Chapter 8
Pistol Engagement Techniques

Note
The procedures in this chapter are written for right-handed Marines; left-handed Marines must reverse directions as needed.

8001. Target Detection

Most combat targets are detected by smoke, flash, dust, noise, or movement and are usually only momentarily visible. Target indicators are anything that reveal an enemy's position to the Marine. These indicators are grouped into the three general areas of movement, sound, and improper camouflage.

a. Movement. The eye is attracted to movement, especially sudden movement. The Marine need not be looking directly at an object to notice movement. The degree of difficulty in locating moving targets depends primarily on the speed of movement. A slowly moving target will be harder to detect than one with quick, jerky movements.

b. Sound. Sound can be used to detect an enemy position. Sound may be made by movement, rattling equipment, or talking. Sound provides only a general location, making it difficult to pinpoint a target by sound alone. However, sound can alert the Marine to the presence of a target and increase his probability of locating it through other indicators.

c. Improper Camouflage. There are three indicators caused by improper camouflage: shine, outline, and contrast with the background. These effects are somewhat diminished at the close ranges pistol engagements take place, but can still affect target detection. Most targets on the battlefield are detected due to improper camouflage. However, many times an observation post or enemy firing position will blend with the natural background. Only through recognition of target indicators will these positions be revealed.

(1) Shine. Shine is created from reflective objects such as metal, glass, pools of water, and the natural oils from the skin. Shine acts as a beacon to a target's position.

(2) Outline. Most enemy soldiers will camouflage themselves, their equipment, and their positions. The outline of objects such as the body, head and shoulders, weapons, and gear are recognizable.

(3) Contrast With the Background. Objects contrast with a background because of differences in color, surface, and shape. For instance, a target wearing a dark uniform would be clearly visible in an area of snow or sand. Symmetrical shapes, such as helmets or rifle barrels, can be detected in a wooded area. Fresh soil around a fighting hole contrasts with the otherwise unbroken ground surface. While observing an area, the Marine should take note of anything that looks out of place or unusual and study it in more detail. This will increase the chances of spotting a hidden enemy.

8002. Techniques of Fire

To successfully engage a combat target with the M9 service pistol, the Marine must have the ability to employ effective techniques of fire. The Marine's performance of these skills, along with proper application of the fundamentals of marksmanship, are the keys to his success in a combat situation.

a. Double and Single Action Firing. When the M9 service pistol is taken off safe, it is capable of firing both double and single action.

(1) Double Action Mode. The design of the M9 service pistol causes the first shot fired to be a double action shot.

(a) In double action firing, two actions occur as the trigger is moved to the rear; the hammer moves to the rear, cocking the weapon, and then the hammer moves forward, firing the weapon. More pressure is required on the trigger to fire a double action shot due to the distance the trigger and hammer have to travel and the weight of the trigger. A double action shot requires approximately 9-16 pounds of pressure to move the trigger rearward.

(b) Maintaining sight alignment/sight picture is harder when firing a double action shot; therefore, it is more likely that the sights will move outside the aiming area when applying trigger pressure.

(2) Single Action Mode. Once the first shot is fired, subsequent shots are fired single action because the cycle of operation leaves the hammer cocked to the rear, automatically placing the pistol in the single action mode.

(a) In single action firing the weapon is already cocked, therefore, the only action taking place as the trigger is moved to the rear is the hammer moving forward, firing the weapon. A single action shot requires approximately 4-6 pounds of pressure to move the trigger rearward.

(b) The application of trigger control is easier when firing a single action shot.

(c) To enable the first shot to be fired single action, the pistol’s hammer can be manually cocked with the thumb.

Note
The weapon must be taken off safe
before it can be thumbcocked.

- To thumbcock the pistol, use the left thumb to pull back on the hammer to cock it. This ensures the firing grip of the right hand does not have to be broken.

- When thumbcocking the pistol, ensure the hammer is moved all the way to the rear, and the trigger finger remains straight along the receiver until the pistol is fully cocked.

- Reestablish the firing grip with both hands once the pistol is cocked.

b. Factors Affecting Whether to Fire Single Action or Double Action

The Marine must make a quick decision on whether to fire single or double action. Ultimately, the decision will be based on the Marine's capabilities, but the decision will also be based on time and accuracy. See figure 8-1.

	TIME	DISTANCE	SIZE	TRIGGER CONTROL	SIGHT PICTURE	BREATH CONTROL/ STABILITY OF HOLD
SINGLE ACTION	LONGER ENGAGE-MENT TIME	LONG RANGE	SMALL TARGET	CRITICAL	CRITICAL	CRITICAL
DOUBLE ACTION	LONGER ENGAGE-MENT TIME	CLOSE RANGE	LARGE TARGET	LESS CRITICAL	LESS CRITICAL	LESS CRITICAL

Figure 8-1. Factors Affecting Whether to Fire Single Action or Double Action.

(1) Time. There is a payoff between time and accuracy. The Marine will sacrifice time to fire a single action, precision shot; but what he sacrifices in time, he will gain in accuracy.

- For quick engagements at close range, there may not be time to thumbcock the pistol for a single action shot. For quick engagements of close-range targets, firing the first shot in the double action mode is preferred because shots are needed on target quickly and stability of hold and sight picture are not as critical to accuracy.

- When time permits, and for targets at longer ranges, the pistol may be thumbcocked to place it in the single action mode to reduce the weight of the trigger and the distance it must travel rearward to fire the first shot.

(2) Distance and Size of the Target. The smaller the target, the more critical the application of the fundamentals to engage it accurately. To accurately engage a small target (e.g., headshot, long-range target) it is better to thumbcock the pistol for a single action shot. Engagement of a smaller target requires additional precision because sight alignment and sight picture are more critical to accuracy.

(3) Fundamentals of Marksmanship. The pistol should be fired in the double action mode when trigger control, sight picture, and stability of hold are not as critical for accuracy (i.e., close range, large targets). Likewise, the pistol should be fired in the single action mode when the fundamentals are more critical to accuracy (i.e., long range, small targets).

c. Two-Shot Technique. In combat, it is good technique to rapidly fire more than one shot on a target to eliminate it as a threat. Two shots fired in rapid succession will increase the trauma (i.e., shock, blood loss) on the target, increasing the Marine's chances of quickly eliminating the threat. Therefore, two shots are most often fired in rapid succession on a target at close range.

(1) Recovery. After the pistol is fired, the pistol's muzzle climbs with the recoil of the weapon. To fire two shots, the Marine must quickly recover the sights to the same area on the target while reacquiring sight alignment and sight picture. Proper recovery automatically brings the sights back on target following recoil. Quick recovery allows more time for the Marine to align the sights and apply trigger control to fire the next shot. Recovery begins immediately after the application of the fundamentals to bring the pistol sights into alignment with the target in preparation for firing the next shot.

(2) Factors Affecting Recovery. The amount the muzzle climbs during recoil depends on the amount of controlled muscular tension in the grip and wrists applied to stabilize the weapon and create consistency in resistance to recoil. Controlled muscular tension allows the weapon sights to recover consistently back on target within a minimum amount of time. The speed of delivery of multiple shots is dependent on how fast the Marine can reacquire sight alignment.

- A key to proper recovery is a stable firing position and proper grip.

- If the Marine's firing position is not stable, recoil will force him out of his firing position, requiring him to reestablish his position before he takes his next shot.

- An improper grip or lack of controlled muscular tension will cause the pistol to move in the Marine's hand after the shot is fired, disrupting sight alignment and requiring the Marine to reestablish his grip.

d. Slow Fire Technique. Sight alignment becomes more critical the smaller the target and the greater the distance to the target. In these situations, the Marine does not engage the target with two rapidly fired shots because he has to slow down his application of the fundamentals to fire a precision shot(s). To engage small targets (i.e., partially exposed) and targets at longer ranges where precision is required, the Marine must employ the following slow fire technique:

- Thumbcock the pistol for a single action shot.
- Slow down the application of the fundamentals.
- Fire one well-aimed, precision shot on the target.

8003. Reengagement Techniques

Once the Marine has quickly assessed the situation and determined that the threat still exists, he may make the decision to reengage the target to eliminate it as a threat. Reengagement techniques include engaging the target with a precision shot through slow fire, two shots, or offset aiming. The time, size, and distance to the target as well as the capabilities of the Marine will dictate the technique used to reengage the target.

a. Slow Fire Technique. If the Marine has engaged a target and the target still poses a threat, the Marine may choose to slow down his application of the fundamentals and fire a slow fire, precision shot. The placement of one well-aimed precision shot on a designated area of the target will increase the chances of eliminating the target as a threat. The key to the success rests with the Marine's ability to slow down his performance and focus on the application of the fundamentals of marksmanship to ensure accurate shot placement.

(1) Assessing Performance. When assessing the situation, the Marine must assess his own performance to determine whether he is applying the fundamentals of marksmanship correctly. Failure to eliminate a target may be attributed to problems in the Marine's shooting performance.

(2) Shot Placement. The Marine must determine where to place this precision shot for maximum effectiveness, and to make this decision, he must consider distance and size of the target, and time.

(a) Distance and Size of the Target. There are times when a Marine is accurately engaging a target and applying the fundamentals, but the target still does not go down. In this situation, the Marine may have to adjust his aiming area for a head shot.

- **Close Range.** For targets at close range and within the Marine's capability, a precision shot may be placed in the head to immediately eliminate the target as a threat. This is only done if the Marine is accurately engaging the target, but the target still does not go down. Even at close ranges, the Marine may only be presented with a small target when the target is partially exposed. In this situation, the Marine will aim his sights on the portion of the target that is exposed.

- **Long Range.** For targets at long ranges, the target is smaller, requiring a precision shot. A precision shot may be placed in the body to add trauma to the target and increase the chances of eliminating the target as a threat.

(b) Time. The time the Marine has to engage the target affects whether he can slow down his application of the fundamentals to fire a precision shot. Firing a precision shot takes time, so the Marine will sacrifice time for accuracy.

b. Two-Shot Technique. In combat, it may not always be possible to eliminate a target in a single engagement, regardless of how well the fundamentals are applied, because two shots may not cause enough trauma to the body to eliminate the target. If a target is accurately engaged, but it does not go down, the Marine may choose to reengage the target with additional shots. Two additional, rapidly delivered shots will increase the trauma, increasing the Marine's chances of quickly eliminating the threat.

(1) The size and distance to the target will affect how quickly two shots can be delivered on the target. The speed at which two shots are fired is also dependent on the ability of the Marine and how fast he can reacquire his front sight.

(2) The Marine must not compromise accuracy for speed; the key to successful target engagement is to fire only as quickly as the Marine can fire effectively.

c. Offset Aiming. When the Marine assesses the situation and determines his shots are not successful and not striking the target in the designated aiming area, he may employ offset aiming. Since the pistol's sights cannot be adjusted, offset aiming is applied to adjust the aiming area to cause rounds to strike center mass. This technique should only be applied when the Marine determines that he is applying the fundamentals of marksmanship correctly. Sight picture will change as the aiming area is adjusted.

(1) The known strike of the round offset aiming technique requires shifting the point of aim to compensate for rounds striking off target center.

(2) To effectively engage a target using this technique, the Marine must be able to see where the rounds are striking and then aim an equal distance from the center of the aiming area opposite the observed strike of the round. For example, if the rounds are striking the target high and left of center mass, aim an equal and opposite distance low and right.

8004. Engaging Multiple Targets

When a Marine is forced to engage more than one target at a time, there are actions that can be taken to turn the advantage in his favor. One is adhering to the fundamentals of marksmanship. Another is employing the techniques of multiple target engagement. The introduction of multiple targets in a combat scenario requires additional skills that must be learned and practiced if a Marine is to be successful. While there are physical skills that must be acquired, mental preparedness is also a key factor in engaging multiple targets. To be effective in combat, the Marine must be able to detect targets through identification of target indicators, prioritize the targets, and employ multiple target engagement techniques.

a. Prioritizing Targets. Once multiple targets have been identified, they must be prioritized in terms of the threat each target presents. While the fundamentals of marksmanship must still be applied, prioritizing targets and planning the engagement are just as essential to successful multiple target engagement.

(1) Combat Mindset. Successful engagement of multiple targets requires a somewhat different mindset from single target engagement. For example, following engagement of a single target, the Marine assesses the situation. During multiple target engagements, after the first target is engaged, he must immediately engage the next target and continue until all targets have been eliminated. This requires a mindset that enables quick action.

(a) Because split-second decisions must be made, the development of a combat mindset is important to success on the battlefield. This mindset allows the Marine to control the pace of the battle rather than react to the threat.

(b) While engaging multiple targets, it is critical that the Marine be aware of his surroundings and not be focused on one target. He must maintain constant awareness, continuously searching the terrain around him for additional targets.

(c) Mental preparedness is a key to successful engagement of multiple targets, and the required mindset must be developed until it becomes second nature to the Marine. When multiple targets appear, the Marine must prioritize the targets to establish an engagement sequence. He must be so prepared that the needed decisions are made in the short time available in battle.

(2) Prioritize Targets. Target priority is based on factors such as proximity, threat, and opportunity, and no two situations will be the same. The Marine's proficiency level also comes into play because the Marine should not attempt to engage a target beyond his proficiency level or the weapon's capability (e.g., a target at 100 yards away). The principal method is to determine the level of threat for each target so all may be engaged in succession from the most threatening to the least threatening. Examples of factors the Marine should consider when prioritizing targets include:

(a) The target closest to the Marine.

(b) The target that presents the greatest threat to the Marine.

Prioritizing targets is an ongoing process. As the engagement proceeds, new targets may appear that are more threatening than those previously identified. Also, targets that had been identified as most threatening may take cover, delaying their engagement. The Marine must remain constantly alert to changes in target threat, proximity, and his opportunity for engagement, and revise his target priorities accordingly.

b. Engaging Multiple Targets. Once targets have been prioritized, the Marine must quickly eliminate them. It is crucial to understand and practice the methods for engaging multiple targets until they become second nature. When physical engagement actions are automatic in combat, the Marine can maintain an awareness of the complete battlefield and concentrate on the mental aspects of multiple target engagement.

(1) Method for Engaging Multiple Targets. The fundamentals of marksmanship are critical to the development of skills to support multiple target engagement. While quickness is important when engaging multiple targets, the Marine's primary concern should be on placing accurate rounds on target. A balance must be struck between placing shots quickly on targets at close range and slowing down to place precision shots on targets at long range because all targets pose a threat and must be accurately engaged. The following is one method that may be used to engage multiple targets with the pistol:

- Engage every target, moving from target to target.
- After all of the targets have been initially engaged, assess the effectiveness of the engagements and, if necessary, reengage targets that still pose a threat.
- If all of the targets are eliminated, search the area for new targets.

(2) Considerations for Field Firing Positions. There are basic differences in the techniques to engage multiple targets depending on the firing position. The selection and use of field firing positions is critical to engagement of multiple targets. As in any firing situation, if the situation permits, the Marine should make a quick mental review of the terrain to select a firing position that provides stability, mobility, and observation of the enemy. The firing position should also provide flexibility for engaging multiple targets. The more dispersed the multiple targets, the greater the lateral movement the position must afford to engage them.

(a) Although the prone position provides the maximum stability for firing well-placed shots, engaging multiple targets from this position may require adjustment in the position from shot to shot depending on the distance between the targets and their location. Because the arms are fully extended on the ground, the prone position can be restrictive, increasing the time it will take to recover the sights onto subsequent targets.

(b) The kneeling and standing positions provide an increased field of view and allow maximum lateral adjustment to engage dispersed targets.

(3) Kneeling/Standing Position. The type of adjustment the Marine must make in the kneeling or standing position in order to orient his body in the direction of each target is a function of the distance between the targets and the Marine's ability to maintain stability of hold and recover from recoil. Once the first target is engaged:

- While maintaining a proper shooting position, rotate the body in the direction of the target, keeping the feet in place. In the standing position, the Marine may bend slightly at the knees while rotating the body. This allows the Marine to distribute his weight forward to provide additional stability to the position and better control the effects of recoil.

- If the targets are some distance apart, the Marine may not be able to maintain stability of hold or properly manage the effects of recoil by just rotating the body. In this situation, the Marine must adjust his entire position by either adjusting the placement of his feet or knee(s) to face in the direction of the new target.

- When the eyes move to a new target, the head and muzzle should follow.

(4) Prone Position. If the Marine must make an adjustment in the prone position to engage multiple targets, he must ensure that he maintains proper arm placement. Improper arm placement may affect his stability of hold and his ability to acquire sight picture. Once the first target has been engaged:

- Adjust the position of the lower part of the body to orient the upper body toward the target without disturbing the placement of the arms. This will allow the Marine to maintain stability of hold and quickly recover on subsequent targets. Moving the legs to the left will orient the upper body to the right; moving the legs to the right will orient the upper body to the left.

- For targets that are widely dispersed, the Marine may need to adjust his entire position to orient his body in the direction of subsequent targets. Using the left hand, push the upper body off the deck just high enough to move the body in the direction of the target. Extend the right arm toward the target and keep the muzzle pointed in the direction of the target.

8005. Engaging Moving Targets

The majority of combat targets will be moving; the enemy will not present himself for a deliberate shot. He will move quickly from cover to cover, exposing himself for the shortest time possible. A moving target must be engaged before it disappears. For effectiveness in combat, the Marine must engage a moving target with the same accuracy and precision he would a stationary target under a variety of combat conditions. Practice in the proper application of leads and the fundamentals of marksmanship will enable successful engagement of moving targets.

a. Types of Moving Targets. Targets move in different ways. Techniques to engage moving targets vary with the type of movement and the situation.

(1) Moving Target. This type of target moves in a consistent manner and is in continuous sight as it moves across the Marine's field of vision. A walking or running man is an example of this type of target. However, unless the enemy is completely unaware of the Marine's presence, this type of target is not likely to present itself.

(2) Stop and Go Target. This type of target will appear and disappear during its movement due to intermittent cover. It will present itself for only a short period of time before reestablishing cover. An enemy moving from one position of cover to another is an example. This enemy target is most vulnerable to fire at the beginning and end of his rush to cover as he gains momentum and then slows to avoid overrunning the cover position.

b. Leads for Moving Targets. Once the moving target has been identified, it must be engaged. To engage a moving target, the Marine must aim at some point in front of the target to strike it. This is referred to as taking a lead. Determining the amount of lead to engage a moving target must be as precise as possible to achieve success.

(1) Lead. When a shot is fired at a moving target, the target continues to move during the time of the bullet's flight. For this reason, the aim must be in front of the target; otherwise, the shot will fall behind it. Lead is the distance in advance of the target that is required to strike the target when it is moving.

(2) Factors Affecting Lead. Factors that affect the amount of lead are the target's range, speed, and angle of movement.

(a) Range. There is a time lag from the time a round is fired until the round strikes at the point of aim. This time of flight could allow a target to move out of the bullet's path if the round were fired directly at the target. Time of flight increases as range to the target increases. Therefore, the lead must be increased in proportion to the distance to the target.

(b) Speed. A greater lead will be required to hit a running man than a walking man because the running man will move a greater distance during the flight of the bullet.

(c) Angle of Movement. The angle of target movement also affects the amount of lead required for target engagement. The angle of movement across the Marine's line of sight relative to the flight of the bullet determines the type (amount) of lead.

(3) Types of Leads

(a) Full Lead. The target is moving straight across the Marine's line of sight with only one arm and half the body visible. This target requires a full lead because it will move the greatest distance across the Marine's line of sight during the flight of the bullet.

(b) Half Lead. The target is moving obliquely across the Marine's line of sight (at about a 45-degree angle). One arm and over half of the back or chest are visible. This target requires half of a full lead because it will move half as far as a target moving directly across the Marine's line of sight during the flight of the bullet.

(c) No Lead. A target moving directly toward or away from the Marine presents a full view of both arms and the entire back or chest. No lead is required. This target is engaged in the same manner as a stationary target because it is not moving across the Marine's line of sight.

(4) Point of Aim Technique for Establishing Leads. To engage a moving target, a Marine must establish a lead using an offset aiming technique. In the point of aim offset aiming technique, predetermined points of aim sector a man-sized target vertically, halfway between center mass and the leading edge of the target (one point of aim) and at the leading edge of the target (two points of aim). See figure 8-2. The same units of measure can be applied off the target for holds of additional points of aim. To use the point of aim technique to establish a lead on a man-sized moving target at various ranges, speeds, and angles of movement, the following guidelines apply. See figure 8-3.

- For a target moving at a distance of 15 yards away or less, no lead is required.
- For a target walking directly across the Marine's line of sight (full lead) between 16-25 yards away, hold 1 point of aim in the direction the target is moving.
- For a target running directly across the Marine's line of sight (full lead) between 16-25 yards away, hold 2 points of aim in the direction the target is moving.

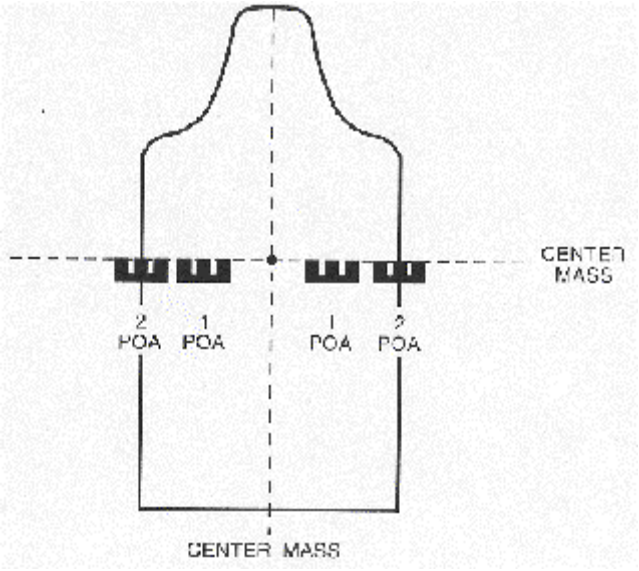

Figure 8-2. Points of Aim.

TARGET	DISTANCE	POINTS OF AIM
ANY	0 - 15 YARDS / METERS	NO LEAD
WALKING	16 - 25 YARDS / METERS	1
RUNNING	16 - 25 YARDS / METERS	2

Figure 8-3. Moving Target Leads.

c. Methods for Engaging Moving Targets. Training in moving target engagement will provide practice in calculating points of aim (leads) so this skill becomes second nature. Equally important are the methods to engage moving targets. Moving targets, although difficult, can be engaged by the tracking or ambush method or a combination of the two. See figure 8-4.

(1) The Tracking Method. In this method, the Marine "tracks" or follows the target with his front sight while maintaining sight alignment and a point of aim on or ahead of (leading) the target until the shot is fired. Sight picture is the aiming point in relation to the target while maintaining sight alignment (when a lead is established in moving target engagement, the sights will not be centered on the target). To execute the tracking method of moving target engagement:

- Thumbcock the pistol while presenting it to the target.
- Track the muzzle of the pistol through the target to the desired point of aim (lead). The point of aim may be on the target or some point in front of the target depending upon the target's range, speed, and angle of movement.
- Track and maintain focus on the front sight while applying trigger pressure and acquiring sight alignment.
- Continue tracking and applying trigger pressure, and acquire sight picture. When sight picture is established, engage the target while maintaining the proper point of aim (lead).
- Follow through so the lead is maintained as the bullet exits the muzzle. Continuing to track also enables a second shot to be fired on target, if necessary.

(2) The Ambush Method. The ambush method is generally used for a stop and go target and when it is difficult to track the target with the pistol, such as in the prone position. With this method, the pistol is aimed at a predetermined engagement point ahead of the target and along its path, allowed to remain stationary, and fired when the target reaches the predetermined engagement point. The engagement point is determined based on the required point of aim (lead) to effectively engage the target. When the sights are settled, the target moves into the predetermined engagement point creating the desired sight picture. Once sight picture is established, the remaining pressure is applied on the trigger until the shot fires. To execute the ambush method:

- Look for a pattern of exposure.
- Thumbcock the pistol while presenting it to a selected point of aim ahead of the target.
- While applying trigger pressure, obtain sight alignment in the aiming area.
- While continuing trigger pressure, hold sight alignment until the target moves into the predetermined engagement point and the desired sight picture is established.
- When sight picture is acquired, engage the target.
- Follow through so the pistol sights are not disturbed as the bullet exits the muzzle.

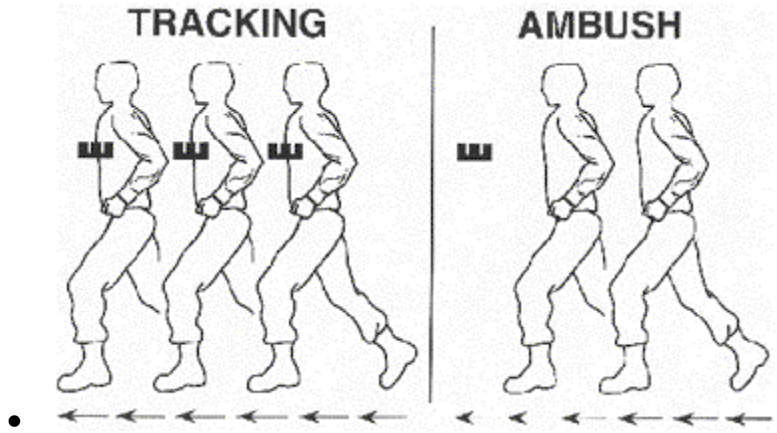

Figure 8-4. Moving Target Engagement Methods.

c. Applying the Fundamentals of Marksmanship to Engage Moving Targets

(1) Importance of Training in Moving Target Engagement. The engagement of moving targets is a perishable skill that must be practiced frequently if it is to be maintained. The Marine must practice to develop the skill to calculate the point of aim (lead) and fire the shot while maintaining the proper point of aim (lead). The fundamentals of marksmanship must be practiced and applied when engaging moving targets. Additionally, follow-through and a stable position play key roles in successfully engaging moving targets. The fundamentals must be instinctively applied, allowing concentration on tracking the target and applying point of aim (lead). The fundamentals must be applied simultaneously to the application of the point of aim (lead).

(2) Fundamentals of Marksmanship

(a) Aiming. Sight alignment remains unchanged for accurate engagement of a moving target. The most common error when engaging moving targets is the tendency to focus on the target rather than the front sight. Sight picture is the point of aim in relation to the target while maintaining sight alignment. For both the ambush and tracking methods, sight picture is changed from the normal center mass picture, based on range, speed, and angle of movement of the target. It takes practice in moving target engagement to quickly establish the desired sight picture for a given point of aim (lead).

(b) Breath Control. There is no difference in breath control when engaging moving targets; the breath is held to fire the shot.

(c) Trigger Control. Trigger control is critical to firing shots while establishing and maintaining sight alignment and sight picture. Because the single action mode is the preferred method of engaging a moving target, the weapon should be thumbcocked before trigger control is applied.

- Interrupted trigger control is not recommended when engaging moving targets because the point of aim (lead) will be lost or have to be adjusted if the trigger is held to reassume the proper sight picture.

- When the tracking method is used, there is a tendency to stop tracking as trigger control is applied. This causes the shot to impact behind the moving target. Trigger control should be uninterrupted while maintaining the point of aim and continuing to track so the trigger is pulled in one continuous, smooth motion to the rear.

- There is a tendency to interrupt trigger control when the target is masked from view. This is particularly true in the ambush method for targets that appear to stop and go when moving to and from cover. Trigger control should be uninterrupted.

(3) Follow-through. When using the tracking method, continue tracking the target while following through with the shot process so the point of aim (lead) is maintained as the bullet exits the muzzle. Continuing to track also enables a second shot to be fired on target if necessary. Concentration should be on continuing to track while applying the fundamentals. The application of the fundamentals must be instinctive to concentrate on applying the proper point of aim (lead) and continuing the movement of the pistol in completion of the shot.

(4) Shooting Position and Grip. To engage moving targets using the tracking method, the Marine must move the pistol smoothly and steadily as the target moves. A stable position and firm grip are necessary to steady the pistol sights while tracking.

8006. Engaging Targets During Low-Light and Darkness

An effective combat marksman must be prepared to detect and engage targets under a variety of conditions. Factors such as terrain and opportunity often dictate that the Marine engage combat targets at night or under low-light conditions.

a. Night Vision Adaptation and Maintenance

(1) Night Vision Adaptation. There are two methods for acquiring night vision:

(a) The first method is to remain in an area of darkness for about 30 minutes. This area can be indoors or outdoors. The major disadvantage of this approach is an individual is not able to perform any tasks while acquiring night vision in total darkness.

(b) The second method is to remain in a darkened area under low intensity red light (similar to the light in a photographer's darkroom) for about 20 minutes, followed by about 10 minutes in darkness without the red light. This method produces almost complete night vision adaptation while permitting the performance of some tasks during the adjustment period.

(2) Night Vision Maintenance. Because the eyes take a long time to adjust to darkness, it is important to protect night vision once it is acquired. To maintain night vision:

(a) Avoid looking at any bright light. Shield the eyes from parachute flares, spotlights, or headlights.

(b) When using a flashlight to read a map or other material:

- Put one hand over the glass to limit the area illuminated and the intensity of the light. Keeping one eye shut will reduce the amount of night vision lost.

- Cover the light with a red filter to help reduce the loss of night vision.

b. Target Detection Techniques. Once the Marine has acquired night vision, he is prepared to locate targets. Some of the daylight observation techniques, such as searching for target indicators, also apply at night or in low light. But night observation techniques must allow for the limitations of night vision and the need to protect it.

(1) Off-Center Vision. Because of the placement of the cones in the center of the retina and the rods around the edges, the angle at which the Marine observes an object at night will affect how well he can see it. Off-center vision is the technique of keeping the attention focused on an object without looking directly at it. This maximizes the use of the rods that provide night vision.

- Never look directly at the object being observed.

- Look slightly to the left, right, above, or below the object. Experiment and practice to find the best off-center angle for each individual. For most people, it is about 6 to 10 degrees away from the object, or about a fist's width at arm's length. See figure 8-5.

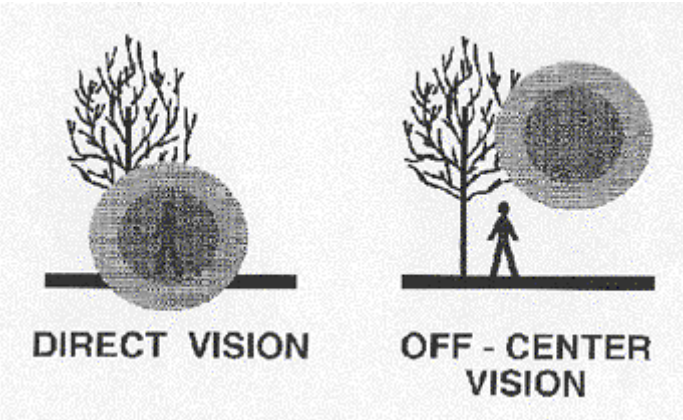

Figure 8-5. Off-Center Vision.

(2) Scanning/Figure Eight Scan. Scanning is the use of off-center vision to observe an area or object and involves slowly moving the eyes in a series of separate movements across the objective area. See figure 8-6.

- Move the eyes in a figure eight pattern in short, abrupt, irregular movements over and around the area. Once a target indicator has been detected, focus should be concentrated in that area, but not directly at it.

- It is more effective to scan from a prone position or a position closer to the ground than the object being observed. This will create a silhouetted view of the object.

- When scanning an area, look and listen for the same target indicators as in daylight: movement, sound, and improper camouflage.

  - Objects in bright moonlight/starlight cast shadows just as in sunlight.

  - Sound always seems to be louder at night than during daylight.

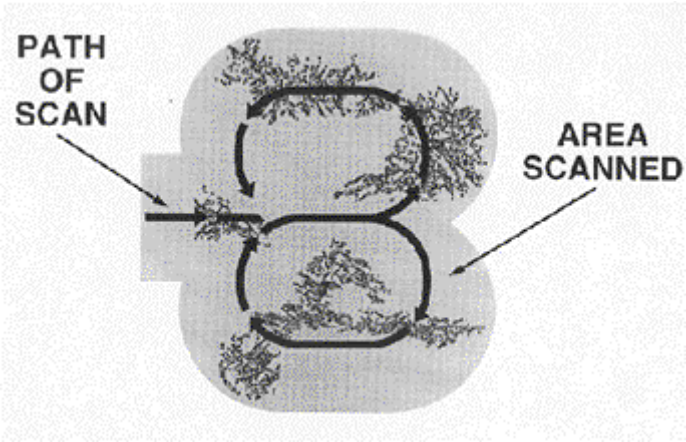

Figure 8-6. Figure Eight Scan.

c. Effects of Illumination. Both ambient (natural) light and artificial illumination can affect a Marine's perception of target distance and size, as well as night vision. The following will produce less of an effect at the close ranges pistol engagements take place, but will still affect target detection and engagement:

(1) Light behind or between the Marine and the target will illuminate the front of the target and make it appear closer than it actually is.

(2) Light beyond the target will display the target in silhouette and make it appear farther away than it actually is.

(3) The introduction of light requires the eyes to make a sudden, drastic adjustment to the amount of light received. This can cause the temporary blinding effect that is experienced when night vision is interrupted abruptly. Ambient light can also have this blinding effect, for instance, when a bright moon suddenly appears from behind clouds.

d. Engagement of Targets During Low Light and Darkness. The fundamentals of marksmanship are employed for engagement of targets in low light and darkness just as they are in daylight. However, the principles of night vision and target detection when engaging targets at night must be applied.

(1) Combat Mindset. In the stress of the combat environment, Marines must eliminate any hesitation, fear, or uncertainty of action and focus on the actions to fire well-aimed shots. This is especially important during low light and darkness when attention is more easily diverted than in the daytime, because the sense of vision is reduced. This may create a shock of awareness as the Marine relies more heavily on his other senses. Every noise, movement, and muzzle blast appears intensified at night. The physical acts of shooting must become second nature to the Marine, so his focus will not be diverted from firing well-aimed shots. This is accomplished through mental preparedness and training until shooting actions become instinctive.

(2) Acquiring Targets at Night. The Marine must keep both eyes open to get maximum visual coverage of the target area. Keeping both eyes open also improves depth perception and peripheral vision.

(3) Sight Alignment/Sight Picture. Sight alignment and sight picture are obtained the same way in darkness as in daylight. There is normally enough ambient light to perceive objects as far as 50 meters away, especially if they are moving. However, when pistol sights are placed on a dark background, such as a camouflaged target, the Marine may not be able to acquire and align the sights clearly. Instead, the Marine may have to rely almost entirely on his presentation, firing position, and grip to get the weapon on target. To check for sight alignment or acquire the sights:

- Move the pistol just off the edge of the target to an area that provides a good contrast.
- Acquire sight alignment.
- Bring the sights back on line with the target while applying pressure to the trigger so the shot breaks once the sights are on target.

8007. Flashlight Techniques for Target Detection/Engagement

The primary objective of using a flashlight in low light and darkness is to identify and illuminate targets. The secondary objective of using a flashlight is to acquire sight picture. Night engagement techniques include those that incorporate use of a flashlight to detect and engage targets.

a. Flashlights

(1) Types of Flashlights. There are a variety of flashlights used throughout the Marine Corps. The flashlights come in many different shapes and sizes, however, they all fall into one of two categories.

(a) Straight/Tubular. The straight/tubular flashlight is the most commonly used. The body of the flashlight is a straight/tubular shape with the lens at the head of the flashlight. The on/off mechanism is located along the body or at the base of the flashlight.

(b) L-shaped. The L-shaped flashlight has a straight/tubular body, with the head/lens of the flashlight positioned at a 90-degree angle to the body of the flashlight. The on/off mechanism is located along the body or at the base of the flashlight.

(2) Activation Devices. Depending on the type of flashlight, there are several ways that one can be activated.

(a) On/off Button. On/off buttons are located either along the body of the flashlight or at the base. On/off buttons are operated in a number of ways, depending on the flashlight.

(b) On/off Switch. On/off switches are mounted on the body of the flashlight. This switch has three settings which allow the flashlight to be either on, off, or in manual mode. In the manual mode, the flashlight is turned on by pressing and holding the button located next to the on/off switch.

(c) Rotating Head. Rotating the head of the flashlight either clockwise or counterclockwise will turn the flashlight on. Continuing this motion allows the width and intensity of the beam to be adjusted.

(3) Types of Lenses

(a) Clear Lenses. The most commonly used lens in the flashlight is the clear lens. Clear lenses are used primarily for target detection and to illuminate the pistol sights.

(b) Colored Lenses. Colored lenses include red, amber, and blue. These lenses are used primarily for map reading and signaling, but can be used to illuminate the pistol sights.

b. Flashlight Techniques for Target Detection. The primary objective of using a flashlight in low light and darkness is to identify and illuminate targets. The secondary objective of using a flashlight is to acquire sight picture. When a target is illuminated, the front sight may become silhouetted against the target, providing the sight picture needed to engage the target.

(1) Target Detection Using a Flashlight. During target detection, the Marine's focus should be twofold: to scan the area to identify possible targets and to assess the area to

formulate a plan for engagement or cover (e.g., identifying the quickest route to cover, determining the best method for engagement based on terrain).

(a) Hasty Search. Immediately upon entering a new area, the Marine must search for enemy activity that poses immediate danger. When using a flashlight to detect targets, the Marine should first conduct a hasty search of the area to identify target indicators.

- Quickly scan the area with the flashlight taking note of obvious points throughout the area that could cover or conceal the enemy. Wherever the eyes move, the flashlight should move.

- The Marine should begin by aiming the flashlight beam on the ground about 8-10 feet in front of his location. This allows the Marine's eyes to follow the beam and quickly establish a reference point for the light. Aiming the beam at the outer edge of the search area strains the eyes to find the beam, decreasing the field of view.

(b) Detailed Search. The Marine should follow up with a detailed search conducted on target indicators identified during the hasty search.

- Focus the most direct or intense portion of the flashlight beam on the target indicators.

- Move the beam of light slowly across the target indicator from right to left or left to right. Wherever the eyes move, the flashlight should move.

(2) Considerations for Target Detection Using a Flashlight

(a) The Marine should use a flashlight whenever possible; a flashlight not only helps the Marine locate targets at night, but the beam can be aimed directly at the target once it is detected. This direct light will temporarily blind the target. This gives the Marine the advantage to react before the target does.

(b) Anytime a Marine has a flashlight turned on, he may be revealing his location to the enemy. The Marine should keep the flashlight pointed out in front of his body to help avoid illuminating himself and revealing his position.

- Light shined directly from in front of the Marine at the target will obscure the Marine.

- Light shined from the side of the Marine at the target will illuminate the Marine.

(c) Light can bounce off surfaces and reflect back onto larger areas which the beam of light is not focused.

- Whenever a Marine shines a flashlight onto a surface, some of the light may reflect back and illuminate the Marine, possibly making him a target for the enemy.

- When a Marine is positioned at the outside corner of a room, building, or other cover he should avoid pointing the flashlight beam directly at the corner because the beam will reflect off the corner and illuminate the Marine. To prevent this, the head of the flashlight should extend just beyond the corner.

(d) Many flashlights have adjustable beams that can aid in target detection. The intensity of the beam must be adjusted to provide the best illumination of the area depending on the distance between the Marine and the area of observation.

- Diffused light from a wide beam creates a softer light and will illuminate a greater area, but the beam will not travel a great distance. A wide beam is best for observing larger areas at close range.

- Concentrated light from a narrow beam illuminates a smaller field of view, but the beam will travel a greater distance. A concentrated beam is effective for observing a specific area or an area that is further away. Concentrated light blinds the enemy and prevents him from focusing on the Marine or determining his location.

(e) When searching an area, the Marine can alter the position where he is holding his flashlight so that the beam will be perceived as coming from various locations. For example, the Marine can turn the flashlight on from a standing position, quickly search for targets, turn the flashlight off, assume a kneeling position, and search again. This keeps the enemy from obtaining an exact location of the Marine's position.

(f) Keep both eyes open to get maximum visual coverage of the target area. Keeping both eyes open also improves depth perception and peripheral vision.

c. Flashlight Techniques for Target Engagement. Once a target is detected using a flashlight, the flashlight can be used to acquire sight picture and facilitate engagement of the target. The fundamentals of marksmanship are employed for engagement of targets in darkness just as they are in daylight. However, the Marine must apply the principles of night vision and target detection, and be able to employ a flashlight properly, when engaging targets at night.

(1) Grip When Using a Flashlight. To engage a target accurately while using a flashlight, the flashlight must be held to provide the best stability, control, and management of recoil while firing. When firing with a two-handed grip, the left hand provides stability and control to manage recoil. When firing with a flashlight, the left hand is used to hold and operate the flashlight. Therefore, some stability, control, and management of recoil is lost.

(2) Securing the Flashlight. Most flashlights come equipped with a retaining loop located at the base for ease of transporting. If the flashlight has a retaining loop, attaching a cord to

it will help support and stabilize the flashlight when the Marine must fire the weapon with the flashlight in his left hand. It will also help to retain the flashlight. To position the cord properly:

- Feed one end of the cord through the retaining loop of the flashlight and tie the ends of the cord together.

- Slip the left hand through the cord loop. The loop should be just big enough so that, if the flashlight needs to be dropped, it can be retained on the wrist. Rotate the flashlight until the cord is twisted to the desired tension and length necessary to best stabilize the rear end of the flashlight in the hand. Grasp the flashlight with the left hand in a position that allows it to be operated easily.

(3) Acquiring Sight Alignment/Sight Picture When Using a Flashlight. When holding a flashlight on a target, the tendency is to look at the target rather than the sights. Sight alignment is still necessary for effective target engagement. A by-product of using a flashlight to illuminate a target is the ability to:

(a) Acquire sight picture by silhouetting the sights against the target.

- The Marine can establish sight picture by focusing the sights in the soft, diffused light area of the target.

- At close ranges, colored lenses can produce enough light on the target to silhouette the sights; at long ranges, colored lenses will not provide enough light off the target to illuminate the pistol sights. The Marine must be able to see the target by some other means, (e.g., contrast, moonlight).

(b) Acquire sight picture by illuminating the sights.

- A colored lens can be held directly over the sights to shine light on the top of the pistol to illuminate the sights. This method allows sight alignment to be established without revealing the Marine to the enemy. This method can be used with a clear lens to make a precision shot at long ranges but, chances are, the light will illuminate the Marine.

- A colored lens can be shined from directly behind the pistol sights to illuminate them. This method allows sight alignment to be established, but will reveal the Marine's position to the enemy.

(4) Target Engagement Techniques With the Flashlight. There are two flashlight target engagement techniques: Two-Handed Grip Technique and a Cross-Hand Technique.

(a) Two-Handed Grip Technique. The following technique is used with a straight/tubular flashlight, most often with an Isosceles position. See figure 8-7.

- Grasp the flashlight with the left hand with the lens pointing downrange. Wrap the thumb and index finger of the left hand around the body of the flashlight with the thumb resting on the on/off switch. The thumb should be placed to allow easy operation of the on/off switch without disrupting the grip on the flashlight.

- Extend both arms toward the target and bring the flashlight alongside the pistol so the fingers of the left and right hands are touching. Wrap the bottom three fingers of the left hand around the fingers of the right, incorporating the flashlight into a two-handed grip. Apply isometric pressure against both hands to aid in stabilizing the pistol.

	TIME	DISTANCE	SIZE	TRIGGER CONTROL	SIGHT PICTURE	BREATH CONTROL/ STABILITY OF HOLD
SINGLE ACTION	LONGER ENGAGE-MENT TIME	LONG RANGE	SMALL TARGET	CRITICAL	CRITICAL	CRITICAL
DOUBLE ACTION	LONGER ENGAGE-MENT TIME	CLOSE RANGE	LARGE TARGET	LESS CRITICAL	LESS CRITICAL	LESS CRITICAL

Figure 8-7. Flashlight Two-Handed Grip Technique (Isosceles Position).

- This technique can be incorporated in a Weaver position; the more the left hand wraps around the right, the more the body can be angled and the left elbow bent. Apply "push-pull" pressure on the grip to stabilize the pistol. See figure 8-8.

Figure 8-8. Flashlight Two-Handed Grip Technique (Weaver Position).

- This technique is effective for firing multiple shots because recoil can be better managed because the flashlight and pistol will recoil as a unit.

- The pistol and flashlight must be side by side and level so if the Marine has to engage a target, he can do so readily without making adjustments to the pistol or the flashlight.

- Whenever possible, the flashlight should be just in front of the muzzle of the pistol so it does not illuminate the pistol. Placement of the flashlight alongside the pistol may need to be adjusted depending on the size of the flashlight or the location of the on/off mechanism.

(b) Cross-Hand Technique. The following technique is used primarily with a Weaver position and can be used with either a straight/tubular flashlight or an L-shaped flashlight. See figure 8-9.

- Grasp the flashlight with the left hand, with the fingers wrapped around the top of the flashlight, and the thumb wrapped around the bottom. Place the thumb on the on/off button while maintaining a firm grip on the flashlight.

- Extend both arms toward the target and bring the left hand under the pistol so that the back of the left hand is resting firmly against the back of the right hand. Apply isometric pressure against both hands to aid in stabilizing the pistol. The right arm is fully extended and the left arm is bent at the elbow.

Figure 8-9. Flashlight Cross-Hand Technique.

(5) Considerations for the Carry/Transport. When searching an area for targets, the Marine will move with the pistol at the carry or transport dictated by the threat level.

(a) Ready. If enemy contact is expected (contact imminent), the pistol is carried at the Ready and the Marine carries the flashlight in his left hand and incorporates it into his firing grip. In the Ready, the Marine can search for targets and readily present the pistol and flashlight to the target for engagement without making adjustments to his grip or the flashlight. See figures 8-10 and 8-11.

Figure 8-10. Flashlight Ready Carry (Cross-Hand Technique).

Figure 8-11. Flashlight Ready Carry (Two-Handed Grip Technique).

(b) Alert. If enemy contact is likely, the pistol is carried at the Alert and the Marine carries the flashlight in his left hand and incorporates it into his firing grip. The Marine must ensure the flashlight is not pointed at the deck because it will illuminate the Marine. If necessary, the head of the flashlight may have to be tilted up to elevate the beam to increase the field of view. In this case, however, when the weapon is presented, the flashlight will have to be lowered so it is level with the pistol muzzle so the light will shine directly on the target and sight picture can be established. See figures 8-12 and 8-13.

Figure 8-12. Flashlight Alert Carry (Two-Handed Grip Technique).

Figure 8-13. Flashlight Alert Carry (Cross-Hand Technique).

(c) Holster Transport. If there is no immediate threat, the pistol is holstered and the Marine carries the flashlight with his left hand to search for targets. Should a target present itself, the Marine will present the pistol from the holster and engage the target. Time and distance to the target will dictate whether the Marine incorporates the flashlight and his left hand into the firing grip.