

FUNDAMENTAL COMBAT SKILLS

Successful combat operations in built-up areas depend on the proper employment of the rifle squad. Each member must be skilled in the techniques of combat in built-up areas: moving, entering buildings, clearing buildings, employing hand grenades, selecting and using firing positions, navigating in built-up areas, and camouflaging. Soldiers must remember to remain in buddy teams when moving through a MOUT environment.

Section I. MOVEMENT

Movement in built-up 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 silhouetting himself, avoids open areas, and selects his next covered position before movement.

5-1. CROSSING OF A WALL

Each soldier must learn the correct method of crossing a wall (Figure 5-1). After he has reconnoitered the other side, he quickly rolls over the wall, keeping a low silhouette. The speed of his move and a low silhouette deny the enemy a good target.

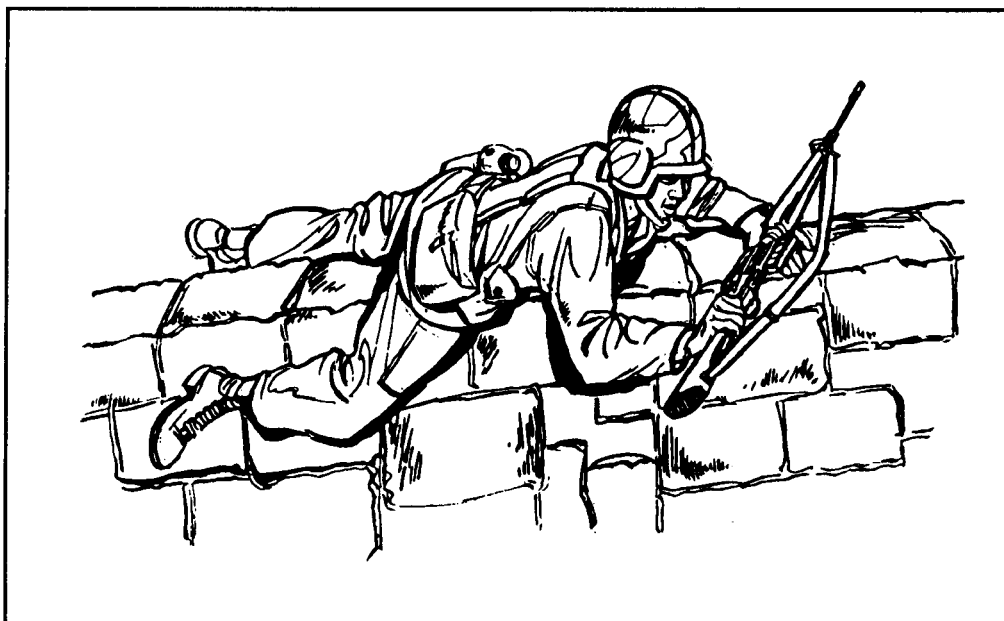


Figure 5-1. Soldier crossing a wall.

5-2. MOVEMENT AROUND CORNERS

The area around a corner must be observed before the soldier moves beyond it. The most common mistake a soldier makes at a corner is allowing his weapon to extend beyond the corner, exposing his position. He should show his head below the height an enemy soldier would expect to see it. When

using the correct techniques for looking around a corner (Figure 5-2), 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 exposes his head (at ground level) only enough to permit observation.

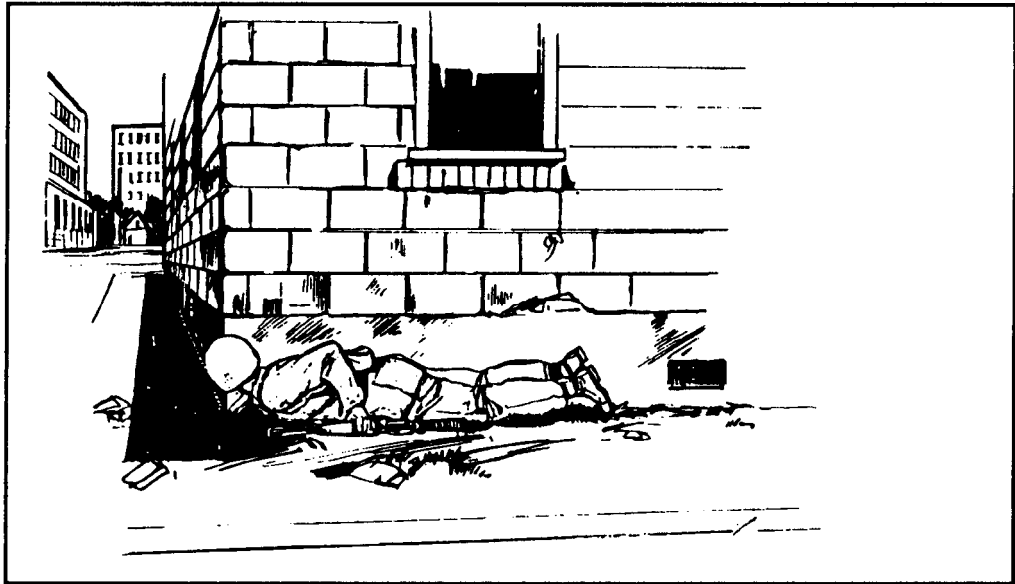


Figure 5-2. Correct technique for looking around a corner.

5-3. MOVEMENT PAST WINDOWS

Windows present another hazard to the soldier and small-unit leader. The most common mistake in passing a window is exposing the head. If the soldier shows his head (Figure 5-3), an enemy gunner inside the building could engage him through the window without exposing himself to friendly covering fires.



Figure 5-3. Soldier moving past windows.

a. When using the correct technique for passing a window, the soldier stays below the window level. He makes sure he does not silhouette himself in the window; he "hugs" the side of the building. An enemy gunner inside the building would have to expose himself to covering fires if he tried to engage the soldier.

b. The same techniques used in passing first-floor windows are used when passing basement windows (Figure 5-4); however, the most common mistake in passing a basement window is not being aware of it. A soldier should not walk or run past a basement window, since he presents a good target to an enemy gunner inside the building. When using the correct procedure for negotiating a basement window, the soldier stays close to the wall of the building and steps or jumps past the window without exposing his legs.

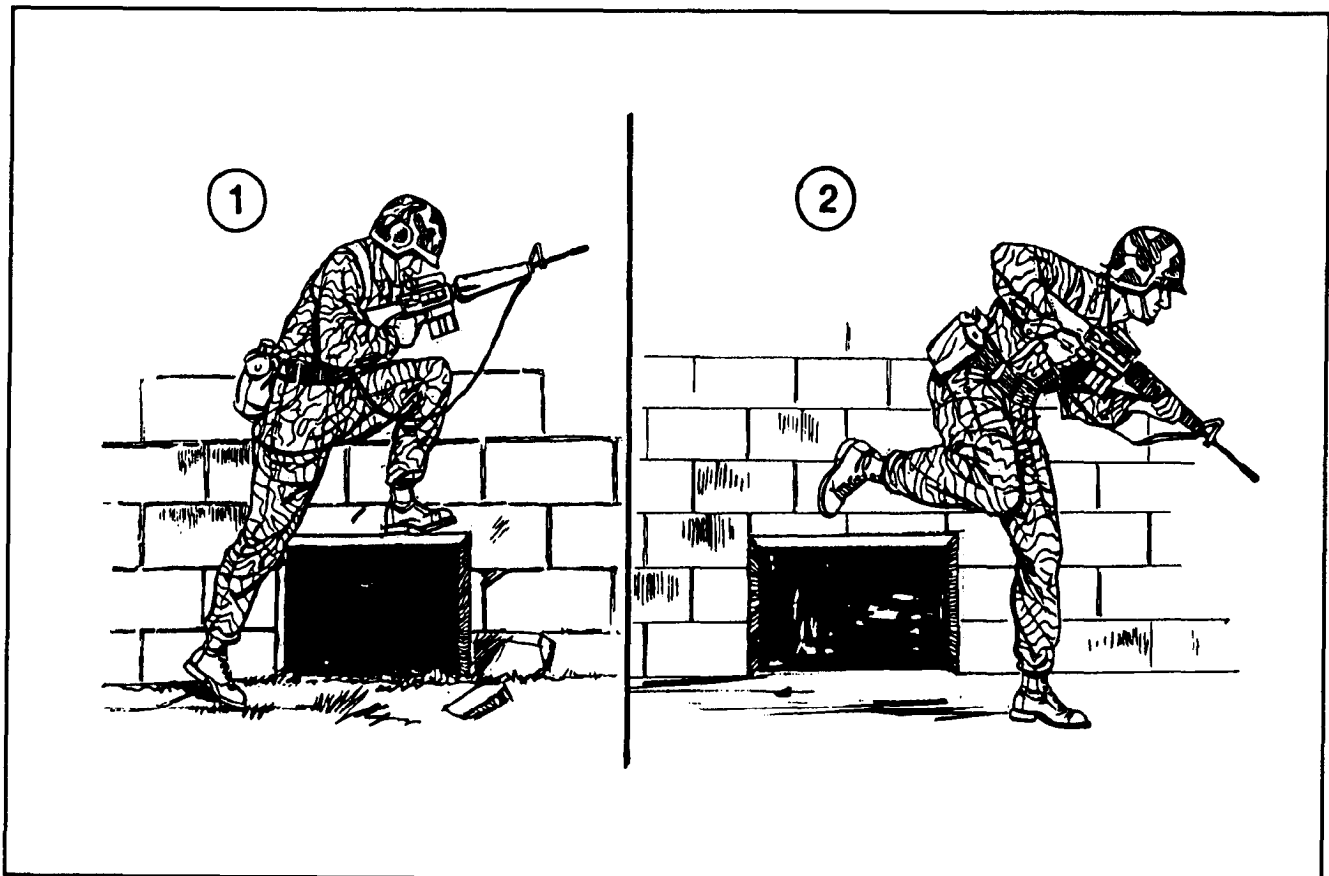


Figure 5-4. Soldier passing basement windows.

5-4. 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 through it to his next position, staying as low as possible to avoid silhouetting himself (Figure 5-5, page 5-4). Preelection of positions, speed, a low silhouette, and the use of covering fires must be emphasized in exiting doorways.

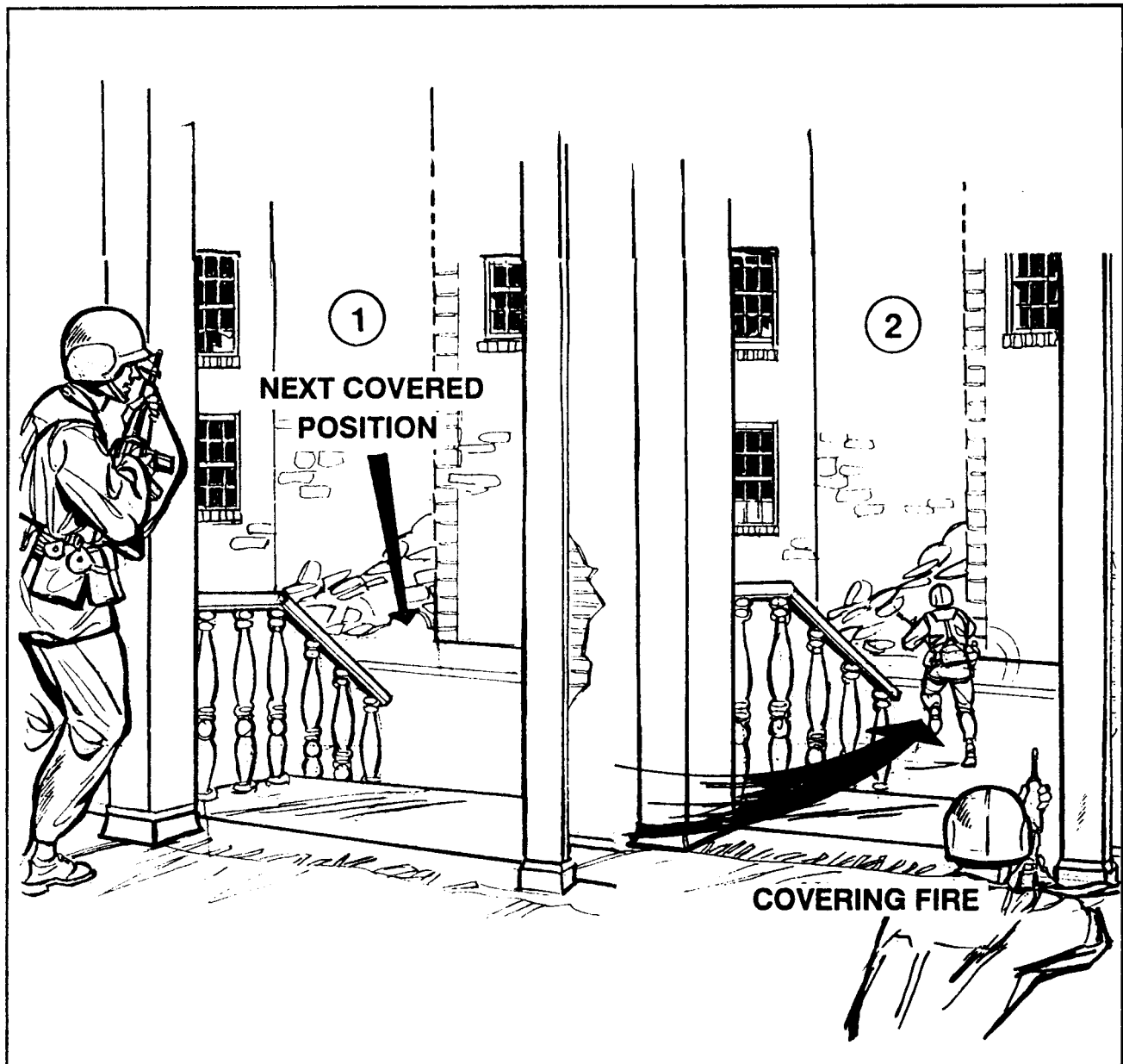


Figure 5-5. Soldier exiting a doorway.

5-5. MOVEMENT PARALLEL TO BUILDINGS

Soldiers and small units may not always be able to use the inside of buildings as a route of advance. Therefore, they must move on the outside of the buildings (Figure 5-6). Smoke and covering fires, and cover and concealment should be used to hide movement. In correctly moving on the outside of a building, the soldier "hugs" the side of the building, stays in the shadow, presents a low silhouette, and moves rapidly to his next position (Figure 5-7). If an enemy gunner inside the building fires on a soldier, he exposes himself to fire from other squad members. Furthermore, an enemy gunner farther down the street would have difficulty detecting and engaging the soldier.

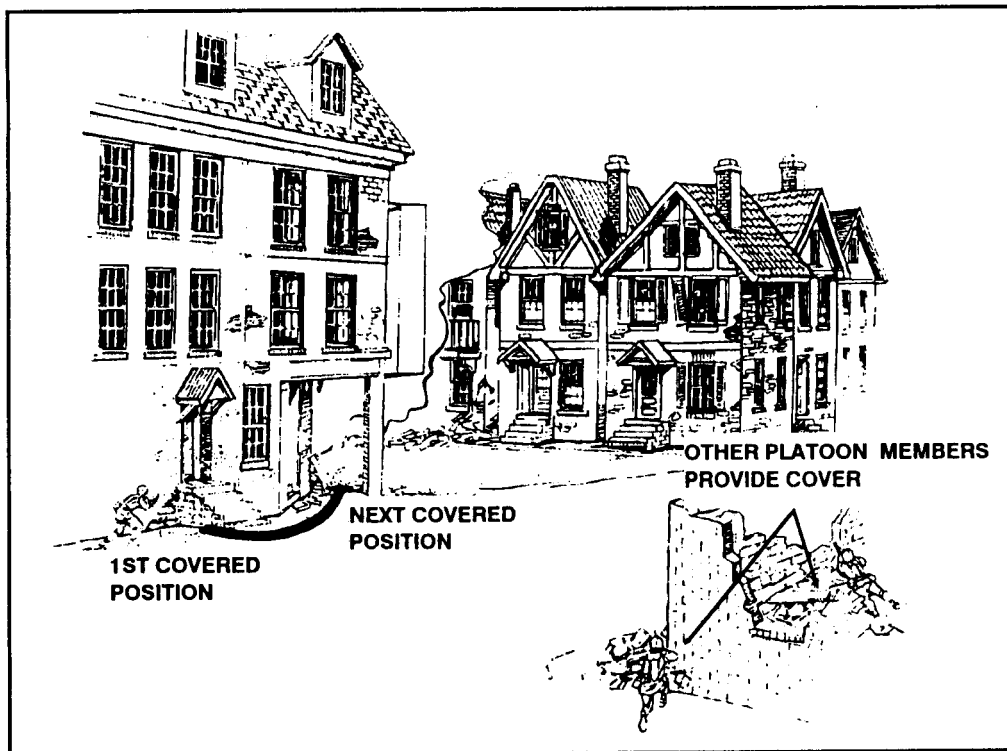


Figure 5-6. Soldier moving outside building.

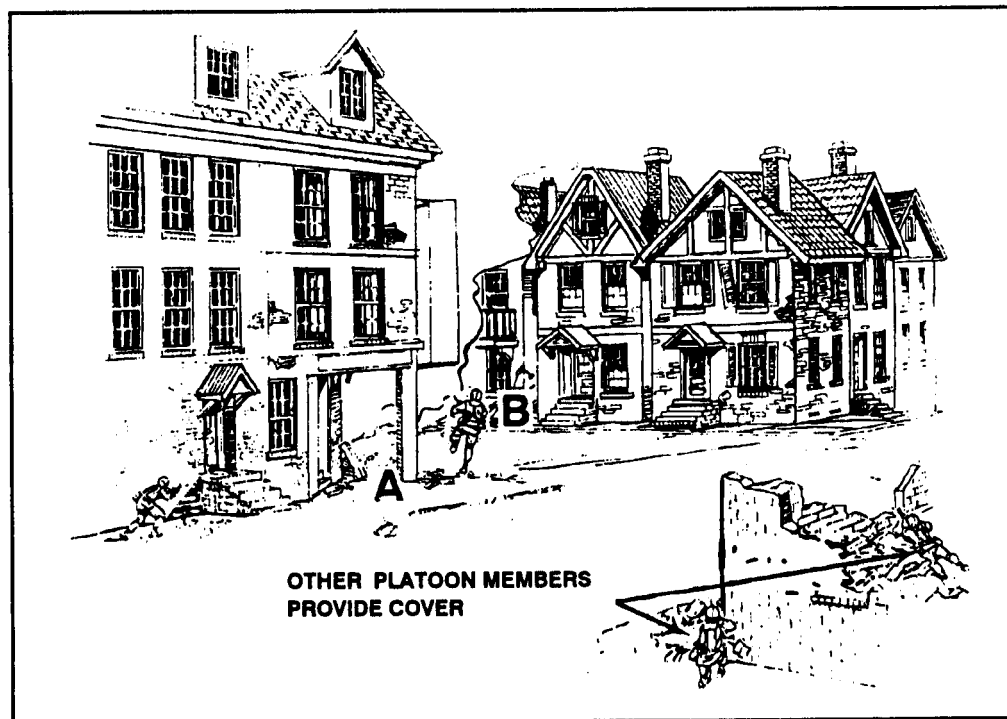


Figure 5-7. Selection of the next position.

5-6. CROSSING OF OPEN AREAS

Open areas, such as streets, alleys, and parks, should be avoided. They are natural kill zones for enemy crew-served weapons. They can be crossed safely if certain fundamentals are applied by the individual or small-unit leader.

a. When using the correct procedure for crossing an open area, the soldier develops a plan for his own movement. (Smoke from hand grenades or smoke pots should be used to conceal the movement of all soldiers.) He runs the shortest distance between the buildings and moves along the far building to the next position. By doing so, he reduces the time he is exposed to enemy fire.

b. Before moving to another position, the soldier should make a visual reconnaissance and select the position for the best cover and concealment. At the same time, he should select the route that he will take to get to that position.

5-7. FIRE TEAM EMPLOYMENT

Moving as a fire team, from building to building or between buildings, presents a problem because a fire team presents a large target to enemy fire (Figure 5-8). 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 should use the building as cover. In moving to the adjacent building (Figure 5-9), 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.

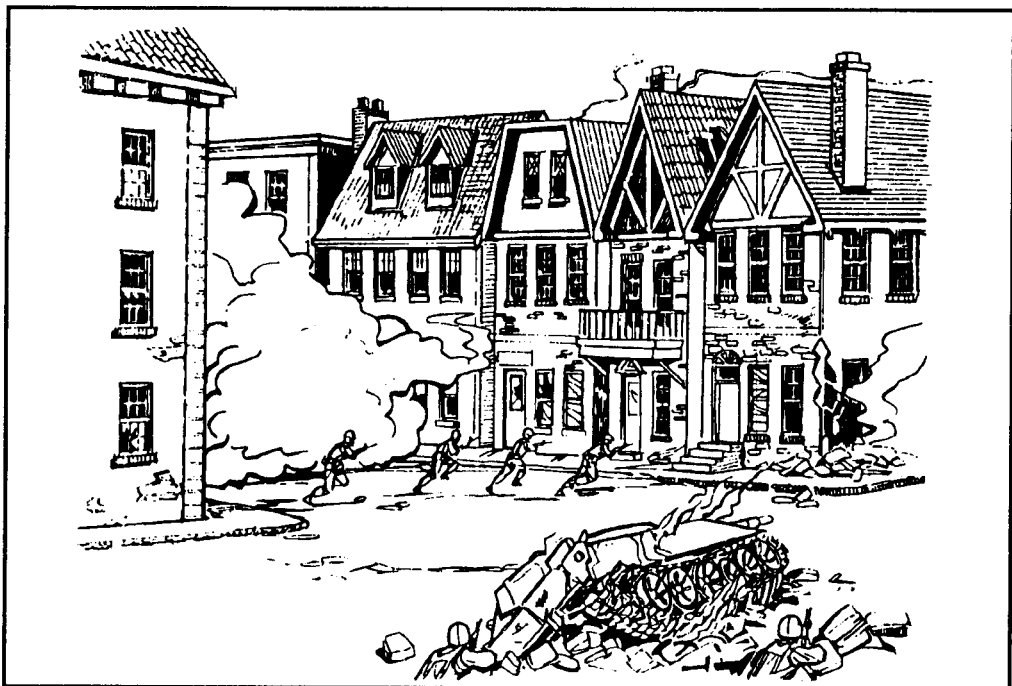


Figure 5-8. Fire team movement.

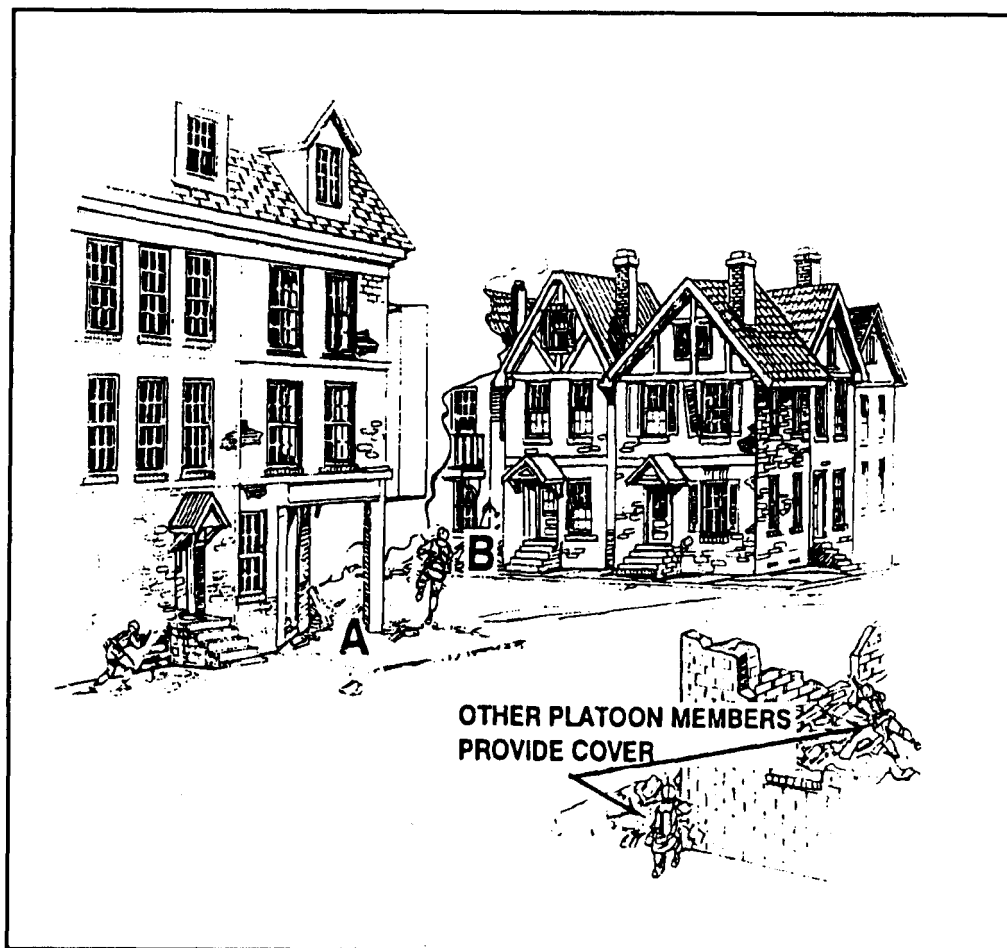


Figure 5-9. Movement to adjacent building.

5-8. 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.

a. The most common errors a soldier can make when firing from a position are firing over the top of his cover and silhouetting himself against the building to his rear, providing the enemy with an easy target. The correct technique for firing from a covered position is to fire around the side of the cover, reducing exposure to the enemy (Figure 5-10, page 5-8).

b. Another common error is for a right-handed firer to try 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 5-11, page 5-8). Right-handed and left-handed soldiers should be trained to adapt cover and concealment to fit their manual orientation. Also, soldiers should be able to fire from their opposite shoulder, if needed.

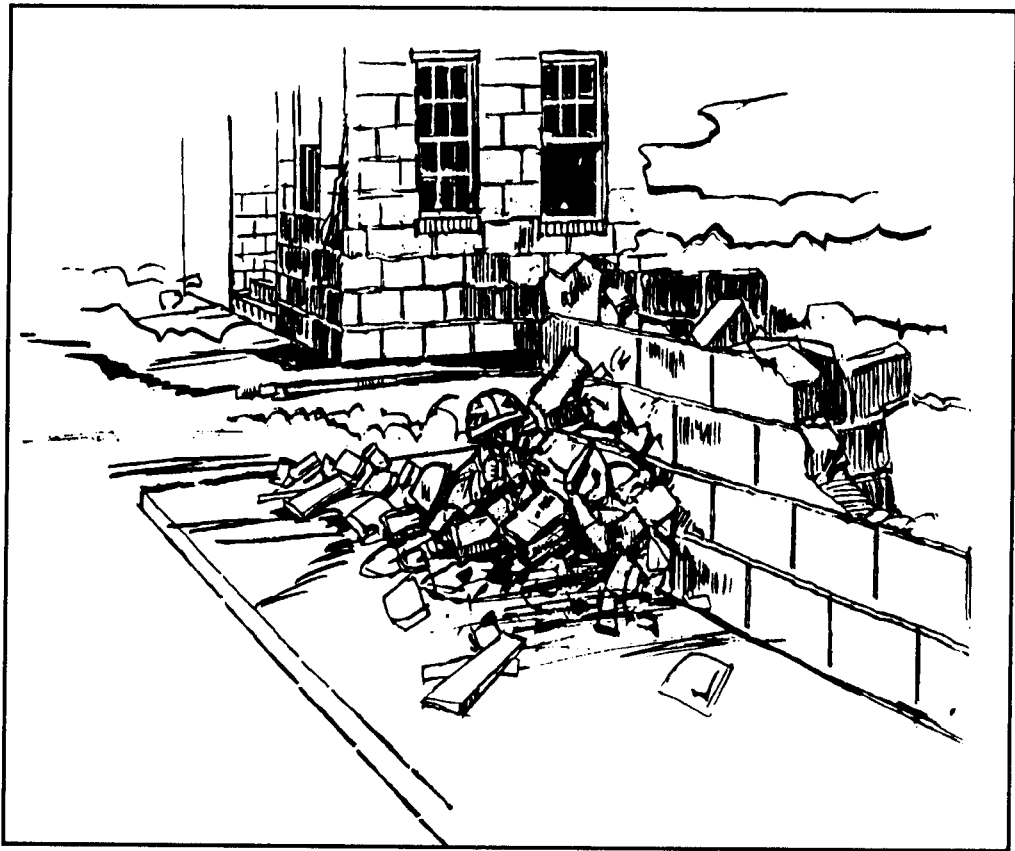


Figure 5-10. Soldier firing from a covered position.



Figure 5-11. Firing left-handed around the corner of a building.

5-9. MOVEMENT INSIDE A BUILDING

When moving within a building that is under attack (Figure 5-12), the soldier avoids silhouetting himself in doors and windows. If forced to use a hallway (Figure 5-13), he must stay against the wall to avoid presenting a target to the enemy. When operating under precision MOUT conditions, movement techniques may be modified or omitted based on the ROE in effect.

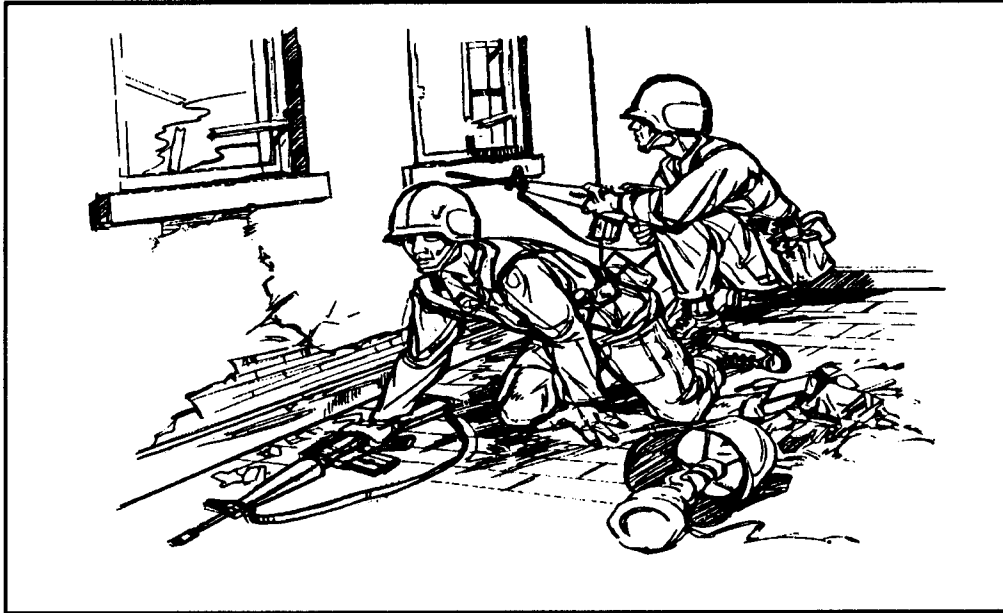


Figure 5-12. Movement within a building under attack.

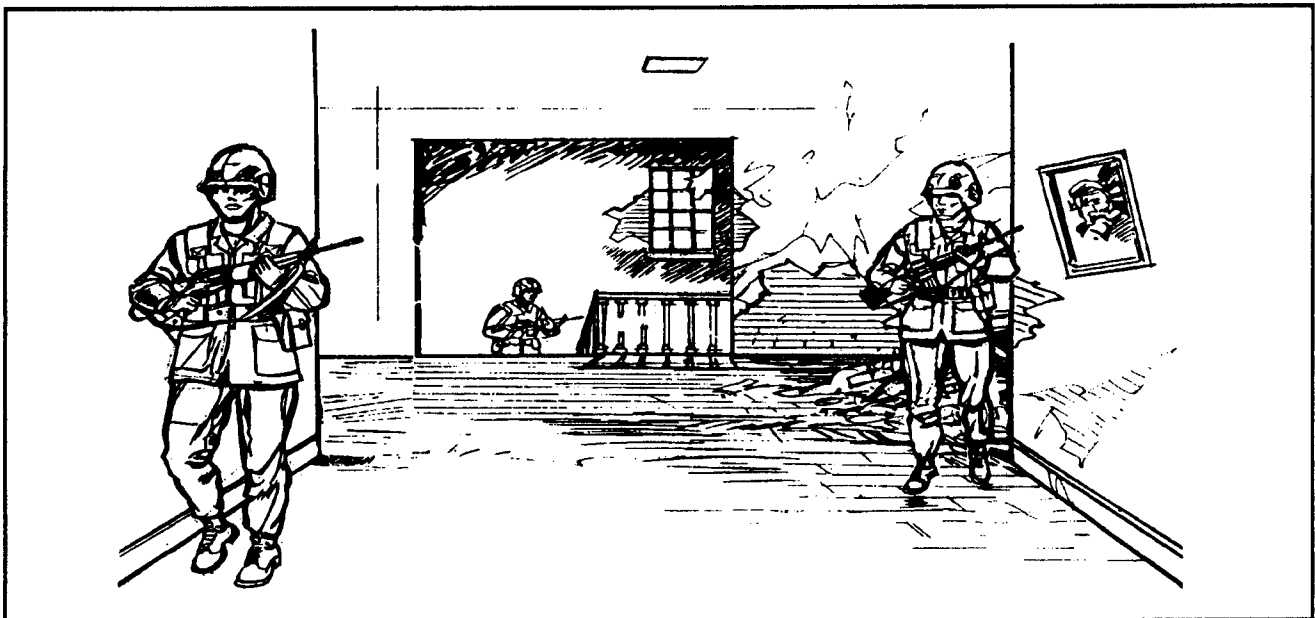


Figure 5-13. Hallway procedures.

a. The enemy often boobytraps windows and doors. When entering a room, a soldier avoids using the door handle. Instead, he fires a short burst of automatic fire through the door around the latch and then kicks it open. If booby traps are detected, they should be marked, reported, and bypassed.

b. Before entering each room, the first soldier cooks off a concussion hand grenade by removing the grenade's safety pin, releasing the safety lever, counting by thousands (one thousand and one, one thousand and two), and then throwing the grenade into the room. He must be careful of thin walls and floors. Voice alerts should be given while throwing grenades. When friendly forces throw grenades, the command is "Frag Out;" when an enemy grenade has been identified, friendly forces shout "Grenade."

WARNING

Because fragments from M67 fragmentation grenades may injure soldiers outside the room, they should not be used. Soldiers should use MK3A2 offensive hand grenades instead. Also, cooking off hand grenades can be dangerous unless properly performed.

c. When the hand grenade goes off, the second man immediately enters the room and engages any targets with short bursts of automatic fire (Figure 5-14). He then systematically searches the room. The first man follows the second man and takes a position opposite the side of the doorway from the second man. Meanwhile, the support party, in position outside the room being cleared, provides outside security. (See FM 7-8 for more detailed information on entering a room.)



Figure 5-14. Procedures for the first man entering a room.

d. The soldier uses voice alerts. Voice alerts and signals within the assault team are extremely important. The soldier must always let others in the assault team know where he is and what he is doing. Once a room has been cleared, the assault team yells, "Clear," to inform the support party. Before leaving the room and rejoining the support party, the assault team yells "Coming out." The team then marks the room according to unit SOP. When moving up or down a staircase, the assault team yells "Coming up" or "Coming down."

e. Mouseholes measure about 2 feet wide and are blown or cut through a wall so soldiers can enter a room (Figure 5-15). These are safer entrances than doors because doors can be easily booby trapped and should be avoided. As with any entry, a hand grenade is thrown in first.

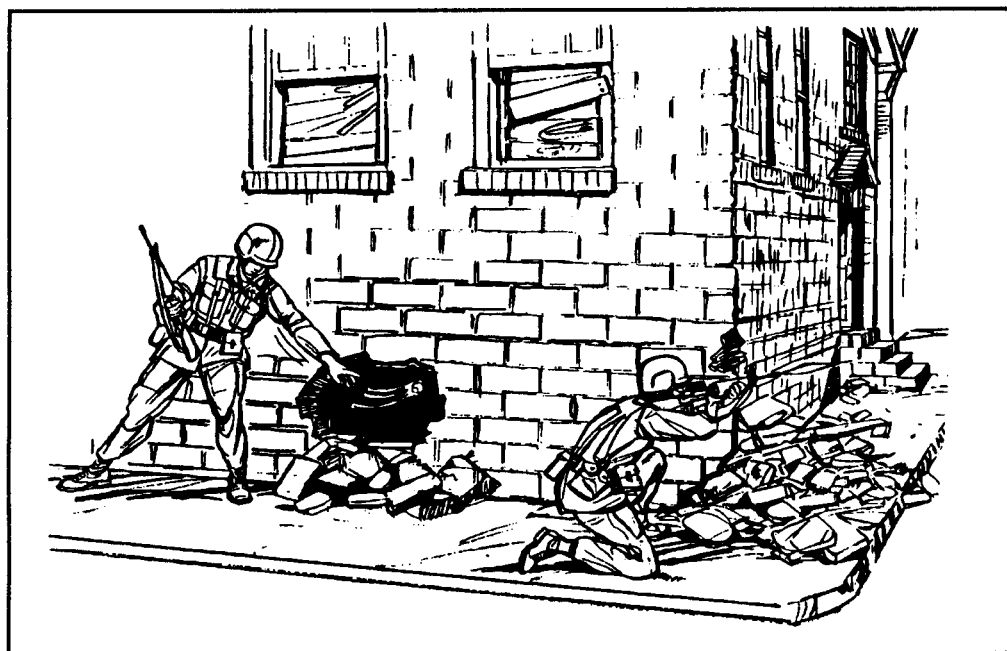


Figure 5-15. Soldiers entering through a mousehole.

Section II. ENTRY TECHNIQUES

When entering a building, a soldier must enter with minimum exposure. He must select the entry point before moving toward the building; avoid windows and doors; use smoke to conceal his advance to the building; use demolitions, tank rounds, combat engineer vehicles (CEVs), and so on to make new entrances; precede his entry with a grenade; enter immediately after the grenade explodes; and be covered by one of his buddies.

5-10. UPPER BUILDING LEVELS

Clearing a building from the top down is the preferred method. Clearing 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. But an enemy who is forced down to the 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. In some cases, one soldier can climb onto the shoulders of another and reach high enough to pull himself up. Another method is to attach a grappling hook to the end of a scaling rope so that a rifleman can scale a wall, spring from one building to another, or gain entrance through an upstairs window.

5-11. USE OF LADDERS

Ladders offer the quickest method to gain access to the upper levels of a building (Figure 5-16). Units can get ladders from local civilians or stores or material to build ladders can be obtained through supply channels. If required, ladders can be built with resources that are available throughout the urban area; for example, lumber can be taken from inside the walls of buildings (Figure 5-17). Although ladders will not permit access to the top of some buildings, they will offer security and safety through speed.

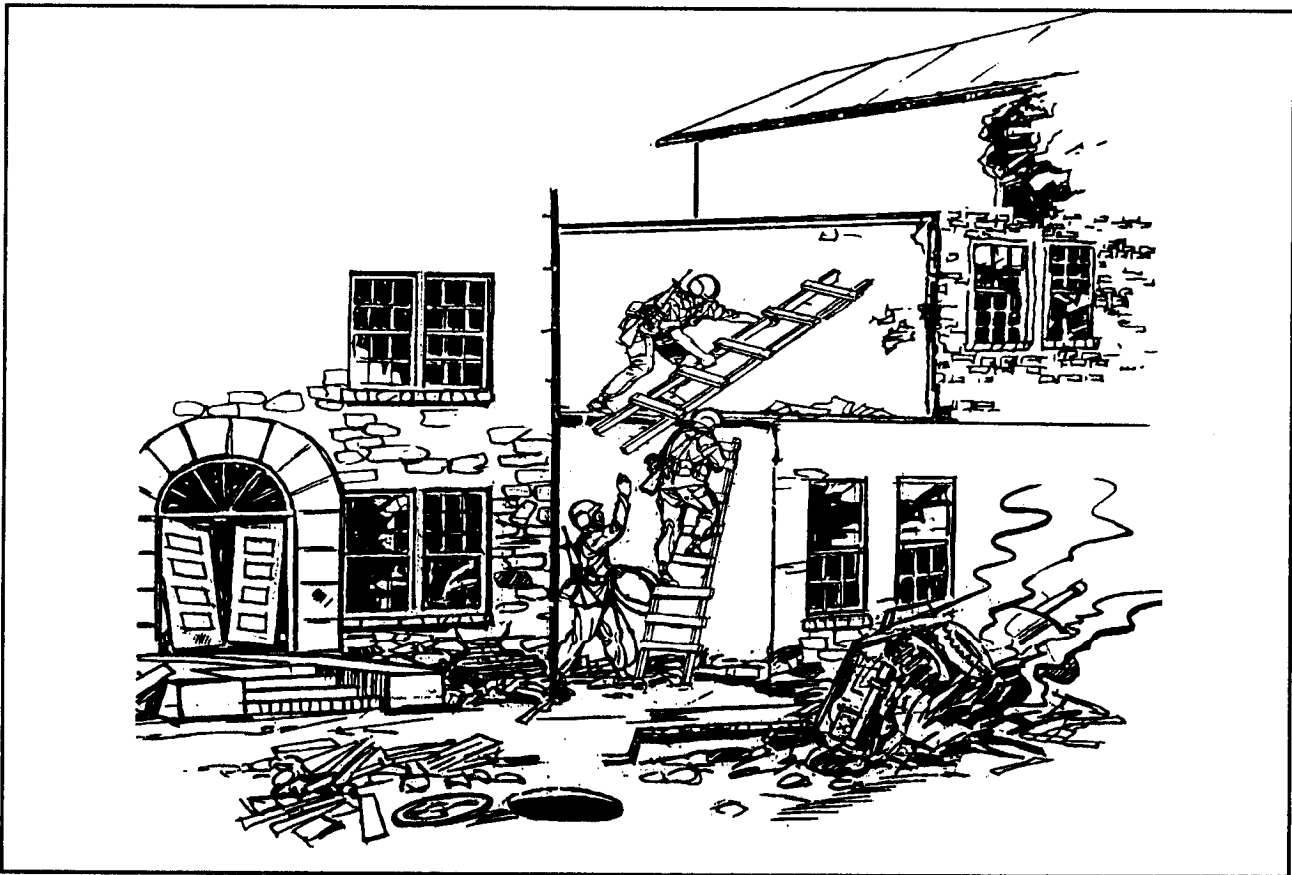


Figure 5-16. Using ladders to get to upper levels.

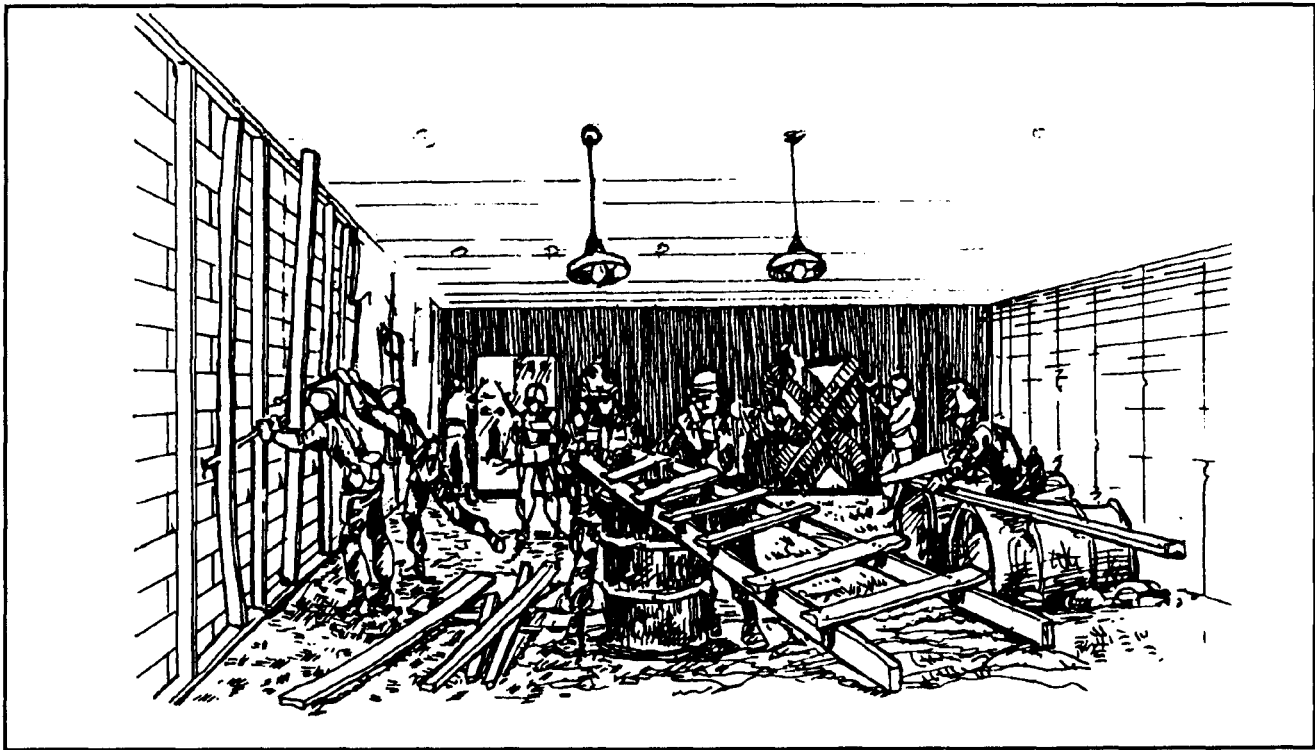


Figure 5-17. Getting lumber from inside the walls.

5-12. USE OF GRAPPLING HOOK

A suitable grappling hook and rope are selected. The grappling hook should be sturdy, portable, easily thrown, and equipped with hooks that can hold inside a window. The scaling rope should be $\frac{5}{8}$ to 1 inch in diameter and long enough to reach the objective window. Knots are tied in the rope at 1-foot intervals to make climbing easier. The soldier should follow the procedures outlined below.

a. When throwing the grappling hook, stand as close to the building as possible (Figure 5-18, page 5-14). The closer you stand, the less exposure to enemy fires. The closer the range, the less horizontal distance the hook must be thrown.

b. Making sure there is enough rope to reach the target, hold the hook and a few coils of rope in the throwing hand. The remainder of the rope, in loose coils, should be in the other hand. Allow the rope to play out freely. The throw should be a gentle, even, upward lob of the hook, with the other hand releasing the rope as it plays out.

c. Once the grappling hook is inside the window (or on the roof), pull on the rope to obtain a good hold before beginning to climb. When using a window, pull the hook to one corner to ensure the chances of a good "bite" and to reduce exposure to lower windows during the climb.

d. The use of grappling hooks is the least preferred method for gaining entry to upper levels of buildings. It should be used only as a last resort and away from potential enemy positions. This method may potentially be used on adjacent buildings that offer concealed locations and a connecting roof to enemy positions.

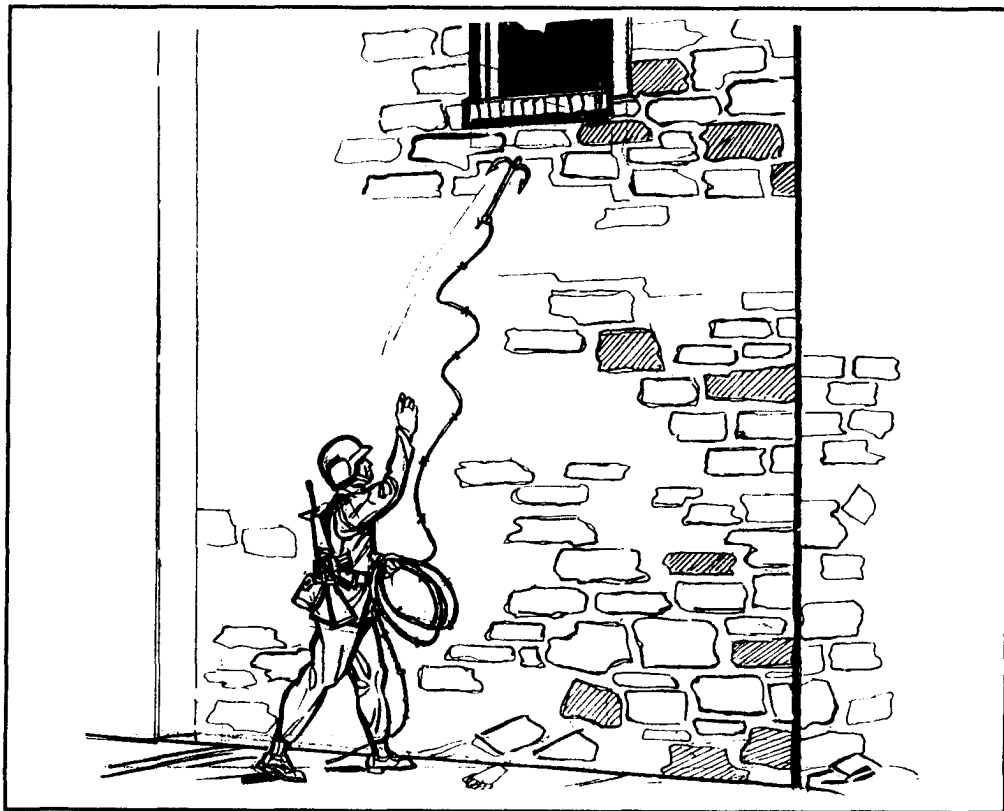


Figure 5-18. Grappling hook thrown at close range.

5-13. SCALING OF WALLS

When forced to scale a wall during exposure to enemy fire, all available concealment must be used. Smoke and diversionary measures improve the chances of a successful exposed movement. When using smoke for concealment, soldiers must plan for wind direction and smoke use. They should use fire, shouting, and fake movement to distract the enemy.

a. A soldier scaling an outside wall is vulnerable to enemy sniper fire. Soldiers who are moving from building to building and climbing buildings should be covered with friendly fire. Areas between buildings offer good fields of fire to the enemy. Properly positioned friendly weapons can suppress and eliminate enemy fire. The M203 grenade launcher is effective in clearing the enemy from rooms inside buildings (Figure 5-19).

b. The soldier scaling a wall with a rope should avoid silhouetting himself in windows of uncleared rooms and avoid exposing himself to enemy fires from lower windows. He should climb with his weapon slung over the firing shoulder to quickly bring it to a firing position. He should clear the lower room with a hand grenade before going outside the window. The soldier does this by first loosening the safety pin so that he only needs one hand to throw the grenade. The objective upper-story window should not be entered before a hand grenade has been thrown in.

c. The soldier enters the objective window with a low silhouette (Figure 5-20). Entry can be head first; however, a preferred method is to hook a leg over the window sill and enter sideways, straddling the ledge.

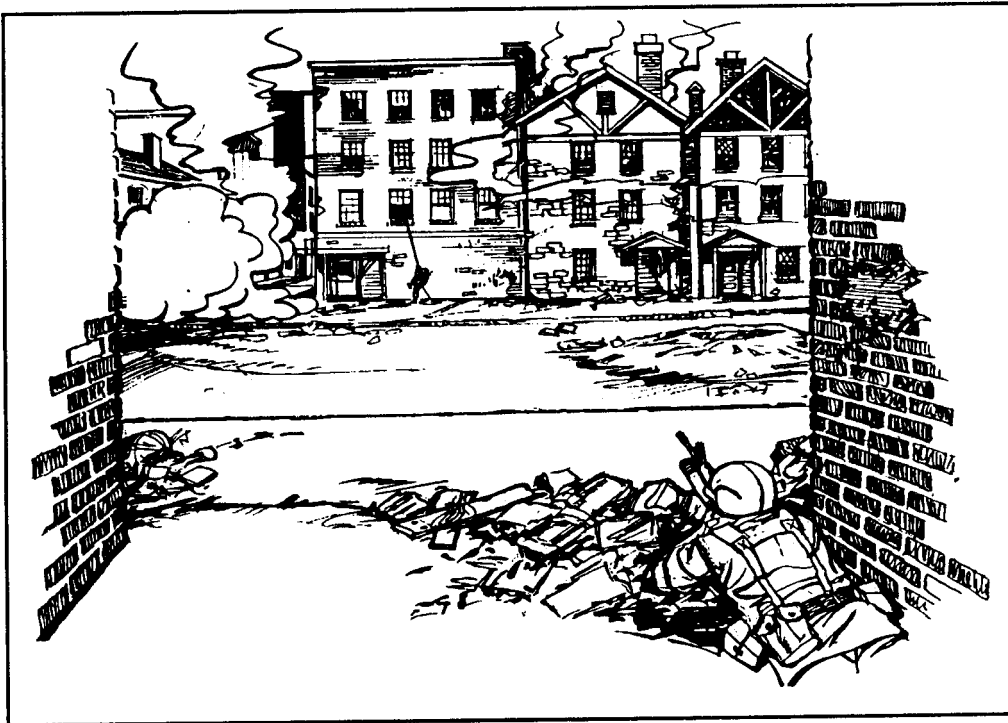


Figure 5-19. Employment of M203 grenade launcher for clearing enemy snipers.

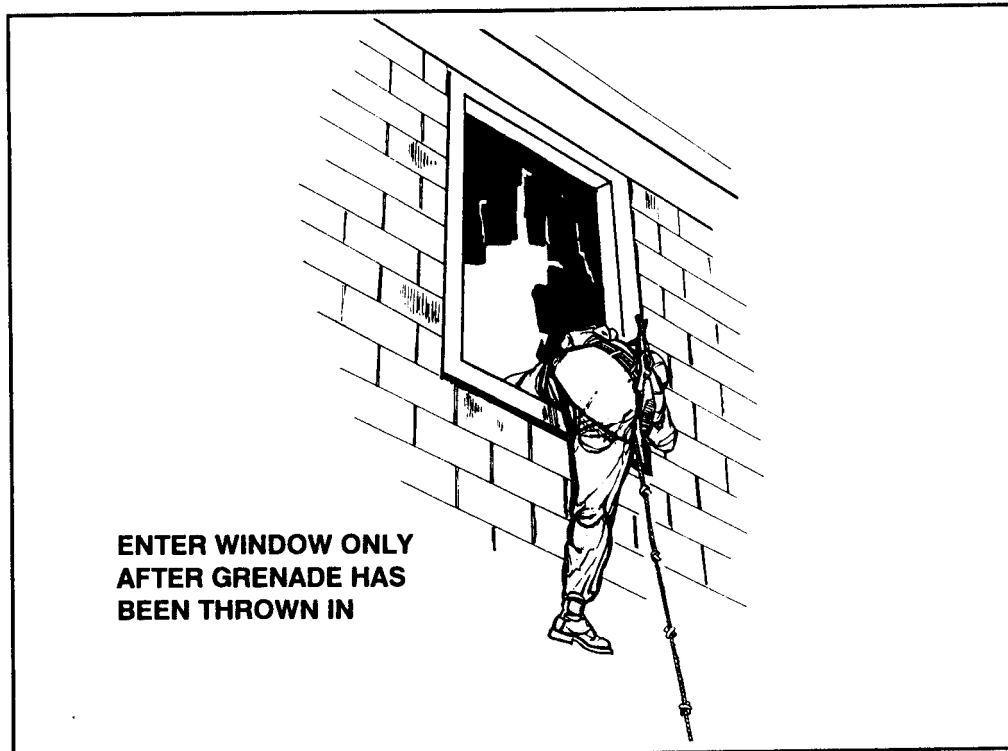


Figure 5-20. Soldier entering the objective window.

5-14. RAPPELLING

Rappelling (Figure 5-21) is an entry technique for upper floors that soldiers can use to descend from the rooftop of a tall building into a window. (See TC 21-24 for more information on rappelling.)



Figure 5-21. Rappelling.

5-15. ENTRY AT LOWER LEVELS

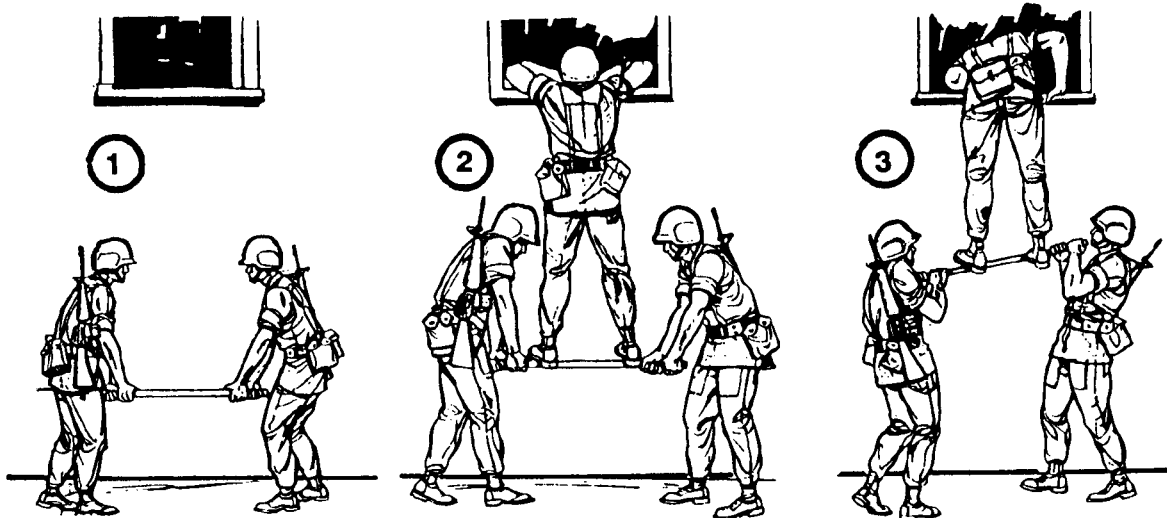
Buildings should be cleared from the top down. However, it may be impossible to enter a building at the top; therefore, entry at the bottom or lower level may be the only course of action. When entering a building at the lower level, soldiers avoid entry through windows and doors since both can be easily boobytrapped and are usually covered by enemy fire.

a. Ideally, when entering at lower levels, demolitions, artillery, tank fire, antiarmor weapons fire, or similar means are used to create a new entrance to avoid booby traps. Quick entry is required to follow up the effects of the blast and concussion.

b. When the only entry to a building is through a window or door, supporting fire should be directed at that location. If no supporting fire is available, LAWs can be employed instead.

c. Before entering, soldiers throw a cooked off hand grenade into the new entrance to reinforce the effects of the original blast. When making a new entrance in a building, they consider the effects of the blast on the building and 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. 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. (Specific lower-level entry techniques are shown in Figure 5-22.)

THE TWO-MAN LIFT, SUPPORTED

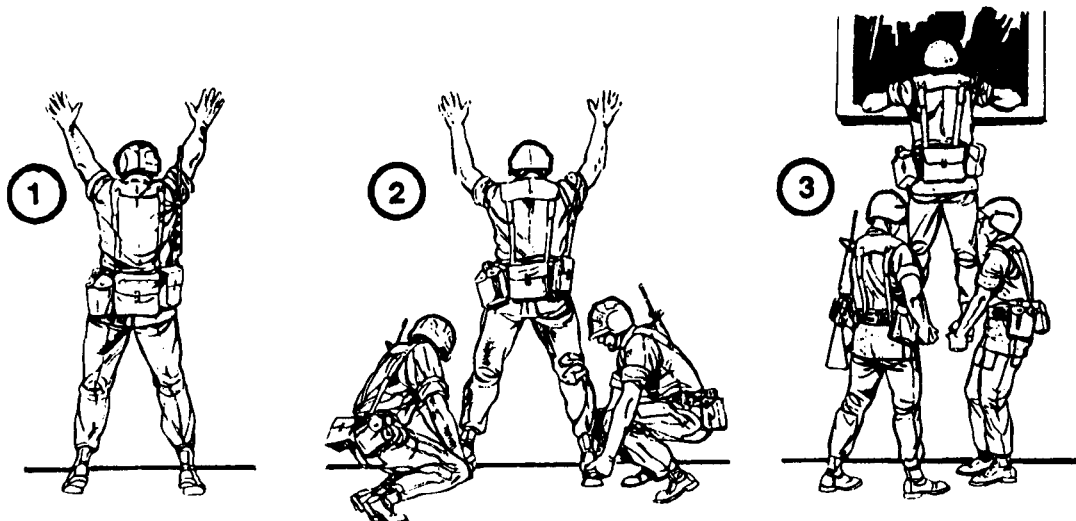


1
Two men stand facing one another, holding a support (a board or bar).

2
Another soldier steps onto the support.

3
Once both feet are on the support, the two men raise it, lifting the third man upward and into the entrance.

THE TWO-MAN LIFT WITH HEELS RAISED

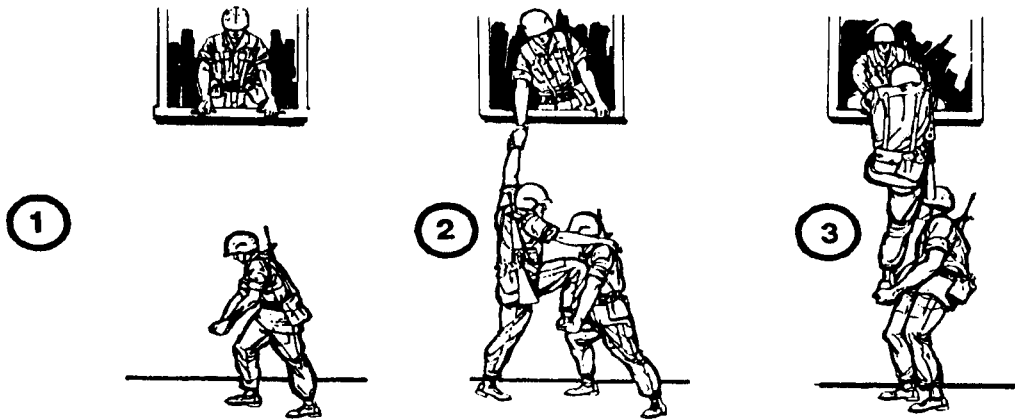


1
One man, standing with palms flat against the building, feet out from the building about 2 feet with heels raised, is lifted by two men.

2
Two men bend over facing each other. They each grasp a heel of the third man, and with one quick move lift him up and into the entrance.

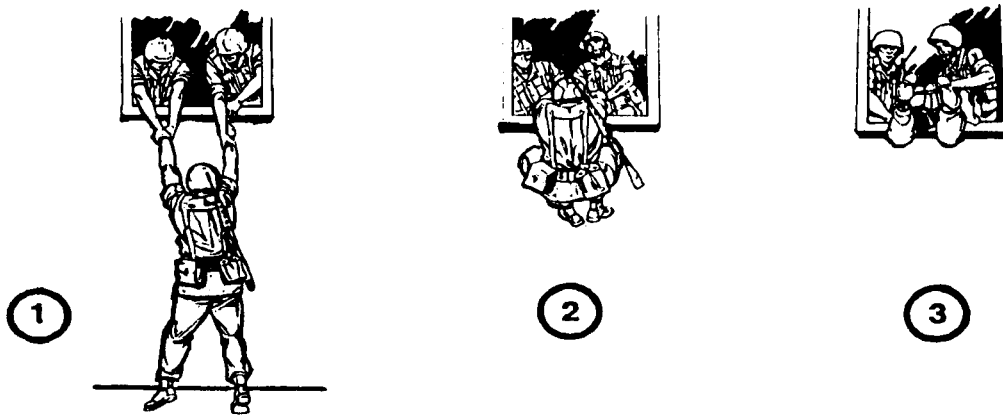
Figure 5-22. Lower-level entry techniques.

ONE-MAN LIFT



One man, with his back or side against the building and with his hands cupped, allows another man to raise one foot up into his cupped hands, and then lifts him up and into the entrance.

THE TWO-MAN PULL



When the first two soldiers are inside the building and other soldiers seek entrance, the two already inside may assist the others by pulling them up into the building.

Figure 5-22. Lower-level entry techniques (continued).

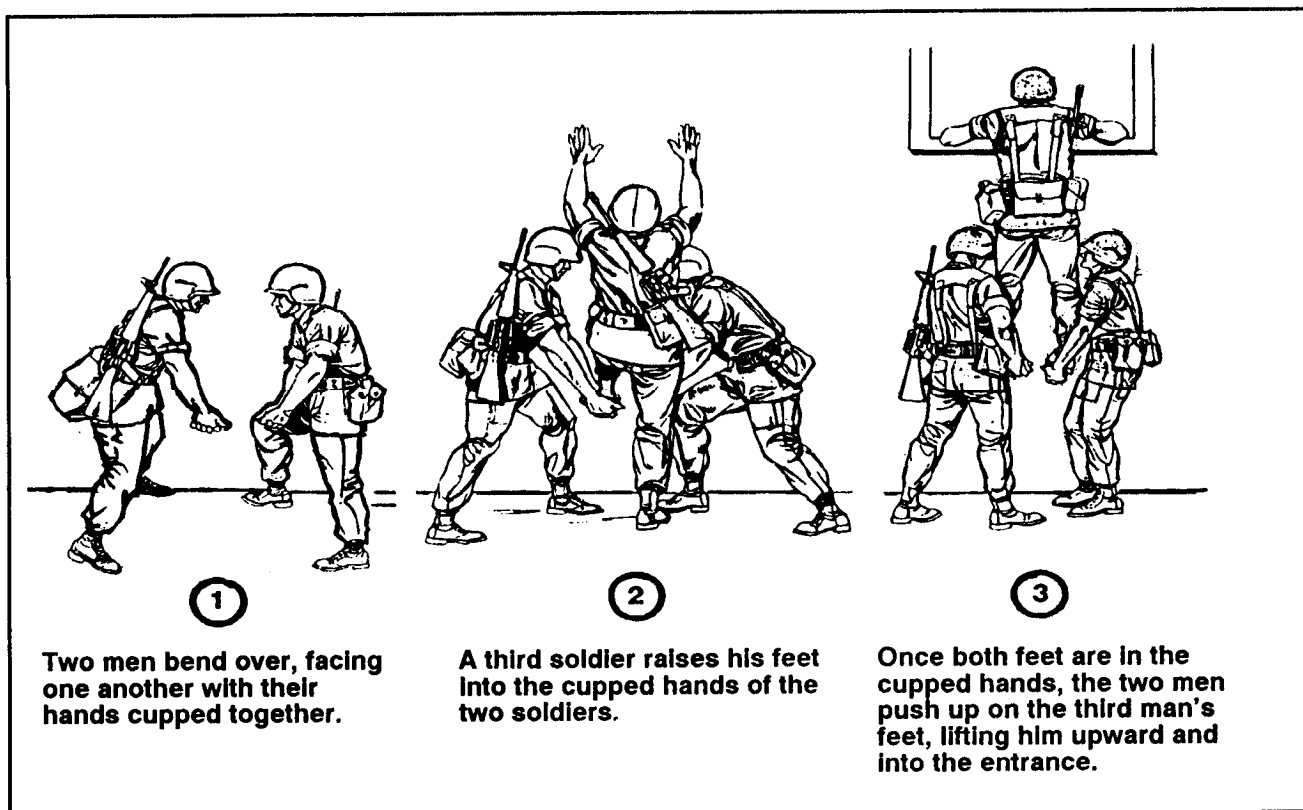


Figure 5-22. Lower-level entry techniques (continued).

5-16. HAND GRENADES

Combat in built-up areas (mainly during the attack) requires extensive use of hand grenades. The soldier should throw a grenade before negotiating staircases, mouseholes, and so on. This usually requires the use of both hands and the overhand and underhand methods of throwing. The grenade should be allowed to cook off for two seconds to prevent the enemy from grabbing the grenade and tossing it back.

a. The construction material used in the building being cleared influences the use of grenades. Concussion or offensive grenades are preferred over fragmentary grenades during offensive operations or when defending from hasty defensive positions. If the walls of a building are made of thin material, such as sheetrock or thin plywood, the soldier must either lie flat on the floor with his helmet pointing towards the area of detonation, or move away from any wall that might be penetrated by grenade fragments.

b. Soldiers should throw grenades in an opening before entering a building to eliminate enemy that might be near the entrance (Figure 5-23, page 5-20). The M203 grenade launcher is the best method of putting a grenade in an upper story window.

c. When a hand grenade must be used, the soldier throwing the grenade should stand close to the building, using it for cover. At the same time, the individual and the rest of the element 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.

d. The soldier throwing the grenade should allow the grenade to cook off for at least two seconds, and then step out far enough to lob the grenade in the upper-story opening. The weapon should be kept in the nonthrowing hand so it can be used if needed. The weapon should never be laid outside or inside the building. Once the grenade has been thrown into the opening (Figure 5-23), assaulting troops must move swiftly to enter the building. This technique should only be employed when the window has been broken. Otherwise, the chances are high that the thrown grenade will fall back onto the ground without going into the room.

e. If soldiers must enter the building by the stairs, they first look for booby traps. Then they throw a grenade through the stairwell door, let it detonate, and quickly move inside. They can use the staircase for cover.

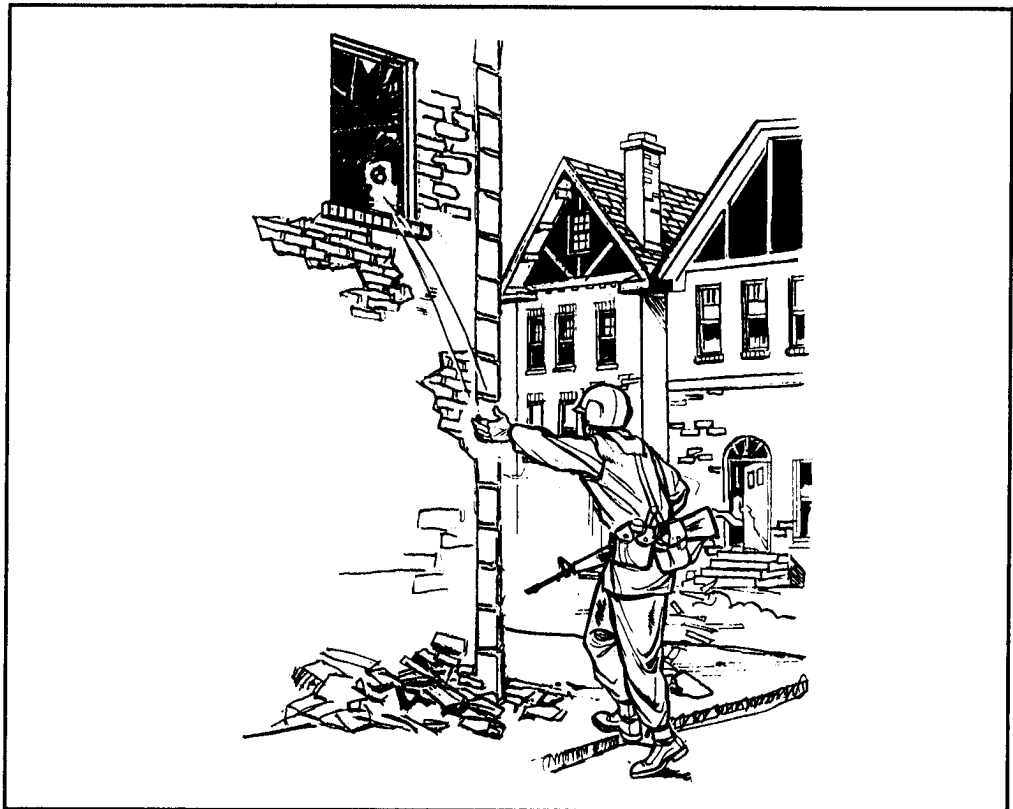


Figure 5-23. Hand grenade thrown through window.

WARNING

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.

f. The best way to enter a building is to breach the exterior wall. Again, a grenade must be thrown through the hole using all available cover, such as the lower corner of the building (Figure 5-24).

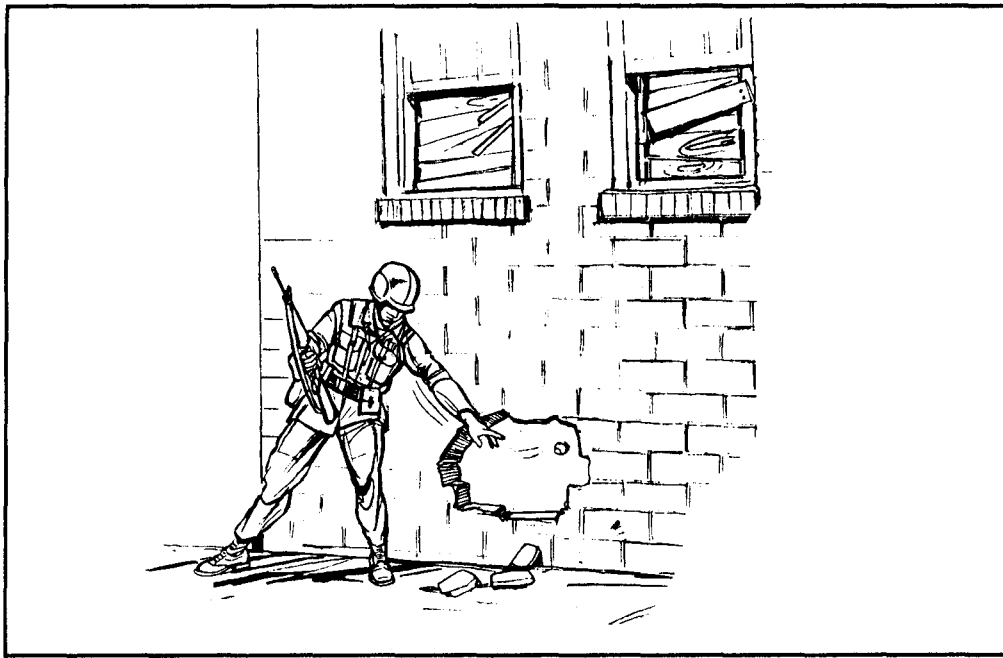


Figure 5-24. Hand grenade being thrown into a loophole.

g. When a door is the only means of entering a room, soldiers must beware of fire from enemy soldiers within the room and beware of booby traps. Doors can be opened by using the hand, by kicking, by firing, or by using pioneer tools such as an ax. When opening a door, soldiers should not expose themselves to firers through the door. A two-man team should be used when doors are opened by using the hand. Each soldier should stay close to one side of the doorway so as not to expose himself in the open doorframe. However, it is better to open the door by kicking or firing (Figure 5-25, page 5-22). When kicking, one man stands to the side while the other kicks.

h. Soldiers force the door open using short bursts of automatic fire aimed at the door locking mechanism. Other techniques are to use an ax or demolitions, if they are available. As a last resort, soldiers can resort to kicking the door open. This is the least favored technique since it is difficult and tiring to the soldier. It rarely works the first time, thereby giving any enemy soldiers within the room ample warning (it also gives the enemy time to shoot through the door). Once the door is open, a hand grenade is tossed in. After the grenade explodes, the first soldier entering the room positions himself to the right (left) of the entrance, up against the wall; engages targets with rapid, short bursts of automatic fire; and scans the room. The rest of the team provide immediate security. The first man in the room decides where the next man should position himself and gives the command **NEXT MAN IN, LEFT (RIGHT)**. The next man shouts **COMING IN, LEFT (RIGHT)**, enters the room, and positions himself up against the wall left (right) of the entrance and scans the room. Once in position, the senior soldier can call in additional team members with the **NEXT MAN IN** command, as the situation dictates. It is critical that all assault team members tell each other where they are to avoid fratricide.



Figure 5-25. Soldier shooting the door open.

i. Another way to enter a room is to blast mouseholes with demolitions. In moving from room to room through mouseholes, soldiers should use grenades as in moving through doorways. As they enter the mousehole, they should stay low and use all available cover.

j. Although buildings are best cleared from the top down, this is not always possible. While clearing the bottom floor of a building, soldiers may encounter stairs, which must also be cleared. Once a again, grenades play an important role. To climb the stairs, soldiers should first inspect for booby traps, then toss a cooked-off grenade to the head of the stairs (Figure 5-26). Soldiers must use voice alerts when throwing grenades. Once the first grenade has detonated, another grenade should be thrown over and behind the staircase banister and into the hallway, destroying any enemy hiding to the rear. Using the staircase for cover, soldiers throw the grenade underhand to reduce the risk of it bouncing back and rolling down the stairs.

k. After the stairs have been cleared, assaulting forces move to the top floor and clear it, using the methods already described. Upon clearing the top floor, forces move downstairs to clear the center and bottom floors, and to continue with the mission.

NOTE: Since large quantities of hand grenades are used when clearing buildings, a continuous supply must be available to forces having this mission within a built-up area.

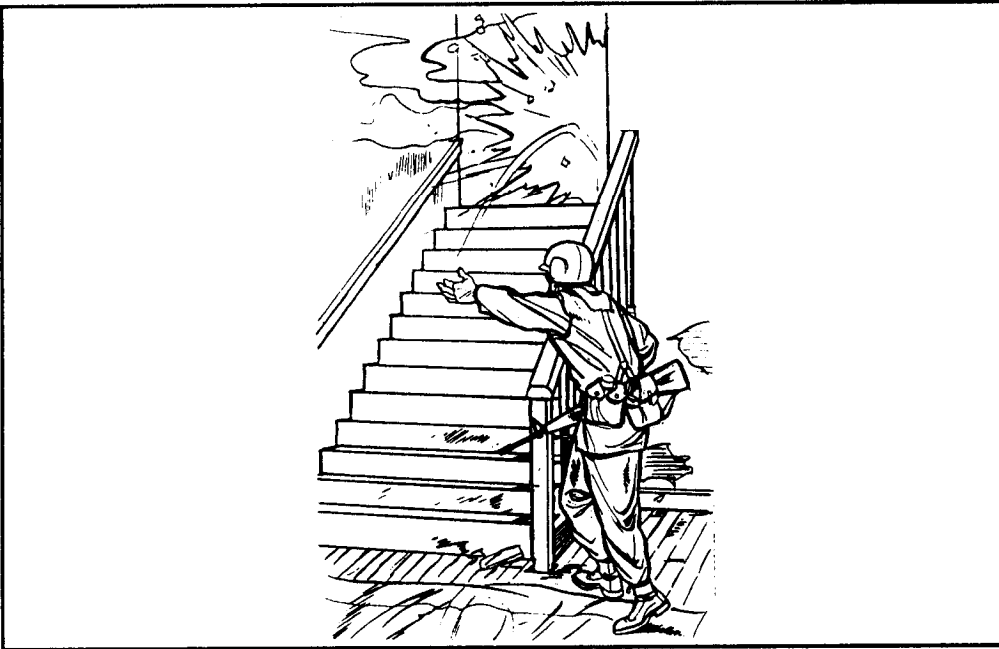


Figure 5-26. Soldier tossing grenade up stairway.

Section III. FIRING 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 properly use firing positions.

5-17. HASTY FIRING POSITION

A hasty firing 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 firing positions in a built-up area and techniques for occupying them are: corners of buildings, firing from behind walls, firing from windows, firing from unprepared loopholes, and firing from the peak of a roof.

a. **Corners of Buildings.** The corner of a building provides cover for a hasty firing position if used properly.

(1) The firer must be capable of firing his weapon both right- and left-handed to be effective around corners. A common error made in firing around corners is firing from the wrong shoulder. This exposes more of the firer's body to return fire than necessary. By firing from the proper shoulder, the firer can reduce the target exposed to enemy fire.

(2) Another common mistake when firing around corners is firing from the standing position. The firer 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 behind walls, the soldier must fire around cover—not over it (Figure 5-27).

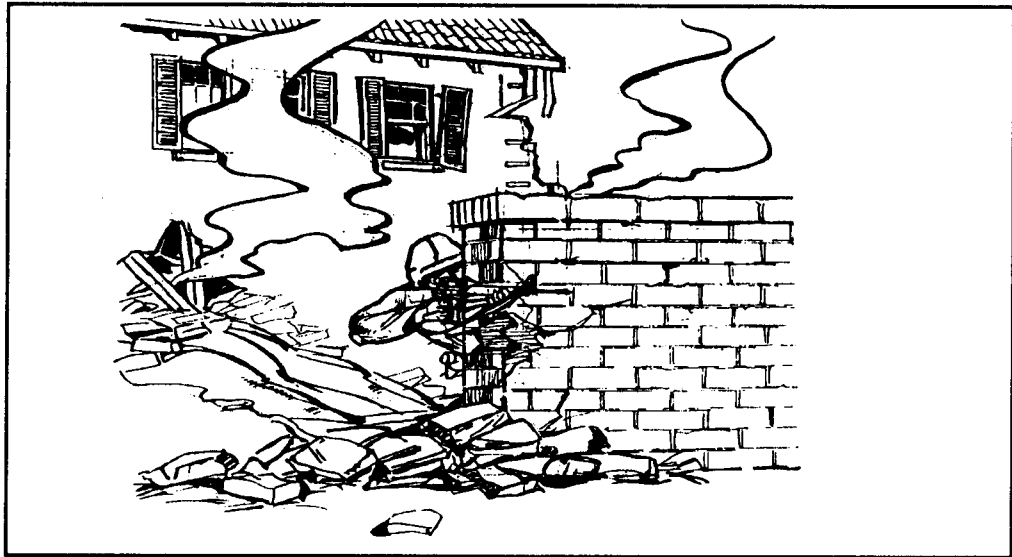


Figure 5-27. Soldier firing around cover.

c. **Windows.** In a built-up 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 firer's position, especially at night when the muzzle flash can easily be observed. In using the proper method of firing from a window (Figure 5-28), 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 5-28. Soldier firing from window.

d. **Loopholes.** The soldier may fire through a hole torn in the wall and avoid windows (Figure 5-29). 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.

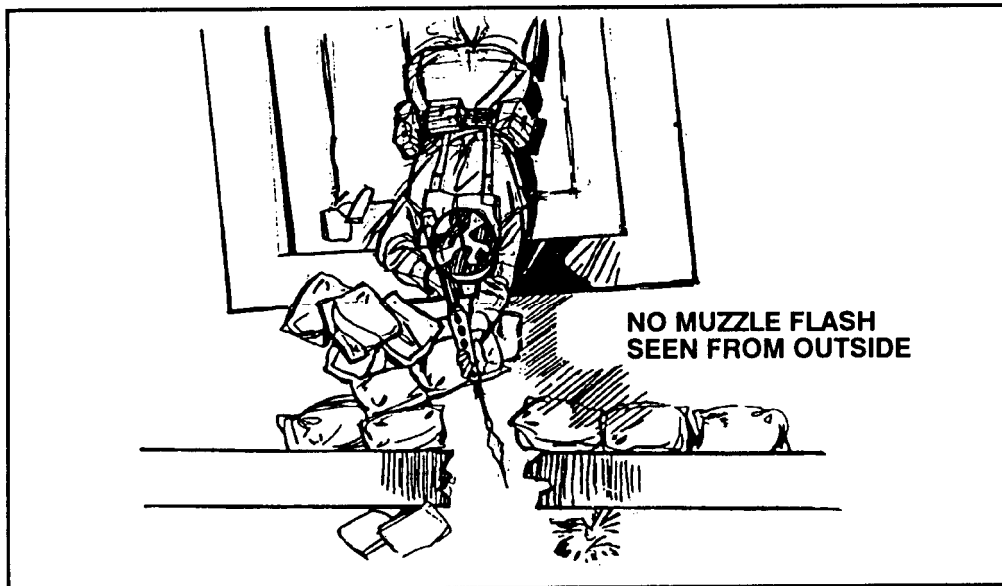


Figure 5-29. Soldier firing from loophole.

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 5-30). 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.

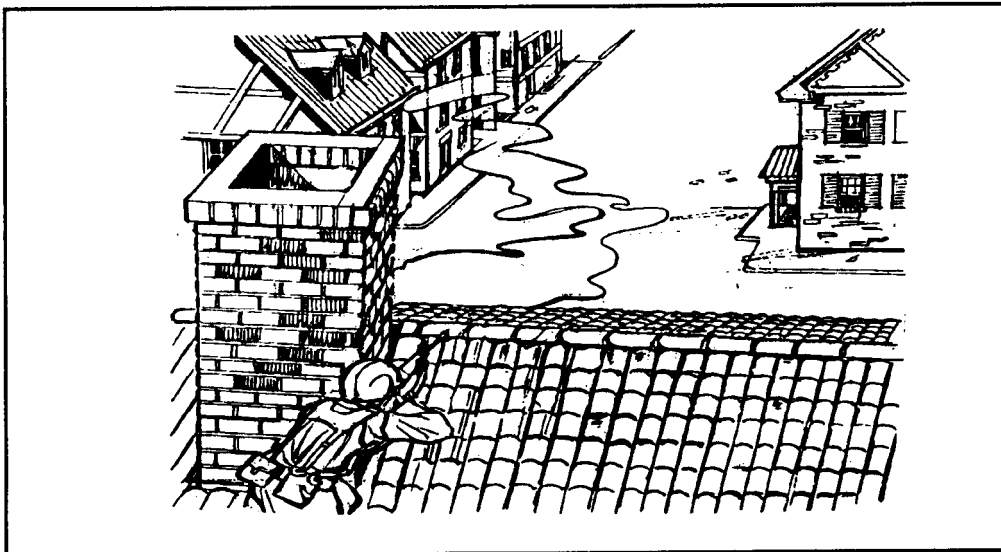


Figure 5-30. Soldier firing from peak of a roof.

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. When a soldier in an open area between buildings (a street or alley) is fired upon by enemy in one of the buildings to his front and no cover is available, he should lie prone as close as possible to a building 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, target exposure can be reduced by firing from the prone position, by firing from shadows, and by presenting no silhouette against buildings.

5-18. PREPARED FIRING POSITION

A prepared firing position is one built or improved to allow the firer to engage a particular area, avenue of approach, or enemy position, 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 firer's use (Figure 5-31). The barricading may be accomplished with materials torn from the interior walls of the building or any other available material. When barricading windows, avoid—

(1) Barricading only the windows that will be used as firing ports. The enemy will soon determine that the barricaded windows are firing positions.

(2) 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 firer is hard to detect. Firing from the bottom of the window gives the firer 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 firer. All glass must be removed from the window to prevent injury to the firer. Lace curtains permit the firer 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 firing positions, they do not always allow the firer to engage targets in his sector.

(1) To avoid establishing a pattern of always firing from windows, an alternate position is required such as the prepared loophole (Figure 5-32). This involves cutting or blowing a small hole into the wall to allow the firer to observe and engage targets in his sector.

(2) Sandbags are used to reinforce the walls below, around, and above the loophole. Two layers of sandbags are placed on the floor under the firer 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 firer from explosions in the room.

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



Figure 5-31. Window firing position.



Figure 5-32. Prepared loopholes.

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 (Figure 5-33), the sniper position should be prepared from underneath on the enemy side of the roof. 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 that 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.

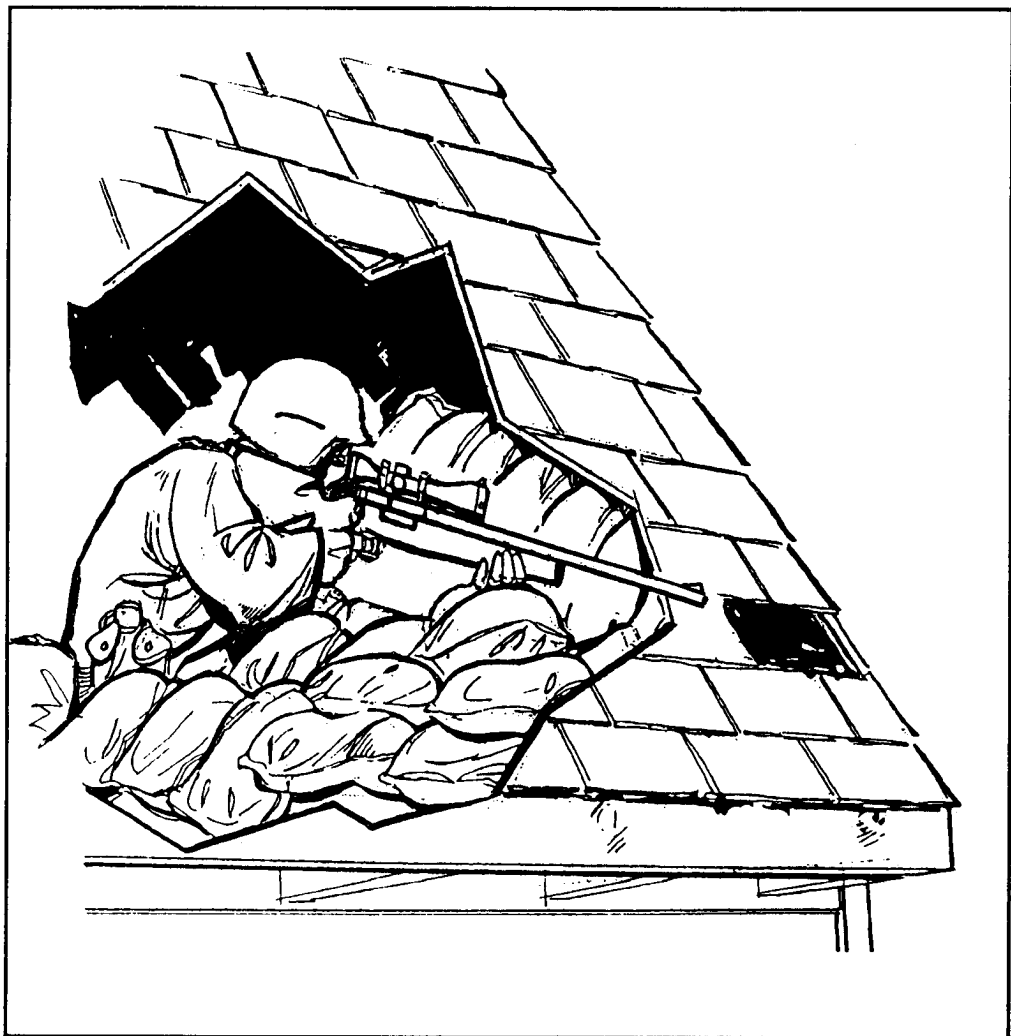


Figure 5-33. Sniper position.

e. Some rules and considerations for selecting and occupying individual firing positions are:

- (1) Make maximum use of available cover and concealment.
- (2) Avoid firing over cover; when possible, fire around it.
- (3) Avoid silhouetting against light-colored buildings, the skyline, and so on.
- (4) Carefully select a new firing position before leaving an old one.
- (5) Avoid setting a pattern; fire from both barricaded and unbarricaded windows.
- (6) Keep exposure time to a minimum.
- (7) Begin improving a hasty position immediately after occupation.
- (8) Use construction material for prepared positions that is readily available in a built-up area.
- (9) Remember that positions that provide cover at ground level may not provide cover on higher floors.

f. In attacking a built-up area, the recoilless weapon and ATGM crews are severely 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. The corner of a building can be improved with sandbags to create a firing position (Figure 5-34).



Figure 5-34. Corner firing position.

g. The rifle squad during an attack on and in defense of a built-up area is often reinforced with attached antitank weapons. Therefore, 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, and LAWs or AT4s.

i. Operating in a built-up 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. Recoilless weapons and ATGMs firing from the top of a building can use the chimney for cover (Figure 5-35). The rear of this position should be reinforced with sandbags.

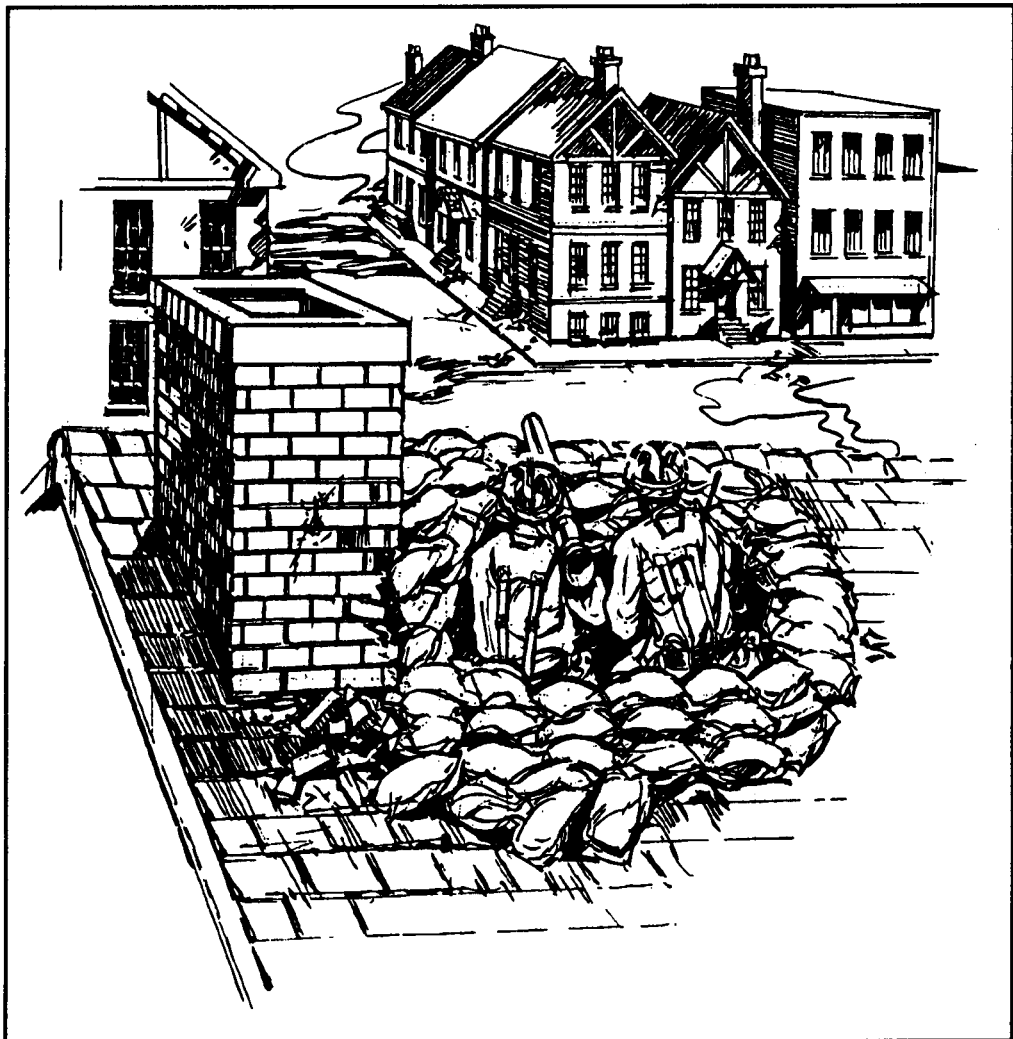


Figure 5-35. A recoilless weapon crew firing from a rooftop.

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 in which to engage enemy armor. When buildings are elevated, positions can be prepared using a building for overhead cover (Figure 5-36). The backblast under the building must not damage or collapse the building or injure the crew.

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 enclosures 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 5-36. Prepared positions using a building for overhead cover.

1. The machine gun has no backblast, so it can be emplaced almost anywhere. In the attack, windows and doors offer ready-made firing ports (Figure 5-37). For this reason, the enemy normally has windows and doors under observation and fire, which should be avoided. Any opening in walls that was created during the fighting may be used. When other holes are not present, small explosive charges can create loopholes (Figure 5-38). Regardless of what openings are used, machine guns should be within the building and in the shadows.

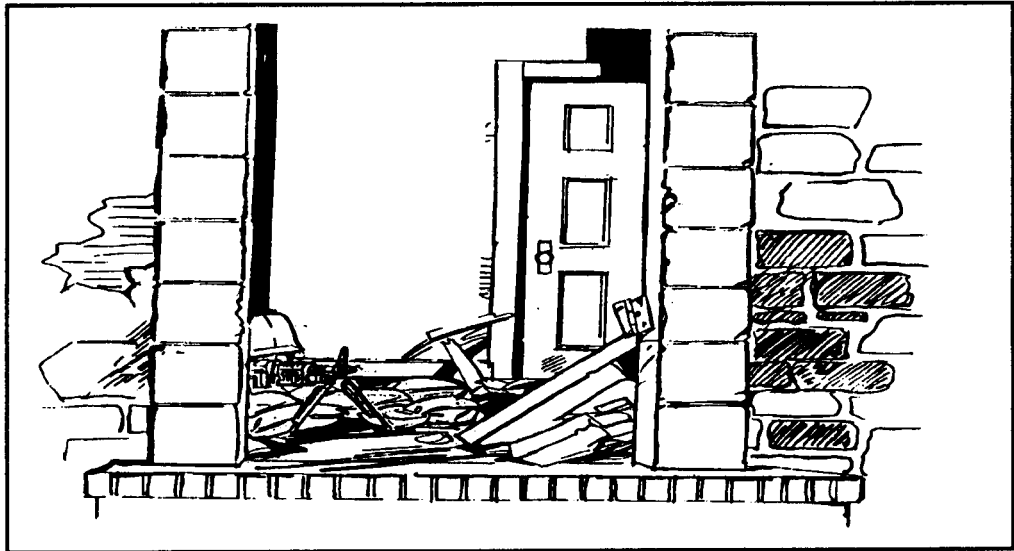


Figure 5-37. Emplacement of machine gun in a doorway.



Figure 5-38. 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 alternative firing 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 table-top level. Varying their height and location makes them hard to pinpoint and identify. Dummy loopholes, shingles knocked off, or holes cut that are not intended to be used as firing positions aid in the deception. Loopholes located behind shrubbery, under doorjams, 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 or sandbagged under a building (Figure 5-39). 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 5-40).

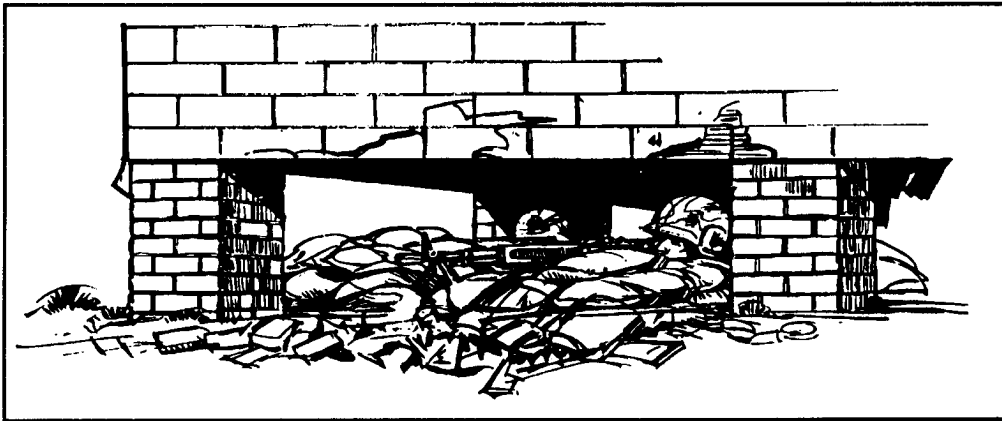


Figure 5-39. Sandbagged machine gun emplacement under a building.



Figure 5-40. Corner machine gun bunker.

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. Therefore, firing from loopholes on the second or third story may be necessary. A firing platform can be built under the roof (Figure 5-41) and a loophole constructed. Again, the exact location of the position must be concealed by knocking off shingles in isolated patches over the entire roof.



Figure 5-41. Firing platform built under roof.

5-19. TARGET ACQUISITION

Built-up areas provide unique challenges to units. Buildings mask movement and the effects of direct and indirect fires. The rubble from destroyed buildings, along with the buildings themselves, provide concealment and protection for attackers and defenders, making target acquisition difficult. A city offers definite avenues of approach that can easily be divided into sectors.

a. The techniques of patrolling and using observation posts apply in the city as well as in wooded terrain. These techniques enable units to locate the enemy, to develop targets for direct and indirect fires in the defense, and to find uncovered avenues of approach in the offense.

b. Most weapons and vehicles have distinguishing signatures. These come from design features or from the environment in which the equipment is used. For example, firing a tank main gun in dry, dusty, and debris-covered streets raises a dust cloud; a tank being driven in built-up areas produces more noise than one moving through an open field; soldiers moving through rubble on a street or in the halls of a damaged building create more noise than in a wooded area. Soldiers must recognize signatures so they can locate and identify targets. Seeing, hearing, and smelling assist in detecting and identifying signatures that lead to target location, identification, and rapid engagement. Soldiers must look for targets in areas where they are most likely to be employed.

c. Target acquisition must be continuous, whether halted or moving. Built-up areas provide both the attacker and defender with good cover and concealment, but it usually favors the defender because of the advantages achieved. This makes target acquisition extremely important since the side that fires first may win the engagement.

d. When a unit is moving and enemy contact is likely, the unit must have an overmatching element. This principle applies in built-up areas as it does in other kinds of terrain except that the overmatching element must observe both the upper floors of buildings and street level.

e. Stealth should be used when moving in built-up areas since little distance separates attackers and defenders. Only arm-and-hand signals should be used until contact is made. The unit should stop periodically to listen and watch, ensuring it is not being followed or that the enemy is not moving parallel to the unit's flank for an ambush. Routes should be carefully chosen so that buildings and piles of rubble can be used to mask the unit's movement.

f. Observation duties must be clearly given to squad members to ensure all-round security as they move. This security continues at the halt. All the senses must be used to acquire targets, especially hearing and smelling. Soldiers soon recognize the sounds of vehicles and people moving through streets that are littered with rubble. The smell of fuel, cologne, and food cooking can disclose enemy positions.

g. Observation posts are positions from which soldiers can watch and listen to enemy activity in a specific sector. They warn the unit of an enemy approach and are ideally suited for built-up areas. OPs can be positioned in the upper floors of buildings, giving soldiers a better vantage point than at street level.

h. In the defense, a platoon leader positions OPs for local security as ordered by the company commander. The platoon leader selects the general location but the squad leader sets up the OP (Figure 5-42, page 5-36). Normally, there is at least one OP for each platoon. An OP consists of two to four men and is within small-arms supporting range of the platoon. Leaders look for positions that have good observation of the target sector. Ideally, an OP has a field of observation that overlays those of adjacent OPs. The position selected for the OP should have cover and concealment for units moving to and from the OP. The upper floors of houses or other buildings should be used. The squad leader should not select obvious positions, such as water towers or church steeples, that attract the enemy's attention.

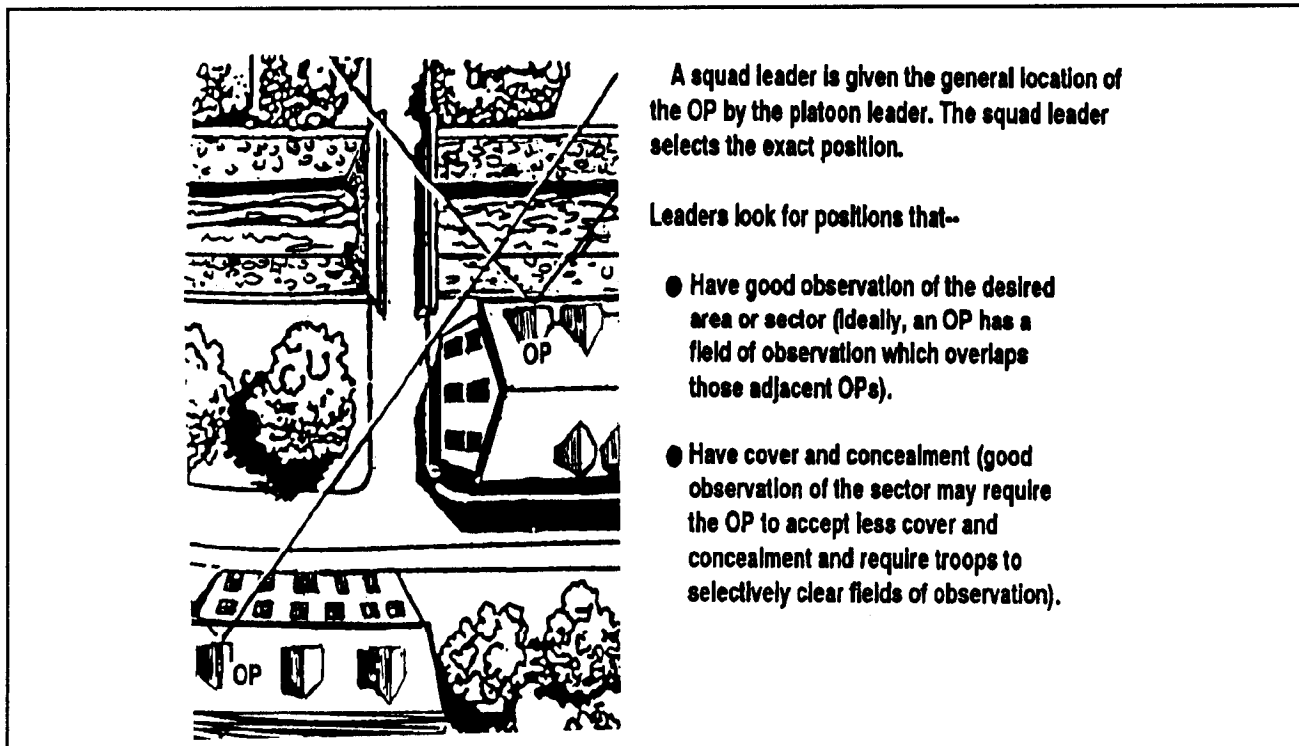


Figure 5-42. Selection of OP location.

i. The soldier should be taught how to scan a target area from OPs or from his fighting positions. Use of proper scanning techniques enable squad members to quickly locate and identify targets. Without optics, the soldier searches quickly for obvious targets, using all his senses to detect target signatures. If no targets are found and time permits, he makes a more detailed search (using binoculars, if available) of the terrain in the assigned sector using the 50-meter method. First, he searches a strip 50 meters deep from right to left; then he searches a strip from left to right that is farther out, overlapping the first strip. This process is continued until the entire sector is searched. In the city core or core periphery where the observer is faced with multistory buildings, the overlapping sectors may be going up rather than out.

j. Soldiers who man OPs and other positions should employ target acquisition devices. These devices include binoculars, image intensification devices, thermal sights, ground surveillance radar (GSR), remote sensors (REMs) and platoon early warning systems (PEWS). All of these devices can enhance the units ability to detect and engage targets. Several types of devices should be used since no single device can meet every need of a unit. A mix might include PEWS sensors to cover out-of-sight areas and dead space, image intensification devices for close range, thermal sights for camouflage, and smoke penetration for low light conditions. A mix of devices is best because several devices permit overlapping sectors and more coverage, and the capabilities of one device can compensate for limitations of another.

k. Target acquisition techniques used at night are similar to those used during the day. At night, whether using daylight optics or the unaided eye, a soldier does not look directly at an object but a few degrees off to the side. The side of the eye is more sensitive to dim light. When scanning with off-center vision, he moves his eyes in short, abrupt, irregular moves. At each likely target area, he pauses a few seconds to detect any motion.

l. Sounds and smells can aid in acquiring targets at night since they transmit better in the cooler, damper, night air. Running engines, vehicles, and soldiers moving through rubble-covered streets can be heard for great distances. Odors from diesel fuel, gasoline, cooking food, burning tobacco, after-shave lotion, and so on reveal enemy and friendly locations.

5-20. FLAME OPERATIONS

Incendiary ammunition, special weapons, and the ease with which incendiary devices can be constructed from gasoline and other flammables make fire a true threat in built-up area operations. During defensive operations, firefighting should be a primary concern. The proper steps must be taken to reduce the risk of a fire that could make a chosen position indefensible.

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

b. A building of concrete block construction, 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 are removed and replaced with blankets to resemble walls from the outside. Sand is spread 2 inches deep on floors and in attics to retard fire,

c. All available firefighting gear is pre-positioned so it can be used during actual combat. For the individual soldier, such gear includes entrenching tools, helmets, sand, and blankets. These items are supplemented with fire extinguishers that are not in use.

d. Fire is so destructive that it can easily overwhelm personnel regardless of extraordinary precautions. Soldiers plan routes of withdrawal so that a priority of evacuation can be sent from fighting positions. This 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 built-up areas can influence the enemy to use incendiary devices. Two major first-aid problems that are more urgent than in the open battlefield are: burns, and smoke and flame inhalation, which creates a lack of oxygen. 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 greatly reduced by wearing the individual protective mask. Regardless of the fire hazard, defensive planning for combat in built-up areas must include aidmen. Aidmen must reach victims and their equipment, and must have extra supplies for the treatment of burns and inhalation injuries.

f. Offensive operations also require plans for firefighting 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.

g. When planning offensive operations, the attacker must consider all available weapons. The best two weapons for creating fires are the M202 FLASH and the flamethrower, which is currently out of the Army inventory but can be obtained by special request through logistics channels. The flamethrower is the better training weapon, since water can be substituted for the flame, and the effect of the weapon can be measured by the penetration of the water. There is currently no training round for the M202. When using fire in an operation, firefighting support must be available to avoid using soldiers to fight fires. Soldiers chose targets during the initial planning to avoid accidentally destroying critical facilities within the built-up area. When using flame operations in a built-up area, soldiers set priorities to determine which critical installations (hospitals, power stations, radio stations, and historical landmarks) should have primary firefighting support.

h. Every soldier participating in the attack must be ready to deal with fire. The normal firefighting equipment available includes the entrenching tool, helmet (for carrying sand or water), and blankets (for snuffing out small fires). Fire extinguishers are available on each of the vehicles supporting the attack.

5-21. EMPLOYMENT OF SNIPERS

The value of the sniper to a unit operating in a built-up area depends on several factors. These factors include the type of operation, the level of conflict, and the rules of engagement. Where ROE allow destruction, the snipers may not be needed since other weapons systems available to a mechanized force have greater destructive effect. However, they can contribute to the fight. Where the ROE prohibit collateral damage, snipers may be the most valuable tool the commander has. (See FM 7-20; FM 1-2, C1; and TC 23-14 for more information.)

a. Sniper effectiveness depends in part on the terrain. Control is degraded by the characteristics of an urban area. To provide timely and effective support, the sniper must have a clear picture of the commander's concept of operation and intent.

b. Snipers should be positioned in buildings of masonry construction. These buildings should also offer long-range fields of fire and all-round observation. The sniper has an advantage because he does not have to move with, or be positioned with, lead elements. He may occupy a higher position to the rear or flanks and some distance away from the element he is supporting. By operating far from the other elements, a sniper avoids decisive engagement but remains close enough to kill distant targets that threaten the unit. Snipers should not be placed in obvious positions, such as church steeples and roof tops, since the enemy often observes these and targets them for destruction. Indirect fires can generally penetrate rooftops and cause casualties in top floors of buildings. Also, snipers should not be positioned where there is heavy traffic; these areas invite enemy observation as well.

c. Snipers should operate throughout the area of operations, moving with and supporting the companies as necessary. Some teams may operate independent of other forces. They search for targets of opportunity, especially

for enemy snipers. The team may occupy multiple positions. A single position may not afford adequate observation for the entire team without increasing the risk of detection by the enemy. Separate positions must maintain mutual support. Alternate and supplementary positions should also be established in urban areas.

d. Snipers may be assigned tasks such as the following:

- (1) Killing enemy snipers (countersniper fire).
- (2) Killing targets of opportunity. These targets may be prioritized by the commander. Types of targets might include enemy snipers, leaders, vehicle commanders, radio men, sappers, and machine gun crews.
- (3) Denying enemy access to certain areas or avenues of approach (controlling key terrain).
- (4) Providing fire support for barricades and other obstacles.
- (5) Maintaining surveillance of flank and rear avenues of approach (screening).
- (6) Supporting local counterattacks with precision fire.

Section IV. NAVIGATION IN BUILT-UP AREAS

Built-up 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 whose rubble blocks streets. Street and road signs are destroyed during the fighting if they are not removed by the defenders. Operations in subways and sewers present other unique challenges. However, maps and photographs are available to help the unit overcome these problems. The global positioning system can provide navigation abilities in built-up areas.

5-22. MILITARY MAPS

The military city map is a topographical map of a city that is usually a 1:12,500 scale, 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 built-up areas. These maps have been designed or modified to give information not covered on a standard map, which includes maps of road and bridge networks, railroads, built-up areas, and electric power fields. They can be used to supplement military city maps and topographical maps.

b. Once in the built-up area, soldiers use street intersections as reference points much as 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 built-up area to know where they are and to move to new locations even though streets have been blocked or a key building destroyed.

c. The old techniques of compass reading and pace counting can still be used, especially in a blacked-out city where street signs and buildings are not visible. The presence of steel and iron in the MOUT environment may cause inaccurate compass readings. Sewers must be navigated much the same way. Maps providing the basic layout of the sewer system are maintained by city

sewer departments. 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. Operations in a built-up area adversely affect the performance of sophisticated electronic devices such as GPS and data distribution systems. These systems function the same as communications equipment—by line-of-sight. 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 will not affect line-of-sight readings.

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

5-23. GLOBAL POSITIONING SYSTEMS

Most global positioning systems use a triangular technique using satellites to calculate their position. Preliminary tests have shown that GPS are not affected by small built-up areas, such as villages. However, large built-up areas with a mixture of tall and short buildings cause some degradation of most GPS. This affect may increase as the system is moved into an interior of a large building or taken into subterranean areas.

5-24. AERIAL PHOTOGRAPHS

Current aerial photographs are also excellent supplements to military city maps and can be substituted for a map. A topographic map or military city map could be obsolete if compiled many years ago. A recent aerial photograph shows changes that have taken place since the map was made. This 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.

Section V. CAMOUFLAGE

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

5-25. 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 cinder block 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 that attract attention from the air must be hidden.

d. Shirts should be worn since exposed skin reflects light and attracts the enemy. Even dark skin reflects light because of its natural oils.

e. Camouflage face paint is issued in three standard, two-tone sticks. When issue-type face-paint sticks are not available, burnt cork, charcoal, or lampblack can be used to tone down exposed skin. Mud may be used as a last resort since it dries and may peel off, leaving the skin exposed; it may also contain harmful bacteria.

5-26. USE OF SHADOWS

Buildings in built-up areas throw sharp shadows, which can be used to conceal vehicles and equipment (Figure 5-43). Soldiers should avoid areas that are not in shadows. Vehicles may have to be moved periodically as shadows shift during the day. Emplacements inside buildings provide better concealment.

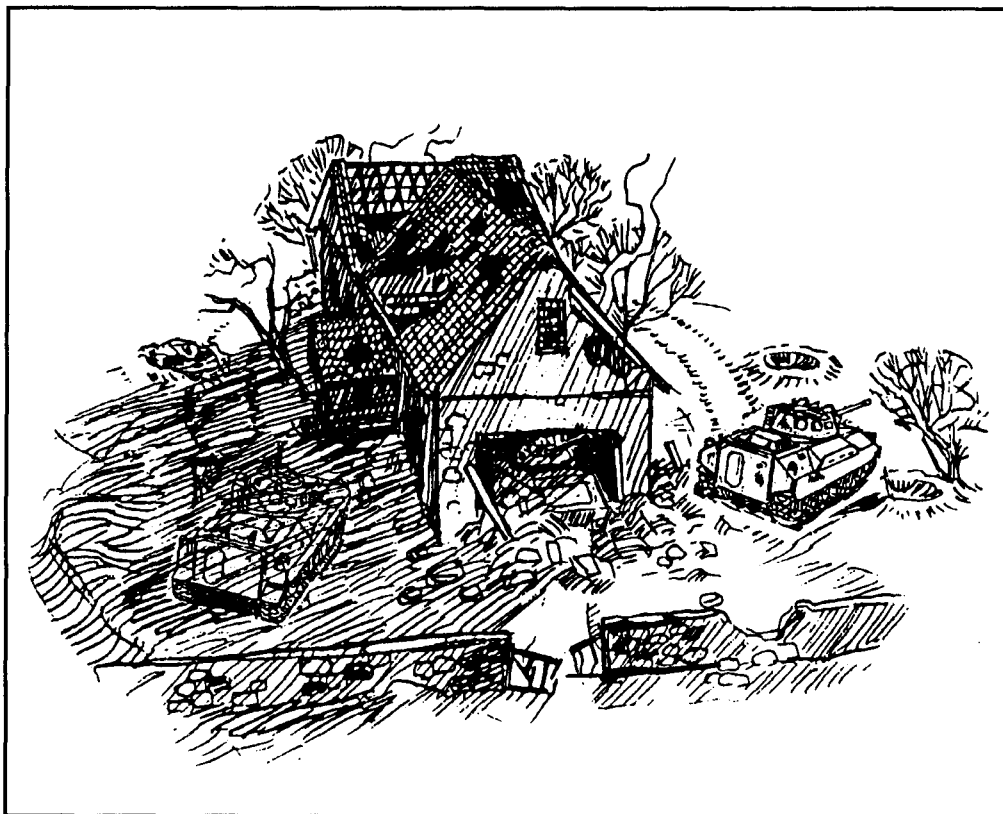


Figure 5-43. Use of shadows for concealment.

a. Soldiers should avoid the lighted areas around windows and loop-holes. They will be better concealed if they fire from the shadowed interior of a room (Figure 5-44).

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.

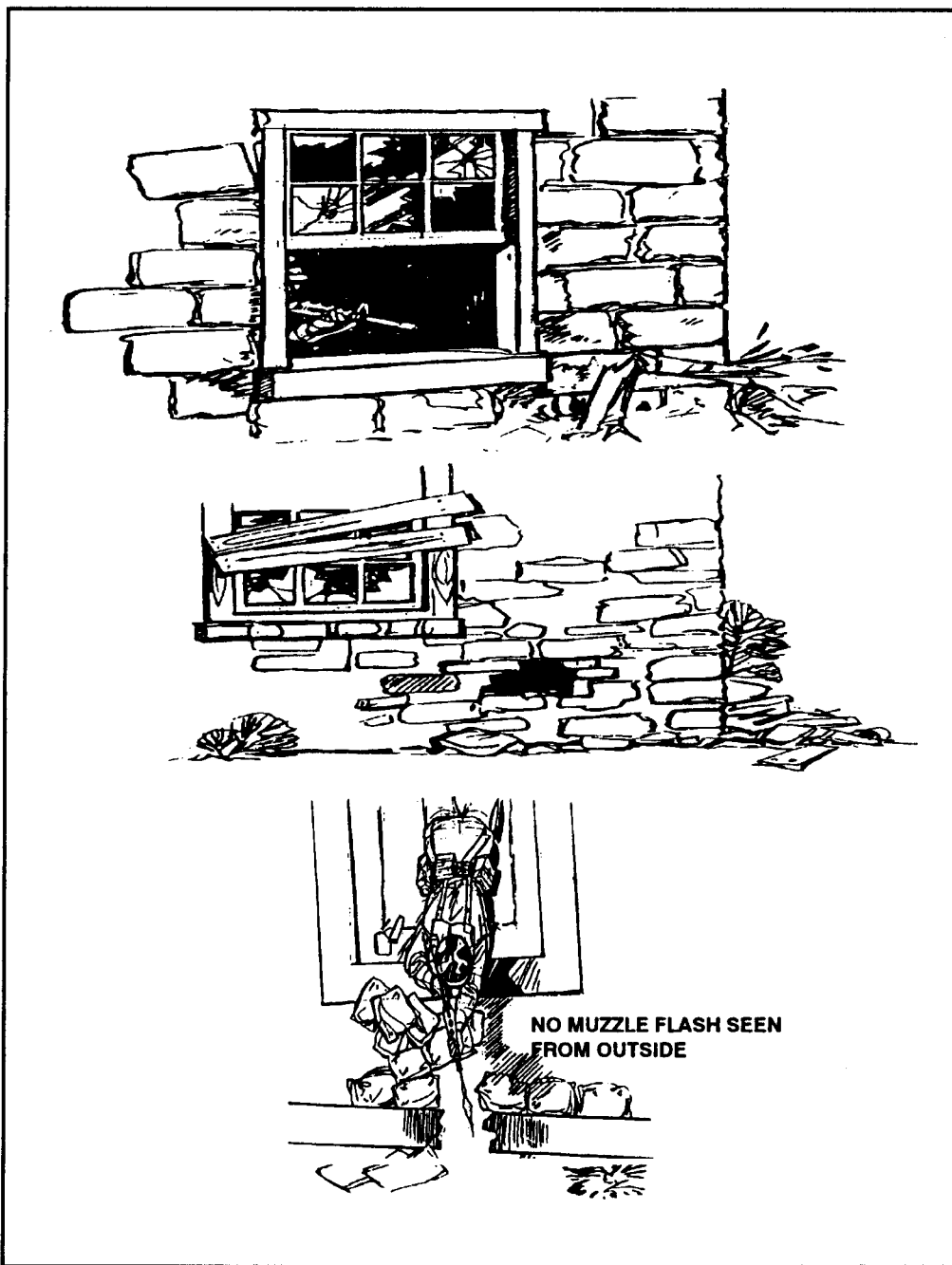


Figure 5-44. Concealment inside a building.

5-27. COLOR AND TEXTURE

Standard camouflage pattern painting of equipment is not as effective in built-up areas as a solid, dull, dark color hidden in shadows. Since repainting vehicles before entering a built-up 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 built-up areas the same as it does elsewhere. However, burlap or canvas strips are more effective camouflage than foliage (Figure 5-45). Predominant colors are normally browns, tans, and sometimes grays rather than greens, but each camouflage location should be evaluated:



Figure 5-45. Helmet camouflaged with burlap strips.

b. Weapons emplacements should use a wet blanket (Figure 5-46, page 5-44), canvas, or cloth to keep dust from rising when the weapon is fired.

c. Command posts and logistical emplacements are easier to camouflage and better protected if located underground. Antennas can be removed 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 that they are not silhouetted or skylined, but rather blend into their surroundings. To defeat enemy urban camouflage, soldiers should be alert for common camouflage errors such as the following:

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



Figure 5-46. Wet blanket used to keep dust down.

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

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

(1) Use the terrain and alter camouflage habits to suit your surroundings.

(2) Employ deceptive camouflage of buildings.

(3) Continue to improve positions. Reinforce fighting positions with sandbags or other fragment- and blast-absorbent material.

(4) Maintain the natural look of the area.

(5) Keep positions hidden by clearing away minimal debris for fields of fire.

(6) Choose firing ports in inconspicuous spots when available.

NOTE: Remember that a force that **COVERS** and **CONCEALS** itself has a significant advantage over a force that does not.