material that is readily available in an urban area.
- Remember that positions that provide cover at ground level may not provide cover on higher floors.

f. In attacking an urban area, the recoilless AT weapon and ATGM crews may be hampered in choosing firing positions due to the backblast of their weapons. They may not have enough time to knock out walls in buildings and clear backblast areas. They should select positions that allow the backblast to escape such as corner windows where the round fired goes out one window and the backblast escapes from another. When conducting defensive operations the corner of a building can be improved with sandbags to create a firing position (Figure 3-52).



**Figure 3-52. Corner firing position.**

g. The rifle squad during an attack on and in defense of an urban area is often reinforced with attached antitank weapons. The rifle squad leader must be able to choose good firing positions for the antitank weapons under his control.

h. Various principles of employing antitank weapons have universal applications such as: making maximum use of available cover; trying to achieve mutual support; and allowing for the backblast when positioning recoilless weapons, TOWs, Dragons, Javelins, and AT4s.

i. Operating in an urban area presents new considerations. Soldiers must select numerous alternate positions, particularly when the structure does not provide cover from small-arms fire. They must position their weapons in the shadows and within the building.

j. AT4s and Javelins firing from the top of a building can use the chimney for cover (Figure 3-53). The rear of this position should be reinforced with sandbags but should not interfere with backblast area.



**Figure 3-53. A recoilless weapon crew firing from a rooftop.**

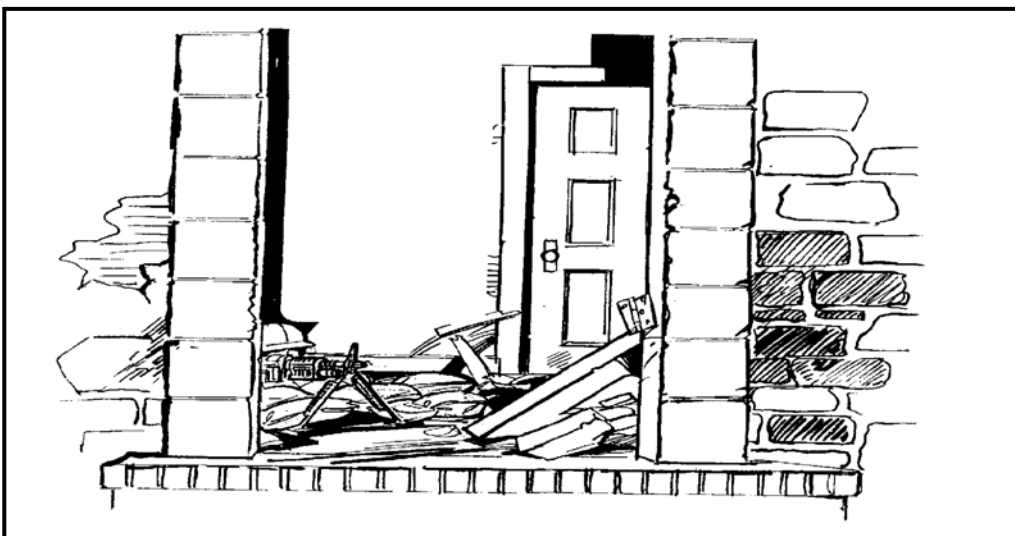
k. When selecting firing positions for recoilless weapons and ATGMs, make maximum use of rubble, corners of buildings, and destroyed vehicles to provide cover for the crew. Recoilless weapons and ATGMs can also be moved along rooftops to obtain a better angle to engage enemy armor. When buildings are elevated, positions can be prepared using a building for overhead cover (Figure 3-54, page 3-56). The backblast under the building must not damage or collapse the building or injure the crew. See Chapter 7.

**NOTE:** When firing from a slope, ensure that the angle of the launcher relative to the ground or firing platform is not greater than 20 degrees. When firing within a building, ensure the enclosure is at least 10 feet by 15 feet, is clear of debris and loose objects, and has windows, doors, or holes in the walls for the backblast to escape.



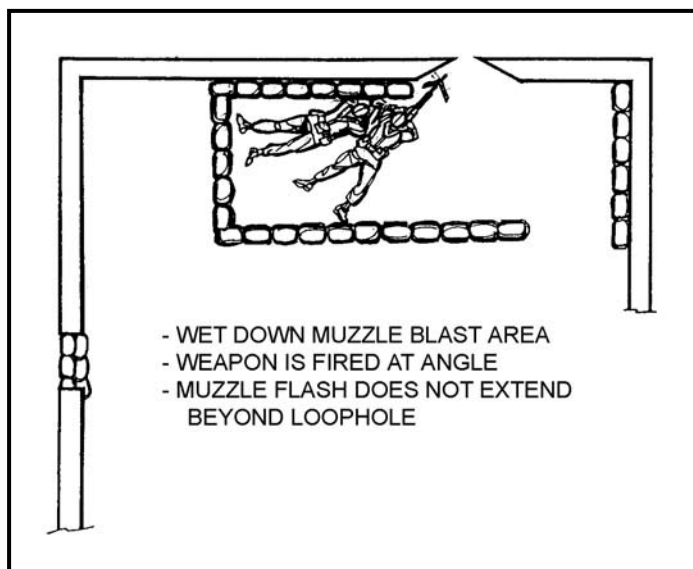
**Figure 3-54. Prepared positions using a building for overhead cover.**

1. The machine gun can be emplaced almost anywhere. In the attack, windows and doors offer ready-made firing ports (Figure 3-55). For this reason, the enemy normally has windows and doors under observation and fire, which should be avoided. Any opening in walls created during the fighting may be used. Small explosive charges can create loopholes for machine gun positions (Figure 3-56). Regardless of what openings are used, machine guns should be in the building and in the shadows.



**Figure 3-55. Emplacement of machine gun in a doorway.**





**Figure 3-56. Use of a loophole with a machine gun.**

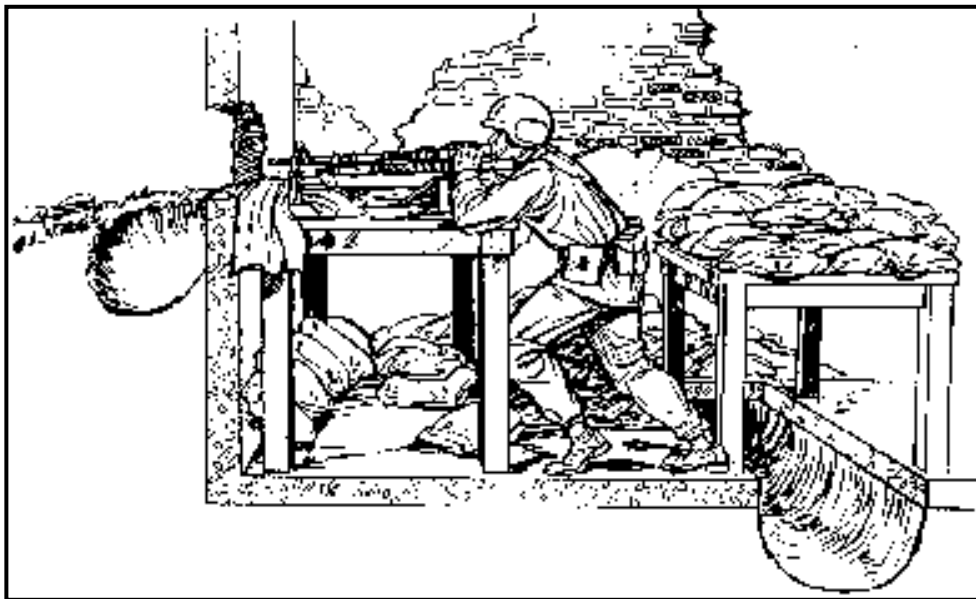
m. Upon occupying a building, soldiers' board up all windows and doors. By leaving small gaps between the slots, soldiers can use windows and doors as good alternate positions.

n. Loopholes should be used extensively in the defense. They should not be constructed in any logical pattern, nor should they all be at floor or tabletop level. Varying their height and location makes them hard to pinpoint and identify. Dummy loopholes, knocked off shingles, or holes cut that are not intended to be used as firing positions aid in the deception. Loopholes located behind shrubbery, under doorjambes, and under the eaves of a building are hard to detect. In the defense, as in the offense, a firing position can be constructed using the building for overhead cover.

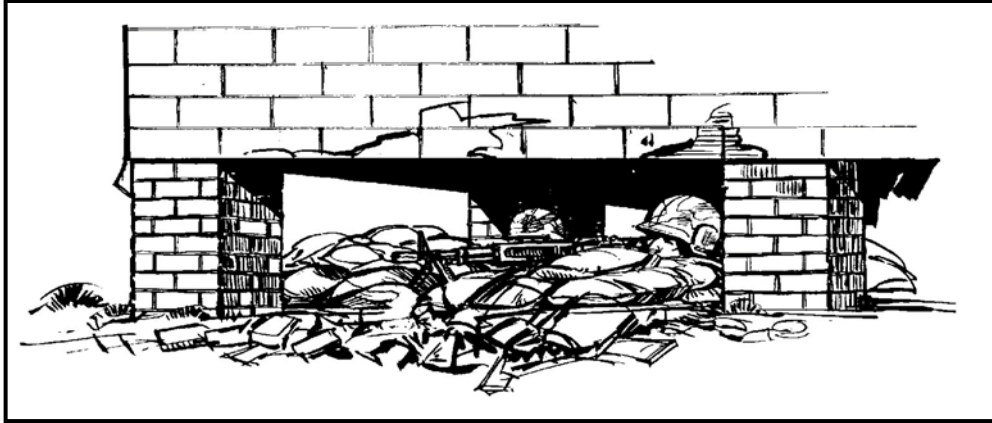
o. Increased fields of fire can be obtained by locating the machine gun in the corner of the building (Figure 3-57, page 3-58), in the cellar (Figure 3-58, page 3-58), or sandbagged under a building (Figure 3-59, page 3-59). Available materials, such as desks, overstuffed chairs, couches, and other items of furniture, should be integrated into the construction of bunkers to add cover and concealment.



**Figure 3-57. Corner machine gun bunker.**



**Figure 3-58. Machine gun position in cellar.**



**Figure 3-59. Sandbagged machine gun emplacement under a building.**

p. Although grazing fire is desirable when employing the machine gun, it may not always be practical or possible. Where destroyed vehicles, rubble, and other obstructions restrict the fields of grazing fire, the gun can be elevated to where it can fire over obstacles. Firing from loopholes on the second or third story may be necessary. A firing platform can be built under the roof and a loophole constructed (Figure 3-60). Again, the exact location of the position must be concealed. Camouflage the position by removing patches of shingles, over the entire roof.



**Figure 3-60. Firing platform built under roof.**

### 3-30. TARGET ACQUISITION

Urban areas provide unique target acquisition challenges to units. Buildings mask movement and the effects of direct and indirect fires. The rubble from destroyed buildings, along with the buildings themselves, provides cover and concealment for attackers and defenders, making target acquisition difficult. Urban areas often favor the defender's ability to acquire targets so this makes offensive target acquisition extremely important, since the side that fires first may win the engagement. Target acquisition must be continuous, whether a unit or soldier is halted or moving. The six steps of target acquisition, search, detection, location, identification, classification, and confirmation are no different in an urban environment than anywhere else but are usually performed at a much faster pace.

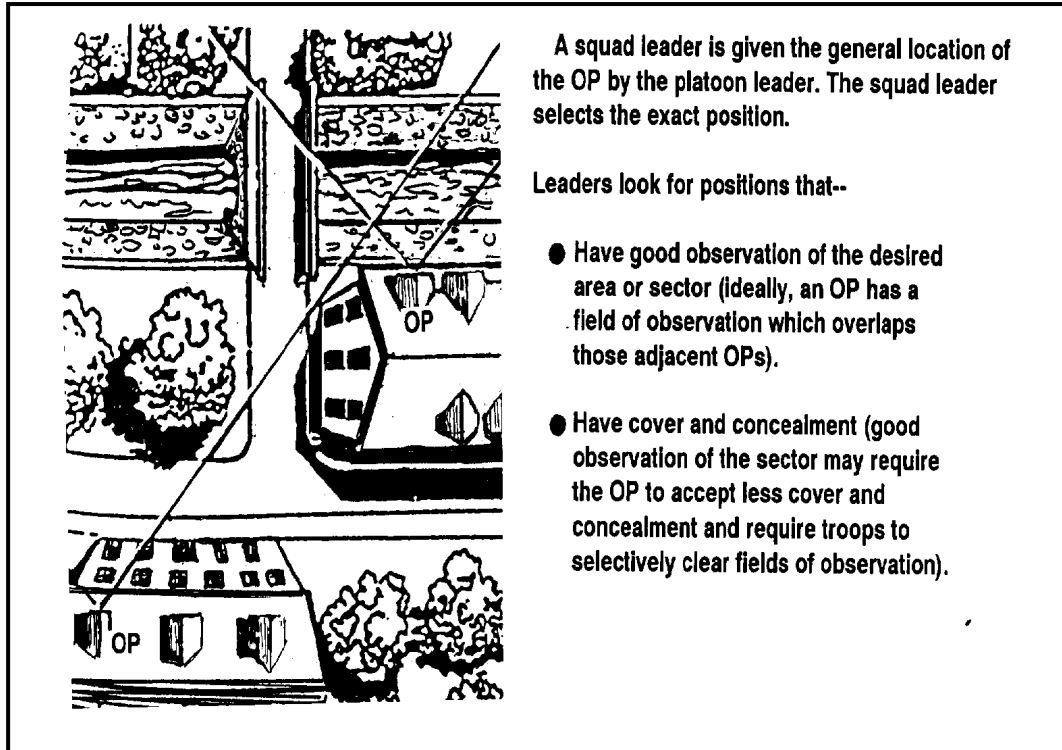
a. **Search.** Using all senses during the search step enhances the detection capabilities of all soldiers on the urban battlefield. The techniques of patrolling and using observation posts apply in urban as well as in wooded or more open terrain. These techniques enable units to search for and locate the enemy. Soldiers searching the urban battlefield for targets should employ target acquisition devices. These devices can include binoculars, image intensification devices, thermal sights, ground surveillance radar (GSR), remote sensors (REMs), platoon early warning systems (PEWS), and field expedient early warning devices. Several types of devices should be used since no single device can meet every need of a unit.

(1) **Observation.** Observation duties must be clearly given to squad members to ensure 360 degrees and three-dimensional security as they move. This security continues at the halt. Soldiers soon recognize the sights, smells, sounds and so forth, associated with their urban battlefield and can soon distinguish targets.

(2) **Movement.** Stealth should be used when moving in urban areas since there are often short distances between attackers and defenders. Hand and arm signals should be used until contact is made. The unit should stop periodically to look and listen. Routes should be carefully chosen so that buildings and piles of rubble can be used to mask the unit's movement.

(3) **Movement Techniques.** Techniques are basically the same as in open terrain (traveling, traveling overwatch, bounding overwatch). When a unit is moving and enemy contact is likely, the unit must use a movement technique with an overwatching element. This principle applies in urban areas as it does in other kinds of terrain except that in urban terrain, the overwatching element must observe both the upper floors of buildings and street level.

(4) **Observation Posts.** The military aspects of urban terrain must be considered in selecting observation posts (OPs). OPs can be positioned in the upper floors of buildings, giving soldiers a better vantage point than at street level. Leaders should avoid selecting obvious positions, such as water towers or church steeples that attract the enemy's attention (Figure 3-61).



**Figure 3-61. Selection of OP location.**

b. **Detection.** Personnel, weapons, and vehicles have distinguishing signatures. Soldiers must recognize signatures so they can acquire and identify targets. This is extremely important in the urban battlefield, where one or more senses can be degraded. For example, soldiers operating in an urban area where smoke is used as an obscurant will have their sense of sight degraded, since they may not be able to see through the smoke with the naked eye. Their sense of smell and breathing is also affected. Some considerations are:

- Soldiers must look for targets in areas where they are most likely to be employed. Squad leaders must place OPs where they are most likely to see targets.
- Odors from diesel fuel, gasoline, cooking food, burning tobacco, after-shave lotion, and so forth reveal enemy and friendly locations.
- Running engines, vehicles, and soldiers moving through rubble-covered streets can be heard for great distances. Vehicles driven in urban areas produce more noise than those moving through open terrain. Soldiers moving through rubble on a street or in the halls of a damaged building create more noise than in a wooded area.
- Sounds and smells can aid in acquiring targets at night since they transmit better in the cooler, damper night air.
- Dust and noise created by the firing of some weapons such as a tank main gun can be seen and smelled.
- Irregularly shaped objects that do not conform to the surrounding area stand out.

- Abnormal reflections or flashes from movement of optics or metal can be seen.
- Voices can often be heard at long distances, with the sound reflecting off of structures.
- Shadows can be seen day or night.
- When scanning multistory buildings, soldiers may have to scan up as well as out (three-dimensional scanning).

c. **Location.** In an urban environment, determining the target location can be difficult. The cover and concealment provided by buildings and rubble can provide the enemy with an advantage that is not easily overcome. After the enemy is detected or contact is made, soldiers must visualize the situation from the enemy's viewpoint. This visualization helps the soldier determine where the likely enemy position is. At that point, the suspected enemy position should be suppressed, consistent with the ROE.

d. **Identification.** Being able to identify potential targets as quickly as possible after they are detected gives soldiers the advantage during urban combat. As a minimum, identification must determine if the potential target is friend, foe, or, a noncombatant. Correct identification is the key to preventing fratricide. Soldiers must know and understand the ROE. Soldiers must know what to engage and what not to engage.

e. **Classification.** To determine an appropriate method of dealing with a target, the soldier must determine the danger it represents. It requires quick decisions as targets are observed and occurs virtually simultaneously with identification. Situational awareness is vitally important. Multiple targets must be classified from most dangerous to least dangerous and engaged starting with the most dangerous.

f. **Confirmation.** This rapid verification of the initial identification and classification of the target is the final step of target acquisition. Identification, classification, and confirmation are done simultaneously.

### 3-31. DEFENSE AGAINST FLAME WEAPONS AND INCENDIARY MUNITIONS

Incendiary ammunition, special weapons, and the ease with which incendiary devices can be constructed from gasoline and other flammables make fire a threat during urban operations. During defensive operations, fighting fire should be a primary concern. Steps must be taken to reduce the risk of a fire that could make a chosen position indefensible.

a. Soldiers should construct positions that do not have large openings. These positions should provide as much built-in cover as possible to prevent penetration by incendiary ammunition. All unnecessary flammable materials should be removed including ammunition boxes, furniture, rugs, newspapers, curtains, and so on. Electricity and gas coming into the building must be shut off.

b. A concrete block building, with concrete floors and a tin roof, is an ideal place for a position. However, most buildings have wooden floors or subfloors, wooden rafters, and wooden inner walls, which require improvement. Inner walls should be removed and replaced with blankets to resemble walls from the outside. Sand should be spread 2 inches deep on floors and in attics to retard fire.

c. All available fire-fighting gear is pre-positioned so it can be used during actual combat. For the individual soldier such gear includes entrenching tools, helmets, sand or earth, and blankets. These items are supplemented with fire extinguishers.

d. Fire is so destructive that it can easily overwhelm personnel regardless of precautions. Soldiers should plan routes of withdrawal so a priority of evacuation from fighting positions can be established. This procedure allows soldiers to exit through areas that are free from combustible material and provide cover from enemy direct fire.

e. The confined space and large amounts of combustible material in urban areas can influence the enemy to use flame weapons or incendiary munitions. Two major first-aid considerations are burns and smoke inhalation. These can easily occur in buildings and render the victim combat ineffective. Although there is little defense against flame inhalation and lack of oxygen, smoke inhalation can be reduced by wearing the individual protective mask. Medics and combat lifesavers should be aware of the withdrawal plan and should be prepared to treat and evacuate burn and smoke inhalation casualties.

f. Offensive operations also require plans for fighting fire since the success of the mission can easily be threatened by fire. Poorly planned use of incendiary munitions can make fires so extensive that they become obstacles to offensive operations. The enemy may use fire to cover his withdrawal and to create obstacles and barriers to the attacker. Intentional flame operations, in an urban area, are difficult to control and may undermine mission success.

g. When planning offensive operations, the attacker must consider the effects of all weapons and munitions. Targets are chosen during the initial planning to avoid accidentally destroying critical facilities within the urban area. When planning flame operations in an urban area, priorities must be established to determine which critical installations (hospitals, power stations, radio stations, and historical landmarks) should have primary fire-fighting support.

h. Every soldier participating in the attack must be ready to deal with fire. The normal fire-fighting equipment available includes the entrenching tool, helmet (for carrying sand or water), and blankets (for snuffing out small fires).

### 3-32. DEFENSE AGAINST ENHANCED FLAME WEAPONS

Combat operations in Afghanistan, Chechnya, and Bosnia saw the increased use of enhanced flame weapons in an urban environment. While these weapons have been in existence for some time, US forces have not had much experience (after Vietnam) in the use of and defense against them. Because future threats may use these weapons against US forces, this paragraph explains what enhanced flame weapons are and how to defend against them.

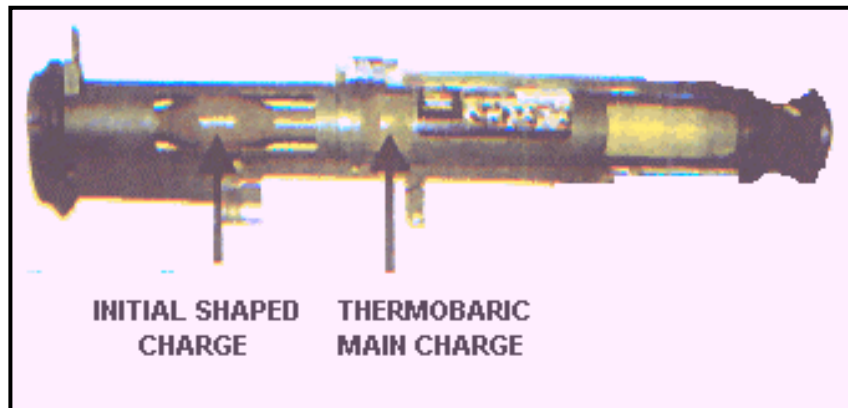
a. **Enhanced Flame Weapons.** These types of weapons primarily rely on blast, flame and concussion to inflict damage, rather than explosively driven projectiles, fragments, or shaped charges. The Russians found these weapons to be especially effective in Chechnya because they produced casualties without fragmentation and shrapnel. As Chechens would “hug” Russian units to negate the use of Russian firepower, Russians would use directed blast weapons against enemy personnel and positions to minimize fratricide due to ricochets, shrapnel, and fragmentation.

(1) **Types of Enhanced Flame Weapons.** There are two types of these weapons, though their effects are the same. Fuel air explosives (FAE) are the older generation of blast weapons. FAE rely on distributing fuel in the air and igniting it. Casualties are primarily produced by fuel exploding and burning in the air. The newer generation blast weapons are referred to as volumetric or thermobaric. They throw out explosives from a

warhead into a larger volume and use oxygen to ignite as a single event. This technique provides more reliable and controllable effects than FAE. Thermobaric weapons cause a tremendous blast in a confined space, such as a room or small building—the larger the volume of the weapon, the larger the blast effect. Many of these weapons are shoulder fired and are operated by a single gunner (Figure 3-62). Some shoulder fired blast weapons have tandem warheads that consist of a shaped charge followed by a Thermobaric munition (Figure 3-63). Currently, there are no thermobaric weapons in the US inventory, but are under research and development as a possible replacement for the M202A2 (Flash).



**Figure 3-62. Russian RPO-A SHMEL, a shoulder fired thermobaric weapon.**



**Figure 3-63. Russian RShG-1, tandem warhead.**

(2) *Effects of Enhanced Flame Weapons.* These types of weapons are characterized by the production of a powerful fireball (flame temperatures of up to 1,200 degrees centigrade) together with a relatively long duration pressure wave. The fireball, and its associated dust storm, damages exposed skin and eyes over a wider radius than the blast effect. Most physical damage is caused by the heave and the push of the blast wave. This blast wave can collapse brick or block-built structures. Therefore, internal injuries to vital



organs and internal bleeding are common blast effects to personnel. Such weapons are particularly effective against fortified positions such as buildings. Confined spaces enhance the blast effect and, unlike fragments, blast and flame can travel around corners and down passages such as hallways or tunnels. Since blast pressure falls off rapidly in the open, much shorter minimum safety distances are possible and assault troops can be relatively close (to within 40 meters depending on the size of the munition) when many of these weapons are employed.

b. **Defensive Measures.** Using materials that absorb its energy or block its path can reduce the lethality of the blast/flame wave. The best protection is to isolate personnel from the wave; however, this procedure may not be possible in many tactical situations. Balance should be struck between protecting soldiers and not hampering their ability to fight or protect themselves from other threats. The first step is to prevent the munition from entering a structure by providing a physical barrier. If that is not possible, then the next step is to minimize damage from the weapons by weakening and isolating their effect. Another consideration is to make enhanced flame weapon gunners' priority targets for snipers or selected marksmen.

(1) **Personnel.** Personal injury can be minimized if soldiers wear a balaclava or similar garment to protect the face, goggles to protect the eyes from flash and flying dust and debris, and leather gloves to protect the hands.

(2) **Armored Vehicles.** If vehicles are *buttoned up*, the crew is protected against blast/flame damage; however, antennas, external components, and optics suffer varying degrees of damage. Tandem warheads pose a greater threat to armored vehicles.

c. **Fighting Positions.** Fixed fortifications, such as concrete bunkers or heavy-clad framed buildings, provide good protection against enhanced flame weapons detonating near the outside of the structure. Hastily prepared fighting positions or prepared fighting positions in lighter clad or framed buildings are more susceptible to blast effects. Unframed masonry buildings with concrete floors should be avoided since a falling floor is likely to cause injury to personnel. Fighting from basements or below ground positions or from prepared strong points in heavy-clad framed buildings provide additional protection. To reduce blast effects within a structure, unused openings inside buildings should be sealed to block the blast/flame wave path, while exterior openings should be left open or sealed with panels that blow off, depending on the tactical considerations, allowing the blast energy an exit route. Wet heavy curtains hung over exits, entries, and firing ports help weaken the blast energy.

## Section V. NAVIGATION IN URBAN AREAS

Urban areas present a different set of challenges involving navigation. Deep in the city core, the normal terrain features depicted on maps may not apply—buildings become the major terrain features and units become tied to streets. Fighting in the city destroys buildings and the rubble blocks streets. Street and road signs are destroyed during the fighting if defenders do not remove them. Operations in subways and sewers present other unique challenges. Maps and photographs are available to help the unit overcome these problems. The global positioning system (GPS) can provide navigation assistance in urban areas.

### 3-33. MILITARY MAPS

The military city map is a topographical city map delineating streets and showing street names, important buildings, and other urban elements. The scale of a city map can vary from 1:25,000 to 1:50,000 depending on the importance and size of the city, density of detail, and intelligence information.

a. Special maps, prepared by supporting topographic engineers, can assist units in navigating in urban areas. These maps have been designed or modified to give information not covered on a standard map, which includes road and bridge networks, railroads, urban areas, and electric power fields. They can be used to supplement military city maps and topographical maps. Products that can be developed by the National Imagery Mapping Agency (NIMA) can be specifically tailored for the area of operations.

b. Once in the urban area, soldiers use street intersections as reference points much as they use hills and streams in rural terrain. City maps supplement or replace topographic maps as the basis of navigation. These maps enable units moving in the urban area to know where they are and to move to new locations even though streets have been blocked or a key building destroyed.

c. Techniques such as compass reading and pace counting can still be used, especially in a city where street signs and buildings are not visible. The presence of steel and iron in the urban environment may cause inaccurate compass readings. Sewers must be navigated much the same way. City sewer departments maintain maps providing the basic layout of the sewer system. This information includes directions the sewer lines run and distances between manhole covers. Along with basic compass and pace count techniques, such information enables a unit to move through the city sewers.

d. Helicopters can assist units in moving to objectives. An OH-58D assisting with a laser or an IR searchlight can be a useful technique.

e. Operations in an urban area adversely affect the performance of sophisticated electronic devices such as GPS and data distribution systems. These systems function the same as line-of-sight communications equipment. They cannot determine underground locations or positions within a building. These systems must be employed on the tops of buildings, in open areas, and down streets where obstacles do not affect line-of-sight readings.

f. City utility workers are assets to units fighting in urban areas. They can provide maps of sewers and electrical fields, and information about the city, which is especially important with regard to the use of the sewers. Sewers can contain pockets of highly toxic methane gas. City sewer workers know the locations of these danger areas and can advise a unit on how to avoid them.

### 3-34. GLOBAL POSITIONING SYSTEMS

Most GPS use a triangulation technique using satellites to calculate their position. Preliminary tests have shown that small urban areas, such as villages, do not affect GPS. Large urban areas with a mixture of tall and short buildings cause some degradation of most GPS. This effect may increase as the system is moved into the interior of a large building or taken into subterranean areas.

### **3-35. AERIAL PHOTOGRAPHS**

Current aerial photographs are excellent supplements to military city maps and can be substituted for a map. A topographic map, military map, or city map could be obsolete. A recent aerial photograph shows changes that have taken place since the map was made, which could include destroyed buildings and streets that have been blocked by rubble as well as enemy defensive preparations. More information can be gained by using aerial photographs and maps together than using either one alone. Whenever possible, the aerial photos or satellite imagery should be acquired during the noon hour to minimize the amount of shadowing around structures.

## **Section VI. CAMOUFLAGE**

To survive and win in combat in urban areas, a unit must supplement cover and concealment with camouflage. To properly camouflage men, vehicles, and equipment, soldiers must study the surrounding area and make positions look like the local terrain.

### **3-36. APPLICATION**

Only the material needed for camouflaging a position should be used since excess material could reveal the position. Material must be obtained from a wide area. For example, if defending a cinderblock building, do not strip the front, sides, or rear of the building to camouflage a position.

a. Buildings provide numerous concealed positions. Armored vehicles can often find isolated positions under archways or inside small industrial or commercial structures. Thick masonry, stone, or brick walls offer excellent protection from direct fire and provide concealed routes.

b. After camouflage is completed, the soldier inspects positions from the enemy's viewpoint. He makes routine checks to see if the camouflage remains natural looking and actually conceals the position. If it does not look natural, the soldier must rearrange or replace it.

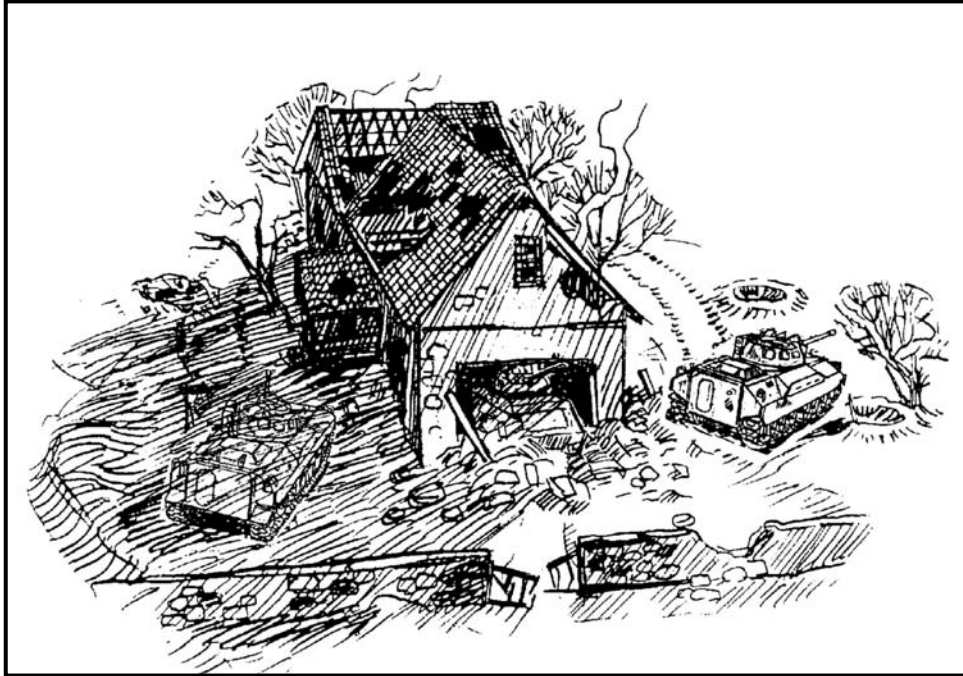
c. Positions must be progressively camouflaged, as they are prepared. Work should continue until all camouflage is complete. When the enemy has air superiority, work may be possible only at night. Shiny or light-colored objects attracting attention from the air must be hidden.

d. Shirts should be worn since exposed skin reflects light and attracts the enemy.

e. Camouflage face paint is issued in three standard, two-tone sticks. When face-paint sticks are not available, burnt cork, charcoal, or lampblack can be used to tone down exposed skin. Mud should be used as a last resort since it dries and peels off, leaving the skin exposed.

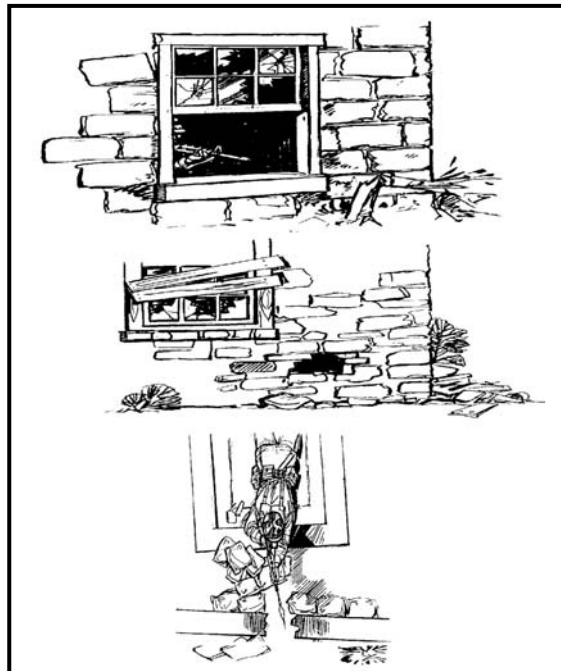
### **3-37. USE OF SHADOWS**

Buildings in urban areas throw sharp shadows, which can be used to conceal vehicles and equipment (Figure 3-64, page 3-68). Soldiers should avoid areas not in shadows. Vehicles may have to be moved periodically as shadows shift during the day. Emplacements inside buildings provide better concealment.



**Figure 3-64. Use of shadows for concealment.**

- a. Soldiers should avoid the lighted areas around windows and loopholes. They are better concealed if they fire from the shadowed interior of a room (Figure 3-65).
- b. A lace curtain or piece of cheesecloth provides additional concealment to soldiers in the interior of rooms if curtains are common to the area. Interior lights are prohibited.



**Figure 3-65. Concealment inside a building.**

### 3-38. COLOR AND TEXTURE

Standard camouflage pattern painting of equipment is not as effective in urban areas as a solid, dull, dark color hidden in shadows. Since repainting vehicles before entering a urban area is not always practical, the lighter sand-colored patterns should be subdued with mud or dirt.

a. The need to break up the silhouette of helmets and individual equipment exists in urban areas as it does elsewhere. Burlap or canvas strips are a more effective camouflage than foliage (Figure 3-66). Predominant colors are normally browns, tans, and grays rather than greens, but each camouflage location should be evaluated.



**Figure 3-66. Helmet camouflaged with burlap strips.**

b. Weapons emplacements should use a wet blanket (Figure 3-67), canvas, or cloth to keep dust from rising when the weapon is fired.



**Figure 3-67. Wet blankets used to keep dust down.**

c. Command posts and logistical emplacements are easier to camouflage and better protected if located underground. Antennas can be remoted to upper stories or to higher buildings based on remote capabilities. Field telephone wire should be laid in conduits, in sewers, or through buildings.

d. Soldiers should consider the background to ensure they are not silhouetted or skylined, but blend into their surroundings. To defeat enemy urban camouflage, soldiers should be alert for common camouflage errors such as:

- Tracks or other evidence of activity.
- Shine or shadows.
- An unnatural color or texture.
- Muzzle flash, smoke, or dust.
- Unnatural sounds and smells.
- Movement.

e. Dummy positions can be used effectively to distract the enemy and make him reveal his position by firing.

f. Urban areas afford cover, resources for camouflage, and locations for concealment. The following basic rules of cover, camouflage, and concealment should be adhered to:

- Use the terrain and alter camouflage habits to suit your surroundings.
- Employ deceptive camouflage of buildings.
- Continue to improve positions. Reinforce fighting positions with sandbags or other fragment- and blast-absorbent material.
- Maintain the natural look of the area.
- Keep positions hidden by clearing away minimal debris for fields of fire.
- Choose firing ports in inconspicuous spots when available.