APPENDIX E

FIGHTING POSITIONS

A critical platoon- and squad-level defensive task in combat in built-up areas is the preparation of fighting positions. Fighting positions in built-up areas are usually constructed inside buildings a are selected based on an analysis of the area in which the building is located and the individual characteristics of the building.

E-1. CONSIDERATIONS

Leaders should consider the following factors when establishing fighting

positions.

a. **Protection.** Leaders should select buildings that provide protection from direct and indirect fires. Reinforced concrete buildings with three or more floors provide suitable protection, while buildings constructed of wood, paneling, or other light material must be reinforced to gain sufficient protection. One- to two-story buildings without a strongly constructed cellar are vulnerable to indirect fires and require construction of overhead protection for each firing position.

b. **Dispersion.** A position should not be established in a single building

b. **Dispersion.** A position should not be established in a single building when it is possible to occupy two or more buildings that permit mutually supporting fires. A position in one building, without mutual support, is vulnerable to bypass, isolation, and subsequent destruction from any direc-

tion.

c. **Concealment.** Buildings that are obvious defensive positions (easily targeted by the enemy) should not be selected. Requirements for security and fields of fire could require the occupation of exposed buildings. Therefore, reinforcements provide suitable protection within the building.

d. **Fields of Fire.** To prevent isolation? positions should be mutually supporting and have fields of fire in all directions. Clearing fields of fire could require the destruction of adjacent buildings using explosives, engineer

equipment, and field expedients.

- e. Covered Routes. Defensive positions should have at least one covered route that permits resupply, medical evacuation, reinforcement, or withdrawal from the building. The route can be established by one of the following:
 - Through walls to adjacent buildings.
 - Through underground systems.
 - Through communications trenches.
 - Behind protective buildings.

f. **Observation.** The building should permit observation of enemy ave-

nues of approach and adjacent defensive sectors.

g. **Fire Hazard.** Leaders should avoid selecting positions in buildings that are a fire hazard. If flammable structures must be occupied, the danger of fire can be reduced by wetting down the immediate environment, laying an inch of sand on the floors, and providing fire extinguishers and fire fighting equipment. Also, routes of escape must be prepared in case of fire.

h. **Time.** Time available to prepare the defense could be the most critical factor. If enough time is not available, buildings that require extensive preparation should not be used. Conversely, buildings located in less desirable areas that require little improvement could probably become the centers of defense.

E-2. PREPARATION

Preparation of fighting positions depends upon proper selection and construction.

a. **Selecting Positions.** Each weapon should be assigned a primary sector of fire to cover enemy a preaches. Alternate positions that overwatch the primary sector should a so be selected. These positions are usually located in an adjacent room on the same floor. Each weapon must be assigned a supplementary position to engage attacks from other directions, and an FPL Figure E-l).

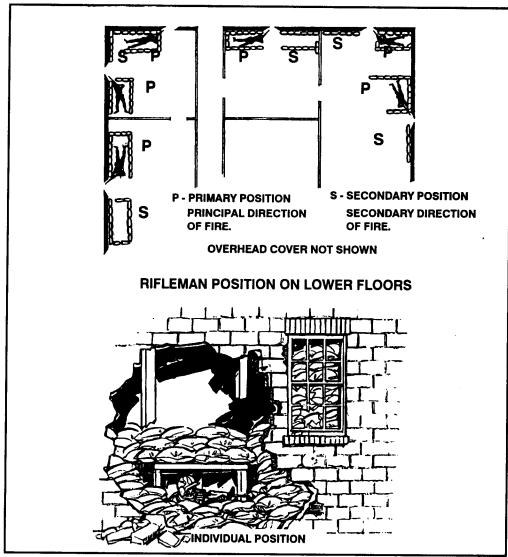


Figure E-1. Weapon positions.

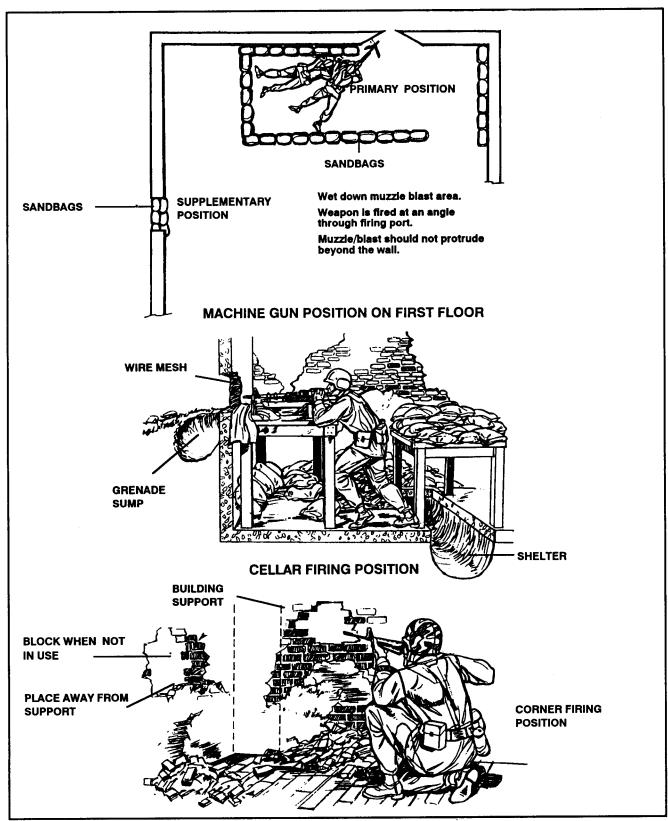


Figure E-1. Weapon positions (continued).

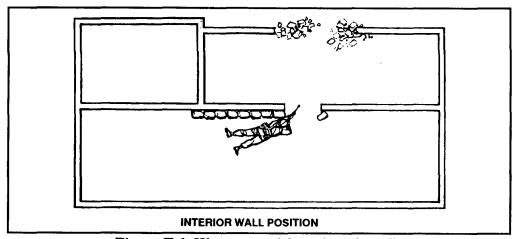


Figure E-1. Weapon positions (continued).

b. Building Positions. There are many ways to establish a fighting

position in a building.

(1) **Window position.** Soldiers should kneel or stand on either side of a window. To fire downward from upper floors, tables or similar objects can be placed against the wall to provide additional elevation, but they must be positioned to prevent the weapon from protruding through the window. Leaders should inspect positions to determine the width of sector that each position can engage (Figure E-2).



Figure E-2. Window position.

(2) **Loopholes.** To avoid establishing a pattern of always firing from windows, loopholes should be prepared in walls. Soldiers should avoid firing

directly through loopholes to enhance individual protection.

(a) Several loopholes are usually required for each weapon (primary, alternate, and supplementary positions). The number of loopholes should be carefully considered because they can weaken walls and reduce protection. Engineers should be consulted before an excessive number of loopholes are made. Loopholes should be made by punching or drilling holes in walls and should be placed where they are concealed. Blasting loopholes can result in a large hole, easily seen by the enemy.

(b) Loopholes should be cone-shaped to obtain a wide arc of fire, to facilitate engagement of high and low targets, and to reduce the size of the exterior aperture (Figure E-3). The edges of a loophole splinter when hit by bullets, therefore, protective linings, such as an empty sandbag held in place by wire mesh, will reduce spalling effects. When not in use, loopholes should be covered with sandbags to prevent the enemy from firing into or observing

through them.

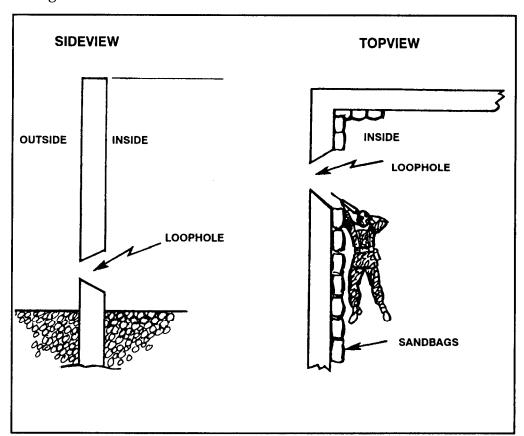


Figure E-3. Cone-shaped loopholes.

(c) Loopholes should also be prepared in interior walls and ceilings of buildings to permit fighting within the position. Interior loopholes should overwatch stairs, halls, and unoccupied rooms, and be concealed by pictures, drapes, or furniture. Loopholes in floors permit the defender to engage enemy personnel on lower floors with small-arms fire and grenades.

(d) Although walls provide some frontal protection, they should be reinforced with sandbags, furniture filled with dirt, or other expedients. Each position should have overhead and all-round protection (Figure E-4).

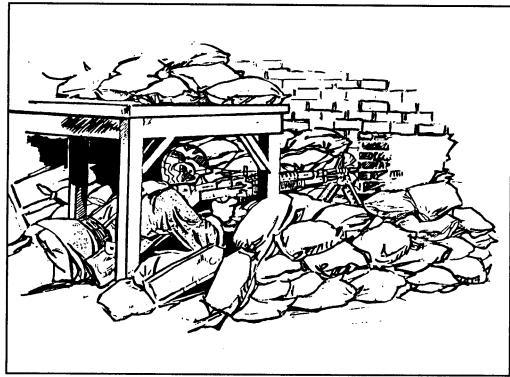


Figure E-4. Position with overhead and all-round protection.

c. Other Construction Tasks. Other construction tasks in basements, on ground floors, and on upper floors will need to be performed.

(1) **Basements and ground floors.** Basements require preparation similar to that of the ground floor. Any underground system not used by the defender that could provide enemy access to the position must be blocked.

(a) *Doors.* Unused doors should be locked, nailed shut, and blocked and reinforced with furniture, sandbags, or other field expedients. Outside doors can be booby trapped by engineers or other training personnel.

(b) *Hallways*. If not required for the defender's movement, hallways should be blocked with furniture and tactical wire (Figure E-5). If author-

ized, booby traps should be employed.

(c) Stairs. Defenders should block stairs not used by the defense with furniture and tactical wire (see Figure E-5) or remove them. If possible, all stairs should be blocked and ladders should be used to move from floor to floor and then removed when not being used. Booby traps should also be employed on stairs.

(d) Windows. All glass should be removed. Windows not used should be

blocked with boards or sandbags.

(e) Fighting Positions. Fighting positions should be made in floors. If there is no basement, fighting positions can give additional protection from heavy direct-fire weapons.

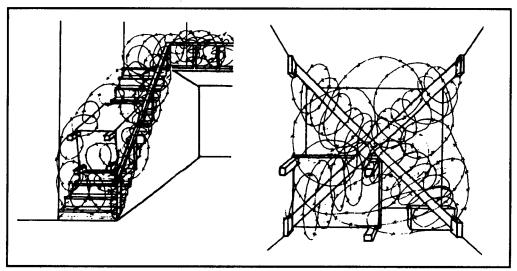


Figure E-5. Blocking hallways and stairs.

(f) Ceilings. Support that can withstand the weight of rubble from upper floors should be placed under ceilings (Figure E-6).

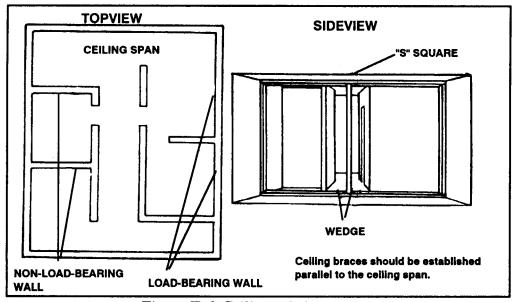


Figure E-6. Ceiling reinforcement.

(g) *Unoccupied room.* Rooms not required for defense should be blocked with tactical wire or booby trapped.

(2) *Upper floors.* Upper floors require the same preparation as ground floors. Windows need not be blocked, but they should be covered with wire mesh, which blocks grenades thrown from the outside. The wire should be loose at the bottom to permit the defender to drop grenades.

(3) *Interior routes.* Routes are required that permit defending forces to move within the building to engage enemy forces from any direction. Escape routes should also be planned and constructed to permit rapid evacuation of a room or the building. Small holes (called mouse holes) should be made through interior walls to permit movement between rooms. Once the defender has withdrawn to another level, such holes should be clearly marked for both day and night identification. All personnel must be briefed as to where the various routes are located. Rehearsals should be conducted so that everyone becomes familiar with the routes (Figure E-7).



Figure E-7. Movement between floors.

(4) *Fire prevention.* Buildings that have wooden floors and raftered ceilings require extensive fire prevention measures. The attic and other wooden floors should be covered with about 1 inch of sand or dirt, and buckets of water should be positioned for immediate use. Fire fighting materials (dirt, sand, fire extinguishers, and blankets) should be placed on each floor for immediate use. Water basins and bathtubs should be filled as a reserve for firefighting. All electricity and gas should be turned off. Fire breaks can be created by destroying buildings adjacent to the defensive position.

(5) *Communications.* Telephone lines should be laid through adjacent buildings or underground systems, or buried in shallow trenches. Radio antennas can be concealed by placing them among civilian television antennas, along the sides of chimneys and steeples, or out windows that direct FM communications away from enemy early-warning sources and ground observation. Telephone lines within the building should be laid through walls and

floors.

(6) **Rubbling.** Rubbling parts of the building provides additional cover and concealment for weapons emplacements, and should be performed only

by trained engineers.

(7) **Rooftops.** Positions in flat-roofed buildings require obstacles that restrict helicopter landings. Rooftops that are accessible from adjacent structures should be covered with tactical wire or other expedients, and must be guarded. Entrances to buildings from rooftops can be blocked if compatible with the overall defensive plan. Any structure on the outside of a building that could assist scaling the buildings to gain access to upper floors, or to the rooftop, should be removed or blocked.

(8) Obstacles. Obstacles should be positioned adjacent to buildings in

order to stop tanks and to delay infantry.

(9) *Fields of fire.* Fields of fire should be improved around the defensive position. Selected buildings can be destroyed to enlarge fields of fire. Obstacles to antitank guided missiles, such as telephone wires, should be cleared. Dead space should be covered with mines and obstacles.

E-3. ARMORED VEHICLE POSITIONS

Fighting positions for tanks and infantry fighting vehicles are essential to a complete and effective defensive plan in built-up areas.

a. Armored Vehicle Positions. Armored vehicle positions are selected and developed to obtain the best cover, concealment, observation, and fields

of fire, while retaining the vehicle's ability to move.

(1) If fields of fire are restricted to streets, hull-down positions should be used to gain cover and to fire directly down streets (Figure E-8). From those positions, tanks and BFVs are protected and can rapidly move to alternate positions. Buildings collapsing from enemy fires are a minimal hazard to the armored vehicle and crew.

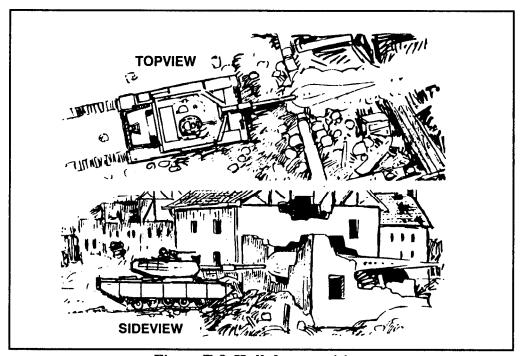


Figure E-8. Hull-down position.

(2) The hide position (Figure E-9) covers and conceals the vehicle until time to move into position for engagement of targets. Since the crew will not be able to see advancing enemy forces, an observer from the vehicle or a nearby infantry unit must be concealed in an adjacent building to alert the crew. The observer acquires the target and signals the armored vehicle to move to the firing position and to fire. After firing, the tank or BFV moves to an alternate position to avoid compromising one location.

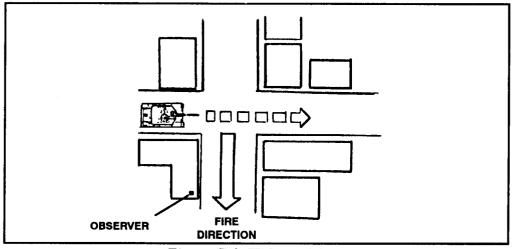


Figure E-9. Hide position.

(3) The building hide position (Figure E-10) conceals the vehicle inside a building. If basement hide positions are inaccessible, engineers must evaluate the building's floor strength and prepare for the vehicle. Once the position is detected, it should be evacuated to avoid enemy fires.

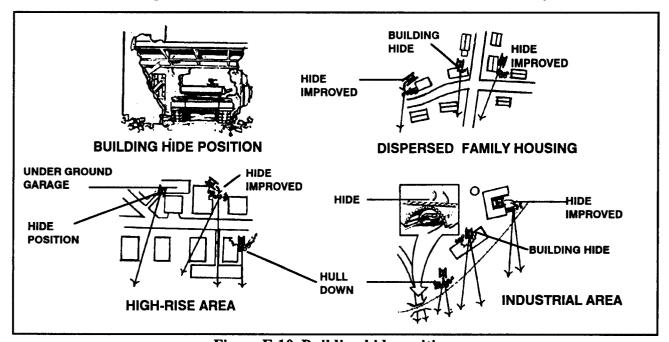


Figure E-10. Building hide position.

E-4. ANTITANK GUIDED MISSILE POSITIONS

Antitank guided missiles must be employed in areas that maximize their capabilities in the built-up area. The lack of a protective transport could require the weapon to be fired from inside or behind a building or behind the cover of protective terrain (Figure E-11).

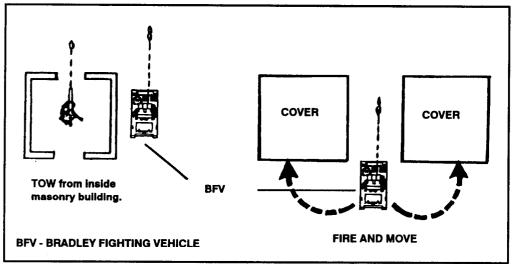


Figure E-11. Antitank guided missiles positions.

- a. When ATGMs are fired from a vehicle or from street level or bottom floor fighting positions, rubble can interfere with missile flight. When firing down streets, missiles must have at least 30 inches of clearance over rubble. Other obstacles to missile flight include trees and brush, vehicles, television antennas, buildings, power lines and wires, walls, and fences.
- b. A LAW is best suited for built-up areas because its 10-meter minimum arming distance allows employment at close range. LAWs and other light and medium antitank weapons are not effective against the front of modern battle tanks. Because tanks have the least armor protection on the top and rear deck, and the tank presents a larger target when engaged from above, LAWs should fire down onto tanks.

E-6. SNIPER POSITIONS

Snipers contribute to combat in built-up areas by firing on selected enemy soldiers. An effective sniper organization can trouble the enemy far more than its cost in the number of friendly soldiers employed.

a. General areas (a building or group of buildings) are designated as sniper positions (Figure E-12, page E-12), but the sniper selects the best position for engagement. Masonry buildings that offer the best protection, long-range fields of fire, and all-round observation are preferred. The sniper also selects several secondary and supplementary positions to cover his areas of responsibility.

b. Engagement priorities for snipers are determined by the relative importance of the targets to the effective operations of the enemy. Sniper targets usually include tank commanders, direct fire support weapons' crewmen, crew-served weapons' crewmen, officers, forward observers, and radiotelephone operators.

c. Built-up areas often limit snipers to firing down or across streets, but open parts permit engagements at long ranges. Snipers can be employed to cover rooftops, obstacles, dead space, and gaps in FPFs.

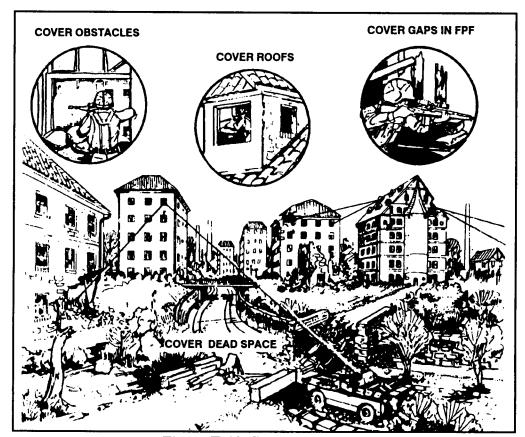


Figure E-12. Sniper positions.