

Chapter 10

Target Detection

Normally, daylight target detection is fairly easy. However, if targets are well camouflaged or in heavy vegetation, they may not be readily apparent. A Marine uses target indicators to locate targets under these conditions.

10001. Daylight Target Detection

a. Target Indicators. Target indicators are anything that reveal the enemy's position. Most combat targets are detected at close range by smoke, flash, dust, noise, or movement, which are grouped into three general categories: movement, sound, and improper camouflage.

(1) Movement. The human eye notices all forms of movement, especially sudden movement. The speed of movement determines the Marine's ability to locate a moving target. That is, a slow-moving target is harder to detect than one moving with quick, jerky movements.

(2) Sound. Sounds made by movement, rattling equipment, or talking can be used to detect the enemy's position. Sound alerts a Marine to the presence of a target, but it cannot pinpoint the exact location of the target. Exact location of the target must be made through other indicators.

(3) Improper Camouflage. Most targets detected on the battlefield are detected due to improper camouflage. Improper camouflage creates a shine, an outline, or a contrast to its surroundings.

Shine is created from reflective objects such as metal, glass, or wet gear/equipment. It may also come from the natural oils excreted by the skin.

The enemy will attempt to camouflage himself, his equipment, and his position. Typically, the outline of the camouflaged object (such as the body, head and shoulders, weapons, web gear) is recognizable—even from a distance.

Objects that are in contrast (color, surface, shape) to their surroundings provide excellent target indicators. For example, geometric shapes (e.g., helmets, rifle barrels) are easy to detect in a wooded area or fresh soil around a fighting hole contrasts with the otherwise unbroken ground surface.

b. Searching Methods. A Marine should seek out positions that offer maximum visibility of an area while affording him cover and concealment. If a position is obvious or stands out (e.g., a lone tree in a field or a pile of rocks on a hill), it should be avoided. Once a Marine establishes a protected position, he begins to search the area for target indicators. There are two techniques used to search an area: the hasty search and the detailed search. The combat environment determines the type of search technique used. Generally, the search includes a combination of both hasty and detailed searches. For example, immediately upon entering a new area, a Marine conducts a hasty search for obvious targets. Once a Marine has conducted a hasty search and he can relatively ensure his safety, a detailed search of the entire area is conducted.

(1) Hasty Search. Immediately upon entering a new area, a Marine must search for enemy activity that poses immediate danger or threatens his safety. This search is known as a hasty search, and it is performed in 30 seconds. To perform a hasty search, a Marine quickly glances at obvious points throughout the area that could cover or conceal the enemy. The

eyes do not sweep across the terrain in one continuous movement—they must focus briefly on specific points. This allows a Marine to detect any movement that occurs in a wide area around the point. See figure 10-1.

To perform a hasty search—

- Search the area nearest the observer first since it poses the greatest potential for danger.
- Begin the search at one side of the area to be observed.
- Gradually move the eyes across the terrain to the opposite side of the area.
- After reaching the opposite side, begin the second pass back across the terrain, including 10 meters of the area examined during the first search.
- Continue the overlapping strip search method for as far as the eyes can see.

(2) Detailed Search. Once a Marine has conducted a hasty search and he can relatively ensure his safety, a detailed search is conducted. A detailed search is the systematic examination of a specific target indicator located during the hasty search. To perform a detailed search, search the area where the target indicator was found from top to bottom or side to side, observing the entire area in detail. If multiple indicators were observed during the hasty search, the detailed search begins with the indicator that appears to pose the greatest threat.

10002. Low-Light and Darkness Target Detection

a. Night Vision. A Marine can improve his ability to see during periods of darkness or low-light by obtaining and maintaining night vision. Since adapting to night vision is a slow and gradual process, steps should be taken to protect night vision once it is obtained.

Figure 10-1. Hasty Search.

(1) **Obtaining Night Vision.** There are two methods used to obtain night vision. The first method is to remain in an area of darkness (indoors or outdoors) for approximately 30 minutes. This method restricts a Marine from performing any other tasks while acquiring night vision. The second method is to remain in a darkened area under a low intensity red light for approximately 20 minutes, then in complete darkness for approximately 10 minutes. This method produces almost complete night vision adaptation while permitting a Marine to perform some tasks during the adjustment period.

(2) **Maintaining Night Vision.** Since the eyes take a long time to adjust to darkness, a Marine must protect night vision once it is obtained. Any form of light will eliminate night vision and a Marine will have to readjust his vision to low-light conditions or darkness. To maintain night vision—

- Avoid looking at any form of bright light.
- Shield the eyes from parachute flares, spotlights, or headlights.
- Cover flashlights with a red filter or place one hand over the glass to reduce the intensity of the light. Keeping one eye shut will also reduce the amount of night vision lost. Try to limit the time spent using a flashlight.

(3) **Factors Affecting Night Vision.** Some physical factors can reduce a Marine's ability to see in low light or during periods of darkness. These factors include—

- Fatigue.
- Lack of oxygen.
- Long exposure to sunlight.
- Heavy smoking.
- Drugs.
- Headaches.

- Illness.
- Consumption of alcohol within the past 48 hours.
- Improper diet.

b. **Searching Methods.** Once night vision has been acquired, a Marine is ready to locate targets. Some daylight observation techniques (e.g., searching for target indicators) also apply during periods of darkness or during low light. However, night observation techniques must allow for the limitations of night vision. For example, searching at night is slower and covers less terrain on each pass.

(1) **Off-Center Vision.** Off-center vision is the technique of focusing on an object without looking directly at the object. This technique allows a Marine to maximize the images seen with night vision and to detect peripheral movement.

To obtain off-center vision, never look directly at the object being observed (see fig. 10-2). Look slightly to the left, right, above, or below the object. A Marine must find his best off-center angle. Typically, the best off-center angle is 6 to 10 degrees away from the object. See figure 10-3.

————— **Note** —————

Stationary objects can appear to move if stared at for extended periods. To avoid this illusion, a Marine can visually align the object against something else (e.g., a finger held away from the body at arm's length.)

(2) **Scanning.** Scanning is the use of off-center vision to observe an area or object. It is more effective to scan from a prone position or at an angle below the object being observed. This creates a silhouetted view of the object.

A recommended method of scanning is to move the eyes in a figure eight pattern. See figure 10-4. The eyes move in short, abrupt, irregular movements over and around the area. A Marine must pause at regular intervals during the observation scan since the eyes cannot focus on a still object while they move. While scanning, there may be periodic blackouts of night

Figure 10-2. Direct Vision.

vision due to simple fatigue. A Marine must rest his eyes frequently during scanning (generally every 4 to 10 seconds). Night vision returns after the eyes are rested, moved, and blinked a few times.

While scanning, a Marine looks and listens for target indicators (movement, sound, and improper

Figure 10-3. Off-Center Vision.

camouflage). Objects in bright moonlight or starlight will cast shadows. Sounds may seem to be louder at night than during daylight. Once a target indicator is detected, attention is concentrated in the area of the target indicator, but the eyes still do not focus directly on the target.

Figure 10-4. Figure Eight Scan.