#### APPENDIX B

# **BRADLEY FIGHTING VEHICLE**

Bradley fighting vehicle platoons and squads seldom fight alone in built-up areas. They normally fight as part of their company or in a company team.

#### Section I. EMPLOYMENT

Fighting in built-up areas is centered around prepared positions in houses and buildings. Such positions cover street approaches and are protected by mines, obstacles, and booby traps. Therefore, bridges, overpasses, and buildings must be inspected and cleared of mines before they are used. Reconnaissance parties must ascertain the weight-supporting capacity of roads, bridges, and floors to determine if they can support the weight of BFVs and tanks.

#### **B-1. TARGET ENGAGEMENT**

Streets and alleys are ready-made firing lanes and killing zones. Because of this, all vehicle traffic is greatly restricted and canalized, and subject to ambush and short-range attack. Tanks are at a disadvantage because their main guns cannot be elevated enough to engage targets on the upper floors of tall buildings. The BFV, with +60 to -10 degrees elevation of the 25-mm gun and 7.62-mm coax machine gun, has a much greater ability in this role. with firing port weapons, the BFV can also place suppressive fire at ground level at the same time to the flanks and rear of enemy vehicles. A tank is restricted in its ability to provide this support.

## **B-2. BRADLEY FIGHTING VEHICLES AND TANKS**

BFVs and tanks are not employed alone. Working as a team, dismounted infantrymen (the rifle team) provide security. In turn, the BFVs and tanks provide critical fire support for the rifle teams.

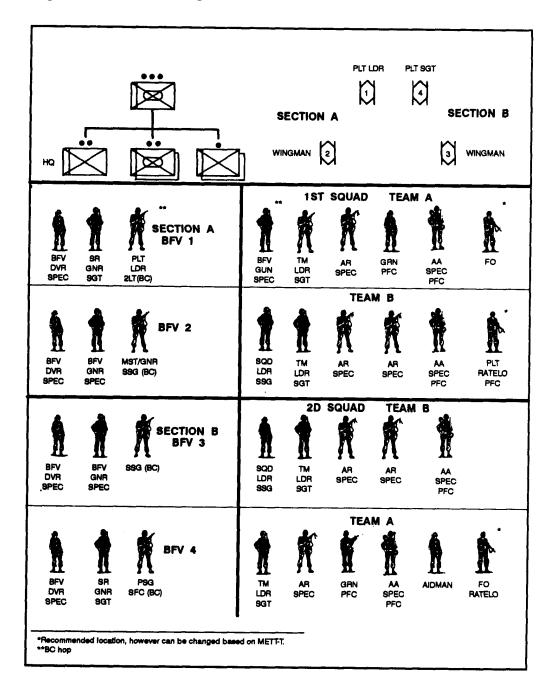
a. When moving, <sup>1</sup>BFVs should stay close to a building on either side of the street. This allows each BFV to cover the opposite side of the street. BFVs can button up for protection, but the BFV crew must remain alert for signals from dismounted infantry. Cooperation between the rifle team and the BFV team in a built-up environment is critical. Visual signals should be developed, telephones used where possible, and rehearsals and training conducted.

b. Commanders should consider using the long-range fires of the tank's main armament from overwatch positions. The BFV, with its greater capability to depress and elevate the 25-mm gun, can provide some of the support previously derived from tanks within the built-up area.

c. Because the BFV, while having better armor protection than the M113, lacks adequate armor protection to withstand medium to heavy ATGM fire, it is normally employed after the area has been cleared of ATGM positions or on terrain dominating the city to provide long-range antiarmor support. A great portion of the platoon's short-range antiarmor fires in built-up areas is provided by LAWs and Dragons. The BFVs 25-mm gun and machine gun are employed while providing direct fire support.

## Section II. OFFENSE

Because of the nature of the terrain, fighting in built-up areas is usually conducted by dismounted troops. BFVs are employed as much as possible in close support of dismounted teams. Tanks follow and are brought to locations secured by leading infantry to provide heavy direct fire support. (Figure B-1 shows the organization of the BFV.)





# **B-3. MISSIONS**

Missions common to the rifle team and the BFV team are explained herein.

- a. The missions of the rifle team during attacks in built-up areas are:
- Assaulting and reducing enemy positions and clearing buildings under the covering fires of tanks and BFVs.
- Neutralizing and destroying enemy antiarmor weapons.
- Locating targets for engagement by tank or BFV weapons.
- Protecting tanks and BFVs against enemy individual antiarmor measures and surprise.
- Securing and defending an area after it is cleared.
- b. The missions of the BFV team during attacks in built-up areas are:
- Destroying enemy positions within a building with the direct fire of the 25-mm gun (using APDS ammunition) and the 7.62-mm coax machine gun (when the wall is constructed of light material).
- Suppressing enemy gunners within the objective building and adjacent structures. This is accomplished with the 25-mm gun (Figure B-2) and 7.62-mm coax machine gun.



Figure B-2. Suppression by 25-mm gun.

- Isolating the objective building with direct fire to prevent enemy withdrawal, reinforcement, or counterattack.
- Breaching walls en route to and in the objective structure. This is best accomplished with the 25-mm gun, using a spiral firing pattern (see Figure B-3).
- Establishing a roadblock or barricade.
- Securing cleared portions of the objective.
- Obscuring the enemy's observation using the BFV's smoke system.
- Evacuating casualties from areas of direct fire.

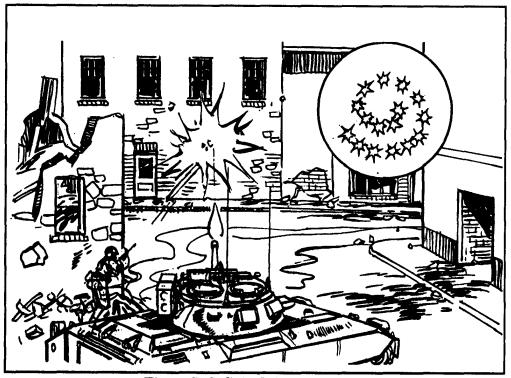


Figure B-3. Spiral firing pattern.

#### **B-4. RIFLE TEAM**

The BFV is best used to provide direct fire support to the rifle team. The BFV team should move behind the rifle team, when required, to engage tarets located by the rifle team (Figure B-4). The dash speed (acceleration) of the BFV enables the team to rapidly cross streets, open areas, or alleys.

a. The BFV teams provide fire with their 25-mm gun and 7.62-mm coax machine gun for the rifle teams on the opposite side of the street. The 25-mm gun is the most effective weapon on BFVs while fighting in built-up terrain (Figure B-5).

b. The use of the 25-mm gun in support of rifle teams requires safety considerations.

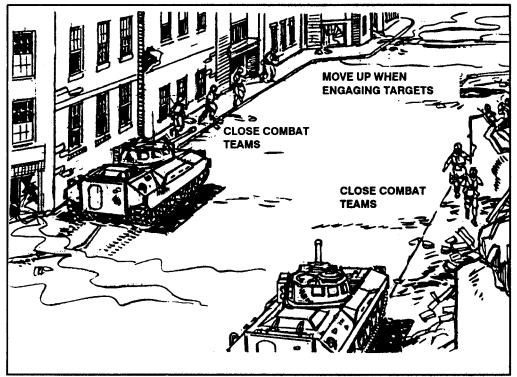


Figure B-4. Cover for rifle teams.

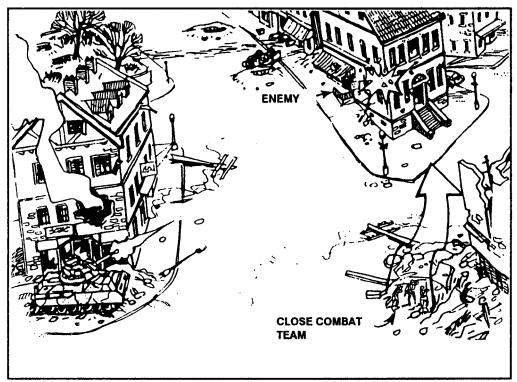


Figure B-5. 25-mm gun support for rifle teams.

- High-explosive 25-mm rounds arm 10 meters from the gun and explode on contact.
- APDs rounds discard their plastic sabots to the front of the gun when fired. This requires a 100-meter safety fan to the front of 25-mm gun (Figure B-6).

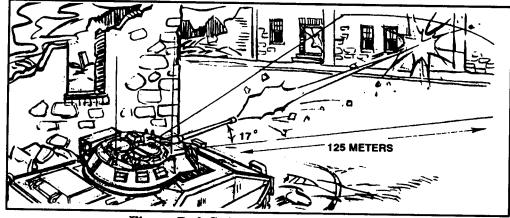


Figure B-6. Safety fan for 25-mm gun.

c. The BFVs' engine exhaust smoke system can be used in built-up areas to cover the movement of the rifle team. The BFV can also provide a smoke screen by using its smoke grenade launchers. This requires careful analysis of wind conditions to ensure the enemy, and not friendly units, is affected by the smoke. This is a difficult task since wind currents tend to be erratic between buildings. The smoke can also screen the movements of the BFVs once the rifle teams cross the danger area (Figure B-7).

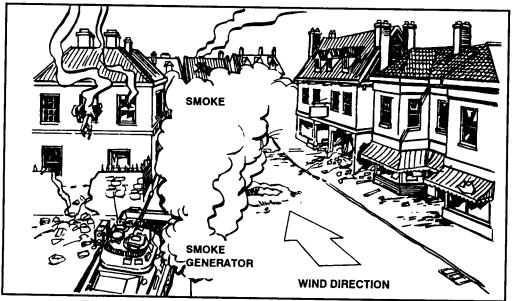


Figure B-7. Smoke screens movement of rifle team.

# **B-5. COMMUNICATIONS**

Communication between the rifle team and BFV crew is critical. These communications can be visual or voice signals, radio, or telephone.

### **B-6. CLEARING OF A BUILDING**

The most common mission of the platoon in offensive operations is to attack and clear a building or a group of buildings. The platoon leader first designates the composition of the rifle teams and BFV teams. The composition of those teams changes with the situation. Normally, the BFV teams and the men needed for security compose the BFV element. Each squad rifle team is organized into two- or three-man assault parties. The platoon leader can designate a part of the platoon as a demolition team. The entire platoon rifle team is normally used to attack one building at a time. In smaller buildings, the platoon leader could have a single rifle team conduct a three-step attack:

**STEP 1:** The fighting vehicle element supported by indirect and direct fire isolates the building.

**STEP 2**: The rifle team enters the building to seize a foothold.

**STEP 3:** The rifle team clears the building room by room.

a. To isolate the building, the BFV element takes an overwatch position (Figure B-8). It fires the 25-mm gun and 7.62-mm coax machine gun, and adjusts indirect fire to suppress enemy troops in the building and in nearby buildings who can fire at the dismounted element.

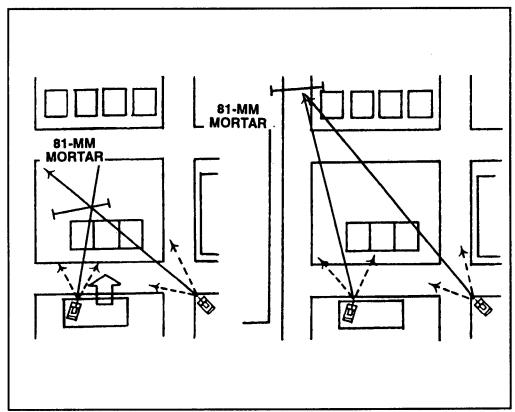


Figure B-8. Isolation of a building and shifting of fires.

b. The rifle teams move to the building on covered and concealed routes. Smoke grenades, smoke pots, and the smoke system of the BFV can provide added concealment. The rifle teams enter the building at the highest point they can because—

- The ground floor and basement are usually the enemy's strongest defenses.
- The roof of a building is normally weaker than the walls.
- It is easier to fight down stairs than up stairs.

c. If there is no covered route to the roof, the rifle teams could encounter the enemy at a lower story or at ground level. They should seize a foothold quickly, fight to the highest story, and then clear room by room, floor by floor, From the top down.

## Section III. DEFENSE

Most defensive fighting is performed by the rifle teams. It is harder to build the platoon's defense around the BFV in cities than in other types of terrain, but the BFV element's role is still important. A platoon normally defends from positions in one to three buildings, depending on the size and strength of the buildings, the size of the platoon, and the disposition of the buildings.

#### **B-7. MISSIONS**

Defensive missions of the rifle teams and BFV teams are discussed herein.

- a. The following are typical missions of rifle teams in the defense:
- Preparing defensive positions.
- Providing observation and security to prevent enemy infiltration.
- Engaging and defeating assaulting enemy forces.
- Acquiring targets for engagement by tanks and BFV weapons.
- Protecting tanks and BFVs from close antiarm or weapons.
- Emplacing demolitions and obstacles (supported by combat engineers).
- b. The following are typical missions of BFV teams in the defense:
- Providing fire support for the rifle teams and mutual support to other BFV teams.
- Destroying enemy armored vehicles and direct fire artillery pieces.
- Neutralizing or suppressing enemy positions with 25-mm gun and 7.62-mm coaxial machine gun fire in support of local counterattacks.
- Destroying or making enemy footholds untenable by fire using the 25-mm gun.
- Providing rapid, protected transport for the rifle teams.

- Reinforcing threatened areas by movement through covered and concealed routes to new firing positions.
- Providing mutual support to other antiarmor fires.
- Providing resupply of ammunition and other supplies to the dismount teams.
- Evacuating casualties from the area of direct fire.

NOTE: In the last two missions, the overall value of the BFV to the defense must be weighed against the need to resupply or to evacuate casualties.

#### **B-8. DEVELOPMENT OF THE DEFENSE**

The platoon leader must consider the following when developing his defense:

a. **Dispersion**. Defensive positions in two mutually supporting buildings is better than having positions in one building that can be bypassed. b. **Fields of Fire**. Positions should have good fields of fire in all direc-

b. **Fields of Fire.** Positions should have good fields of fire in all directions. Broad streets and open areas, such as parks, offer excellent fields of fire.

c. **Observation.** The buildings selected should permit observation into the adjacent sector. The higher stories offer the best observation but also attract enemy fire.

d. **Concealment.** City buildings provide excellent concealment. Obvious positions, especially at the edge of a built-up area, should be avoided since they are the most likely to receive the heaviest enemy fire.

e. **Covered Routes.** These are used for movement and resupply, and are best when they go through or behind buildings.

f. Fire Hazard. Buildings that burn easily should be avoided.

g. **Time.** Buildings that need extensive preparations are undesirable when time is a factor.

h. **Strength.** Buildings in which BFVs or tanks are to be placed must withstand the weight of the vehicles and the effects of their weapon systems.

### **B-9. FIRE PLAN POSITIONS**

The BFV should be integrated into the platoon fire plan. The 25-mm gun and 7.62-mm coax machine gun fields of fire should cover streets and open areas. Once placed in position, BFVs should not be moved for logistical or administrative functions. Other vehicles should accomplish these functions, when possible.

a. Once the platoon leader chooses the building(s) he will defend, he positions his BFV teams and rifle teams. BFVs and dismounted machine guns should be positioned to have grazing fire. Dragons should be positioned on upper stories for longer range and to permit firing at the tops of tanks. Squads should be assigned primary and, if feasible, supplementary and alternate positions for their rifle teams and BFV teams. These positions should permit continuous coverage of the primary sectors and all-round defense.

b. None of the platoon's antiarmor weapons can be fired from unvented or enclosed rooms. However, the TOW can be fired from any room that a BFV can be placed in, as long as all hatches are closed and there are no dismounted troops in the room. c. Due to the close engagement ranges on urban terrain, the 25-mm gun and 7.62-mm coaxial machine gun are used more than the TOW. The antiarmor capability of the BFV is degraded by short ranges and must be supplemented by Dragons and LAWs (Figure B-9). Dragon and LAW positions should be placed where they can support the BFV but must not attract enemy attention to the BFV location. Dragons and LAWs are much more effective against the flanks, rear, and tops of threat armored vehicles and should be positioned to attack those areas. The TOWs should be conserved and employed against threat tanks as their primary target.



Figure B-9. Dragon position supporting BFV.

#### **B-10. BRADLEY-EQUIPPED ECHO COMPANY**

The Chief of Staff of the Army approved the replacement of the M901 ITV with the BFV in mechanized infantry battalions. While this change provides a much greater improvement in mobility, survivability, and firepower over the M901, the basic mission of the Echo Company remains the same. (For more information on the employment of the Bradley-equipped Echo Company [BFV E CO], see FM 7-91 and Change 1 to FM 71-2.)

#### a. Considerations.

(1) Due to the lack of a dismounted element, the Bradley-equipped Echo Company must rely on attached and or supporting dismounted infantry to provide local security.

(2) It should be employed at the very least in sections or pairs (the wingman concept). This provides for some degree of mutual support.

(3) The Bradley-equipped Echo Company consumes slightly more fuel than a M901 ITV company. This does not present much of a problem since the additional fuel requirements easily fall within the battalion's organic fuel hauling capacity.

#### b. Offensive Employment.

(1) The organization of the Bradley-equipped Echo Company makes it a likely choice to provide a base of fire for the battalion task force in the attack. The battalion commander can assign support by fire or attack by fire missions.

(2) It can conduct a guard or screen mission much more effectively than a M901-equipped company since the Bradley-equipped Echo Company has better mobility and firepower.

#### c. Defensive Employment.

(1) The vehicles should have multiple firing positions. The Bradleyequipped Echo Company commander can control the massing of long-range antiarmor fires into the battalion's engagement area(s) by firing from several directions at once. This has two major effects: the enemy's ability to maneuver his mechanized infantry and armored forces will be destroyed and or degraded; and the survivability of the Bradley-equipped Echo Company's vehicles and crews will be greatly enhanced.

(2) The Bradley-equipped Echo Company, teamed with an armor counterattack unit, can suppress or destroy enemy ATGMs so the armor unit may decisively maneuver.

(3) As with offensive operations, the Bradley-equipped Echo Company can conduct guard and screening operations.
(4) The Bradley-equipped Echo Company can also conduct counter-

(4) The Bradley-equipped Echo Company can also conduct counterreconnaissance operations to deprive the enemy of information about the friendly forces' disposition and composition.