

CHAPTER 3

TACTICAL EMPLOYMENT OF GRENADES

The family of hand grenades provides the individual soldier with a number of highly versatile and effective weapons systems. Hand grenades are employed throughout the spectrum of warfare, from low- to high-intensity conflict to prevent giving away positions, to save ammunition, and to inflict greater casualties.

3-1. APPLICATION

a. Hand grenades are used on all missions -- attack, defend, and retrograde. Hand grenades are used by all soldiers during close, deep, and rear operations, during all conditions of combat, and in all types of terrain. Hand grenades have the following specific applications:

<u>TYPE</u>	<u>USE</u>
Fragmentation Offensive	Kill enemy soldiers. Kill, stun, and disable enemy soldiers.
Incendiary	Destroy weapons, vehicles, and equipment.
Smoke	Obscure, mark, and identify positions.
Riot control	Disable riots.

b. While all hand grenades have application in modern combat, the fragmentation grenade remains the most important. It is the most important not only because it is the primary killing hand grenade, but because it is also the most dangerous to employ. It is equally lethal to friendly and enemy soldiers; therefore, it must be employed under control to protect our own soldiers.

3-2. CLOSE COMBAT

The rifle, bayonet, and fragmentation hand grenades are the basic weapons of warfare for the individual soldier. The rifle gives the soldier the ability to kill enemy soldiers with direct fires out to the maximum effective line-of-sight range. Fragmentation hand grenades, on the other hand, allow the individual soldier to effectively engage and kill enemy soldiers located within a radius of 40 meters when line-of-sight systems, such as the rifle, are no longer effective. While the rifle is the safest and most discriminating weapon at close-in ranges, the fragmentation hand

grenade is the weapon of choice when the enemy is within range, but terrain masks the engagement area. The fragmentation hand grenade is the soldier's personal indirect fire weapons system. For a soldier, the close-in fight can occur anywhere on the modern battlefield.

a. Many times in combat, targets confronting the infantryman may be of such a nature that normal methods of target engagement are inadequate. For example, soldiers or weapons in trenches or fighting positions are better engaged by causing a grenade to burst over these targets. Furthermore, if the targets are located on sloping ground, it would then be desirable to detonate a grenade as near impact as possible to prevent its rolling away from the target before the time delay is expended. Such above ground detonation also prevents the enemy from securing the grenade and throwing it back before it detonates.

b. Above ground detonation is especially critical when bunker-type emplacements are engaged. To achieve above ground detonation or near impact detonation, remove the grenade's safety clip and safety pin, release the safety lever, and count ONE THOUSAND ONE, ONE THOUSAND TWO, and then throw the grenade. This procedure will expend a sufficient period (about two seconds) of the grenade's four-to five-second time delay. This will cause the grenade to detonate above ground or shortly after impact with the target. Fragmentation and white phosphorous hand grenades will not be detonated in such a manner in training.

3-3. PLANS AND PREPARATIONS FOR COMBAT

The basic load of hand grenades is normally established by the theater commander. The basic load is not a fixed quantity; it may be altered as situations dictate. Units will vary their basic load, depending upon the commander's analysis of METT-T.

a. The most important factor in determining the basic load for hand grenades is unit mission. It will influence the type and quantity of hand grenade selected.

b. Other factors used in determining the hand grenade basic load are as follows:

(1) Weight. Each hand grenade weighs close to one pound. Consequently, each grenade that the soldier carries adds another pound to his total load.

(2) Weapons tradeoff. Soldiers cannot carry everything commanders would like to take into battle. The value of various weapons and munitions must be considered by commanders with a view toward determining which will contribute the most to mission accomplishment. For example, tradeoffs may be required between hand grenade types, hand grenades and mines, and hand grenades and mortar ammunition.

(3) Balance. Different types of hand grenades will be required on all missions. Generally, fragmentation and colored-smoke grenades will be required for all missions. Hand grenades selected for a mission should be distributed among several if not all soldiers.

(4) Individual duties. Distribute hand grenades to each soldier that are specific for his job and assigned tasks.

3-4. EMPLOYMENT RULES

The following are rules to remember before employing hand grenades, or when in an area where they are being used.

- o Leaders identify soldiers who should not throw or carry grenades in combat.
- o Know where all friendly soldiers are.
- o Use the buddy team system.
- o Ensure the projected arc of the fragmentation or an offensive hand grenade is clear of obstacles.
- o Evacuate positions into which a fragmentation or offensive hand grenade is thrown, if possible. If this is not feasible, then use the grenade sump.

3-5. OFFENSIVE EMPLOYMENT

Fragmentation and offensive hand grenades are the primary types of grenades used during offensive operations. They provide the violent, destructive, close-in firepower essential for the individual soldier to overcome and kill his enemy. These grenades make individual soldier movement easier by suppressing the enemy and disrupting the continuity of the enemy's defensive fires. Fragmentation hand grenades contribute greatly to destroying the enemy's will to continue the fight. The noise, flash, and concussion generated by fragmentation and offensive grenades have a

severe psychological effect on soldiers. Fragmentation hand grenades help gain the initiative, maintain the momentum of the assault, and rapidly clear the objective of enemy resistance.

a. The critical phase of the attack is the final assault -- that moment when a soldier closes with the enemy to kill him. The individual soldier uses his rifle, hand grenades, and bayonet during the assault. The soldier will first use his rifle, firing controlled, well-aimed shots at known or suspected enemy positions. He does this as part of a buddy team, fire team, and squad. He is controlled and disciplined in his movement and application of fires by using established unit SOPs and battle drills. These battle drills are rehearsed extensively during preparation for combat. As the soldier closes to hand grenade range, he engages the enemy with a combination of rifle fire and hand grenades. Fragmentation grenades will be used to kill and suppress enemy soldiers in the open, in defilades, or in trenches. Movement toward the enemy must be rapid and violent.

b. Hand grenades must be thrown accurately into enemy positions to reduce the chances of friendly hand grenades hitting friendly forces. Movement forward should be done as part of a buddy team. One soldier within the buddy team provides overmatching, direct suppressive fires while the other soldier moves forward. Both soldiers must take advantage of the hand grenade explosion to immediately continue their movement forward. If the enemy is located in an enclosed area, such as a bunker or room (within a building), the offensive grenades may be more appropriate than the fragmentation grenades. This, of course, will depend upon availability and prior mission analysis. Offensive grenades have less of a killing effect on the enemy, but for that same reason, safer to employ in confined spaces. When used, their employment should be immediately followed by violent rifle fire unless capturing enemy personnel is a mission requirement. Remember, an enemy who is only temporarily stunned can still kill you. The shock waves from an offensive grenade also provide better overall interior effect in an enclosed space. Another advantage of the offensive grenade is it covers more of an enclosed space than a fragmentation grenade.

c. In an assault against a dug-in, well-prepared enemy, use hand grenades to clear crew-served weapons first. Once the first defensive belt has been penetrated, use hand grenades in a priority effort to attack command bunkers and communications equipment, and kill enemy leaders within those bunkers.

d. In the assault, the soldier participates as a squad member in clearing trenches, destroying bunkers, and clearing rooms. Unit procedures, which have been rehearsed during preparation for combat, will be employed. The buddy team forms the basis for all fragmentation or offensive grenade employment in the following general situations:

(1) Clearing a trench within a fortified position
(Figure 3-1).

(a) Before entering the trench, the first clearing team throws hand grenades into the trench.

(b) After the grenades explode, the first clearing team rolls into the trench, landing on their feet and firing their weapons down both directions of the trench.

(c) The first clearing team should hold the entry point.

(d) The teams following the first clearing team should enter at the same position and begin clearing in one direction only (see FM 7-8).

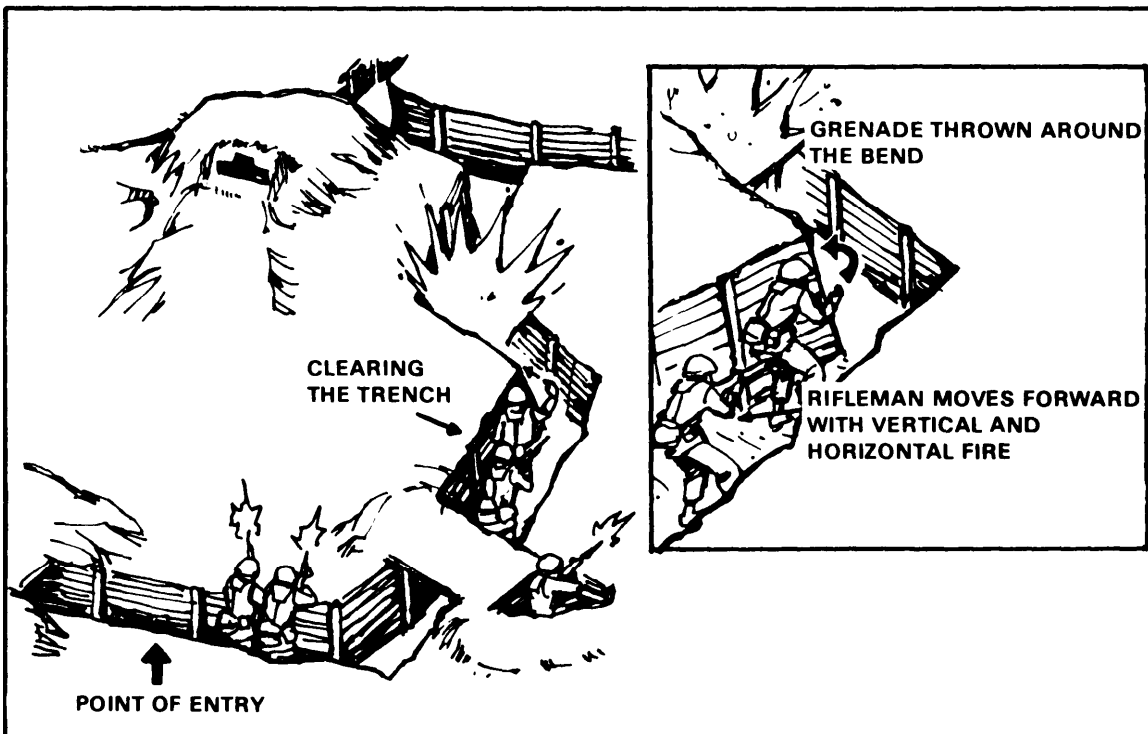


Figure 3-1. Enemy trench assault.

(e) As the lead buddy team moves to the right (left), one soldier is the designated grenadier. He moves along the wall closest to the next bend in the trench. His movement is covered by his buddy who is ready to fire at enemy soldiers advancing toward them. The grenadier holds a grenade at the ready as he moves rapidly down the trench.

(f) At the bend in the trench, the designated grenadier throws a grenade around the bend. After the explosion, the rifleman moves rapidly around the bend and fires rapid bursts horizontally and alternately along the long axis of the trench.

(g) Movement down the trench continues by alternating the designated rifleman and grenadier roles or maintaining the same roles throughout. Fire teams and squads are bounded forward to continue clearing the trenchline.

NOTE: Many of these tasks will be specified by unit SOP. If a three-man clearing team is used, the third member guards the back of the other team members and stands by to provide fire on point targets. See FM 7-70 for actions on the objective.

(2) Clearing a bunker position (Figure 3-2).

(a) Destroying an enemy bunker and killing the enemy soldiers inside requires violence and speed of execution, plus synchronization of effort at the buddy team and squad level in order to succeed.

(b) A two-man buddy team assaults a single bunker using a combination of grenades and rifle fire. One member of the buddy team provides overwatching suppressive fire while the other member moves rapidly toward the bunker, using a combination of individual movement techniques. He uses the best available covered route to move toward the bunker.

(c) As he approaches to within 75 meters of the bunker, he can use white smoke thrown on line with the bunker (and as close to the enemy's firing port as possible) to help conceal his movement for the remaining distance.

(d) Once the grenadier member of the buddy team is at the side of the bunker, he cooks off and throws fragmentation or offensive grenades into the firing port

of the bunker. Once thrown, he rolls away from the bunker and faces to the rear of the bunker prepared to engage escaping enemy soldiers with his rifle. After the grenade detonates, he enters the position from the rear to kill or capture remaining enemy soldiers.

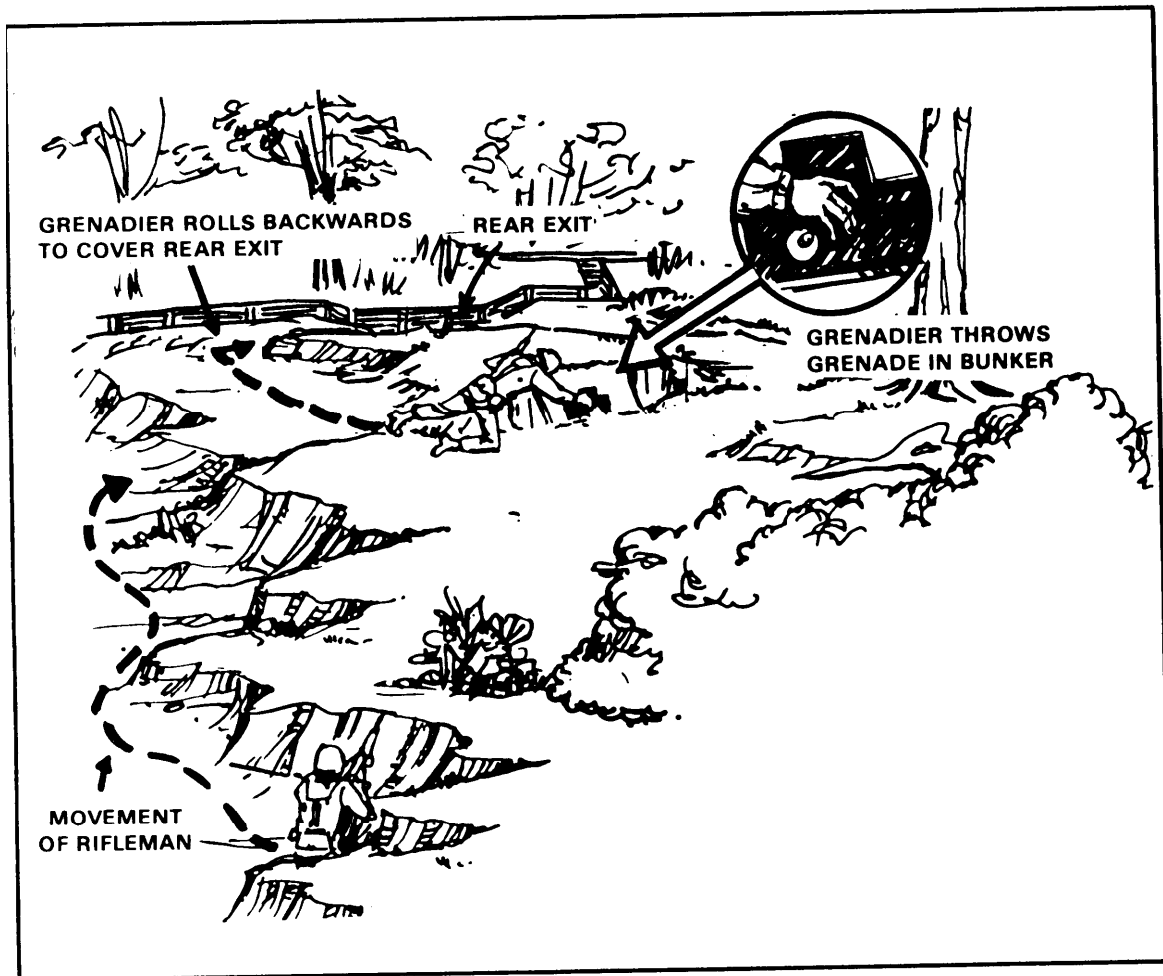


Figure 3-2. Enemy bunker assault.

(3) Clearing a room in a built-up area.

(a) An assault party (two-man minimum) is assigned to clear each room. They enter a room through the doorway, knocking the door down if necessary. Before entering the room, they forcefully throw a grenade into the room. After detonations, one man quickly enters and moves out of the doorway to one side or the other, sprays the room with short bursts of automatic fire, and takes up a position where he can observe the entire room. The assault party should not be silhouetted in the doorway.

(b) At this time, the assault party must be prepared to react instinctively to any situation in the room. The second man shouts COMING IN, enters, and conducts a systematic search of the room, avoiding silhouetting himself in windows. In like manner, a soldier leaving a room through an entrance covered by another soldier would shout COMING OUT. It is important that soldiers are aware of each other's location at all times.

(4) Using hand grenades during raids.

(a) The raid, as a type of offensive operation, is characterized by a heavy use of fragmentation and offensive grenades, although it may also require other types of grenades.

(b) For example, if the mission is to secure prisoners, the employment of offensive grenades is appropriate. If the destruction of vehicles, weapons, or special equipment is required, incendiary hand grenades are needed. Colored smoke grenades always have application for marking pickup zones and identifying the location of friendly forces.

(5) Reacting to enemy ambushes.

(a) Reaction to an enemy near ambush requires an immediate, rapid, and violent response. The longer friendly forces remain in the ambush kill zone, the greater the probability of friendly force destruction. FM 7-70 and ARTEP 7-8 Drill describe friendly force reactions. Using a combination of fragmentation hand grenades to kill the enemy and white smoke grenades to obscure the enemy's sight and rifle fire, the soldiers within a squad assault the enemy force.

(b) Drill squad members to throw both grenades -- fragmentation first, then smoke.

3-6. DEFENSIVE EMPLOYMENT

Hand grenades are used in defensive operations during the final phase of the close-in battle.

a. The primary hand grenade in all defensive operations is the fragmentation grenade. It is used in conjunction with other weapons and man-made or natural obstacles to destroy the remnants of the attacking enemy force that have succeeded in penetrating the more distant barriers and final protection fires.

b. The fragmentation hand grenade further disrupts the continuity of the enemy attack, demoralizes the enemy soldier, and forces the enemy into areas covered by direct fire weapons, such as rifle and machine gun fire and Claymore mines. The use of fragmentation hand grenades at the critical moment in the assault for a dismounted enemy force is the final blow in taking the initiative away from him.

(1) From individual fighting positions (Figure 3-3). Fragmentation hand grenades are used from defensive fighting positions primarily to cover close-in dead space approaches on the friendly side of the protective wire and in front of a squad's position. They should be used in conjunction with ground flares positioned along the protective wire. Enemy soldiers stopped at the protective wire should be engaged first with Claymore mines. If time permits during the preparation of the defensive position, soldiers should identify dead space in their sector, especially that dead space that may intersect the protective wire, and move toward friendly fighting positions. This potential avenue of approach through the protective wire should be marked with a reference to identify it as a primary hand grenade target. The following rules apply when employing fragmentation hand grenades from fighting positions.

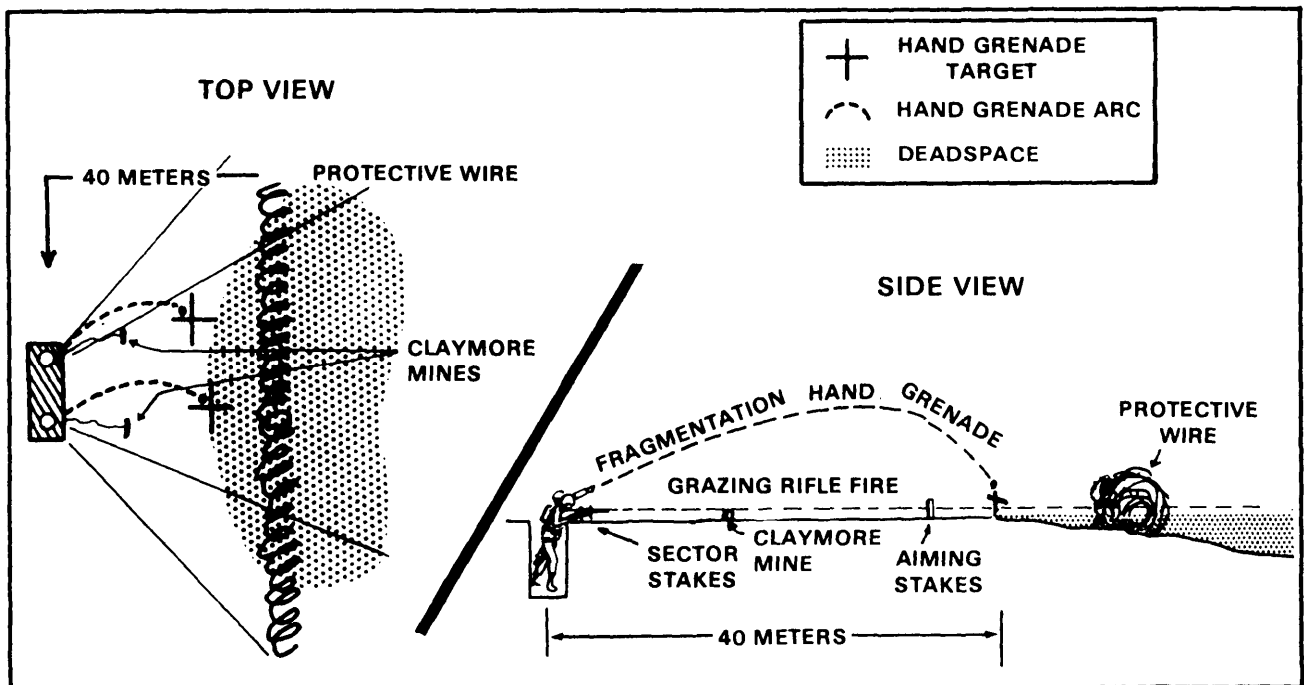


Figure 3-3. Defense from individual fighting positions.

(a) Clear overhead obstructions, which may interfere with the path of the thrown grenade. Do this at the same time direct fire fields of fire are cleared.

(b) Rehearse grenade employment; know where your primary target is.

(c) Keep 50 percent of your fragmentation grenades at the ready in your fighting position, leaving the remaining fragmentation grenades on your load-carrying equipment.

(d) Rehearse actions to be taken if an enemy grenade lands in your fighting position.

WARNING: SOVIET GRENADES USE FUZES WITH ONLY A 3- TO 4-SECOND DELAY, WHICH MEANS YOU HAVE VERY LITTLE TIME TO REACT. THE PREFERRED COURSE OF ACTION IF AN ENEMY GRENADE LANDS IN YOUR POSITION OR NEAR YOU IS TO IMMEDIATELY ROLL OUT OF YOUR FIGHTING POSITION OR THROW YOURSELF FLAT ON THE GROUND

(e) Employ fragmentation hand grenades against enemy soldiers located in defilade positions as a first priority. This minimizes the danger to friendly soldiers and helps cover terrain not covered by direct fire weapons. Use your rifle to kill enemy soldiers not in defilade positions.

(f) Reconnoiter your alternate and supplementary positions and determine your priority fragmentation hand grenade target.

(g) Redistribute hand grenades after each enemy engagement.

(2) Against enemy armored and tracked vehicles (Figure 3-4). On occasion, friendly dismounted soldiers may come in close contact with enemy armored formations. Dismounted infantry should first use antitank missiles and rockets to defeat enemy armor and motorized infantry. Satchel charges, as described in FM 5-25, can also be used to defeat enemy armor. If these are not available, it is still possible to destroy, immobilize, or render inoperative the vehicle or system, and or to kill the crew inside the vehicle. In either case, the soldier must approach the armored vehicle to kill it or the

crew with hand grenades. Some characteristics and vulnerabilities of Soviet armor must be understood in order to kill or disable the enemy armored vehicle or its crew. Vulnerabilities common to most Threat vehicles are the fuel cells, ammunition storage areas, and power trains. Diagrams highlighting these areas on selected Threat vehicles are shown in Figure 3-5.

(a) Turret rotation. The turrets of Soviet tanks rotate much slower than those on US and NATO tanks. It takes more than 21 seconds for a Soviet tank to rotate its turret through a full 360 degrees. The M1 Abrams Tank and M2, Bradley Fighting Vehicle can rotate their turrets a full 360 degrees in 6 seconds. This means a soldier can completely run around a Soviet tank before the turret can be traversed from over the front deck to the rear deck.

(b) Visual dead space. From the Soviet tank gunner's station, nothing within 30 feet at ground level can be seen through the frontal 180 degrees of turret rotation. If the turret is oriented over the rear 180 degrees (rear deck), the dead space increases to 50 feet. This means soldiers in fighting positions cannot be seen by Soviet tank gunners when they are within these distances to the tank.

(c) Fire extinguisher system. A fire extinguisher system can be triggered manually or automatically by one of eight heat sensors. However, the fire extinguisher's ethylene bromide gas creates a poisonous vapor when exposed to flames. If the extinguisher discharges, the crew may have to bail out. Any weapon that can trigger a fire and the fire extinguisher system can possibly knock out a Soviet tank.

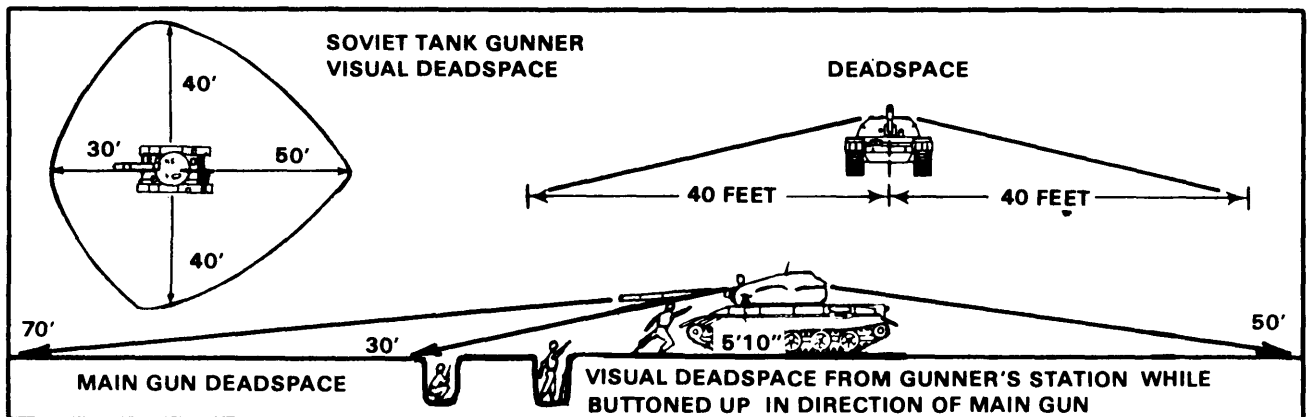


Figure 3-4. Attack of an enemy vehicle.

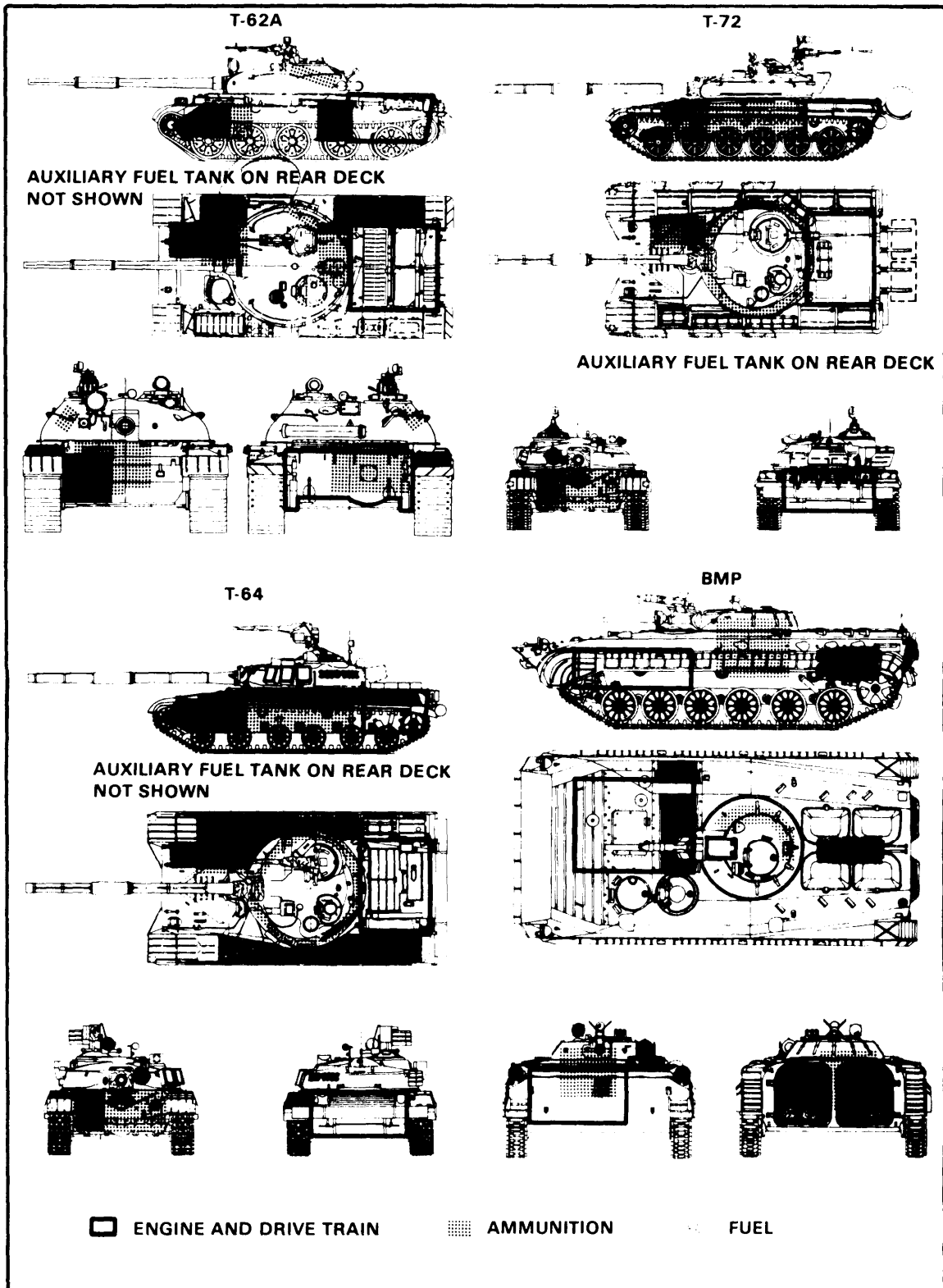


Figure 3-5. Enemy vehicle vulnerabilities.

(d) BMP visual dead space. The BMP has nine vision blocks for the eight infantrymen in the rear of the vehicle. Eight of these vision blocks (four of each side) correspond to the firing ports for the squad's weapons. These vision blocks are oriented at a 45-degree angle toward the vehicle's direction of movement. The soldier at the left rear of the vehicle mans either the left rear vision block or the last vision block and firing port on the left side. If the flank firing port is being manned, the vehicle is vulnerable to an approach from the rear. Dismounted soldiers should attempt to destroy or disable enemy armor vehicles with hand grenades only as a last resort. When employing hand grenades for the purpose, the following procedures are recommended.

- o Remain in a covered fighting position until the vehicle closes to within its visual dead space. Approach the vehicle from the rear, moving aggressively.
- o Place an incendiary grenade over the engine compartment.
- o Attempt to drop a fragmentation grenade into an open hatch if incendiary grenades are not available.
- o Immediately return to cover.
- o Shoot escaping crewmen as they exit the vehicle if it is not disabled by a catastrophic, secondary explosion.

3-7. RETROGRADE OPERATIONS EMPLOYMENT

Most of the employment considerations applicable to the use of hand grenades in the defense are equally applicable to retrograde operations. If there is a special application or consideration for hand grenade use during retrograde operations, it would probably be for the creation of obstacles, marking friendly force locations, and breaking contact.

- a. Obstacles. Incendiary grenades can be used when terrain conditions permit initiating fires in specific areas to impede and disrupt enemy movement.
- b. Marking Locations. Colored smoke hand grenades can be used to mark friendly force positions and identify friendly forces.

c. Breaking Contact. During retrograde operations, some elements of the friendly force frequently become decisively engaged. Fragmentation, white smoke, white phosphorous, and CS grenades can all be used for breaking contact and regaining flexibility of maneuver. Use of hand grenades in volley fire immediately following the employment of white smoke is especially effective. The smoke obscures enemy observation of friendly force movement from covered positions, and fragmentation grenade employment forces them to cover.

3-8. REAR AREA OPERATIONS EMPLOYMENT

AirLand Battle doctrine recognizes that the nature of a future war poses a significant threat to rear areas. These threats range from large operational maneuver groups to highly trained, special operating forces and even terrorists. All US soldiers in combat, CS, and CSS units must be prepared to fight using the M16A2 rifle, the 9-mm pistol, the AT4 antitank rocket, the Claymore antipersonnel mine, and the fragmentation grenade. At every squad and section throughout the corps battle area, individual US soldiers must react to every action by aggressive, violent employment of grenades and individual weapons. There is no safe zone on the battlefield.

a. Special Considerations. Two features of rear area operations provide for unique considerations insofar as hand grenade employment is concerned. In certain areas of the world, the US Army and its allies must anticipate a large number of civilian refugees moving into and through the rear area. The situation will be further confused by the large numbers of CS and CSS units operating throughout the rear area. These factors dictate the following in regard to hand grenade employment in the rear areas.

(1) Offensive grenades. Grenades are thrown by individual soldiers at enemy soldiers in all threat situations. US forces should consider using the offensive grenade, especially in those situations where noncombatants and support troops may be intermingled with threat forces.

(2) Riot control grenades. It is not unreasonable to expect enemy SPETNAZ, special agent provocateurs, and fifth columnists to attempt to incite riots in our rear areas, especially if the conflict begins to stalemate and does not result in a rapid victory for either side. Forces in the rear area must quell these riots as rapidly as possible while minimizing potential damage to the

lives and property of noncombatants. Riot control grenades, which are usually associated with peacetime law and order functions, also have relevancy in maintaining control of the rear area.

b. Base Cluster Defense. Base cluster commanders must organize the defense of their positions in much the same manner as tactical commanders in the MBA. Accordingly, the employment of hand grenades from defensive positions surrounding the base cluster is based on the same considerations as hand grenade employment by combat units in the MBA.

3-9. USE UNDER ADVERSE CONDITIONS

While hand grenade procedures do not change when employed under adverse conditions, special cautions must be considered.

a. MOPP 4. Exercise additional caution when employing hand grenades while in MOPP gear. Arming and throwing procedures must be executed slowly and deliberately. It is recommended that the thrower observe each arming action (removal of safety clip and safety pin). Concentrate on the grip. Wearing gloves will inhibit the thrower's feel and could decrease his throwing ability.

b. Night. Throwers must have clear fields of fire and no overhead obstructions. Depth perception is generally impaired under limited visibility conditions.