

## CHAPTER 7

# INDIVIDUAL PROTECTIVE MEASURES

This chapter presents the principles of constructing, camouflaging, and using individual protective measures. Camouflaging is nothing more than hiding or concealing your position or equipment by blending it in with the natural or local surroundings to avoid detection by the enemy. Intelligent use of the terrain sometimes reduces the labor and time required for the construction of emplacements or positions to provide you protection while firing at the enemy. In many cases the natural configuration of the ground provides emplacements that require little, if any, improvements. The following information gives you guidance on the correct application of these protective measures.

### COVER AND CONCEALMENT

**COVER** is protection from the fire of hostile weapons. It may be natural or artificial. Natural cover (ravines, hollows, and reverse slopes) and artificial cover (fighting holes, trenches, and walls) protect you from flat trajectory fire (projectiles traveling at nearly horizontal angles), and partially protect you from high-angle fire and the effects of nuclear explosions.

**CONCEALMENT** is protection from hostile ground or air observation, but not from hostile fire. It, too, is natural or artificial. Natural concealment is provided by objects in their natural locations, such as bushes, grass, and shadows. Artificial concealment is made from materials, such as burlap, nets, or tents, or from natural material.

The best combat position provides, at one and the same time, maximum cover and maximum concealment.

### FIGHTING EMPLACEMENTS

A **FIGHTING EMPLACEMENT** is the position you occupy for the purpose of firing your weapon at the enemy. It provides a good firing position with maximum cover and concealment. A temporary position is converted to a fighting emplacement, or its character, as such, may be improved by digging in, construction, concealment of fresh soil, and improvement.

### Digging In

Start digging in when the combat situation requires or allows it, and take advantage of all available natural cover. You should have an entrenching tool; however, you can dig with your bayonet or helmet, or both. When necessary, clear the brush to improve your **FIELD OF FIRE** (the direction you will be firing at the enemy).

Since the Seabees work with ditchdiggers, back-hoes, and other types of heavy construction equipment, you probably have access to this equipment to help in digging and building your fighting emplacement. Of course this depends upon where it is, what the defensive situation is, and how long you are expected to stay in the position.

### Construction

Construction includes the improvement of earthworks by placing logs or other objects in defensive positions, such as along parapets (a wall or bank) and overhead. A position should be continually improved as long as it is occupied.

Another area in which a Seabee might show a difference in the construction of his defensive position would be if a battalion used a prefabricated fighting hole made from corrugated metal, or a bunker made of block or concrete with a metal plate for a roof. Since Seabees have access to construction materials, their positions can be made more permanent. Seabee positions are used as abase camp, or a central position, where they can go to project sites and return when the project has been completed.

### Concealment of Fresh Soil

The appearance of fresh soil betrays the location of your emplacement to enemy observers. Therefore, the plan for your dug-in emplacement must include some way to dispose of the soil. Use part of it to make a parapet or ridge around the emplacement. When you start digging in, first slice off the top turf and set it aside. Then as you dig out fresh soil, use it to build a parapet around the position about 6 inches high and 3 feet wide. Then lay the turf back on this parapet. If more fresh soil must come out, place it in a sandbag or on a canvas and move

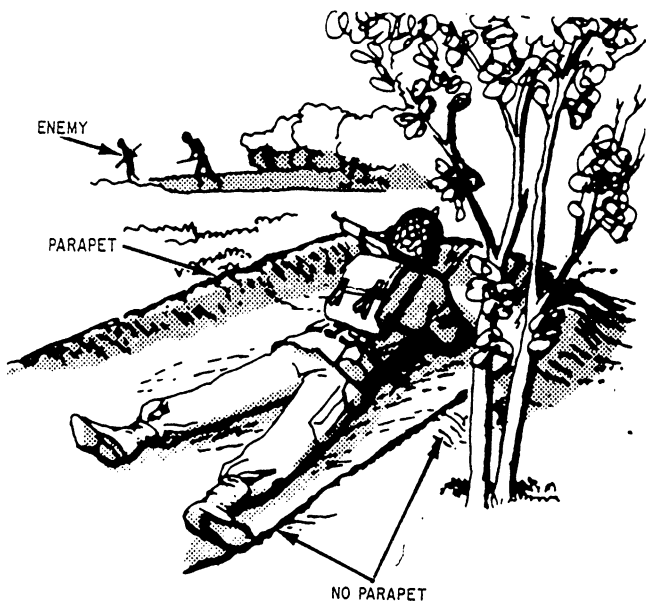


Figure 7-1.—Skirmisher's trench.

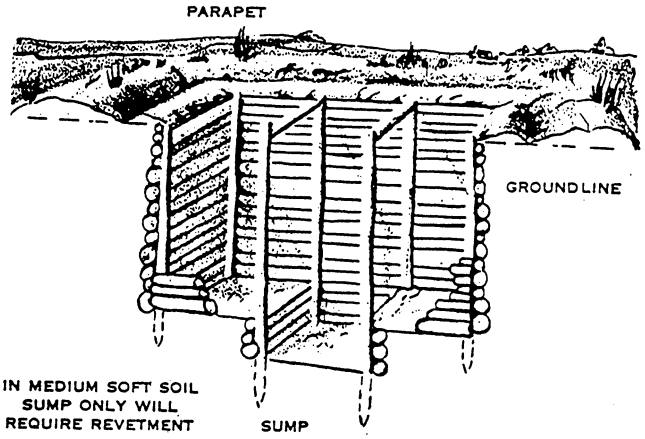


Figure 7-3.—Cut-timber revetment.

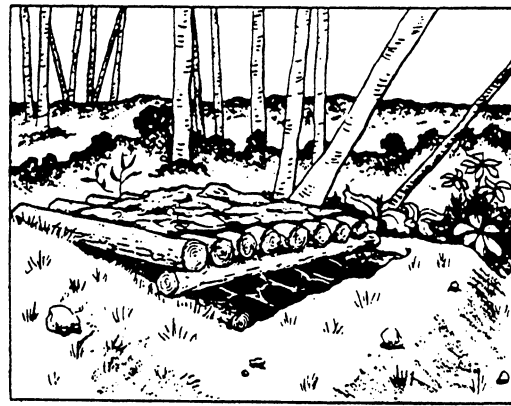


Figure 7-4.—Fighting hole with overhead cover.

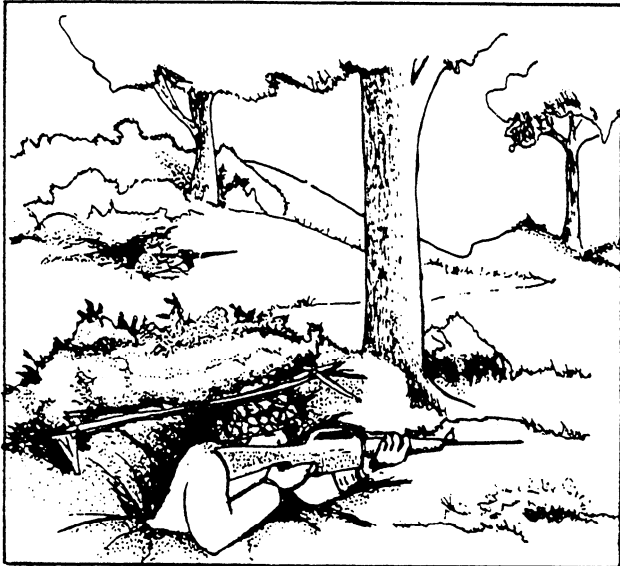
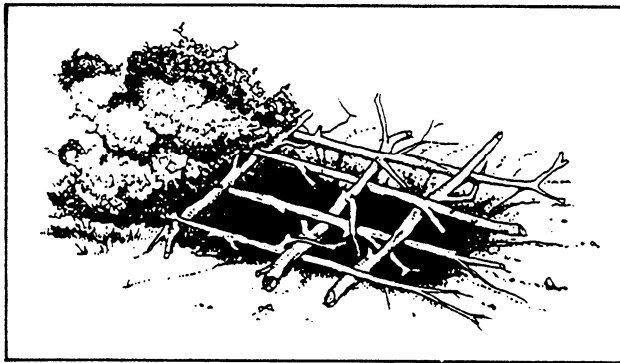


Figure 7-2.—Camouflaged fighting holes.

it well away from the position. Dispose of fresh soil under low bushes, in a stream, pond, or ravine, or camouflage it in another manner, to the rear of the forward edge of battle area.

### Types of Dug-in Emplacements

The simplest type of dug-in emplacement is the SKIRMISHER'S TRENCH, as shown in figure 7-1. This shallow pit type of emplacement provides a temporary, open, prone firing position for the individual rifleman. When the situation demands immediate shelter from heavy enemy fire and when existing defiladed firing positions (positions which provide protection from fire or observation, such as ridges, embankments, and ravines) are not available, each man lies prone or on his side. With his entrenching tool, he scrapes and piles the soil in a low parapet between him and the enemy. Thus a shallow, body-length pit can be formed quickly in all but the hardest ground. The trench

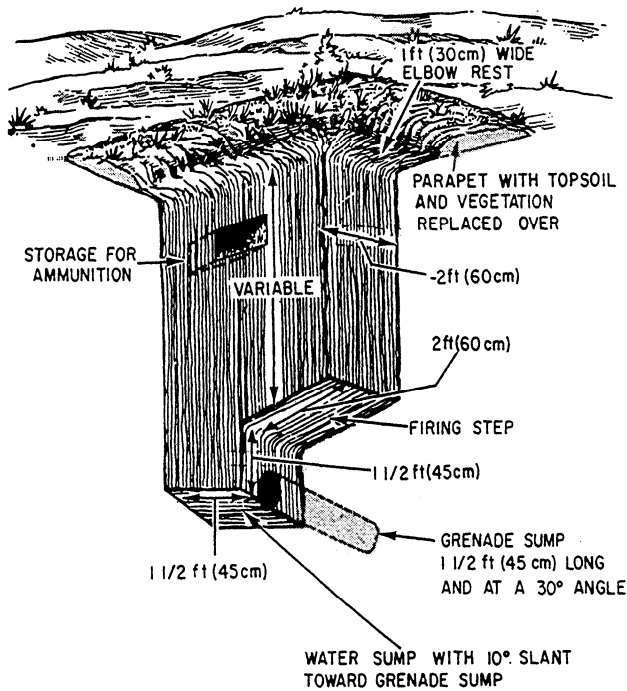


Figure 7-5.—One-man fighting hole.

should be oriented with respect to the line of fire of the enemy so it is least vulnerable to enfilade fire (fire from the flanking or side position). In a skirmisher's trench, a man presents a low silhouette to the enemy and is afforded some protection from small-arms fire.

Figure 7-2 shows CAMOUFLAGED FIGHTING HOLES that may be built either while in contact with the enemy or before contact with the enemy is made. They are a more permanent type of construction than the skirmisher's trench. They may or may not be covered. The two shown are covered, which helps prevent detection, but they are not provided much protection from enemy fire. They are constructed to enable a man to fire from a standing position with most of his body protected from enemy fire. These emplacements help provide protection from small-arms fire, shell fragments, bombings, and the crushing action of tanks.

Figure 7-3 shows a CUT-TIMBER REVETMENT, constructed when the soil is soft enough to require the timber support shown. Again, this is a more permanent type of emplacement and is normally built only when a unit expects to stay in an area for quite some time. You would fire from a standing position with most of your body protected from enemy fire. Figure 7-4 shows a fighting hole with an overhead cover providing cover from enemy fire as well as concealment from the enemy.

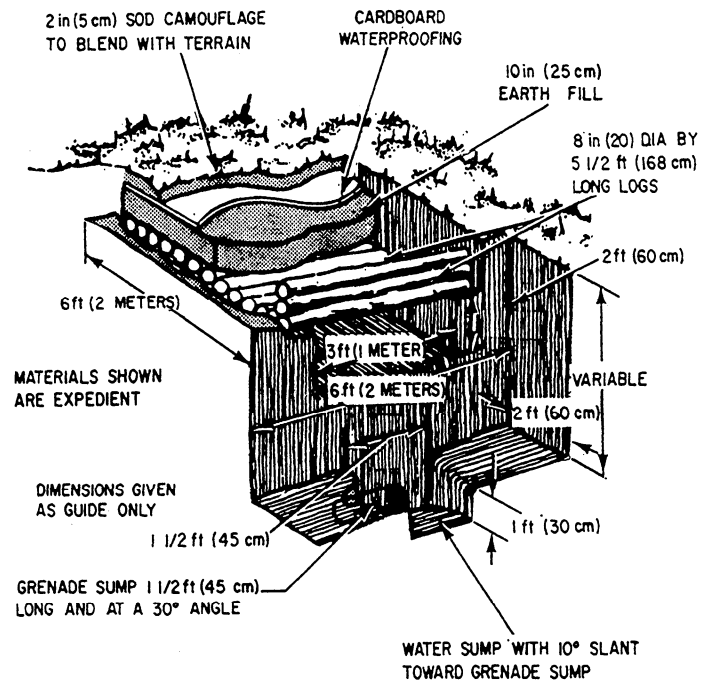


Figure 7-6.—Two-man fighting hole.

The internal construction of a ONE-MAN FIGHTING HOLE is shown in figure 7-5. It is made as small as possible to present the smallest target to the enemy, but wide enough to accommodate a man's shoulders, and deep enough to use entrenching tools at the bottom. A sump should be built below the firing step, at one end, to catch rainwater. The firing step should be deep enough to protect most of a man's body while firing. A circular grenade sump, large enough to accept the largest known enemy grenade, is sloped downward at an angle of 30 degrees and is excavated under the fire step. Hand grenades thrown into the fighting hole are exploded in this sump, and their fragmentation is restricted to the unoccupied end of the fighting hole. The soil from the hole is used to build a parapet. The edge of the hole is used for an elbow rest while firing. Be sure to camouflage the soil used for your parapet to help avoid detection.

Figure 7-6 shows a TWO-MAN FIGHTING HOLE that is essentially two one-man holes. The two-man fighting hole provides some advantages over the one-man fighting hole. By being in such close proximity, each man gains a feeling of more security, and it allows one man to rest while the other man is observing the area. One disadvantage is since it is longer than a one-man hole, it provides less protection from tanks, bombing, strafing, and shelling.

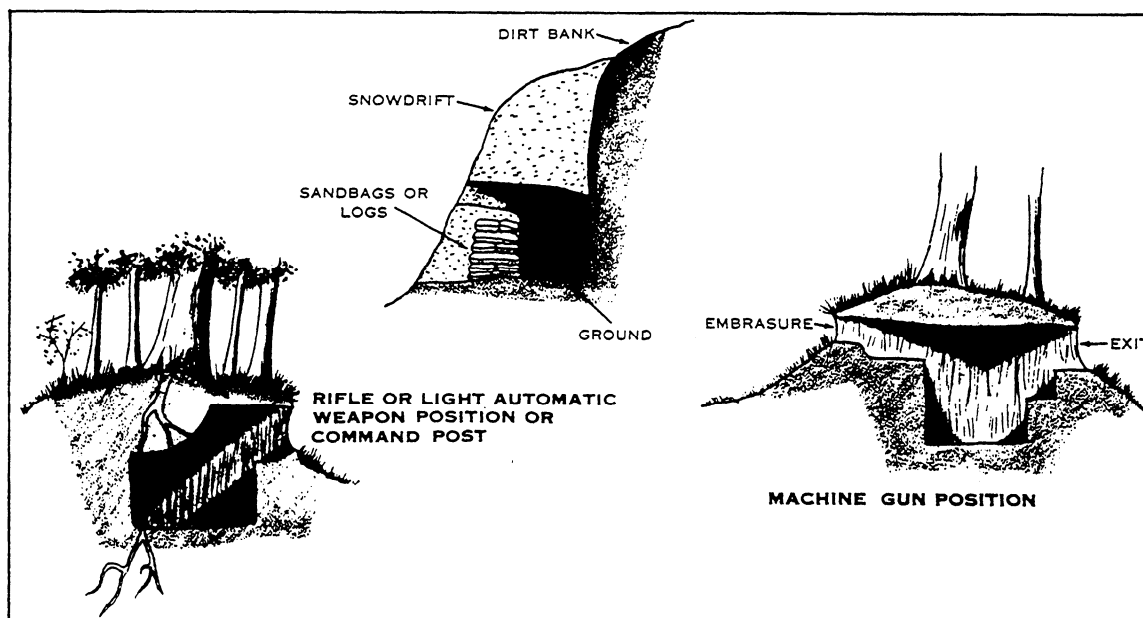


Figure 7-7.—Dug-in cave holes.

The types of dug-in CAVE HOLES shown in figure 7-7 are dug in the side of hills or mountains and are used as a command post for the unit, a machine gun position, or a rifle or light automatic-weapon position. When possible, the entrance to these emplacements should be concealed and camouflaged. They provide excellent protection from enemy observation and fire.

A PRONE EMPLACEMENT (fig. 7-8) provides protection from small-arms fire, shelling, bombing, and strafing by enemy planes. It is a one-man hole and is normally the type of emplacement dug by and for command post personnel.

### Temporary Battlefield Positions

Figure 7-9 shows the application of cover and concealment principles in the selection of a temporary battlefield position. The illustrations indicate you should observe and fire around the side of an object, and keep as low as possible to cover and conceal most of your head and body. The illustrations show a rifleman who is right-handed firing or observing; a rifleman who fires left-handed would observe and fire from the left side of the object he is using for cover and concealment.

### CONCEALMENT

The FIRST principle of concealment is to AVOID ALL UNNECESSARY MOVEMENT. You may frequently be in a position where you can escape

observation if you remain still, but instantly attract attention if you move. Any movement against a stationary background causes you to stand out very clearly; therefore, if you change position, move carefully (over a concealed route if possible) to the new position.

The SECOND principle is to USE ALL AVAILABLE CONCEALMENT. Background is important; blend in with it to prevent detection. Trees, bushes, grass, earth, and artificial structures form backgrounds of various colors, and color is a factor in whether or not you will be concealed by blending. Select a background that blends with your uniform and absorbs the outline of your figure. Stay in the shadows whenever possible.

The THIRD principle of concealment is KEEP LOW; that is, maintain a crouch or squat, or better still, a prone position. The lower silhouette you present, the more difficult it is for the enemy to see you. Keep off the skyline, even at night.

Finally, EXPOSE NOTHING THAT SHINES. Sunlight reflecting off a shiny surface can be seen for a great distance and attracts attention instantly.

### CAMOUFLAGE

Camouflage is a general term applied to measures (either natural or artificial) taken to conceal yourself, your position, and your equipment from enemy

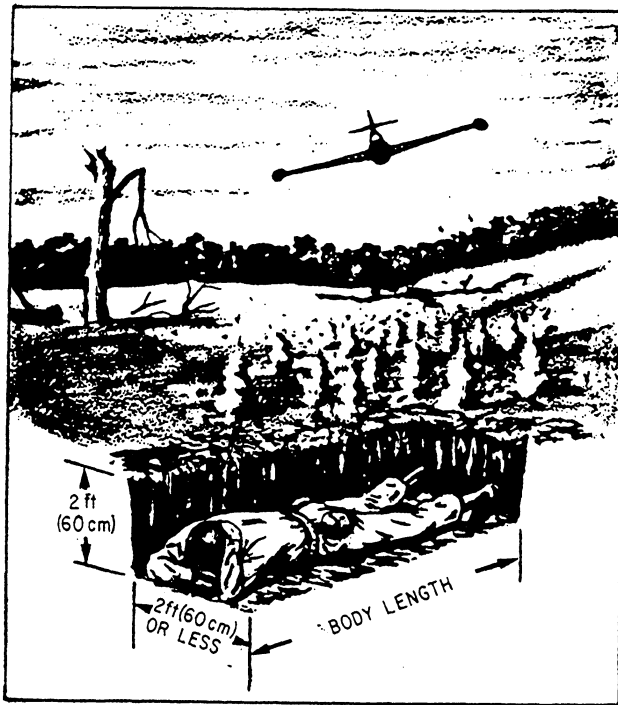


Figure 7-8.—Prone emplacement.

observation. Three general rules for camouflage are as follows:

1. Take advantage of all available natural concealment.
2. Camouflage by altering the form, shadow, texture, and color of objects.
3. Camouflage against both ground and air observation.

### Camouflaging a Position

To avoid detection by the enemy, use the following methods of camouflaging a position:

1. Before constructing your position, study the terrain and vegetation in the area so after your position is completed, by the use of camouflage, you are able to restore the area as near as possible to its original appearance.
2. Do not use more material than you need. Too much camouflage can reveal a position as quickly as too little camouflage.
3. Obtain natural material from a wide area. When you strip a small adjacent area of foliage, the stripped area gives the position away.

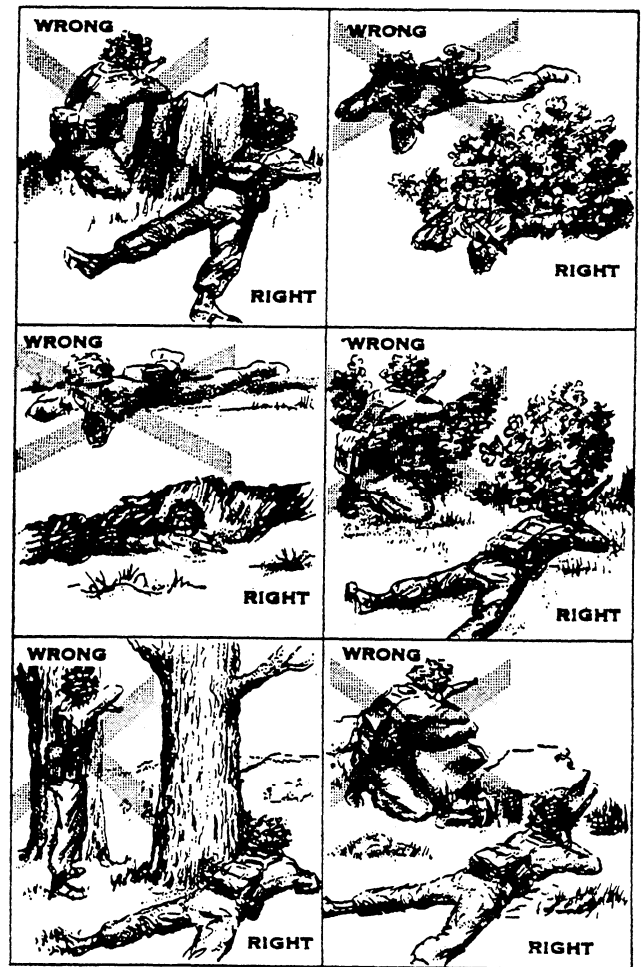


Figure 7-9.—Correct and incorrect battlefield positions.

4. Always conceal excavated soil by covering it with leaves or grass or by dumping it under bushes, into streams, or into ravines.

5. After camouflaging, inspect the position carefully from the viewpoint of the enemy. Check it repeatedly to ensure that it remains natural in appearance and continues to conceal the position.

6. Practice CAMOUFLAGE DISCIPLINE. Avoid doing anything, such as scattering cans or boxes around the camouflaged position, that may give the position away. When possible, use old, established paths to and from your position. Do not create new paths that can be seen from the air. If necessary, vary the route to and from the position so there is no beaten path into the position.

### Camouflaging Personal Equipment

The color of field uniforms and web equipment—pack, belt, and canteen cover—blends well with most terrain unless the equipment is badly faded. If it is faded,

color it to blend with the surrounding terrain. When no paint is available, use mud, charcoal, or crushed grass. Color in bold, irregular patterns.

Alter the distinctive outline of your helmet with a cover of cloth or burlap colored to blend with the terrain. Let foliage stick over the edges, but do not use too much of it. Use a camouflage band, string, burlap strips, or rubber bands to hold the foliage in place.

Use mud or dirt to dull shiny surfaces of weapons, being careful not to foul working parts.

### **Camouflaging the Person**

Exposed skin—even dark skin—reflects light. To prevent this, you should use camouflage face paint sticks. They are issued and used in a two-color combination. Although these sticks are called face paint sticks, they are used on any exposed skin and are issued and used in the following combinations:

1. Loam and light green for light-skinned personnel in other than snow regions
2. Sand and light green for dark-skinned personnel in other than snow regions
3. Loam and white for all personnel in snow regions

Apply face paint sticks or other materials as follows:

1. Paint the shiny areas (forehead, cheeks, nose, chin, exposed skin on the back of your neck and your hands and wrists) with the darker color. Paint the shadow areas (around the eyes and under the nose and chin) with the lighter color.

2. When applying face paint, use the buddy system with one man working on and checking another.

3. When face paint is not available, burnt cork, charcoal, or lampblack may be used. Mud should be used only when nothing else is available. Mud changes color as it dries, and when dry, it may flake off and leave exposed skin. Also, mud may contain harmful bacteria and should be used only on approval of a medical officer.

### **Camouflaging of Vehicles**

A badly concealed vehicle can lead to much more than just a lost vehicle; it may mean discovery of your unit or complete destruction of an installation. As is always the case in camouflage, the aim should be to occupy a position without altering its appearance. To do this, you should park the vehicle under natural cover whenever available. When cover is inadequate, the

vehicles should be parked so their shape will disappear into the surroundings. Better concealment can be obtained by using natural rather than artificial material to breakup the shape and shadow of the vehicles. This type of material is always available near a parking site or motor pool and can be erected and removed quickly. When cut foliage is used, be sure it is put up as it was growing because the underside of the leaves is much lighter than the topside, and the difference in color could give your position away. In addition, cut foliage should be replaced as soon as it starts to wither.

The principal artificial materials used to conceal vehicles are drape nets. They are easy to use, quickly erected, and quickly removed. Drape nets give complete concealment against direct observation, but, as with most artificial camouflage materials, they can frequently be detected by photographic observation because they often fail to blend with the background properly. In any case, drapes do conceal the identity of a vehicle, even though the drape net itself may be detected.

### **Camouflaging of Buildings**

The basic methods of concealment—blending, hiding, and deceiving—can be applied either to existing buildings or new construction. However, concealment is much easier when the camouflage scheme is incorporated into the designs for new construction and site selection.

Buildings can be concealed by screens of garnished nettings. Another method is to have disruptive patterns painted over the netting, roof, and gable-end walls. Where concealment from close observation is required, the netting should be sloped gradually to the ground. For structures with roofs steeper than 30 degrees, the netting must cover the whole building.

When the terrain permits, a new structure can be partially dug-in to reduce the height and, in turn, its shadows. The nature and size of buildings can be disguised in many ways, such as the following:

1. Placing trees between the buildings
2. Painting the roofs to match the surrounding terrain
3. Varying roof lines with wooden framework, then covering them with burlap or fine-mesh wire netting to simulate sloping hip roofs
4. Erecting superstructures over existing buildings and covering them with burlap, plastic, or other material

to alter their appearance so they resemble the surrounding native buildings

### **Camouflaging of Supply Points**

From a camouflage viewpoint, the large concentration of materials is the main problem. Huge amounts of equipment and supplies of all kinds are usually brought up at the same time. They must be unloaded and concealed quickly and yet be easily accessible for redistribution. Therefore, natural cover and concealment must be used at supply points whenever possible. Dispersal of these supplies is a must to minimize damage from a single attack. Existing overhead cover should be used when new access roads are planned. When the supply point is to be permanent, the tracks running in and out of the installation can be concealed by overhead nets slung between trees. Traffic control should include measures to conceal activity and movement at, to, and from the installation. When natural cover is sparse or nonexistent, be sure the natural terrain features are used to advantage.

Maintain camouflage discipline at supply points including a minimum of changes in the appearance of

the terrain. Control the debris so it does not accumulate and attract enemy attention.

### **Camouflaging of Water Points**

Water points must have adequate concealment, either artificial or natural, for operating personnel, storage tanks, pumping, and purification equipment. When the surrounding terrain foliage is not thick enough for perfect concealment, it can be supplemented by natural or artificial camouflage materials.

To keep the enemy from observing the shine of water in the tanks, place canvas covers or natural foliage over them. By using foliage or artificial materials, you can distort their features.

Small, open areas that must be crossed by vehicles or personnel operating in the area can be concealed with natural or artificial materials.

A water supply schedule must be instituted and maintained. Without camouflage discipline or with a violation of the schedule, a concentration of waiting vehicles that cannot be readily concealed could occur.

