FM 7-15

INFANTRY FIELD MANUAL

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HEAVY WEAPONS COMPANY COMPANY,

RIFLE REGIMENT

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INFANTRY FIELD MANUAL

HEAVY WEAPONS COMPANY, RIFLE REGIMENT

CHAPTER 1

GENERAL

SECTION I

COMPOSITION, ARMAMENT, AND EQUIPMENT

1. COMPOSITION.—*a. Company.*—The heavy weapons company consists of a company headquarters, two caliber .30 heavy machine-gun platoons, and one 81-mm mortar platoon. (See fig. 1.) For details of organization, armament, and equipment, see Tables of Organization and Table of Basic Allowances.

b. Company headquarters.—(1) The company headquarters is composed of a command group and an administration group.

(2) The command group consists of the company commander, reconnaissance officer, first sergeant, reconnaissance and signal sergeant, transport sergeant, motor mechanics, bugler, orderly, and messengers. Chauffeurs who drive the command trucks assigned to company headquarters, and basic privates, are included in the command group.

(3) The administration group consists of the supply sergeant, mess sergeant, cooks and cooks' helpers, armorer artificer, and the company clerk.

c. Platoons.—For composition, refer to figure 1 and see paragraphs 78 and 154.

Since most reenactors have never seen a cal. .30 heavy machine gun or an 81-mm mortar, they seldom take these things into consideration. This results in a serious misconception about the types and uses of firepower on the battlefield. These two weapons – particularly in the defense – provide a huge force multiplier. Many of the operations described for the battalion and regiment could not be undertaken without the support of the heavy weapons company.

Keep in mind that the regiment has three such companies, designated D, H, and M.

2. CAPABILITIES AND LIMITATIONS OF HEAVY MACHINE GUN.—The caliber .30 heavy machine gun is a crew-served weapon capable of delivering a large volume of continuous fire. Medium rate of fire (125 rounds per minute) can be sustained indefinitely. Rapid fire (250 rounds per minute) can be fired for several minutes, but steaming will occur Within 2 or 3 minutes. Because of its fixed mount, the heavy machine gun is capable of delivering overhead fires and of firing accurately at night from predetermined data. Due to the length of the beaten zone (horizontal pattern of dispersion) enfilade fire is the most effective type of fire delivered by this weapon. When overhead fires are not possible or desirable, fires are directed through gaps

The "heavy" – many reenactors confuse this with the M2 cal. .50 – is by design not much different from the "light" version. The heavy has two advantages: the water jacket that allows a much greater sustained rate of fire by retarding barrel overheating, and a heavy mount that permits accurate fire at long range. This means the maximum range is the same as for the light version, but the max *effective* range is much longer.

between riflemen or groups of riflemen. Gaps may be created and maintained for such fire.

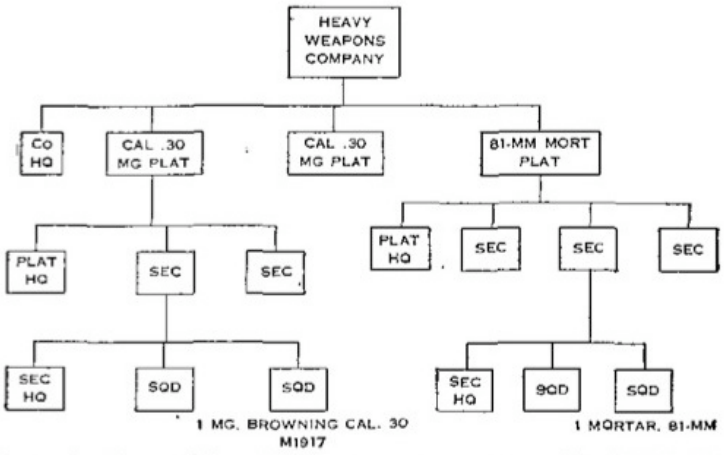


FIGURE 1.—Composition of heavy weapons company. (See T/O 7–18.)

a. Mobility.—After being removed from its weapon carrier, the heavy machine gun and its crew have the same sustained mobility for a considerable distance as have riflemen. Eventually, however, fatigue will cause the crew to fall behind, beyond supporting distance. Hand-carry of ammunition for distances much in excess of 500 yards greatly increases the problem of maintaining an adequate supply of ammunition at the gun. Weapon carriers must be used, therefore, to the limit of their capabilities in transporting the machine guns and supplying them with ammunition. See limitations on the use of weapon carriers, paragraph 6*b* (2).

b. Ranges.—(1) The effective range of the machine gun, employing direct fire, is limited by observation. Observation will rarely be effective beyond 2,000 yards.

(2) The effectiveness of the machine gun, employing indirect fire, is limited by its maximum effective range and by the facilities for obtaining accurate firing data. (See FM 23-45 and 23-55.)

c. Vulnerability.—An enemy will search for the location of machine guns. The distinctive noise of firing, the muzzle blast, dust clouds caused by firing, and the silhouette of the gun, all tend to disclose its location. Therefore, firing positions should, whenever practicable, be selected in position defilade or partial defilade. See paragraph 25b (3) and figures 7, 8, and 9. When time permits, the machine gun should be well dug in. For machine-gun emplacements, see appendix I and figures 28, 29, and 30.

d. Targets.—The hostile target most dangerous, at the moment, to friendly troops is the primary target. Suitable targets are-

(1) Exposed personnel, particularly if in close formation, or in depth with respect to the line of fire.

Bear in mind, however, that the ballistic trajectory of the heavy is identical to the light version. This means that the bullets fly in a high arc at longer ranges, resulting in "plunging" fire – bullets are zipping from above rather than snapping along a foot or two above the ground as with "grazing" fire. At best, the combination of long-range plunging fire and grazing fire from the flanks can ruin the enemy's day.

The price to be paid, however, is the weight of the HMG (it isn't called "heavy" for nothing) and the need to refill the water jacket as the water boils off (taking barrel heat with it – thermodynamics is a bitch). The weapons carriers earn their name.

You will often not be able to see the target, so the firing tables are necessary to set the correct elevation. Note also that tracer rounds will help the gunner and observer sense fall of rounds.

(2) Intrenched personnel, observation posts, machine guns, or antitank guns, for destruction or neutralization. Neutralization is accomplished by hampering or interrupting movement or action, and thereby reducing or destroying the combat efficiency of the target.

(3) Low-flying airplanes. The effective slant range of heavy machine guns against low-flying airplanes does not exceed 1,000 yards. For antiaircraft fires, see paragraph 18.

(4) Mechanized vehicles. For conduct of crews and fire against mechanized vehicles, see paragraph 18.

3. CAPABILITIES AND LIMITATIONS OF THE 81-MM MORTAR.—The 81-mm mortar is a crew-served weapon. Each mortar is capable of firing an effective concentration in an area 100 by 100 yards. The use of the mortar for firing concentrations is limited by the supply of ammunition. (See FM 23-90.)

a. Mobility.—The 81-mm mortar has approximately the same mobility as the heavy machine gun. Its ammunition supply is more difficult, both because of the weight of the projectile and because of the rapidity with which the initial supply may be exhausted.

b. Ranges.—The effective range is limited by observation rather than by the maximum range of the weapon. The range of the light shell is from 100 to 3,300 yards; the range of the heavy shell is from 300 to 2,650 yards. Effective observation, however, will rarely be obtained beyond 2,000 yards. Mortar fires should not be placed less than 200 yards from friendly troops.

c. Vulnerability.—Due to its high-angle trajectory and effective range, a wide choice may be exercised in the selection of firing positions, provided observation is available. Advantage should be taken of deep defilade, or of woods which afford openings through which the mortar can fire. Firing positions should be selected which protect the crew from the fires of rifles and machine guns, and reduce the vulnerability of the mortar and crew to hostile artillery fires and air attack. However, each firing position must be sufficiently close to its observation post to permit effective control of fires with available means of signal communication. (See par. 198.)

d. Targets.—The necessity for conserving ammunition supply demands careful selection of mortar targets, particularly In offensive combat. Suitable targets are-

(1) Located, or approximately located, hostile machine guns, mortars, and antitank guns.

(2) Observed point or small area targets protected from effective fire of rifles and machine guns, such as personnel or weapons in road cuts, embankments, or intrenchments. Reverse slopes and woods, which afford approaches defiladed from the fire of rifles and machine

guns, are suitable targets in *defensive combat.* In *offensive combat,* reverse slopes and woods also are suitable targets in harassing a retreating enemy, or to disrupt known or suspected movement or assembly of reserves. However, priority is always given to observed targets.

(3) Positions having overhead cover-heavy shell only.

(4) Areas to be smoked in order to deny hostile observation.

4. INDIVIDUAL WEAPONS.—*a. Pistols, carbines, rifles, and hand grenades.*—These are individual weapons. Their primary tactical use in the heavy weapons company is the emergency defense of the individual, groups, crew-served weapons, and company installations. When elements of the heavy weapons company are isolated from other units, rifle elements are detailed for their close protection.

b. Browning automatic rifle.—The primary tactical use of the Browning automatic rifle in the heavy weapons company is the antiaircraft defense of the company transport; its secondary use is for the local protection of the company transport from ground attack. One Browning automatic rifle is mounted on a pedestal mount on one weapon carrier in each section of the company. The section leader designates one man to ride this carrier and man the automatic rifle until the heavy weapons are unloaded: thereafter the chauffeur, or any other available individual such as the transport corporal, may man this weapon for emergency use. For conditions governing antiaircraft fires, see paragraph 18.

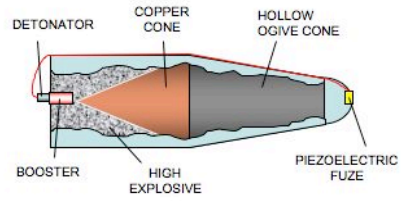
c. Antitank rifle grenade M9.—(1) The antitank rifle grenade, HE, M9, is provided for the purpose of combating tanks and armored vehicles. (See FM 23-30.) These grenades are fired from a U. S. rifle, caliber .30, M1903, which is organic equipment of each heavy machine-gun and mortar section.

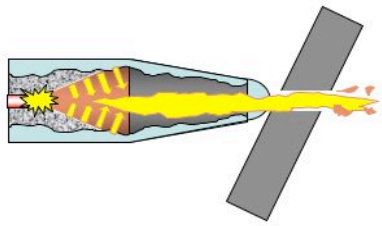
(2) Each rifle from which the grenade is to be fired is provided with a soft rubber pad to be placed over the butt, and also with a launcher (muzzle extension) which fits over the muzzle and into the base of the fin-tail assembly, to hold the grenade in place during the period of aiming. The rifle may be fired from the prone, standing, sitting, or kneeling positions, or from a foxhole or slit trench. A practice grenade Ml is provided for instruction in training, marksmanship, and technique of fire.

(3) Within its effective range, approximately 75 yards, the high explosive grenade M9 is effective against all known light and medium tanks. The M1903 rifle can also be used for firing at ground or air targets with caliber .30 ammunition. The section leader designates a man to ride one of his weapon carriers and protect the carriers until his heavy weapons are unloaded; thereafter he employs the section antitank rifle for the local protection of his heavy weapons and their crews. (See par. 18.)

See *c*, below: The bazooka was being introduced as this manual was in press. Accuracy with the bazooka was somewhat higher than with the rifle grenade, but its bulk and back blast made emplacement and concealment difficult.

The M9 and the bazooka round both use a small shaped charge – not enough to penetrate the frontal armor of a PzKw III or larger vehicle, but enough to break a track or penetrate the sides. Because they use chemical energy, their penetrating effect is the same any-





Rifle grenades, bazookas, Panzerfausts and similar weapons use HEAT (high explosive antitank) penetrators instead of shot. A shot projectile (like the 57-mm) is usually steel with a very hard point (like tungsten carbide), and simply punches a hole in armor with kinetic energy. HEAT rund use a combination of kinetic and chemical energy.

In the top drawing above is a cross-section of a typcal HEAT penetrator. The HE compound (often Tetryl) is shaped or molded into a hollow cone (hence "shaped charge). The hollow part is usually lined with a copper cone. At the tip of the round is a piezoelectric element ("lucky piece") that responds to pressure with an electrical impulse. This travels by wire to a detonator and booster in the base

5. TYPES OF POSITIONS.—*a Firing positions.*—The company, or its platoons and sections, are assigned position areas in which firing positions of their heavy machine guns or mortars are to be located. These firing positions are classified as—

(1) *Primary position.*—The firing position from which the weapon can best execute its primary fire mission.

(2) *Alternate position.*—A firing position from which the same fire mission can be executed as from the primary position. It is used to enable the weapon to continue its mission when enemy fire, or the threat of fire, makes it necessary to move the weapon and its crew from its primary firing position in order to avoid destruction. In open terrain, an alternate position should be at least 100 yards from the primary position.

(3) *Supplementary position.*—A firing position from which the weapon can accomplish secondary fire missions which cannot be accomplished from primary or alternate positions.

b. Off-carrier position.—The off-carrier position is the point at which the weapon, its initial supply of ammunition, and its accessories are removed from the weapon carrier. From that point they are brought by hand to a cover position or firing position. The off-carrier position should afford defilade and concealment for carriers and men.

c. Cover position.—Whenever practicable, squad leaders select cover positions near firing positions. The cover position affords defilade and concealment for members of the squad when they are not required to remain at the firing position. When the cover position is occupied, observers continue to watch for suitable targets and for hostile attack against the unit.

6. EQUIPMENT AND TRANSPORTATION.—*a. Reference.*—For organic transportation, see Table of Organization; for equipment, see Table of Basic Allowances.

b. Tactical employment of company transport.—(1) Purpose.—The heavy weapons company is assigned one or more motor vehicles for the purpose of command and communication; each squad is equipped with one weapon carrier to transport crew-served weapons with a minimum gun crew, spare parts, accessories, fire control equipment, and ammunition. A large proportion of the company moves on foot.

(2) *Limitations.*—The use of weapon carriers to transport weapons and ammunition may be prevented by hostile fires or impassable conditions of terrain.

(3) *Control*—The control of the company transport may vary from regimental control to platoon control.

that sets off the HE. Surface waves from the explosion are focused at the axis of the cone, melting the copper and blasting it through the armor.

Unlike KE shot, the velocity of the round has little effect on penetration (in fact, the slower the better).

(a) In situations where contact with the enemy is not imminent, company transport, except that of units employed on antiaircraft security missions, may be grouped with other battalion transport under regimental or battalion control.

(b) In a route march, carriers are released to platoons engaged on security missions. In an approach march, weapons transported by weapon carriers must be readily accessible; carriers should be released to the platoon when the terrain is favorable for cross-country movement; otherwise, they move under company or battalion control.

(c) In the attack, carriers are released to platoons prior to entry into combat, and remain under platoon control unless otherwise specified by the company or battalion commander. However, between the company ammunition point and the platoon areas the movement of carriers engaged in ammunition supply is under company control except for elements of the company attached to rifle units. (See paragraph 239*b*.)

(d) In the defense, all battalion transport of forward battalions, except that required for communication and control, will usually be held under regimental control at a selected location in rear of the battle position. Carriers of a reserve battalion may be retained under battalion control in the battalion assembly area.

SECTION II

TACTICAL EMPLOYMENT OF HEAVY WEAPONS COMPANY

7. CHARACTERISTICS.—The heavy weapons company is capable of little or no independent action. It cannot take ground and it cannot hold ground indefinitely without the assistance of rifle units. It is capable of strong fire concentrations at critical points. Adequate observation is essential for effective accomplishment of its mission.

Despite the lack of ability to take and hold ground by itself, we should recall that three rifle companies without the heavy weapons capabilities are unlikely to take and hold ground without them – if at all. In the defense, the ground organization of the rifle companies is based on the placement of the heavy weapons.

8. MISSION.—The mission of the heavy weapons company is to give continuous close support and protection to the rifle companies. Protection includes protection against air attack; protection of the flanks; protection of reorganizations and consolidations: and protection of assembly areas and bivouacs.

9. TACTICAL EMPLOYMENT BY BATTALION COMMANDER.—The battalion commander makes the basic decisions governing the tactical employment of the heavy weapons company. He announces in orders the position area, or areas, assigned to the company and the areas or sectors in which its fires will be concentrated or distributed in support of his plan of action. He may attach elements of the company to rifle units. During the action, he anticipates, plans, and

pates, plans, and orders the shifting or concentration of fires required by changing conditions.

10. General Duties of Company Commander.—*a.* The company commander is responsible for the discipline, administration, vehicle maintenance, supply, training, and control of his company; he is responsible for its tactical employment in conformity with orders received from the battalion commander. While he may accept advice and suggestions from his subordinates, he alone is responsible for what his unit does or fails to do.

b. In conformity with standing operating procedure of his battalion and regiment, the company commander develops and perfects routine procedure and teamwork.

c. Through timely reconnaissance, the company commander assists the battalion commander in the development of the plan for employing the weapons of his company. He submits recommendations for the employment of the company when so directed by the battalion commander. By orders to his platoon leaders he disposes and employs the platoon of his company so as best to deliver the fires ordered by the battalion commander. Based on these orders, detailed fire plans are developed by platoon leaders for the employment of their units; if time permits, these fire plans are submitted to the company commander for approval and coordination.

The commander cannot wait until the battalion starts to move before considering where to place the heavies and the mortars. He must be fully aware of the battalion commander's concept of the operation, and ready to move the assets to the correct locations as soon as the front-line companies are in place.

11. Planning, Preparation, and Supervision.—*a.* The coordinated employment of his unit in combat involves continuous anticipation and planning on the part of the company commander. It requires continuous supervision of activities of the elements and individuals of the company in the execution of their part of the company action.

b. Upon receipt of the battalion field order, or based on prior instructions from the battalion commander, the company commander should—

(1) Analyze all parts of the order which affect his unit.

(2) Briefly consult with other officers present at the time the order is issued concerning details of cooperation and fire support.

(3) Plan his reconnaissance.

(4) Issue early instructions for any preparatory movement or dispositions of the company.

(5) Inform his second-in-command and first sergeant of his route of reconnaissance, and the place and time his subordinates are to assemble to receive the company field order, if such assembly is practicable.

(6) Make his reconnaissance and estimate of the situation; prepare his plan of action; and formulate his company order.

(7) Issue his field order to his subordinate leaders.

(8) Check the arrangements for supply of ammunition.

(9) Supervise the execution of his orders.

■ **12. DUTIES OF THE COMPANY COMMANDER IN COMBAT.**— The company commander performs the following duties in combat:

a. Makes such reconnaissances as may be directed by the battalion commander and the additional reconnaissances required for the proper performance of his mission.

b. Orders and supervises the movement of his company to its initial firing position areas in accordance with battalion orders; assures himself that the company is ready to accomplish its missions effectively.

c. Keeps informed of everything pertaining to his mission that occurs on the front and to the flanks of the battalion.

d. Maintains liaison with the battalion commander and keeps him informed of the situation as it pertains to the employment of the company.

e. Maintains liaison with the battalion command post, the platoons of the company, the battalion ammunition distributing point, and the front-line rifle companies (see par. 16*b*).

f. Anticipates the needs for fires to support rifle units, and for fires to protect the flanks of the battalion; in accordance with the battalion fire plan, arranges for the delivery of such fires on the appropriate targets at the proper time.

g. In a moving situation, reconnoiters for new position areas, sectors of fire, and routes of displacement for weapons, weapon carriers, and ammunition.

h. Orders and supervises the displacement of weapons in accordance with the battalion plan of action.

i. Assists adjacent battalions whenever this can be done without detriment to the support, or protection, of the elements of his own battalion.

j. Insures an adequate supply of ammunition for each of his platoons.

■ **13. Estimate of the Situation.**—*a.* The commander of a heavy weapons unit is given his mission by the next higher commander. His estimate of the situation is concerned with determining how best to carry out the assigned mission. (See **FM 101-5**.)

That is, by the battalion commander.

b. The mission is the dominating factor; it *must* be accomplished. The enemy is the least certain factor, whose strength and exact dispositions will often be known only partially, sometimes not at all, since he will rarely disclose them until forced to do so. The third factor is the terrain

as it exists in the particular zone of action or defense area. It must be evaluated to determine how it will affect what can be done both by the enemy and by our troops.

c. In making his estimate, the commander of a heavy weapons unit must consider the following items:

(1) The proposed movements of rifle elements that are to be supported and protected in the attack, or the probable movements of hostile elements that must be stopped in the defense.

(2) The terrain as it affords observation, concealment, and fields of fire to the enemy for use in firing against, or launching surprise attacks on, our attacking, or defending, troops. Because of his incomplete knowledge of the enemy, the commander must determine not only where enemy guns and men are located but also where others might reasonably be located.

(3) The terrain as it affords favorable approaches (wooded draws, ditches, cultivated fields, and so on) for the advance of friendly troops in the attack or for the movement of hostile troops in the defense.

(4) The terrain as it affords favorable observation, fields of fire, and firing positions for his weapons to support and protect the friendly attacking or defending troops.

(5) The terrain as it affords routes, protected from hostile observation and small-arms fire, for the displacement of weapons and for the movement of weapon carriers and ammunition.

(6) The situation on the flanks. Are they exposed, or are they protected by the location or action of friendly troops?

(7) The localities where smoke or supporting fires, provided by higher units, are to be placed, in order that his own supporting or protecting fires may be properly coordinated with them.

d. Considering the above items together, the unit leader must arrive at an answer to the following questions: What is the situation, friendly and hostile, as it exists on the ground and in the air? What can the enemy do on the ground? What must I do, on this ground, to use my weapons and men to best advantage in accomplishing my assigned mission? The answer to the last question provides the leader with the basis for his decision of what to do, and where, when, and how to do it, in order to meet the situation which confronts him.

14. FIRE CONTROL.—*a.* Fire control includes all operations connected with the preparation and actual application of fire to a target. It implies the ability of the leader to open fire at the instant he desires, adjust the fire of his weapons upon the target, shift the fire from one target to another, regulate its rate, and cease firing at will. Lack of

proper fire control results in loss of surprise effect, premature disclosure of position, misapplication of fire on unimportant targets, and wastage of ammunition. Discipline and correct technical training are fundamental in assuring fire control.

b. The chain of fire control within the company is as follows:

(1) The company commander's field order assigns a mission to each platoon; or gives the firing position area(s) each platoon will occupy and the targets it will engage, or the sector of fire it will cover. Instructions may be included for the opening of fire, lifting or shifting of fire, and the rate of fire. These orders rarely prescribe the technique to be employed in carrying them out.

"Go out and make some noise" is not a useful order. The weapons platoon assets are use d to dominate key enemy positions and avenues of advance, and should be based on the commander's estimate, which includes likely enemy moves. Since these moves are usually too varied to allow for concentration of fire on all at once, the company commander designates and prepares the supplementary positions in case he has to move assets to face other threats.

(2) The platoon leader's order to his section leaders assigns a mission to each section; or gives the firing position area each section will occupy and the targets it will engage, or the sector of fire it will cover. In addition, it frequently prescribes the technique to be employed in engaging targets.

(3) The section leader's order to his squad leaders prescribes the location for each weapon, the targets to be engaged or sector of fire to be covered, and the technique to be employed.

(4) The squad leader is primarily concerned with fire discipline and with observation and adjustment of fire on the target.

c. In the absence of orders from the next higher commander, fire is opened, lifted, or shifted, and its rate is regulated by platoon, section, or squad leaders.

15. ORDERS.—*a.* The company commander must express his plan of action in the form of specific missions to his subordinate units. Company field orders are usually issued orally or in the form of messages.

b. Prior to combat, the situation may permit the assembly of subordinates to receive the complete field order. This facilitates orientation prior to issuance, and insures complete understanding by all subordinates. If time is limited prior to commitment of the company or its elements, or if subordinate leaders cannot be assembled, the company commander usually issues fragmentary orders. (See **FM 101-5**.) These orders may be issued personally, through a representative, or as a written message.

c. Leaders of units which are engaged with the enemy must not be taken away from their units for the purpose of receiving orders. The order issued to each subordinate leader must be clear and precise, and must contain all details necessary to enable the subordinate to carry out his assigned mission.

16. LIAISON.—*a.* The normal distribution of personnel of the heavy weapons company for command, control, and supply purposes in the forward area during an attack is shown in figure 2. In general, personnel are distributed similarly in defensive combat.

b. The heavy weapons company commander is responsible for liaison as follows:

(1) With battalion commander.—The company observation post is located in the vicinity of the battalion observation post. The commander remains with the battalion commander, except when duties require his presence elsewhere. During such absence, the company commander designates a representative to remain with the battalion commander. This representative should preferably be the reconnaissance officer, reconnaissance and signal sergeant, or any other noncommissioned officer or suitably trained private readily available.

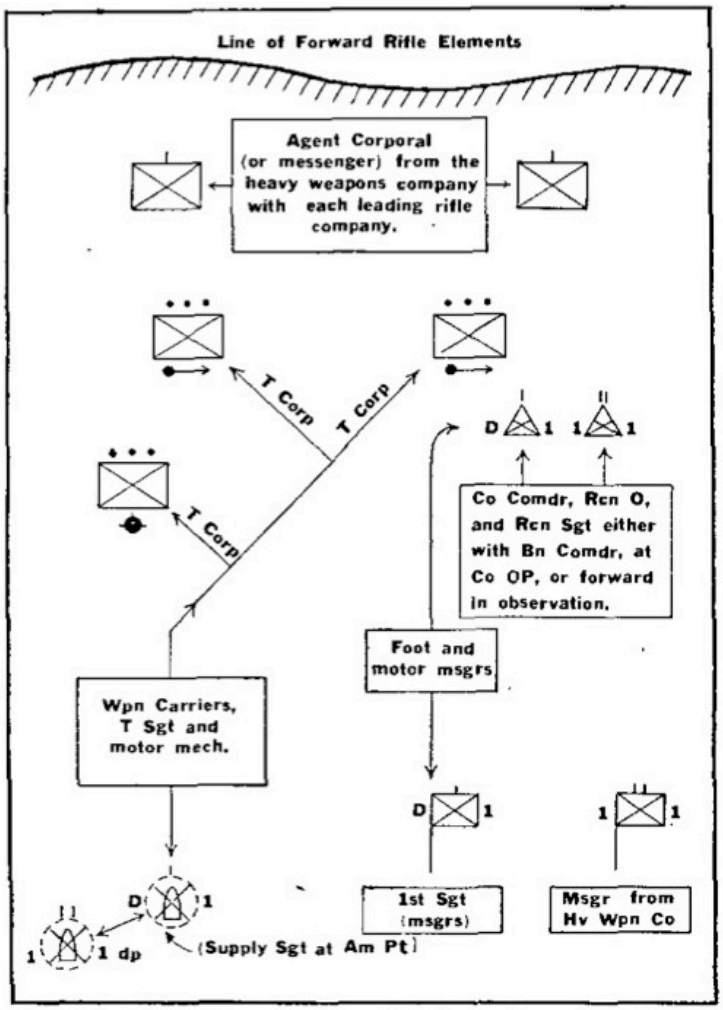


FIGURE 2.—Distribution of personnel in forward area for command, control, and supply purposes.

(2) *With battalion command post.*—The company command post is located in the vicinity of the battalion command post. The first sergeant operates the company command post. He sends a messenger to the battalion command post when the battalion develops for combat, and sees that this messenger service is maintained.

(3) *With platoons of company.*—Upon deployment of the company, the company command group is augmented by one messenger from each platoon. Platoon messengers are used for communication with their platoons. Company messengers may be used for this purpose. Messengers are exchanged each time a major change is made in the location of a platoon or of the company command group or command post.

(4) *With battalion ammunition distributing point.*—The supply sergeant, assisted by the transport sergeant, maintains liaison with the first sergeant at the command post, with the battalion transport officer, and with the transport corporals of the platoons.

(5) *With attacking or defending rifle companies.*—Prior to combat, the company commander issues instructions for the establishment of liaison with each front-line rifle company. Usually, a front-line rifle company is assigned the agent corporal from the platoon whose fires will most directly support it. The task of each agent is to assist the rifle company commander to whom assigned by keeping him informed of the location and missions of the platoon and providing technical information when it is desired. It is desirable that a messenger, or a basic private trained as a messenger, accompany each agent.

17. DUTIES OF PERSONNEL OF COMPANY HEADQUARTERS.—*a. Use of command group.*—The company commander employs his command group primarily to assist him in making the necessary preparation for combat and in controlling his company during combat. A suggested division of duties among members of this group is given below. However, each company commander should prescribe the posts and duties of his own command group so as to utilize individual capabilities to best advantage.

b. Duties of command group.—(1) The reconnaissance officer, who is second-in-command of the company, keeps abreast of the tactical situation as it affects the company. He replaces the company commander, should the latter become a casualty. His primary duty, assisted by the reconnaissance detail (reconnaissance and signal sergeant, bugler, and a messenger), is reconnaissance for initial and subsequent firing position areas, targets, off-carrier positions, routes for displacement, and ammunition supply. Prior to combat he may report to the battalion commander, with the reconnaissance detail, to perform such reconnaissance as may be directed. This reconnaissance will, in general, pertain to the employment of the heavy

weapons company in supporting a particular battalion plan of action. Reconnaissance may be made of the entire battalion area to determine suitable position areas and possible targets to provide the battalion commander with detailed information on which to base the battalion plan of action. The reconnaissance officer may assist in the computation of firing data. He may utilize members of the reconnaissance detail to assist platoon leaders in the movement of their platoons to initial and subsequent firing positions.

(2) The first sergeant is the principal enlisted assistant of the company commander. His duties will vary widely during combat from administrative and supply matters to actual command of a platoon, if casualties necessitate such replacement. One of his primary duties is the maintenance of communication from the company command post with the elements of the company, the battalion command post, and the company commander. (See chapter 10.)

(3) The reconnaissance and signal sergeant is the first assistant of the reconnaissance officer. His primary duty is reconnaissance.

(4) The transport sergeant is responsible to the company commander for the maintenance of vehicles. During combat, he assists the company supply sergeant; in compliance with the latter's instructions, he controls the movement of vehicles engaged in ammunition supply between the company ammunition point and platoon areas. The transport sergeant supervises the camouflage and concealment of vehicles. He checks and, if necessary, changes their locations to insure the maximum protection against hostile air and mechanized attack. He takes over the duties of the supply sergeant when the latter is not present in the forward area. (See par. 239*b* (2) *(d)*.)

(5) The motor mechanics assist the transport sergeant in the maintenance of vehicles (second echelon maintenance).

(6) The bugler is trained as a messenger and observer. He is employed to assist the company commander and the reconnaissance officer in observation and control.

(7) The orderly is trained as a messenger and observer. He accompanies the company commander wherever he goes and assists him in observation and control.

(8) All messengers are also trained as observers and may be used to man observation posts.

(9) The chauffeurs assigned to company headquarters may be used as motor messengers. *All chauffeurs, including those driving weapon carriers, are responsible for the habitual camouflage and concealment of their individual vehicles and for their protection against aircraft.* They perform first echelon maintenance of their vehicles.

(10) Basic privates are trained as replacements and as messengers. Until actually assigned as replacements, they are employed as directed by the company commander.

c. Duties of administration group.—(1) The supply sergeant is usually present in the forward area during combat. He assists the company commander in supply and is usually made responsible to the company commander for the operation of the company ammunition point.

(2) For duties of other members of this group, see paragraph 234*a.*

18. STANDARD MEASURES FOR ANTIAIRCRAFT SECURITY AND ANTIMECHANIZED DEFENSE.—*a. Warning system.*—Timely warning is a vital factor in reducing losses from air or mechanized attack. Air-antitank guards are detailed for the protection of the company, or to protect separate platoons. These guards are assigned sectors of observation.

b. Standard warning signal.—(1) In transmitting warning of the approach or presence of hostile aircraft or mechanized vehicles, air-antitank guards, or other personnel engaged on security missions, use the following signals:

(a) Three long blasts of a whistle, vehicular horn, siren, or klaxon, repeated several times;

(b) Three equally spaced shots with a rifle, automatic rifle, carbine, or pistol; or

(c) Three short bursts from a machine gun or submachine gun.

(2) In daylight, the individual giving the signal points in the direction of impending danger. At night, the warning signal is supplemented by voice warning to indicate the direction of danger.

(3) All organic means of communication are immediately employed to transmit the warning signal throughout the company or separate platoon.

c. Action in case of attack.—(1) *General.*—Upon receipt of warning of hostile air or mechanized attack, foot troops on the march clear the road, disperse, and take cover. In any situation, personnel utilize nearby holes or ditches for individual protection; they take advantage of any nearby obstacles to tank movement. Weapon carriers, if with the company, clear the probable impact area of air attack and move into suitable nearby locations which provide obstacles to tank movement.

(2) *Antiaircraft fires.*—In the absence of orders, the company commander decides whether or not fire will be opened on hostile airplanes. When concealment is essential and is believed to have been achieved, no weapons fire at hostile airplanes. If attacked from the air, heavy machine-gun crews, the operator of the carrier automatic ri-

Rommel put it more directly: “In the absence of orders, find something and kill it.”

fle, and all men armed with rifles and carbines open fire as soon as the hostile airplanes are within effective range of their respective weapons. When both air and ground targets exist, heavy machine guns fire on the target which, in the judgment of the respective platoon or section leaders, offers the greatest threat to the accomplishment of the assigned mission.

(3) *Antimechanized fires.*—In case of attack by tanks or more lightly armored vehicles, one man in each section employs antitank rifle grenades within effective range (75 yards). Primary targets for rifles, carbines, and heavy machine guns are hostile foot troops. These weapons do not ordinarily fire on approaching tanks, but do fire on lightly armored vehicles, such as personnel carriers or scout cars, which come within effective range of their respective weapons. Having taken cover against tanks, personnel and weapons return to their firing positions as soon as the tanks have passed, in order to fire on approaching foot troops.

d. References.—Active and passive measures for both antiaircraft security and antimechanized defense will vary with the situation. Various situations are discussed in paragraphs 27 *c* and *d* (approach march), 29 (assembly area), 37 (attack), and 64*e* and 66 (defense).

CHAPTER 2

MARCHES AND BIVOUAC

19. ROUTE MARCH.—a. In route column the heavy weapons company moves in the battalion formation as directed by the battalion commander.

b. The company may move in two echelons—a foot echelon and a motor echelon. The motor echelon comprises all vehicles not required for command, control, and security.

(1) When the foot and motor elements are separated in route column, a minimum machine-gun crew of two men rides each machine-gun weapon carrier, prepared to operate the heavy machine gun for antiaircraft fires. In addition to the chauffeur, one man rides the weapon carrier of each machine-gun or mortar section that is equipped with an automatic rifle. The primary mission of this man is to operate the automatic rifle in antiaircraft defense. One man rides the other carrier of its section to operate the M1903 rifle primarily for antitank defense. (See par. 4.)

(2) The battalion commander ordinarily directs either that heavy machine-gun weapon carriers be distributed through the depth of the battalion column to protect it against hostile air attack, or that these elements occupy successive firing positions near the route of march. He may direct that machine-gun elements precede the column to provide antiaircraft security at defiles, or to establish this security around an assembly area prior to arrival of the battalion. Leaders of heavy machine-gun platoons, sections, and squads employed on such missions remain with their weapons; the foot elements of these units march in the company foot column.

c. The company, less any elements assigned security missions, may move as a Unit. Weapon carriers may then move by bounds immediately behind the foot elements of the company, or each weapon carrier may move with its squad. Combat must never find weapons separated from the gun squads.

d. When marching on a road under threat of air attack, foot elements of the company march in column of twos, one file on each side of the road.

e. Upon receipt of warning of an air or mechanized attack, action is taken as indicated in paragraph 18*e*.

20. ADVANCE GUARD.—*a.* When the heavy weapons company is part of an advance guard, the company commander accompanies the advance guard commander.

b. During the advance, the company commander should employ his reconnaissance officer, assisted by a detail, to follow the advance party. When resistance is en-

countered, the reconnaissance officer reconnoiters promptly for possible observation posts, firing positions, and routes thereto. The reconnaissance detail usually includes a representative from each platoon. These representatives guide platoons to initial firing positions to support the action of the advance guard. Organic vehicles of the company headquarters may be used to carry the reconnaissance detail.

c. Heavy machine guns on carriers, With skeleton crews, may provide antiaircraft protection to the advance guard as described in paragraph 19*b*.

d. Weapon carriers of elements not attached to the support (or advance party), or not required for antiaircraft protection, may be retained under battalion control and move with the motor elements of the battalion. When contact with the enemy becomes imminent, they are brought forward and released to their units. Foot elements usually march with the reserve of the advance guard. Where early use of machine-gun support for the leading rifle company is foreseen, some machine-gun units may march with the support.

e. When a platoon, or other element of the company, forms part of the advance guard, while the remainder of the company marches with the main body, its conduct is analogous to that of the company as described above.

21. FLANK GUARD.—*a.* The mission of a flank guard is to protect a marching column from observation and surprise from the flank, and, in the event of an attack in force, to provide the necessary time and space for the deployment of the main body. The heavy weapons company, or portions thereof, may form a part of the flank guard. (See **FM 100-5**.)

b. (1) When the locality from which an attack can be expected is well defined, a flank guard occupies a position covering the routes of hostile approach until the command passes that locality (fig. 3). If the distance from the main body does not permit delaying action, the position is occupied as for defense.

(2) When several dangerous flank localities must be guarded during the progress of the march, echelons of the flank guard may move by bounds from one position to another (fig. 4). For this mission the flank guard is motorized. Elements of the heavy weapons company may form a part of each echelon of the flank guard.

(3) When there is a road parallel to the march of the main body, the flank guard may march distributed in detachments over sufficient depth so as to offer resistance to attack at various points. Heavy weapons may be attached to each such detachment (fig. 5).

c. The heavy weapons commander must provide for control, by motor messengers or other available means, so

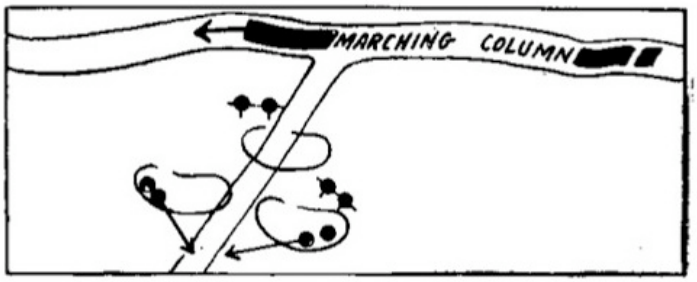


FIGURE 3.

as to be able to concentrate his elements quickly at any one point when required by enemy action.

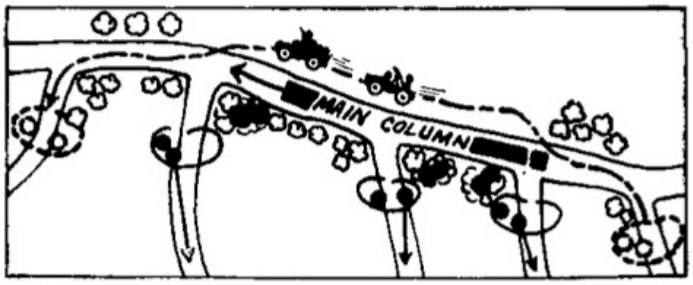


FIGURE 4.

d. The heavy weapons commander usually marches with the flank guard commander.

e. A reconnaissance detail marches near the head of the column; or, when echelons of the flank guard move by bounds, moves with the leading element of the flank guard.

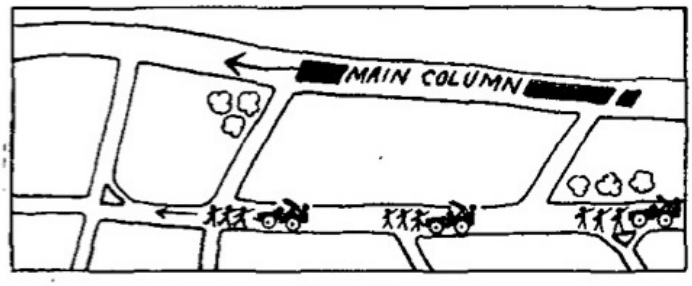


FIGURE 5.

22. REAR GUARD.—*a.* The mission of the rear guard of a retiring force is to protect the main body from surprise, harassment, and attack. Its formation in route march resembles that of an advance guard in reverse order. Heavy infantry weapons may form a large part of the rear guard. They open fire at long range against hostile pursuing forces. Withdrawal to successive delaying positions is timed, first on the rate of withdrawal of the main body and

second on the rate of advance of the hostile force. If the retirement of the main body is sufficiently rapid, close combat is avoided. When necessary for the security of the main body, the rear guard sacrifices itself in the execution of its mission.

b. The rear guard for an advancing force protects the main body from surprise, harassment, and observation from the rear. It will generally be smaller than the rear guard for a retiring force. Some heavy infantry weapons should be attached. A rear guard which follows the motor echelon of the column should be motorized and move by bounds in rear of the motor echelon. During halts, the rear guard halts, dismounts, and forms a march outpost. Machine guns are sited for both long-range and antiaircraft fire. Mortars are hastily emplaced to fire on possible routes of hostile advance.

23. MOTOR MOVEMENTS.—*a. General.*—(1) The organization of a motor column depends primarily on the tactical and traffic conditions likely to affect its movement. The main part of the column may be organized into serials and march units to facilitate march control. Security detachments for a motorized column may include advance reconnaissance detachments, an advance guard, flank guards, and a rear guard. Detrucking areas are protected by an outpost.

(2) When the heavy weapons company moves by motor, higher authority furnishes sufficient additional motor vehicles to transport the foot elements of the company. The company, less elements engaged on security missions, marches in the main body of the battalion. For method of distribution of additional vehicles, entrucking, and formation of column, see **FM 7-40**. The company commander ordinarily moves at the head of the company but may go wherever he can best observe the movement and exercise control. Where the company is divided into more than one march unit, the company commander may command one of the march units and designate a commander for each remaining unit or he may designate a commander for each unit while he supervises all march units of the company.

b. Movement by day.—(1) In a daylight motor movement, elements of the company may be attached to advance, flank, or rear guards. They operate as described in paragraphs 20, 21, and 22.

(2) Weapon carriers of machine-gun squads not attached to security elements are usually distributed throughout the battalion column to provide antiaircraft security. All heavy machine guns and carrier automatic rifles are mounted and manned for antiaircraft fire.

(3) Upon receipt of warning of air or mechanized attack, and unless other instructions have been issued, all personnel dismount except skeleton crews manning heavy

machine guns and individuals manning carrier automatic rifles. Action is taken as indicated in paragraph 18*c*.

c. *Movement by night.*—(1) In a night motor movement, elements of the company are seldom attached to advance, flank, or rear guards. Weapon carriers of machine-gun squads may, however, be distributed throughout the battalion column.

(2) Special measures must be taken to maintain direction and control. Regardless of directional aids provided by the battalion or higher commanders, the company commander remains responsible for following the proper route. He is usually furnished a route sketch, but should reconnoiter the route in daylight whenever practicable. The reconnaissance officer, or reconnaissance and signal sergeant, accompanies the battalion commander as a liaison agent; a representative of each platoon (usually the agent corporal) rides in the same vehicle with the company commander, or in the vehicle immediately in rear.

(3) Strict march discipline is necessary to keep vehicles closed up, to prevent elements from becoming lost, to avoid accident, and to prevent smoking or unauthorized use of lights. Chauffeurs should be relieved every two hours, provided with hot coffee if practicable, and required to dismount and exercise at all halts. Each vehicle commander, riding beside the chauffeur, by conversation and other means, assures himself that the chauffeur stays awake.

(4) If the column is attacked by hostile airplanes, only weapons specifically designated by the battalion commander open fire.

24. Bivouac.—*a. General.*—The battalion commander designates the location of the company bivouac area. The company commander assigns areas to the elements of his company. He designates the location of the company command post, kitchen, and latrines. Unless the company transport is under battalion control, he requires vehicles (less those employed on security missions) to be irregularly spaced, dispersed, and concealed or camouflaged. He verifies that a messenger from each platoon is with the company headquarters, and that each of these messengers knows the exact location of his platoon headquarters. He designates a point at which the company will assemble in emergencies, particularly during hours of darkness. He reconnoiters and, as necessary, has marked routes of egress for night movement.

b. Security.—(1) Elements of the heavy weapons company may be attached to the supports of the outpost established by the battalion or higher commander. Heavy weapons are emplaced for long-range fire and are also assigned secondary antiaircraft security missions. For the defense of the outpost line of resistance dose-defensive

fires are planned and positions are selected from which these fires can be delivered.

(2) The battalion commander may direct that heavy machine guns not attached to the outpost be employed to protect the battalion bivouac area against air attack. These guns should be assigned positions around the perimeter of the bivouac area. High ground should be utilized so as to permit fire on attacking airplanes approaching from any direction. Platoons employed on antiaircraft security post air-antitank guards. Fires are withheld except in case of actual attack.

(3) An interior guard is established to maintain camouflage discipline and, in case of attack, to alert that part of the company not engaged on security missions. The interior guard is especially alert for any indication of attack with gas, tanks, or other mechanized vehicles, and aircraft. Individual protective trenches will be dug for all personnel to provide protection against air or mechanized attack; these trenches or foxholes and shelter tents, if erected, must be concealed from aerial observation. Protective trenches are occupied only when an attack is in progress or imminent. (See figs. 26 and 27.)

(4) One man of each section not engaged on security missions is armed with the M1903 rifle and antitank rifle grenades (see paragraph 4*c*) for antitank defense; these men are located so as best to protect that part of the company located in the bivouac area. Men charged with antitank defense of sections engaged on security missions are with their respective sections. Hostile tanks, or lightly armored vehicles, are combatted with antitank rifle grenades as described in paragraph 18 .

CHAPTER 3

OFFENSIVE COMBAT

SECTION I

GENERAL

■ **25. TACTICAL EMPLOYMENT.**—*a. Attack missions.*—The general missions of the company and its elements in the attack are—

Summary for dummies: The heavy weapons company can provide a lot of firepower in the attack, but it does so at the coat of difficult lift and supply requirements. A lot of gear and ammo have to be humped over hill and dale, and as the attack proceeds, it has to be displaced forward to support the front-line companies' advance. Most of this chapter has to do with a systematic way of dragging tons of stuff, deciding where to put it, and resupplying ammo.

(1) *To give close support to leading rife companies.*—*(a)* Heavy machine guns and mortars are employed by the battalion commander to engage by fire hostile elements opposing the advance of his attacking echelon. These hostile elements may include any observed in adjacent zones of action or those located within effective range in rear of the hostile front-line elements. Per suitable targets for each weapon, see paragraphs 2*d* and 3*d*. (See fig. 6.)

(b) Short preparatory machine-gun fires may be employed in conjunction with an artillery preparation.

(c) The employment of the mortar platoon is affected by the weight and bulk of its ammunition, which increase the difficulty of supply, and by the fact that smoke shell usually comprises approximately 20 percent of the total load carried in all supply echelons of the division. Mortars may be employed to place smoke screens of limited extent and duration. Since mortars can safely place fire closer to the attacking riflemen than can artillery, mortar unit leaders must be alert to engage suitable targets left unengaged when artillery fires are shifted to rearward hostile positions.

(d) When fires are masked by the advance of the attacking echelon, elements of the heavy weapons company must shift their fires to adjacent or rearward targets, or must displace.

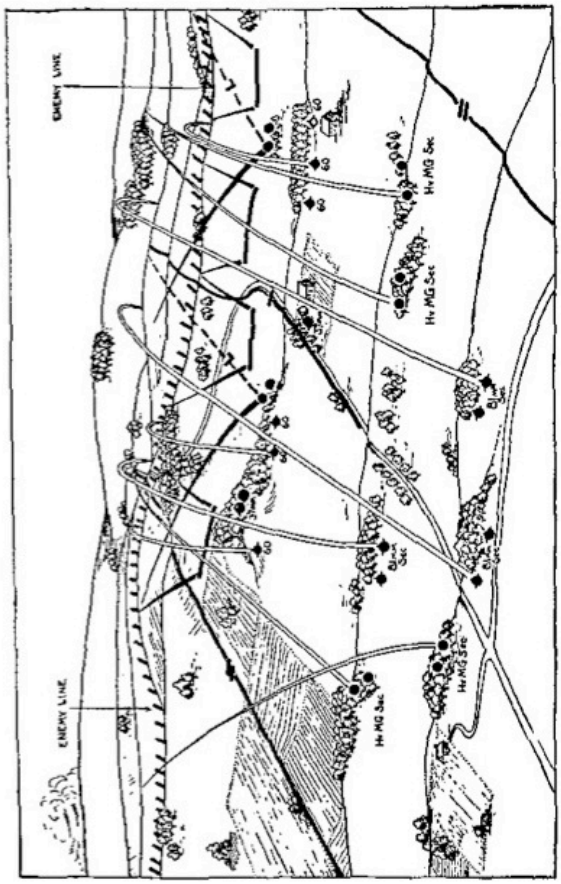


FIGURE 6.—Initial disposition of platoons of heavy weapons company in support of attacking echelon of rifle battalion

NOTES.—1. Leading rifle platoons are indicated by the convention ——— the 37-mm antitank guns of the battalion, also are shown.
2. Initial dispositions and missions of the weapons platoons of the leading rifle companies, together

(3) *To protect battalion against hostile low-flying airplanes.*—Heavy machine-gun platoons furnish such antiaircraft protection for the battalion as is consistent with ground missions. In case of air attack, unless specific orders to the contrary have been issued, platoon and section leaders exercise their own judgment and engage whichever target, air or ground, is of greatest immediate danger to the units they are supporting.

(4) *To support attacks made in conjunction with tanks.*— When the infantry attack is supported by tanks, the primary mission of the heavy weapons company is the neutralization of hostile antitank weapons. Fires in close support of tank advances must be observed fires. Heavy machine-gun and mortar crews open fire on all antitank

weapons which disclose themselves. The heavy machine guns also fire to protect friendly tanks against attack by hostile infantry when the tanks are halted on or in front of the objective. As soon as the objective is captured, a portion of the company should move forward promptly and establish itself in firing positions on the objective.

b. Location of firing position areas of mortar and machine-gun platoons.—(1) The position areas assigned to mortar and machine-gun platoons must permit the selection of firing positions from which fire can be placed on all assigned targets, or on any target appearing in assigned sectors of fire. They must also permit the selection of observation posts from which the fire of each weapon can be adjusted on its targets, and from which the advance of friendly troops who might be endangered by its fire can be observed. Observation posts for machine-gun units must be at or near the guns. Those for mortars are preferably located within voice or arm-and-hand signaling distance of the weapons; they must at least be close enough to the weapons to enable communication to be maintained with the facilities allotted to the platoon.

(2) The position area, or areas, assigned the mortar platoon or its elements should, if practicable, also afford firing positions fully defiladed from small-arms fire, and concealed from aerial observation.

(3) If practicable, the firing position area assigned a machine-gun platoon should permit both overhead and flanking fires for the close support of the attacking echelon. If position areas permitting overhead fires cannot be secured, gaps between attacking infantry units must be utilized. The position area should also permit firing positions to be selected in position defilade or partial defilade.

(a) A machine gun is said to be in position defilade when it is so sited that the piece and its crew are hidden from the enemy's view by a crest, but an observer standing at the gun, or close by it, is able to see the target. Firing is by indirect laying. Adjustment of fire is by direct methods. (See FM 23-55 and fig. 7.)

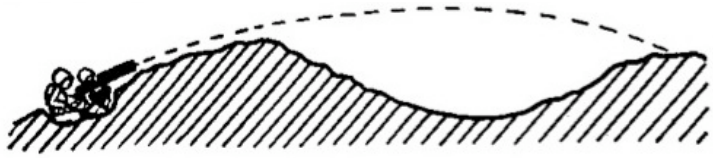


FIGURE 7.—Position defilade.

(b) It is frequently possible, by moving the machine gun a short distance "uphill," to place it in such a position that the line of aim just clears the crest. This is partial defilade. Since the target can be used as an aiming point, the technique employed is that of direct laying. (See fig. 8.)

The HMG's are so deadly in attack or defense that the enemy will make a special point of wiping them out whenever he can see where they are. Preventing the loss of this powerful resource requires careful siting and camouflage. Good defilade helps; staying away from "positive" positions is good.

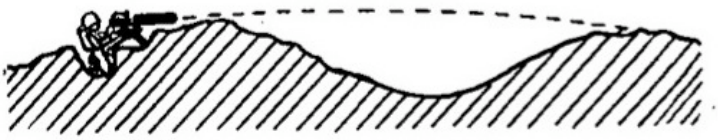


FIGURE 8.—Partial defilade.

(c) A machine gun may be placed in position defilade or partial defilade with respect to targets in the sector of fire of the gun, and at the same time be completely protected against hostile ground observation from all other directions. A machine-gun crew occupying such a position is shown in figure 9.

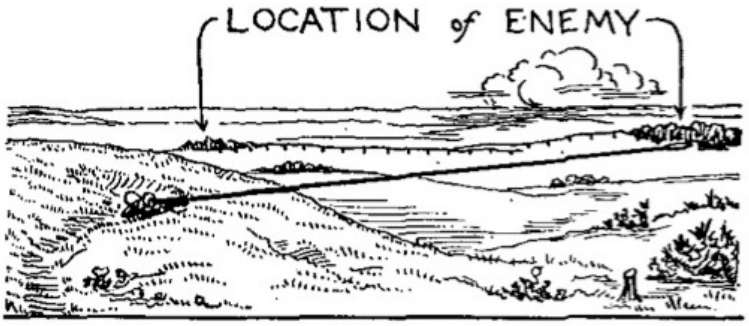


FIGURE 9.—Firing position is masked from enemy ground observation and flat-trajectory fire from front, but machine gun has good field of fire to right front and flank—its assigned sector of fire.

SECTION II

APPROACH MARCH

26. GENERAL.—*a.* From bivouac or route march, the company enters the approach march in accordance with the development order of the battalion commander. This order prescribes the assembly area, position in readiness, or other objective on which the march is to be directed; the zone or route of advance; the base company (if any); and the initial location and disposition of the heavy weapons company in the battalion formation. It may prescribe successive march objectives. The order includes instructions concerning antiaircraft or ground security missions to be performed; it may attach elements of the heavy weapons company to rifle units. It prescribes whether company transport will be held or moved under battalion control or released.

b. The location of the company and of its elements in the approach march varies widely with the situation.

(1) The battalion commander may attach a machine-gun platoon (or section) and a mortar section to each leading rifle company, or may direct that these units follow and support designated rifle companies.

(2) The battalion commander may direct that heavy machine-gun elements move with the leading echelon of the battalion, or precede the battalion, in order to provide antiaircraft security for the passage of defiles or for early protection of an assembly area.

(3) The battalion commander may direct that machine-gun elements be distributed throughout the depth of the battalion formation to provide antiaircraft security; these elements may move by bounds or with the marching troops.

(4) The security missions assigned the company may require the distribution of heavy machine guns over the entire width of the battalion zone and their movement by bounds from one favorable firing position to another.

(5) In an approach march where the battalion is to relieve or pass through covering troops, the company may be directed to precede the battalion in order to supplement the protection afforded by the covering forces or to occupy initial firing positions prior to the arrival of the rifle companies. Otherwise the company, less machine-gun elements engaged on security missions, usually moves as the rear company of the battalion.

(6) If machine-gun elements are to precede the battalion or are to move by bounds from one firing position to another, foot elements of these units will usually march with those of the remainder of the company, while skeleton machine-gun crews move by carriers. In such situations platoon, section, and squad leaders move with their weapons; the noncommissioned officers may form part of the gun crews.

27. APPROACH MARCH BY DAY.—*a. Development order.*— (1) The company commander may assemble his officers at an observation post and issue a complete oral order. Frequently, however, he issues his development order in fragmentary form by oral orders or written messages.

(2) Instructions to subordinate commanders include—

(a) Necessary information relative to the enemy and friendly troops.

(b) The march objective(s) of the company.

(c) Initial formation of the company to include the location of each element detailed on antiaircraft or ground security missions. in accordance with the battalion order, and the designation, where necessary, of a base unit.

(d) The direction of march of each platoon or detached element, or the unit on which it is to guide; its security mission(s) or, in the absence of such a mission, whether it is to be prepared for immediate ground action throughout the movement; its method of movement (see *b* below); and its successive march objectives, if any.

(e) Instructions for air-antitank guards, which may include the assignment of sectors of observation to platoons so as to provide all-around protection.

(f) Any action to be taken in case of air or mechanized attack not covered by battalion standing operating procedure.

(g) Position and route of movement of the company commander.

(3) Orders for the movement of any element of the company which is attached to a rifle unit must be promptly issued. These orders will include instructions as to its method of movement (see *b* below).

b. Use of *weapon carriers.*—(1) If practicable, weapon carriers should move with all elements of the company assigned security missions or otherwise required to be prepared for prompt action. If this is not practicable, due to the situation or to terrain conditions, these elements must hand-carry their weapons and initial supply of ammunition.

This can be something of an Achilles' heel. The heavy weapons are designed on the presumption that motor transport will take them most of the way; carts are provided to haul the HMG's shorter distances.

This creates a problem.

Movement by WC is usually based on the use of covered and concealed routes. If none exist, or if there are uncovered spots on the route that may be observed by the enemy and brought under fire, the commander has a tough choice: he may order the vehicles through and accept losses, even though this may make the heavy weapons impossible to use; or he may order the crews and anybody else who can be spared (like the A & P platoon) to haul them by hand. This is slow, and leaves unanswered to problem of moving fresh ammo to the firing positions.

(2) The instructions concerning the method of movement of each platoon, or detached element, direct whether its weapon carriers will move assembled under company control or with the unit. When moved under company control, the point where carriers will later be available to the unit is announced, if practicable. If the carriers are to move with the unit but have not joined it, the time and place at which they will be released to the unit is announced.

c. Antiaircraft security.—So far as the missions of the company will permit, chief reliance for protection against aerial observation and attack is placed on the use of dispersed formations and on the utilization of all available cover and concealment. However, the automatic rifle that is mounted on one weapon carrier of each section is manned, and each heavy machine gun, until removed from its carrier, is mounted for antiaircraft fire and manned by a skeleton crew. For a discussion of antiaircraft fires see paragraph 18*c*. When fire is opened, individuals armed with the rifle or carbine participate when airplanes come within effective range of their weapons.

d. Antimechanized defense.—(1) Whenever heavy weapons are being carried on the weapon carriers, one man of each section, armed with the M1903 rifle and antitank rifle grenades, rides that section carrier which is not equipped with an automatic rifle. When weapons are removed from the carriers, this man joins the foot elements of his section.

(2) Action against mechanized attack is discussed in paragraph 18*c*.

e. Reconnaissance during approach march.—(1) The company commander is responsible for initiating and continuing reconnaissance throughout the approach march.

The reconnaissance detail joins the battalion command group at the beginning of the march and remains with it until the battalion commander announces a tentative plan of action or directs reconnaissance. The reconnaissance detail may be headed either by the company commander or the reconnaissance officer. If the company commander heads the reconnaissance detail, the reconnaissance officer, or a platoon leader, is placed in control of the movements of the company.

(2) The reconnaissance detail executes such reconnaissances as are directed by the battalion commander and reports results at times and places designated by him. These reconnaissances deal especially with the location of gassed areas, areas exposed to hostile observation, stream crossings, and detours around obstacles to motor movement, and with the employment of the heavy machine guns and mortars under tentative plans of action indicated by the battalion commander. Maps and aerial photographs, if available, are used to supplement study of the ground. Friendly troops to the front and on the flanks are valuable sources of information. Information of importance to the conduct of the company should be transmitted promptly to it.

See previous note. This is why the recon is so essential.

(3) The company commander, if not with the reconnaissance detail, or the officer in control of the movement of the company, conducts similar close-in reconnaissance of the zone or route of advance with the assistance of remaining members of the command group.

(4) Although other company transport may be held under battalion control, the company command truck and messenger truck are employed to facilitate the movements of the company commander and of the reconnaissance detail, unless the battalion commander specifically prohibits their use. Similarly, the platoon headquarters truck is ordinarily released to each platoon leader.

f. Conduct of approach march.—(1) Based on the information obtained from reconnaissance agencies, the company commander, or the officer in direct control of the movement of the company, regulates the disposition and movement of the company. He prescribes formations and movements so as to reduce losses from air or mechanized attack or from artillery fire, conceal the movement from hostile ground and air observation as far as practicable, facilitate prompt employment, and comply with any changes made by the battalion commander in the security missions of the company. Gassed areas are detoured. Areas being shelled and prominent terrain features are avoided if possible. If the weapon carriers are moving under company control, they are required to follow concealed routes as far as practicable. If areas being shelled or exposed to hostile observation cannot be avoided, the vehicles are required to cross these areas individually at high speed after the foot elements have cleared them.

(2) When contact becomes imminent, the company may be ordered to occupy successive firing positions to cover the advance of the rifle companies. The movement of the company should then be so conducted that at least one mortar section, and half of the machine guns, are in firing positions at all times.

(3) If the situation requires the battalion to attack directly from the approach march, the company commander may designate the firing position area that each platoon is to occupy as its final march objective. Ordinarily, however, a concealed or defiladed area in the vicinity of the platoon position area is designated. If practicable, a guide should lead each platoon to its area.

28. APPROACH MARCH BY NIGHT.—*a.* A night approach march is executed at reduced distances along routes which, if possible, have been carefully reconnoitered and marked in daylight. If executed off roads, routes should be plotted on maps and marches directed by compass and by the use of landmarks.

Movement of vehicles – even small WC's – at night is hard to conceal because of the attendant noise. Even if you drive on blackouts, the noise carries a long way, and it is a clear indicator to the enemy of things to come.

One ploy sometimes used involves deception: moving vehicles to create noise in sectors where you don't plan to attack.

b. If required by conditions of visibility and threat of air attack, the battalion order may prescribe that machine-gun elements be distributed throughout the depth of the battalion formation.

e. If, for all or part of the march, the company is given a separate route or is assigned a zone of advance and march objectives, a daylight reconnaissance should be made by the company commander or by personnel designated by him. The purpose of the reconnaissance is to secure accurate compass directions, plot and mark the route(s), and post guides at critical points. Circuitous routes which follow easily distinguishable terrain features are usually preferable to routes more direct but less clearly marked.

d. The company commander's order for a night approach march covers the same matters as his order for a daylight approach march. (See par. 27*a*.)

e. Company transport not required for command purposes or for prescribed security missions is usually held in a concealed area and moved forward, frequently under battalion control, in time to reach the final march objective shortly after the foot troops.

29. COMPANY IN ASSEMBLY AREA (POSITION).—*a.* At times, the battalion may go into action directly from the approach march. If practicable, however, it occupies an assembly area, preliminary to deployment for attack, in order to organize and coordinate the attack and dispose of equipment not essential to combat. The assembly area is protected by a covering force, an outpost, or local security detachments.

b. (1) During the daylight occupation of an assembly area, the battalion commander will usually direct that part

or all of the heavy machine guns be emplaced for the anti-aircraft protection of the area. The company commander assigns sectors of fire and one or more position areas to each platoon so employed. Whenever practicable, these position areas are located on high ground, on or near the perimeter of the assembly area, so as to afford observation and fire in all directions. The extent of the perimeter may require that guns be emplaced singly. If possible, however, the company commander should direct that they be emplaced by sections in order to increase the density of fire. Based on the battalion commander's instructions, the company commander prescribes the conditions under which fire will be opened on hostile airplanes. (See par. 18*c*.)

(2) The battalion commander may also direct that machine-gun and mortar units be prepared to furnish fire support to the covering force, outpost, or local security elements. The company commander assigns a position area to each such element and prescribes its mission. The firing positions and missions are similar to those for units attached to a bivouac outpost. (See par. 24*b*(1).)

c. The movement of the remainder of the company (which may include the heavy machine-gun platoons less leaders and skeleton crews) into its portion of the assembly area must be made without halting so as to insure the uninterrupted forward movement of elements in rear. This is facilitated by having a guide precede the company, locate the assigned area, and rejoin the company just before it arrives at the entrance to the battalion assembly area. Together with guides from the rifle companies, this guide is usually ordered forward by the battalion commander in advance of the battalion. The company commander, or officer in control of the movement of the company, can further facilitate movement into the assembly area by using either one of the following methods:

(1) Delegate to the company guide the division of the company area into platoon areas. When the company nears its assembly area, send forward one guide from each platoon to join the company guide, locate the area assigned his platoon. and rejoin his platoon in time to conduct it without interruption into its area.

(2) As the company nears the assembly area, personally precede the company with the company guide and members of the command group, spot members of the command group as guides along the route to the company's area, rapidly reconnoiter the area, and divide it into platoon areas. As each platoon arrives at the entrance to the company area, point out the area it is to occupy.

d. Unless all weapon carriers have already been released to the company, one or two guides should be sent to the battalion command post, or other point designated by the battalion commander, in time to meet the weapon carriers and lead them to the company's location.

e. The company commander, or the officer in control of the movement of the company, must require that troops and vehicles within the assembly area be immediately dispersed. He must insure that they take advantage of all available concealment and accidents of the terrain so as to avoid detection by hostile aerial observation and minimize the effect of hostile artillery or aerial bombardment. He must also insure that advantage is taken of all obstacles to tank movement, such as streams or closely spaced stumps, boulders, and large trees. He establishes an interior guard to maintain proper dispersion of personnel and prevent exposure to aerial or ground observation.

f. Each individual not adequately protected by natural cover will dig an individual shelter. (See figs. 26 and 27.)

g. Standing operating procedure of the battalion will usually govern the establishment of the warning system and prescribe that fires on low-flying aircraft be withheld unless the assembly area is actually attacked. Weapon carrier automatic rifles may be dismounted and placed in positions where they can fire more effectively against hostile aircraft. One man of each section not engaged on security missions is armed with the section M1903 rifle and antitank rifle grenades for antimechanized defense; these men are posted so as best to protect that part of the company located in the assembly area. Against mechanized attack, action is taken as prescribed in paragraph 18*e*.

h. While the company is in the assembly area, the company commander is also responsible that:

(1) Men are given all possible rest.

(2) The physical condition and equipment of each individual is checked by his immediate leader, if time permits.

This is always done when there is a break after movement or combat.

(3) Individual rolls, if carried, are stacked and concealed in an accessible location as directed by the battalion commander.

(4) Ammunition which has been expended is replenished.

i. If the company is to remain in the area after dark, an emergency assembly point should be designated and routes marked to facilitate prompt, orderly movement from the area during darkness.

SECTION III

RECONNAISSANCE PRIOR TO ATTACK, AND ORDERS

■ **30. RECONNAISSANCE**.—*a*. (1) During a daylight approach march, reconnaissance by the reconnaissance detail of the heavy weapons company must be continuous under the supervision of the battalion commander. (See par. 27*e*.) This reconnaissance may permit the battalion

commander to announce without delay his scheme of maneuver and plan of supporting fires.

(2) At other times the battalion commander may desire additional reconnaissance prior to making his final decision with reference to the battalion scheme of maneuver and plan of fires. This reconnaissance may pertain to the employment of the company in supporting a tentative battalion plan of action, or it may cover the entire battalion zone of action to determine the capabilities of the heavy weapons company and provide the battalion commander with detailed information on which to base his plan of action. The battalion commander may direct the commander of the heavy weapons company to accompany him on his reconnaissance or to meet him at a fixed time and place, prepared to submit recommendations for the employment of the company. In these situations the company commander is responsible for reconnoitering the ground to determine *where* weapons can best be emplaced and *what* targets can satisfactorily be covered from the selected firing position areas.

(3) When time is extremely limited, the heavy weapons company, or any of its elements, may be directed to occupy initial firing positions as determined either from a map study or from hasty reconnaissance. Any necessary corrective action is taken later by the company or battalion commander.

b. (1) Timely reconnaissance is extremely important. It will permit the undelayed movement of platoons from the approach march, or from the battalion assembly area, to their off-carrier positions and thence directly to their respective firing position areas. (If the battalion commander has placed no limitation on forward movement of vehicles, off-carrier position(s) should be as far forward as weapon carriers can be moved without separating them from the foot elements of their units or exposing them to ground observation and flat-trajectory fire.)

(2) The company commander must plan the reconnaissance in order to achieve the maximum results in the time available. A battalion area is too large for one individual properly to reconnoiter in a limited time. Assistants must therefore be used. The area should be divided between the reconnaissance officer and the reconnaissance sergeant; or, if time is pressing, between them and the company commander. Each of these individuals, accompanied by a bugler or messenger, reconnoiters his assigned area to locate firing position areas, observation posts, and covered routes by which they can be reached, and to determine the targets or sectors of fire which can be effectively engaged.

(3) The plan of reconnaissance should also provide for the immediate establishment of one or more observation posts, in order to determine the locations of hostile automatic weapons and intrenched groups, and the prob-

able locations of hostile observation posts. This information is necessary for the correct assignment of targets or sectors of fire to platoons.

(4) Detailed information of the enemy can often best be obtained from the commanders of units already in contact with the enemy. Therefore the plan of reconnaissance should also include arrangements for contacting these commanders.

31. COOPERATION AND COORDINATION WITH FIELD ARTILLERY AND CANNON COMPANY.—*a.* A field artillery battalion (105-mm howitzers) is usually placed in direct support of an infantry regiment in offensive combat. Contact is established between the infantry regiment and artillery battalion by command liaison (contact between the respective commanders) and by artillery liaison sections attached to front-line infantry battalions. Contact may be established by battery forward observers with infantry front-line companies in their vicinity.

b. By the assignment of missions, the infantry battalion commander coordinates the fire of the heavy weapons company with the artillery fires and with the fires of the regimental cannon company. The commander of the heavy weapons company, either directly or through the battalion commander, should maintain contact with the artillery liaison officer and with the commander of any supporting element of the cannon company. He and his Platoon leaders establish contact with nearby artillery forward observers, and observers from the cannon company, on every practicable occasion. They also are on the alert to engage targets which escape the fires of the artillery or cannon company.

32. CONTROL.—*a. Combat control of the company.*—Decision as to the tactical use of the company rests with the battalion commander, who directs the employment of the company as a whole so as best to promote the battalion plan of attack. The company commander receives his mission in the battalion attack order, which is specific with reference to position areas, and targets or sectors of fire, for each type of weapon. In addition, the battalion order may indicate the conditions governing displacement, and provisions for ammunition supply.

b. Combat control by the company commander.—(1) *General.-The* amount of control the company commander exercises over his platoons during the attack depends on numerous factors, such as: time available to reconnoiter and issue orders; observation of the zone of action; ability to contact his unit: and speed and intensity of the action. These factors may vary at different stages of the attack.

(2) *Centralized control.*—With good observation over the battalion zone of action and ability to maintain uninterrupted contact with his platoons, the company commander, by retaining centralized fire control of all ele-

ments, gains flexibility and better coordination of fires, and a corresponding increase in timely fire effects. Signal communication from the company observation post to the respective platoons will be primarily by means of sound-powered telephones, radiotelephones (if the battalion commander makes them available to the company), and foot messengers. Where possible, visual signaling will be employed.

(3) *Partially decentralized control.*—Conditions justifying completely centralized fire control cannot often be expected, except in the initial stage of the deliberately planned attack. The situation will often require the decentralization, or partial decentralization, of fire control to one or more platoon leaders, and may require similar decentralization of other command functions. When conditions do not permit completely centralized fire control, the company commander may designate firing position areas, targets, and the time of displacement of one or more platoons; retain control of the movement of weapon carriers in rear of platoon position areas; and continue to control ammunition supply to the platoon position areas. Similarly, when matters in addition to fire control are decentralized to the control of platoon leaders, the company commander will employ all the resources at his command to secure maximum fire support by using his command group personnel to locate firing positions and targets, to assist in securing firing data, and to assist in movement of vehicles and in ammunition supply. There are innumerable variations of partially decentralized control. Each situation must be solved by determining the best method of controlling fire, ammunition supply, and displacement in order to give the maximum support and protection to the leading rifle companies and adequately protect the flanks of the battalion. Examples are as follows:

(a) A machine-gun platoon, or a mortar section, may be assigned an initial position area and initial targets, and be directed thereafter to support a particular rifle company. In such a situation, the leader of the machine-gun or mortar unit establishes liaison with the rifle company commander as directed by the heavy weapons company commander (usually by sending his corporal agent to the rifle company). After execution of the initial fire mission the platoon, or section, fires all missions requested by the rifle company commander and, at the discretion of its leader, displaces to forward positions from which it can continue to support the rifle company. Its leader is responsible that the heavy weapons company commander is informed of its actual location after each displacement.

(b) A machine-gun or mortar platoon may be assigned its initial position area and given a sector of fire. Its platoon leader may be instructed to open fire on signal or to engage targets as observed in its sector of fire, but to displace forward only on order of the company commander.

c. Attachment.—Units of the heavy weapons company may be attached to other units and pass completely from the control of the company commander. Such attachment is justified only when there is no adequate way of giving needed support with the supporting unit operating under either centralized or partially decentralized control. Such conditions might arise, for example, when a rifle company is operating in pursuit, on a distant security mission, or over extremely difficult terrain which makes adequate signal communication between the heavy weapons company commander and the supporting unit from his company impracticable. When an element of the heavy weapons company is attached to a rifle unit, the rifle unit commander exercises all of the command functions normally exercised by the heavy weapons company commander.

d. Initiative of leaders.—It is the duty of the company commander and of each platoon leader to give continuous, effective fire support to the attack of the battalion, in accordance with the battalion commander's initial order and his subsequent instructions. The company commander and the platoon leaders do not wait for requests from supported units before delivering supporting and protective fires. By keeping closely in touch with the situation, they habitually anticipate the requirements of the attacking companies and deliver fires as the need for them arises.

33. ORDERS OF COMPANY COMMANDER.—*a.* Following the issuance of the battalion attack order, the company commander should consult with other officers present regarding details of cooperation and fire support, issue instructions for any preparatory movement or activities of the company, arrange for the assembly of his subordinates to receive the order (when that is practicable), plan and conduct any further reconnaissance which may be necessary, and prepare his company order. He should issue timely instructions for the movement of any element of the company which is to be attached to a rifle unit.

b. Whenever practicable, the company commander issues his attack order to the platoon leaders, the reconnaissance officer, and selected noncommissioned officers at a location affording cover and concealment, and from which terrain features and known enemy positions can be pointed out on the ground as the situation is explained and the order *is* issued. In rapidly moving situations, assembly of leaders is not practicable and orders must be issued in fragmentary form to individual platoon leaders, either orally or by written messages.

c. The attack order, whether issued in complete or fragmentary form, covers-

(1) Necessary information of the enemy and of friendly troops.

(2) The battalion zone of action and objective, the general battalion plan of attack, and the mission of the company.

(3) The mission of each platoon in support of the attacking echelon, and as many of the following details as practicable: the off-carrier position; the platoon position area and *its* targets or sector of fire; priority of fires: coordination with other supporting fires; and conditions for opening fire. The rate of fire or type of mortar shell to be employed initially may be prescribed when required by the state of ammunition supply, or when it is an essential part of the battalion commander's plan of fires. For each platoon engaged on a security mission, the order should also indicate at what time, or under what conditions, it will move to its initial firing position.

(4) Instructions concerning control of weapon carriers; provisions for ammunition supply; location of battalion aid station.

(5) Location of battalion and company command posts; location of company commander.

SECTION IV

ATTACK

34. LOCATION OF COMPANY COMMANDER.—The company commander remains with the battalion commander except when combat duties require his presence elsewhere. During such absence, the company commander designates a liaison agent to remain with the battalion commander.

The battalion commander has to make decisions quickly with respect to heavy weapons operations, particularly decisions on displacement. The weapons company commander must have a clear idea of the details of the battalion commander's intent, and this may not be easily transmitted by a FRAGO. This is why the company commander sticks around the CP and travels with the CO; and this also means he has to trust his platoon leaders to manage without close supervision when things get hot.

35. OBSERVATION POST.—Wherever feasible, the company observation Post is located in the vicinity of the battalion observation post so as to facilitate communication with the battalion commander. (See fig. 2.) If possible, the observation post should afford a clear view over the entire battalion zone of action. When this is not practicable, more than one observation post is usually established.

36. CONDUCT OF ATTACK.—*a. General.*—(1) During the attack the company commander observes and controls the action of his company and, as necessary, directs the shifting of supporting fires in accordance with the battalion commander's orders and plan of attack, and with developments in the situation. Most effective results are obtained by concentrating fires to assist the advance of a part of the attacking echelon of the battalion. As the action progresses fires are concentrated on those targets whose destruction or neutralization will most effectively assist the advance. (See fig. 10).

(2) When an adjacent unit has progressed more rapidly, the battalion commander may direct that position

areas in its zone of action be occupied by elements of the company, so as to secure more effective fire on resistance in front of the attacking echelon, or to support an envelopment by the reserve company. The company commander selects the elements which are to displace and issues the necessary orders covering their movement and subsequent action. Either the battalion commander or the heavy weapons company commander coordinates with the adjacent unit commander the movement of the heavy weapons into the zone of the adjacent unit.

(3) Whenever conditions arise which prevent any particular unit of the company from conti.1uing to render adequate support under centralized or partially decentralized control, the company commander should recommend that this element be attached to an attacking rifle unit. (See par. 32*c*.)

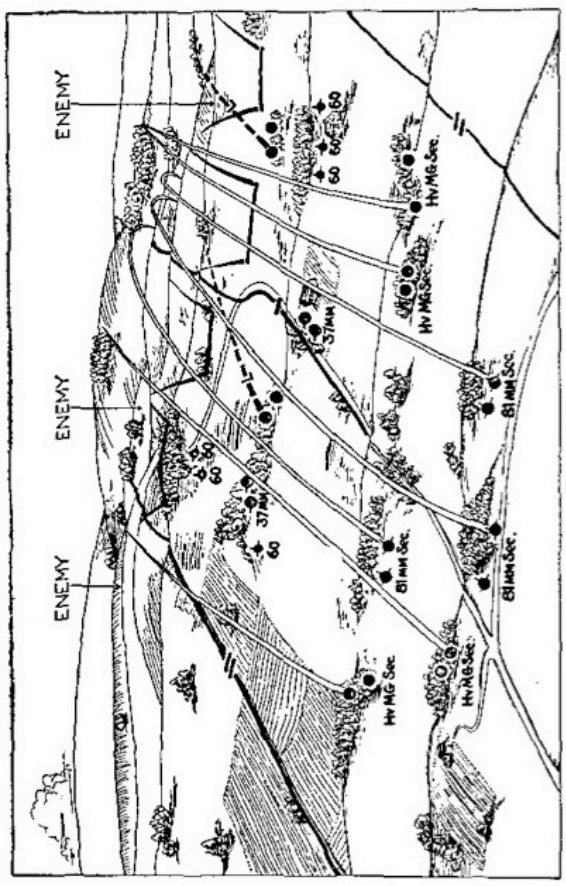


FIGURE 10.

NOTE.—The right rifle company has been unable to advance from locations shown in figure 6. In accordance with the battalion commander's order, the bulk of the fires of the heavy weapons company now are concentrated so as to assist the right rifle company. Note also positions and fire missions of the light machine-gun section of *each leading rifle company at this time; positions of 60-mm mortars of these companies also are shown.*

(4) Continuous support and protection to the attacking echelon is dependent on a constant flow of ammunition to the weapons. One of the company commander's principal duties during the attack is to insure the uninterrupted supply of ammunition to his platoons. For details, see paragraph 239.

(5) For employment of means of signal communication in the attack, see chapter 10.

b. Reconnaissance during attack.—Reconnaissance must be continuous throughout the attack. The company commander is responsible that proper reconnaissance is made for more advanced firing positions and observation posts, routes thereto, targets, and defiladed locations and routes for weapon carriers. The reconnaissance officer and reconnaissance sergeant carry out such reconnaissance as the company commander may direct. Accompanied by other personnel of the reconnaissance detail, each may be directed to follow one of the rifle companies of the attacking echelon. Moving from cover to cover, they occupy advanced observation posts from which they are able to observe the attacking echelon and communicate with the observation post of the company by prearranged visual signals or by portable radiotelephone. They signal, when necessary, for the lifting or cessation of fires. They may guide platoons to newly assigned position areas.

c. Displacement.—(1) When fires are masked, or when the distance to the attacking echelon prevents close support and flank protection by the heavy weapons company, elements of the company must initiate timely displacement. When a platoon (or section) is given a mission order to follow and support a particular rifle unit, it displaces on order of the platoon (or section) leader. When under centralized control, platoon leaders notify the company commander when they can no longer conduct fire missions from present positions, or when new positions must be occupied for the protection of an exposed flank.

(2) Whenever possible, the battalion commander anticipates the time for displacement of heavy weapons by the early designation of more advanced position areas and targets (or sectors of fire). This duty may be delegated to the company commander, or his recommendations may be called for. In either case the company commander must keep. abreast of the situation and the battalion commander's plans by means of his own observation and reconnaissance, his contact with the battalion commander, and the information he receives from his reconnaissance detail and platoon leaders. This will enable him to anticipate the need for the displacement of the platoons and make early provisions for its prompt accomplishment. At the proper time he orders displacement of the platoons either in accordance with the battalion commander's instructions or, to insure continuous close support and protection to the attacking echelon, on his own initiative.

We try to stay ahead of the game because these resources take a bit more time to pack up and move, and it's often necessary to keep at least part of their fire-power available at all times (see **FM 7-20**).

(3) The displacement of machine guns may be effected by platoon echelon, or by section echelon in each platoon. Displacement by platoon echelon favors prompt reestablishment of the fire support of the entire platoon. However, the necessity for providing continuous support and protection to the attacking echelon of the battalion,

the need for keeping some weapons in position as protection against counterattack, or the distance separating platoons, will frequently make displacement by section echelon necessary or desirable. In either case, the echelon remaining in position takes over the fire missions of the echelon that is displacing and is charged particularly with protective fires to the front and flanks. It opens flank protective fires upon its own observation, or upon signal or call from attacking rifle companies.

(4) When effective observation for the mortars no longer exists, a displacement should be initiated regardless of the situation of the machine guns. The mortar platoon usually displaces by section echelons for the reasons given in (3) above for machine guns.

(5) Weapon carriers are used whenever the situation permits. However, on open terrain or where the battalion is confronted with continuous resistance, displacement by carrier will seldom be practicable. The need for ammunition also will frequently preclude use of carriers for displacement of weapons.

(6) The commander of the heavy weapons company frequently displaces his observation post with the initial displacement of weapon units.

37. ANTIAIRCRAFT SECURITY AND ANTIMECHANIZED DEFENSE.— *a. Warning system.*—As a routine measure of protection throughout the attack, standing orders should require each platoon leader to detail one or more air-antitank guards. The company commander may assign sectors of observation to each platoon so as to provide more effective all-around protection.

b. Antiaircraft security.—(1) Each element of the company relies chiefly on passive antiaircraft measures for its own security. Time for preparing cover will rarely be available, and advantage must be taken of such natural features as are in the immediate vicinity of each unit or individual. To avoid detection by hostile aerial or ground observation, firing positions which afford concealment and have covered routes leading to them are utilized to the fullest practicable extent. Firing positions for machine guns within the edges of woods, or in brush, standing crops, or tall weeds will be difficult for the enemy to locate. Wherever practicable, mortars should be located in defilade on reverse slopes. Frequent movement of heavy weapons to previously selected alternate firing positions may be necessary where successive air attacks are delivered or enemy artillery concentrations are fired.

As living historians, we have little reason to worry about the air threat, and bop around in tacticals as if the Allies have unchallenged air supremacy. I'd like to see this change a b it at big events like Gap; however, the problems are so many and so infuriating already, the lack of *Luftwaffe* in the skies is trivial by comparison.

(2) For antiaircraft fires, see paragraphs 18*e* and 25*a* (3).

(3) Carriers habitually are dispersed and concealed when in rear of their respective platoons, or when at the company ammunition point. If directly attacked, chauffeurs of weapon carriers employ the carrier automatic rifle

(if their vehicles are so equipped), or their rifles, for antiaircraft fire.

c. *Antimechanized defense.*—(1) One man of each section, armed with the M1903 rifle and antitank rifle grenades, accompanies his section for its close-in antimechanized protection.

Yes, I occasionally see a 57-mm at the Gap. It is almost always found sitting on the road and pointing into the woods. It should be in the woods pointing down the road.

(2) The command post and company ammunition point, wherever practicable, are located on terrain unfavorable for tank movement. When halted, weapon carriers are located to take advantage of natural obstacles.

(3) For action against mechanized attack see paragraph 18*c* (3).

38. SUPPORTING FIRES DURING ASSAULT.—*a.* In the attack, hostile resistance is frequently reduced by a series of local assaults delivered by rifle companies or platoons. (See **FM 7-10** and **7-40**.)

(1) During the assault, machine guns take advantage of any gaps between assaulting units to maintain fire on the hostile position. If no gaps exist, machine-gun fires are shifted to observed targets deeper in the hostile position or on the flanks. Mortars also shift their fires to similar observed targets. Mortars may also fire on targets in defilade, such as troops in assembly areas or advancing by covered approaches. Sufficient ammunition must be on hand at the conclusion of the assault, however, to establish protective fires against a counterattack.

(2) In some situations, such as the attack of a rifle unit making an enveloping maneuver by a covered route, the supporting heavy weapons units may not be able to observe the movements of the attacking riflemen. In such a situation, supporting fires must be shifted on a prearranged signal given by the rifle unit.

b. Where the entire battalion is held up in front of hostile resistance that cannot be outflanked, the battalion commander arranges for a prepared and coordinated assault, supported by the regimental cannon company, the artillery, and his heavy weapons units. He either fixes a time for the lifting of supporting fires and delivery of the assault, or employs a prearranged signal for this purpose. Units of the heavy weapons company shift fires to other targets and fire through gaps as described in a above. When tanks are to assist the attack, careful timing of the tank action and supporting fires must be assured.

39. REORGANIZATION.—Complete reorganization of the company usually is postponed until the final battalion objective is reached, but advantage is taken of a temporary cessation of combat to carry out partial reorganization. Leaders who have become casualties are replaced; ammunition bearers or basic privates replace other casualties. Adjustments are made by reassignment of key men. Ammunition supply is replenished. By utilizing its individual

as well as crew-served weapons, each platoon provides its own local protection while the reorganization is in progress.

40. PROTECTING REORGANIZATION OF BATTALION.—*a.* At times it is necessary for the attacking echelon of the battalion to halt and reorganize before continuing the advance. The machine guns and mortars are the chief source of protection for the battalion at this time, when it is particularly vulnerable to hostile counterattack. As necessary, units of the heavy weapons company are displaced at once to positions from which to cover the front and flanks of the battalion. This displacement must be anticipated if it is to be completed in time to give the required protection to the attacking echelon,

b. While the reorganization is in progress, the company commander reconnoiters for observation posts and position areas from which to support the attack when it is resumed.

41. RESUMING ATTACK AFTER REORGANIZATION.—The Positions used in covering a reorganization may be unsuitable for providing maximum support to the attack when it is resumed. Prior to resumption of the attack, the company commander orders such changes of position as may be necessary to insure effective fire support. The company commander must exercise care and judgment in timing movements to the new positions, in order that a surprise action of the enemy may not find all weapons in movement and unable to open fire promptly.

42. PURSUIT.—*a. General.*—Upon capture of the final objective, battalions in the attacking echelon may be ordered to continue the advance, maintain pressure on the defeated enemy, and prevent his successful withdrawal, while an encircling force seeks to block his retreat. (See **FM 100-5**.)

b. Direct pressure.—The commander of a battalion executing direct pressure will usually attach elements of the heavy weapons company to rifle companies, or direct that these elements render close support to designated rifle units (partially decentralized control). With two rifle companies in the attacking echelon of a battalion, one heavy machine-gun platoon and one mortar section may render close support or be attached to each leading rifle company, while the mortar platoon, less two sections, operates under company control. Where feasible, weapons are displaced on carriers. Each platoon leader keeps the company commander informed of his location. The company commander assures maintenance of ammunition supply. He keeps subordinates informed of the location of the battalion ammunition distributing point, and insures that their supply of ammunition is uninterrupted.

c. Encircling force.—A heavy weapons company with an encircling force will usually be provided with motors for the transportation of foot elements. During a motor movement, heavy weapons elements may be attached to advance, flank, or rear guards of the encircling force, and heavy machine-gun units may be given antiaircraft security missions.

43. ACTION WHEN ADVANCE IS HALTED.—When the advance of the battalion is definitely halted by hostile resistance, the leading rifle companies dig in on the ground then held. The heavy weapons company commander employs his weapons, displacing them when necessary, to protect the attacking echelon during its organization of the ground. (See par. 40.) He conducts reconnaissance for more suitable defensive positions and for positions from which the attack may be supported when it is resumed. As a result of his reconnaissance and based on the instructions of the battalion commander, the company commander directs the occupation of the appropriate positions.

44. HEAVY WEAPONS COMPANY OF RESERVE BATTALION.—*a.* The regimental commander may temporarily detach all or part of the heavy weapons company of a reserve battalion for use on special missions, such as to support the leading battalions of the regiment in the initial stages of an attack. When practicable, its initial firing positions should be close to the area occupied by its battalion. Under any condition the heavy weapons company of the reserve battalion must be available to the battalion when it is committed to action. The regimental commander usually releases the company, or its elements, to its battalion commander when its fires are masked or when its mission has been completed.

Point here: Never let assets sit idle.

b. Whenever the heavy machine guns of a reserve battalion are present with that battalion, these guns are employed for its antiaircraft security.

SECTION V
NIGHT ATTACK

45. GENERAL.—There are three basic requirements for the successful employment of heavy weapons in support of a night attack. These are:

a. The readiness of heavy weapons platoons and sections to deliver protective fires instantly upon call or prearranged signal.—This requirement necessitates the selection of suitable firing positions, and the preparation of accurate night firing data, during daylight. It also requires that all leaders of squads or higher units, as well as observers, thoroughly understand any prearranged signals to be employed. If pyrotechnic signals are to be used, it is

necessary that these individuals know the direction in which to look for them. Pyrotechnic signals must be supplemented by other means.

b. The preservation of secrecy prior to and during the attack.—Normal night fires are continued. Other firing, except emergency protective fires, is ordinarily prohibited until after the objective is captured, However, under certain conditions the assault may be prepared by artillery fire. The requirements of secrecy demand care in all daylight preparations and prohibition of the use of motor transportation near or forward of the area of departure of the attacking force, until after the objective has been captured.

c. The readiness of heavy weapons to fire in close defense of the captured objective, against any hostile counterattack which may be launched at daylight.—This requires the prompt forward displacement of all or part of the heavy weapons company to firing positions located on or near the objective.

46. GENERAL PLAN OF EMPLOYMENT.—*a.* All protective fires prior to daylight may be furnished by heavy weapons elements of adjacent battalions, by the cannon company, and by supporting artillery. In this case, the heavy weapons company may be directed to follow the attacking echelon by bounds, at such a distance as will preclude the possibility of intermingling with the attacking force. The company must be in position and prepared to fire by daybreak. (See **FM 100-5**.)

b. (1) Usually, however, the participating heavy weapons company itself must be prepared to provide protective fires, In conjunction with the cannon company and supporting artillery. These fires include fires to "box in" the objective, in order to protect reorganization or withdrawal, and any additional fires needed to cover possible routes of hostile counterattack against the captured objective.

(2) Heavy weapons are usually employed for protective fires as *follows:*

(a) Heavy machine guns are emplaced to provide bands of fire along the flanks of the assigned zone of action.

(b) Mortars are emplaced so as to be prepared to fire upon the objective and upon hostile positions immediately in rear and adjacent thereto, to thicken artillery fires, and to cover dead spaces in the bands of machine-gun fire.

(3) Weapons are emplaced under cover of darkness.

(4) The firing positions of the heavy weapons for the defense of the captured objective should possess the same general characteristics as those employed in the defense of other positions. They are tentatively selected by the com-

pany commander from a study of his map or aerial photograph.

(5) Reconnaissance elements of the company closely follow the attacking echelon, in order to determine the location of new firing positions on the ground and to guide the heavy weapons units to these positions as they arrive in the vicinity of the captured objective.

(6) Forward displacement should begin promptly after the attacking echelon captures the objective. If the entire company is to move to the captured position, displacement must be made in two echelons.

47. PREPARATION AND CONDUCT.—*a. Reconnaissance.*—(1) Upon the receipt of the battalion commander's warning order or tentative plan of attack, the heavy weapons company commander immediately plans the reconnaissance which he deems necessary. He habitually employs his reconnaissance detail, supplemented by one or more platoon leaders and such enlisted assistants as the respective platoon leaders may select, to assist him in reconnaissance. He selects, preferably by means of ground reconnaissance, general firing position areas for each of his platoons from which to deliver protective fires. If the remaining period of daylight is short, he may select these areas from a map. He then issues detailed instructions to carry out his plan of reconnaissance to his reconnaissance officer, reconnaissance sergeant, and platoon leaders. Reconnaissances are initiated without delay.

(2) Reconnaissance groups conduct their operations with extreme care in order to hide their activity from hostile observation. They select and mark the exact location at which each weapon is to be emplaced in the areas assigned the respective platoons, and compute the firing data necessary for the weapon to execute its fires. They select and mark routes to the firing positions. They select routes for the movement of those weapons which are to displace after the objective is captured, and verify compass directions. They then report to the heavy weapons company commander at the time and place specified by him, with the results of their reconnaissances.

Always remember (and never forget): Reconnaissance of an enemy position, particularly an increase in it, is an EEI for the enemy.

(3) If he has not already done so, the company commander should make a personal terrain reconnaissance while his reconnaissance details are reconnoitering, in order to obtain an accurate general picture of the terrain and to select landmarks for use during darkness. This reconnaissance is frequently made in company with the battalion commander. At the end of the reconnaissance, or at a time and place designated by the battalion commander, the company commander presents his recommendations for the employment of his company to the battalion commander. Since displacement by weapon carriers will seldom be practicable, a request for the attachment of additional personnel, to assist in the hand-carry of ammuni-

tion, will ordinarily be included if elements of the company are to displace to the objective. Such additional personnel may be furnished from the battalion ammunition and pioneer section or from the reserve rifle company.

b. Orders.—Upon receipt of the battalion night-attack order, the company commander issues his own attack order. The company order is issued in minute detail and, in addition to the usual items covered in an attack order, it includes the following:

(1) Provisions for reconnaissance personnel to guide heavy weapons elements to their initial firing positions.

(2) Arrangements for opening and lifting protective fires, including any pyrotechnic signals prescribed for use during the attack.

(3) Arrangements for the advance of heavy weapons company reconnaissance elements with the attacking echelon.

(4) Instructions for the forward displacement of heavy weapons. These instructions usually call for the use of column formations, well closed up.

(5) Arrangements for reconnaissance personnel to meet heavy weapons elements on the captured objective and guide them to their new firing positions.

(6) Arrangements for the hand-carry of additional ammunition during forward displacement.

(7) Means of identification as prescribed by the battalion commander.

c. Action while attack is in progress.—(1) After heavy weapons are emplaced in their initial firing positions prior to the attack, the company commander insures that each firing position and the firing data for each weapon are verified by an officer.

(2) During the period of readiness to deliver protective fires, the company commander either accompanies the battalion commander or remains at the battalion observation post or command post. When the attacking echelon has captured the objective, he accompanies the battalion commander to his new observation post and then supervises the occupation of firing positions by the elements of the company displacing to the vicinity of the objective.

(3) Protective fires are laid down and lifted upon call or signal from the commander of the attacking force.

d. Displacement.—Heavy weapons platoons and sections which displace to the captured objective should be met at prearranged points by guides from the reconnaissance detail. These guides conduct them to their new position areas. Unless there is bright moonlight, however, it is frequently impossible to select the exact firing positions for machine guns, or observation posts for mortars, prior to dawn. In such cases, tentative positions are occupied,

but the selection of the final positions, their occupation, and any necessary camouflage, must be completed without delay immediately after dawn.

SECTION VI
RAIDS

48. SUPPORT OF RAID.—*a.* When supporting a daylight raid or a night raid, the heavy weapons company may be given either or both of the following general missions:

(1) Fire a preparation on the objective to be raided.

(2) During the raid and the subsequent withdrawal, box-in the objective by fire on hostile positions adjacent to and in rear of, and on avenues of enemy approach to, the objective.

b. The targets to be engaged by the heavy weapons company, and the times or signals for commencing and lifting fires, will be prescribed by the battalion commander.

c. Unless the raid is to be conducted by a very small force, artillery and other supporting weapons will ordinarily participate in the preparatory fires, as well as in fires to box-in the objective. Prior conferences with the commanders of these units are necessary in order to insure coordination of fires.

d. Time is usually available for registration prior to a raid. Whenever prior registration is possible, advantage should be taken of the opportunity, since accurate delivery of the prescribed fires is essential under any condition of visibility. To preserve secrecy, registration should include fires on points other than the assigned targets. Whenever possible, registration fires should be spread out over a period of more than one day.

e. Ordinarily heavy weapons will be employed from their initial firing positions, and displacement will not be required during the raid.

SECTION VII
ATTACK IN WOODS

49. ATTACK OF NEAR EDGE.—The employment of heavy weapons in an attack against the near edge of woods is, in general, the same as in an attack against any normal objective. Machine-gun and mortar fires are directed against the near end lateral edges of the woods so as to provide close support for the attacking echelon. Special attention is given to hostile weapons, located outside the woods, in positions from which flanking fire may be brought against the attack.

BFO: Automatic weapons are hard to use deep in the woods because of the difficulty in specifying fields of fire (i. e., there are all those pesky trees in the way). The edge of the woods facing the enemy is more likely to me used to direct defensive fires.

50. ATTACK WITHIN WOODS.—*a. General.*—(1) The employment of heavy weapons within woods presents special difficulties which must be overcome by specialized training. However, fire support is provided in a manner which parallels normal employment as closely as the density of the woods permits. (See **FM 100-5**.)

(2) The concealment afforded by the woods offers opportunity for surprise attack by hostile patrols or by hostile elements bypassed by leading rifle units. Unless rifle units are detailed for close-in protection of heavy weapons elements, this protection should be provided by small patrols formed from men armed with carbines and rifles. This protection is required both when moving and when in firing positions, and should cover the flanks and the rear.

b. Conduct.—(1) Factors such as difficulty in maintaining direction, contact, and control; short and obstructed fields of fire; and lack or scarcity of suitable observation points, limit the effective use of heavy weapons in woods. The extent to which these factors affect the employment of these weapons depends upon the degree to which the density of the woods limits visibility and impedes movement.

(2) These difficulties are overcome, in part, by the following measures:

(a) Compass directions are habitually prescribed.

While the idea of reenactors moving through the woods with heavy weapons using dead reckoning with map and compass makes the blood chill a bit, it isn't impossible. We do it routinely at the Assault Training School, and even reenactors can't make magnetic north go away. Or at least they haven't yet managed it.

(b) The company advances in one or more columns, or in line of small columns, depending upon its specific mission. Contact between columns, by connecting groups if necessary, is maintained continuously.

(c) When wide frontages and restricted visibility increase the difficulties of control to the point where prompt delivery of supporting fires is seriously retarded, elements of the heavy weapons company may be designated to support certain specific rifle units. Such elements, under platoon or section control, closely follow the supported unit and maintain visual contact with it. Frequently, it will be desirable to attach elements of the heavy weapons company to rifle companies.

(d) Reconnaissance elements of the company move with leading rifle units.

(e) The heavy weapons company, less elements directed to support specific rifle units, closely follows the attacking echelon, prepared to render prompt fire support.

(f) Fire control is usually exercised from front-line positions. Suitable observation may also be obtained from tree tops and large clearings.

(3) The bulk of the heavy machine-gun elements, less their weapon carriers, usually follow closely behind the attacking echelon until supporting fires are needed. If more suitable firing position areas are not available, machine-gun fire is then delivered from positions near, and through gaps between, front-line rifle elements. Machine

guns also are employed to cover roads, trails, and clearings, particularly during halts. If the lateral edge of the woods is within or near the battalion zone of action, machine guns may be emplaced there to cover the flank of rifle or heavy weapons elements advancing within the woods and to provide antiaircraft security.

(4) Every effort is made to locate successive firing positions having suitable overhead clearance for the mortars. If such positions are available or can be prepared with reasonable speed, the mortar platoon may be displaced by section to these successive positions. Weapon carriers are employed for this purpose, whenever practicable. In this manner a part of the mortar strength of the company is continuously in position, prepared to render prompt support to the leading echelon. Because of the excessive distances which may be involved in this method of mortar employment, fire control must usually be exercised by means of portable radiotelephone.

51. EXIT FROM WOODS.-The employment of heavy weapons during the debouchment from the woods is similar to their normal use in attack. Since the edge of woods is a favorable target for hostile artillery, heavy weapons should be emplaced as far within the woods as the fields of fire therefrom permit. They should also be prepared for rapid displacement to new positions outside the woods as soon as these become available. If time is available, lanes are cut for flat-trajectory weapons, and overhead clearing is effected for mortar positions.

Bear in mind that 81-mm mortar rounds arm by setback (that is, the acceleration of firing causes a mechanical arming stop to unlock and, once the round has cleared the muzzle, fly out of the projectile). There is a short delay, but all in all I would prefer a possibly armed impact fuze not hit a tree branch above my head.

SECTION VIII
ATTACK OF TOWNS AND VILLAGES

52. SUPPORT OF ATTACK OF TOWNS AND VILLAGES.—*a. General.*—For a general discussion of combat in towns see **FM 100-5**.

b. Attack of the near edge.—The fire support provided by the heavy weapons company in the attack of the near edge, or perimeter, of a town or village is similar to that provided in the attack against the near edge 6f a woods.

c. Attack within town or village.—(1) The advance of rifle units from the near edge of the town or village is usually by bounds from street to street, or from house to house. The fire support provided by the heavy weapons company is considerably restricted, but there is usually greater opportunity for effective employment of 81-mm mortars than in woods. This is due to better observation, and to the ability of rifle units to designate targets on which mortar fire is desired.

(2) Since it is difficult for leading rifle units to mop up completely as they advance, and hostile elements which have been bypassed may attack heavy weapons

units, close-in protection to flanks and rear must be provided.

(3) Heavy machine guns are usually emplaced to sweep the main thoroughfares. They may advance by bounds behind leading rifle units. Machine-gun fire is directed against any remunerative hostile resistance encountered, particularly to neutralize hostile fire from doors, windows, or roofs of houses, or from apertures in barricades.

(4) The 81-mm mortars are emplaced initially in the vicinity of the near edge of the town or village. Mortar observation is obtained from house tops, windows, and forward positions in the streets.

d. Exit from town or village.—During the exit from a town or village, the elements of the heavy weapons company are employed in a manner similar to that during the debouchment from woods.

SECTION IX

ATTACK OF RIVER LINE

53. GENERAL.—*a.* The conduct of the infantry battalion in the attack of a river line is covered in **FM 7-20**.

b. The actual crossing operation may be made under any of the following circumstances:

(1) When the enemy is not actively holding the river line.

(2) When enemy forces holding the line of the river are weak and no defensive organization has been accomplished by them.

(3) Where mobile ground forces or parachute units precede the troops making the crossing in order to secure the far bank, and the effort of the troops making the crossing is principally to effect prompt reinforcement of such forces.

(4) Where strong hostile forces, organized for defense, hold the far bank.

c. When the enemy does not actively hold the river line or when mobile ground forces or parachutists have seized the far bank, the heavy weapons company is not actively employed Until after reaching the far side of the river. Its employment is then identical with that for any attack except that, at least initially, ammunition must be brought across the river by boats or rafts and then hand-carried to the weapon positions.

d. The following discussion deals with the employment of the heavy weapons company when the far bank of the river is held by the enemy, either weakly or in strength.

54. TACTICAL EMPLOYMENT OF HEAVY WEAPONS.—*a.* The specific points of tactics which affect the employment of heavy weapons units are as follows:

(1) If the attack is to be made during daylight, the crossing is usually effected under the cover of the fire of all available heavy weapons. These include the heavy weapons of reserve battalions as well as those of battalions in the attacking echelon.

(2) If the crossing is to be made at or just before dawn, heavy weapons are emplaced to cover the crossing but remain silent until the attack is discovered. In this situation all preparations, except the forward movement of the company, are completed during daylight of the previous day. The weapons are moved into firing positions during darkness just prior to the hour of attack.

(3) Heavy machine guns are emplaced near the river to cover the principal crossings and to sweep long stretches of the opposite shore. The wide crossing front of the battalion, coupled with the thick vegetation often found along streams, frequently requires the wide separation of machine-gun platoons and makes control by the company commander difficult. For this reason, a machine-gun platoon usually is given the mission of supporting a particular rifle company during and after its crossing.

(4) If practicable, the 81-mm mortars are emplaced initially so as to cover the entire crossing front. This may necessitate wide separation of mortar sections. If the entire front cannot be covered, the mortars are emplaced to cover the principal crossing points, with particular reference to the actual or probable locations of hostile automatic weapons on the opposite shore,

b. The following additional items affect the employment of heavy weapons units of the leading battalions:

(1) Reconnaissance elements cross with the leading rifle companies.

(2) All heavy weapons should be transported across the stream as soon as the hostile bank is cleared of resistance.

(3) After the crossing is effected, heavy weapons provide close support to rifle units during the advance to the initial battalion objective.

(4) When the initial battalion objective is captured, heavy weapons units are emplaced without delay to support the attack against the next objective.

(5) All practicable preparations, including the issuance of orders and instructions by leaders, are completed before the company departs from its initial assembly area.

(6) All preparations should be characterized by extreme thoroughness. Orders and instructions are issued in minute detail.

55. PLANNING AND CONDUCT OF ATTACK.—*a. Initial preparations.*—Upon the receipt of warning orders, the company commander takes the following preliminary actions:

(1) Makes a detailed study of the map, or photomap, in order to plan his ground reconnaissance.

(2) Selects reconnaissance details to assist him, and issues the necessary instructions to them. These instructions include the secrecy measures to be observed during the reconnaissance.

(3) Selects the time and place for the issuance of his company attack order, and provides for the assembly of his company officers.

b. Planning and reconnaissance.—The planning and reconnaissance of the company commander, assisted by his reconnaissance detail, should include the following:

(1) Contacting friendly security detachments in order to obtain recent information of hostile positions and activity.

(2) The selection of firing position areas for each platoon which is to support the initial crossing. Reconnaissance of final assembly areas for all other platoons.

(3) Determination of targets, or sectors of fire, for each platoon.

(4) Selection of favorable observation posts on both sides of the stream.

(5) Selection of crossing points for each platoon.

(6) Selection of assembly areas on the hostile shore.

(7) Reconnaissance and marking of routes from the initial assembly area to final assembly areas or firing position areas, including the location of off-carrier positions.

(8) Selection of routes from final assembly areas and firing position areas to the crossing points. If the movement is to take place before daylight, these routes should be marked.

(9) A bivouac for the use of company transport during the crossing operations may be designated by the battalion commander or selected by the company commander. This area is reconnoitered by the company commander and guides of subordinate units. It should provide concealment and defilade for all vehicles.

(10) Study of the ammunition supply problem. Frequently additional personnel must be detailed to act as extra ammunition bearers until normal supply of ammunition by weapon carriers can be reestablished. The battalion commander should be requested to attach the necessary personnel.

c. Actions of *company commander after completing reconnaissance.*—After completing his reconnaissance and tentative plan, the company commander confers with the battalion commander and submits his recommendations

for the employment of the heavy weapons company. Upon receipt of the battalion order, he confers briefly with rifle company commanders in order to coordinate operations, and then proceeds to meet his own subordinates and issue the company attack order. (See **FM 100-5** and **7-40**.)

d. Conduct of the attack.—(1) Heavy weapons platoons of an attacking battalion, from assigned positions, carry out their missions in support of the crossing of the leading rifle elements until the hostile bank is cleared of resistance. Then, according to prearranged plans and orders, the heavy weapons company crosses, usually with the second wave. Platoons support the attack according to previously assigned missions until the initial battalion objective is captured. Upon arrival at this objective, the company commander makes the necessary preparations (reorganization, reassignment of missions, resupply of ammunition, and similar matters) for the continuation of the attack to the next objective.

(2) Until weapon carriers can cross and normal supply can be reestablished, ammunition supply must be maintained by ammunition carriers of the platoons, assisted by any attached personnel. The battalion will usually establish an advanced ammunition distributing point by means of carrying parties.

CHAPTER 4

DEFENSE AND RETROGRADE MOVEMENTS

SECTION I

RECONNAISSANCE, ORGANIZATION OF FIRES, AND CONDUCT OF DEFENSE

56. RECONNAISSANCE PRIOR TO OCCUPATION OF FRONT-LINE BATTALION DEFENSE AREA.—*a.* Depending upon the situation and the time available, the reconnaissance prior to the occupation of a front-line battalion defense area will vary from a detailed study of the position and the approaches thereto, made on the ground, to a map reconnaissance made in order to get the troops in position as rapidly as possible.

b. When time is available for a detailed reconnaissance, the heavy weapons company commander will usually be directed to accompany the battalion commander. Selected members of the company reconnaissance detail may accompany him.

(1) The reconnaissance will usually cover the foreground of the position to determine areas that can be swept by flat-trajectory fire and those areas affording covered routes of approach or forming-up points for enemy infantry which must be covered by mortar fire; general locations for machine guns in close support of the main line of resistance: and the plan of close defensive fires. The reconnaissance of the interior of the position seeks to determine likely areas of hostile penetration and locations for rear machine guns from which to limit such penetrations; general locations for mortars and for machine guns sited for long-range fire; and supplementary positions for rear machine guns from which to protect the flanks of the battalion.

(2) Upon completion of the ground reconnaissance with the battalion commander, the heavy weapons company commander will usually be sufficiently acquainted with the battalion plan of defense so that he may be released without further orders.

(3) Additional reconnaissance may be necessary in order to locate more accurately firing position areas, routes of approach thereto, and off-carrier positions; and to select the location of the company ammunition point, company command post, and observation post. Much of this reconnaissance may be delegated to the reconnaissance detail, or to platoon leaders after they arrive on the position.

c. The battalion commander may have the heavy weapons company commander make his reconnaissance independently, and recommend the locations and mission for the company prior to the issuance of the battalion commander's defense order. When the selection of locations for heavy machine guns in close support of the main line of resistance and plans for close defensive fires are made by the company commander he must be accurately informed as to the general trace of the main line of resistance.

d. When the necessity for immediate occupation of the position precludes a prior ground reconnaissance, the battalion commander will indicate the general location of the main line of resistance and assign areas to rifle companies; he may attach a portion of the heavy weapons to rifle companies, and assign missions to the remaining weapons of the heavy weapons company. In the continued occupation of the position, these initial measures are readjusted under a coordinated battalion fire plan. Heavy weapons units attached to rifle companies are then usually returned to company control.

57. ORGANIZATION OF MACHINE-GUN FIRES FOR FRONT-LINE BATTALION.—*a. Distribution of machine* guns.—Machine guns are distributed in width and depth throughout the battalion area. The positions and missions of the light machine guns of the rifle companies are prescribed by the battalion commander and coordinated with the heavy machine guns. (See fig. 11 for schematic representation.)

b. Machine guns in close support of the main line of resistance.—(1) Usually one platoon of heavy machine guns is assigned positions and missions in close support of the main line of resistance. These guns and the light machine guns of the front-line rifle companies include in their sectors of fire the more important areas of *hostile approach* that can be covered by flat-trajectory fire. As nearly as practicable, the machine guns are sited to fire interlocking bands of flanking, grazing fire (final protective lines) across the front of the battalion under any conditions of visibility. Initial sectors of fire to be maintained under the battalion fire plan usually will not exceed 1,600 mils, so that fires will not be too greatly dispersed. However, machine guns must be prepared to fight in any direction. If the emplacement or terrain does not permit fire in all directions, nearby positions are selected for emergency use.

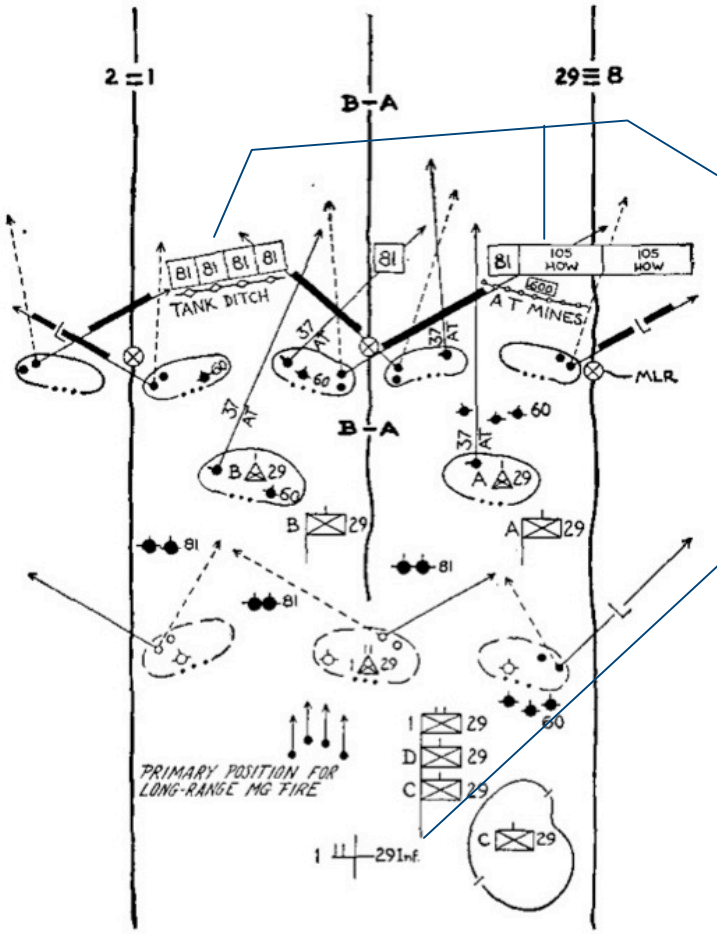


FIGURE 11.—Schematic diagram of plan of close defensive fires of front-line battalion.

Observe that mine fields and obstacles are always covered by fire.

Note that the commanders of the reserve company (C) and the heavy weapons company (D) are at the same location as the battalion CP.

(2) Machine guns in close support of the main line of resistance are usually sited by section so that both guns execute identical fire missions. On terrain which permits two divergent lines of grazing fire, each gun may be assigned an individual final protective line. In such case, one of these final protective lines is designated as the primary line to be maintained by the section and both guns must be able to fire on this line. *Long-range fire missions may be assigned the heavy machine guns, to be fired from supplementary firing positions sufficiently removed from the main line of resistance to avoid disclosing the location of that line, provided covered routes are available to primary positions.* (See fig. 11.)

c. Rear heavy machine guns.—The remaining platoon of heavy machine guns is assigned positions in rear of the main line of resistance. Initially the rear echelon of heavy machine guns may be attached to the combat outpost, if covered routes of withdrawal to the battalion defense area are available. Firing positions to be occupied upon withdrawal to the battle position are selected by the heavy weapons company commander. Emplacements are constructed, necessary fields of fire cleared, and firing data

computed for long-range missions. The company commander may charge the reconnaissance officer with this work. If there is insufficient time for these tasks to be accomplished by personnel of the heavy weapons company, the company commander requests the battalion commander to make additional working parties available to him. Rear heavy machine guns have the following missions:

(1) *Long-range fires.*—These fires are preferably delivered from defiladed positions from which observers standing at or near the gun positions can observe the target. These positions may be forward of the defense areas organized by the reserve company of the battalion. Long-range missions are preferably fired by platoon; however, if the position does not afford partial defilade, distribution is by section.

(2) *Stopping hostile penetrations.*—Rear guns are assigned supplementary firing positions so as to fire against likely areas of penetration within the battalion area, and for the protection of the flanks of the battalion. These missions are usually assigned to sections. Where there are several likely areas of penetration, single guns may be employed. One or more supplementary positions may be required for each gun. Generally these positions are in the vicinity of the defense areas organized by the reserve company of the battalion. They may be as far forward as the support areas of the front-line rifle companies.

Recall the value of combining plunging fire from the HMG's with grazing fire from the rifle companies' LMG's.

(3) *Support of counterattack.*—The counterattack of the battalion reserve is supported by all available weapons. Counterattack plans prepared prior to enemy attack provide for the support to be rendered by various components of the company in the different situations.

(4) *Antiaircraft defense.*—Antiaircraft defense is a constant mission of heavy machine guns in rear areas. (See par. 66*a* (2).)

(5) *Coordination of rifle company light machine guns.*— In the battalion plan of fire, the heavy weapons company commander will usually be charged with the coordination of fires of the light machine guns of the rifle companies.

(a) For forward rifle companies, this coordination includes locations, sectors of fire, and final protective lines. When possible, light machine guns are emplaced within their company areas.

(b) The light machine guns of the reserve company may be used in close support of the main line of resistance; however, they are usually emplaced in the rear area for limitation of penetrations and for flank protection. When the reserve company is employed in counterattack or defense, its light machine guns must be returned to it.

58. Organization of 81-mm Mortar Fires for Front-Line Battalion.—*a. Distribution of mortars.*—The 81-mm mortars are emplaced generally in rear of the support platoons of the front-line rifle companies, so that minor penetrations will not force them to displace. They are distributed, usually by section, both laterally and in depth so that in case of a deep penetration some mortars can fire continuously while others displace to the rear. Mortars occupy the best defiladed positions consistent with effective observation of fire, but should not be located in the more likely avenues of hostile penetration.

b. Missions of 81-mm mortars.—(1) *Long-range fires.*—Mortar fires are planned to take the enemy under fire as early as possible, firing against hostile assembly areas and covered avenues of approach. In order to reach out farther and render close support to the combat outpost, some of the mortars initially may be emplaced in forward supplementary positions within communicating distance ½ mile by sound-powered telephone) of the observation afforded on the line of the combat outpost.

(2) *Close defensive fires.*—One primary target area is assigned to each mortar. These target areas are coordinated with the final protective fires of forward machine guns, and with the normal barrages of the cannon company and supporting artillery. Primary target areas are located as close to the main line of resistance as safety will permit (200 yards minimum), so that the combination of close defensive fires will present a continuous curtain of fire across the front of the position. (Front-line rifle companies cover small gaps by the fire of their 60-mm mortars.)

In cases like this, the procedure to adjust fires close to friendly positions is to set rounds to go long and then incrementally reduce the range until the mortar can fire for effect.

(3) *Fires within position.*—Fires within the position to cover areas of likely penetration are planned. To accomplish these fires for deep penetrations, supplementary positions to the rear will usually be required.

(4) *Support of counterattacks.*—Mortar fires in support of counterattacks by the battalion reserve are planned to:

(a) Soften up the penetrating f6rce.

(b) Prevent the entrance of additional enemy forces into the penetrated area.

(c) Deny hostile observation with smoke.

c. Designation of target areas.—Target areas on which fires are planned for close defense of the main line of resistance are designated as primary target areas. All other planned fires are termed secondary target areas. These secondary areas are numbered, and are so shown on the squad range card.

59. Coordination of Fire Plan of Front-Line Battalion.—*a.* The company commander assists the battalion commander throughout the development and coordination

of the battalion fire plan. He emplaces his weapons in accordance with the battalion commander's instructions. During the organization of the position he makes such recommendations for changes in missions or dispositions of his weapons, and the light machine guns of the rifle companies, as are called for by the battalion commander or required by the situation. He coordinates the final protective line fires of his company with wire entanglements and other tactical obstacles that are prescribed in the battalion order. The exact selection of primary. alternate, and supplementary firing positions, the location of platoon and squad observation posts, the siting of weapons, and the construction of weapon emplacements, are the specific duties of each platoon leader. (See par. 5.)

b. When the fire plan is completed, the company commander submits to the battalion commander a sketch or overlay showing the exact locations of weapons, the sectors of fire of all machine guns, the final protective lines of forward machine guns, and the primary and secondary targets of the 81-mm mortars. Firing data are drawn to scale, and accurately show the areas that will be covered by fires and the dead spaces in final protective lines. Reference to the map, or air photo, used in preparation of the overlay, and coordinate intersections, are included on an overlay. For example of such an overlay, see figure 12.

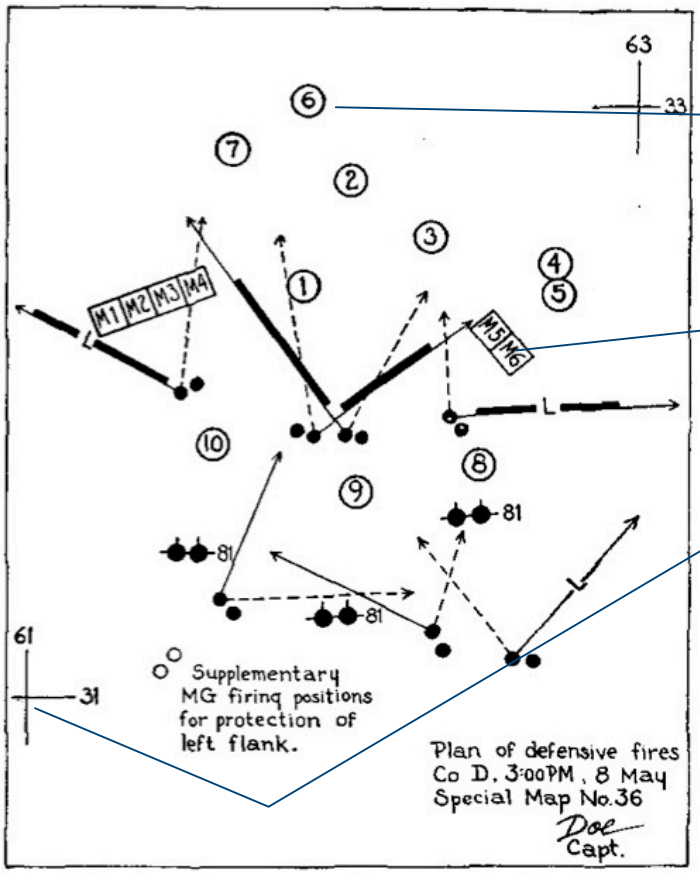


FIGURE 12.—Company commander's overlay, showing planned fires of heavy weapons company of front-line battalion.

Circled areas of fire represent points where an attacking enemy can be hurt (exactly what they are is not clear from an overlay – we would have to see the underlying map).

These probably represent both final protective fires for mortars and, more importantly, dead spaces that cannot be covered by direct fire.

Registration mark allowing the overlay to be placed accurately on its reference map (here at Grid 6131). Two such points are required for accuracy; the other is in the upper right, corresponding to Grid 6333.

60. Priority of Tasks in Organization of Ground.—*a.* The orders of the battalion commander indicate the priority of tasks in the organization of the ground by a front-line battalion. Normally the priority of work is as follows: clearing fields of fire; digging and camouflaging primary machinegun and mortar emplacements, and the construction of observation posts for all mortars; digging alternate and supplementary emplacements; constructing alternate observation posts for the mortars; and constructing standing type one-man foxholes for personnel not manning the weapons. For rear guns, the preparation of firing positions to limit hostile penetration usually will be given first priority. Working de- tails should be so organized as to permit several of these tasks to progress concurrently. Camouflage is carried on continuously throughout all work. For construction of emplacements and foxholes, see appendix I.

b. If the defensive is assumed in the presence of the enemy, observation is first assured and heavy weapons are placed in emergency firing positions or hastily emplaced so as to give prompt support to the front-line rifle companies. Later, when the situation permits or if darkness intervenes, the weapons are redisposed and emplacements constructed so as to insure the maximum coordination of supporting fires.

61. Dummy Works.—Dummy works serve to mislead the enemy and disperse his fire. The general location for such work is prescribed by the battalion commander. The heavy weapons company may be required to construct the dummy machine-gun emplacements. They should closely resemble genuine works, be constructed where true works might reasonably be located, and bear evidence of an attempt at camouflage. Dummy works clearly recognizable to the enemy as such merely give valuable negative information. Dummy works are prepared concurrently with other works.

62. Orders of the Commander of Heavy Weapon Company—Front-Line Battalion.—*a.* After receiving his orders from the battalion commander for the employment of his company, the company commander transmits the battalion commander's orders to his platoon leaders in the form of orders and instructions. This may be done by—

(1) Assembling the platoon leaders at one place for the issuance of a complete oral field order;

(2) Issuing the field order in fragmentary form, either orally or by messages to platoon leaders; or

(3) Conducting the platoon leaders to the areas their respective platoons are to occupy and issuing the instructions on the ground. When time is limited, the company commander may use his reconnaissance officer to conduct one or more platoons to their firing position areas and

there repeat to them the company commander's instructions for the employment of their platoons.

b. The field order of the company commander covers—

(1) So much of the information of the enemy and of friendly troops as is pertinent.

(2) Course of the main line of resistance.

(3) Primary and supplementary firing position areas for the sections of each platoon and missions to be fired from each position.

(4) Conditions for opening fire in primary and in supplementary firing positions, to include instructions for antiaircraft fire; provisions for the protection of mine fields by fire, if required by the battalion order.

(5) Priority of construction of emplacements; measures for concealment; camouflage.

(6) Ammunition supply.

(7) Location of battalion aid station.

(8) Company command post, location of company commander, and signal communications (sound-powered telephones, radiotelephone if made available to the company, and pyrotechnic signals). (See **FM 100-5** and **101-5**.)

■ **63. Heavy Weapons Company of Reserve Battalion**.—The heavy weapons company of a battalion in regimental reserve may be assigned any or all of the following missions:

a. Long-range fire support of main line of resistance.— The regimental order prescribes the fire missions of machinegun and mortar platoons and their general firing position areas. These fires will usually be delivered from locations in the rear areas of the front-line battalions. Heavy machine guns also are charged with antiaircraft fire. When the reserve battalion occupies its defense area(s) or counterattacks, the heavy weapons are released to battalion control.

b. Fire support for defense areas to be occupied, upon regimental order, by rifle companies of reserve battalion.— Positions in rear of front-line battalions which serve to block probable penetrations, or to prevent the envelopment of a flank of the battle position, are reconnoitered by the commander of the reserve battalion in accordance with instructions of the regimental commander. If time permits, these supplementary positions are dug in. The commander of the heavy weapons company of the reserve battalion assists the battalion commander in the development and coordination of the fire plans for these defense areas. He reconnoiters for routes for the movement of his heavy weapons from their initial firing positions.

c. Support of counterattack.—(1) The commander of a reserve battalion prepares counterattack plans to meet various possible situations. The plans for the use of the heavy weapons company are coordinated with those of the rifle units.

(2) Counterattacks by reserve companies of forward battalions may be supported by the fire of heavy weapons units of the reserve battalion from their initial long-range firing positions. Such fires are prescribed by the regimental commander and are coordinated by the commander of the frontline battalion being supported.

64. CONDUCT OF DEFENSE—HEAVY WEAPONS COMPANY OF FRONT-LINE BATTALION.—*a. Actions before enemy attack.*—When the commander of the heavy weapons company observes or is informed of indications of an enemy attack, he at once places his platoons in readiness. Machine-gun and mortar crews take their combat posts, and communications are retested. Personnel take advantage of emplacements and individual foxholes in order to reduce casualties during hostile artillery preparations, aerial attack, or other preparatory fires.

b. Long-range fires during enemy advance.—As the hostile advance comes within their range, all heavy weapons sited for long-range fires, to include the heavy weapons of the reserve battalion, open fire. Heavy machine-gun fires are directed particularly on enemy groups and crew-served weapons exposing themselves to view within effective range. Preferred targets for mortars are covered routes of approach, enemy units in areas defiladed from machine-gun fire, and heavy weapons.

c. Fires as enemy advances his attack.—As the hostile attack advances, it is met by an increasing number of defensive fires. Machine guns on or near the main line of resistance withhold their fires until the attacker is within 500 yards of the position. Premature disclosure of positions invites hostile bombardment. However, machine guns in supplementary positions for long-range fire open fire on suitable targets at effective ranges. Guns which temporarily occupy supplementary positions for long-range fire but whose primary mission is close support of the main line of resistance are moved to their primary firing positions in time to perform their primary missions, (See par. 66*a* for anti- aircraft fires.)

d. Close-in defense.—If the enemy succeeds in effecting a close approach to the main line of resistance, close-in prearranged fires are released. Forward machine guns switch to their final protective lines upon order or prearranged signal; rear machine guns deliver overhead fires; mortars fire on their primary target areas; and the cannon company and supporting artillery lay down their normal barrages. These final protective fires are released as provided in the unit fire plan; for example, on pyrotechnic

signals sent up by front-line company commanders, on call from observers, or on orders of the battalion or regimental commander. Final protective fires are delivered under all conditions of visibility. If made on call from the front line, they are delivered only by those weapons which support the area from which the call is made, and not along the entire line.

e. Antitank defense.—When tanks lead the hostile attack, machine-gun and mortar crews withhold their fires. When foot troops accompany the tanks, the crews fire at these accompanying troops. When tanks near the position, crews lower their machine guns or mortars to the bottom of their emplacements, and take individual cover. In each section the man who is armed with the M1903 rifle and antitank rifle grenades is posted for local protection of the section area; he employs antitank rifle grenades against tanks approaching within effective range (75 yards) of his position. As soon as the tanks have passed, heavy weapons are re- mounted and fires are resumed on the following infantry. (See par. 18*c*.)

f. Actions of company commander during hostile attack.— The company commander occupies his observation post during the hostile attack. (The company observation post usually is located in the vicinity of the battalion observation post.) From this point, assisted by his reconnaissance officer, the company commander continuously observes the conduct of the supporting fires in order to keep both himself and the battalion commander informed of the situation, and make any necessary changes in fire missions or dispositions. The company commander, either personally or through a representative, maintains close contact with the battalion commander. Signal communication between the company observation post and each platoon is maintained by all available means.

65. SUPPORTING AN OUTPOST.—*a. Support of a general outpost.*—The general outpost may be established and controlled by higher authority, or it may be furnished from front-line infantry regiments and its action coordinated by higher authority. Its mission is to provide time for the main force to prepare itself for combat, to deceive the enemy as to the location of the battle position, and to delay and disorganize his advance. A battalion assigned to the general outpost is frequently given a delaying mission. For employment of the heavy weapons company in delaying action, see paragraph 71.

b. Support of combat outpost.—(1) Combat outposts, detailed from each battalion holding a sector of the battle position, cover the foreground of the battle position when the general outpost is at a considerable distance from the main line of resistance, when the enemy situation prevents the establishment of a general outpost, or when battle is interrupted by nightfall. The mission of combat outposts is to provide local security or, when there are no

friendly troops to their front, to perform those duties of the general outpost which their strength and location permit.

(2) When the combat outpost is located on terrain which permits long-range fire, and covered routes of withdrawal exist, heavy machine guns may be attached to it. (See fig. 13.) The platoon, or section, assigned to this mission should be taken from units assigned to positions in rear of the main line of resistance. (See par. 57*c*.)

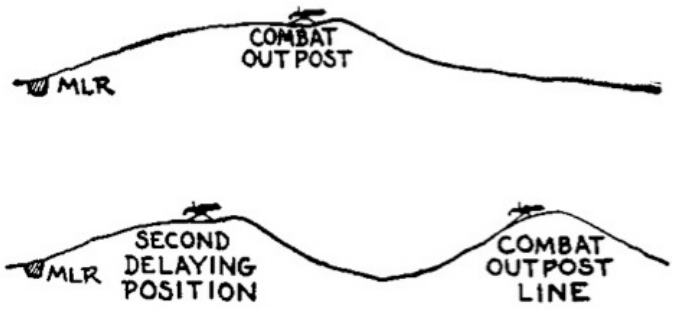


FIGURE 13.—Combat outpost—heavy machine guns sited for long-range and delaying missions.

The objective of placing a HMG section on the OP line is to bring the enemy under fire as far forward of the MLR as possible.

Because of the time lag between decision to move the HMG's back behind the MLR, their displacement will generally begin prior to the withdrawal of the OPL.

(3) The withdrawal of heavy machine guns is initiated in time to place them in their primary positions in the battalion defense area before the hostile attack strikes the main line of resistance. If this withdrawal is to be made over a considerable distance, it is desirable to use the machine gun weapon carriers. When the weapon carriers are to be used, they should be held under cover near the machine-gun positions.

(4) Mortars may be located initially to support the combat outpost and to provide close supporting fires to cover its withdrawal. Their location should be as far to the rear as effective fire observation and communication permit. Their weapon carriers should be held under nearby cover.

66. ANTIAIRCRAFT SECURITY.—*a. Active.*—(1) In case of attack by hostile aircraft, heavy machine guns and their crews, which occupy positions on or near the main line of resistance and which have been withholding their fires so as not to disclose the position prematurely, take cover in their prepared emplacements. In case of attack by hostile aircraft after these guns have opened fire on ground targets, they fire on the airplanes within effective range when, in the judgment of machine-gun platoon or section leaders, such targets offer a greater threat to the accomplishment of their mission than do ground targets.

(2) Heavy machine guns assigned missions in close support of the main line of resistance which temporarily occupy supplementary positions removed from the main line of resistance, and heavy machine guns located for long-range missions in rear of the main line of resistance, fire on attacking airplanes within effective range at any

time when, in the judgment of the respective platoon or section leaders, such targets offer a greater threat than do ground targets.

(3) Heavy machine guns of the reserve battalion, as well as those with outposts, conform to the doctrines of (2) above.

b. Passive.—Advantage is taken of natural features, combined with skillful camouflage, to prevent discovery by hostile aviation of emplacements and other installations. All means are taken to provide protective concealment of primary, alternate, and supplementary emplacements and to defeat hostile aerial photography. (See FM 5-20.)

67. AMMUNITION SUPPLY.—For initial ammunition supply and replenishment of ammunition, see paragraph 239.

68. Use of Weapon Carriers.—*a.* As soon as the prescribed amounts of ammunition have been dumped on the position, weapon carriers of front-line battalions are withdrawn to the rear under control of higher authority.

b. The regimental order may prescribe that the weapon carriers of the reserve battalion remain with their battalion.

69. SUPPORTING THE DEFENSE.—Upon the continued occupation of a position, hasty fortifications are improved and fire plans are more highly developed. The construction of additional alternate and supplementary emplacements for heavy weapons, with improvement of routes of displacement throughout the battle position, permits a high degree of flexibility of fires. Communications are expanded to include intracompany telephones, and a more elaborate system of observation is organized. Large amounts of ammunition are stocked and extensive firing data prepared for machine guns and mortars.

70. DISPOSITIONS AT NIGHT OR IN FOG OR SMOKE.—*a.* It is usually necessary to make certain adjustments to meet conditions of reduced visibility. Front lines may be held in greater density at night by establishing additional rifle and heavy weapon elements in intervals which are not adequately covered by final protective fires. At night, light and heavy machine guns are laid on their final protective lines. Mortars are laid on their primary target areas. Rear machine guns may be employed to deliver long-range harassing and interdiction fires, or may occupy supplementary positions for limitation of penetrations or flanking fires in accordance with the battalion fire plan. Higher authority prescribes the means to be employed for illuminating the foreground. The signal operation instructions of the division may prescribe prearranged pyrotechnic signals to be employed at night by subordinate commanders.

b. Fog or smoke creates conditions similar to those prevailing at night. Smoke blinds the defender's observa-

tion. It does not affect the fire of machine guns and mortars when these weapons are laid by predetermined data, but it prevents the adjustment of fire. The duration of fog or smoke is uncertain. The battalion commander must decide in each situation what night dispositions are to be adopted. When the foreground of the position becomes invisible, all heavy weapons immediately are laid to fire their close defensive fires.

SECTION II

RETROGRADE MOVEMENTS

71. DELAYING ACTIONS.—*a.* Machine-gun and mortar units to be withdrawn with rifle companies are usually attached to those companies for the execution of delaying missions. Positions affording long-range fields of fire for heavy machine guns and covered routes of withdrawal are essential. These positions may be found near a topographical crest. (See fig. 14.) Heavy machine guns open fire at maximum effective range. If withdrawal is to commence prior to close contact, positions suitable for the delivery of close grazing fire to flank the probable approaches are of little or no importance. Each machine-gun section is usually assigned a wide sector for observed fire. The mortars execute long-range fires, especially in defiles or in ravines which afford covered routes of approach. The firing positions selected for the machine guns and mortars should facilitate withdrawal by carriers.

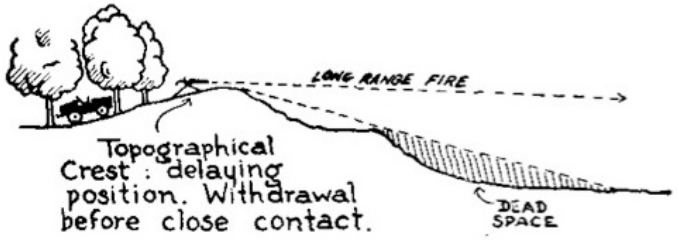


FIGURE 14.—Delaying action—heavy machine gun sited behind topographical crest for execution of long-range missions. Withdrawal to be effected before close contact with enemy occurs.

b. Weapon carriers are utilized, wherever practicable, for movement of heavy machine guns and mortars. They are held in defiladed areas, as close as practicable to their weapons. Only sufficient ammunition is dumped at the weapon position to execute the contemplated mission.

c. The withdrawal of the forward rifle companies is usually protected by some heavy machine guns and mortars. These weapons may be withdrawn to rear positions for this purpose and usually will be attached to the battalion covering force (which is assigned positions to the rear by the battalion commander to cover the withdrawal of the forward rifle units). The battalion covering force acts as a

delaying force for the battalion during its movement to the second delaying position. (See **FM 7-20** and **7-40**.) Selection of such rear positions, and plans for their occupancy, as well as selection of successive delaying positions to be occupied by the battalion, is accomplished as soon as the forward position is occupied. Machine guns protected by small rifle groups may be left on advantageous intermediate positions to slow down the hostile advance and cover road blocks and demolitions. These groups initiate their withdrawal in time to prevent capture.

72. WITHDRAWAL.—*a. Night withdrawal.*—(1) Heavy weapons emplaced in the area of a forward rifle company, less those to remain with the battalion covering force, are usually attached to that rifle company for withdrawal to the designated battalion assembly area. In the early stages of the withdrawal, heavy weapons must ordinarily be moved by hand. Considerations of secrecy prohibit the movement of carriers to advanced positions. The forward limit for carriers will be fixed by battalion orders. When reloaded, carriers may be dispatched individually to the battalion assembly area. Units of the heavy weapons company come under company control at that point. The company commander arranges for the assembly of the company, to include the posting of guides for carriers and foot detachments in the assembly area.

(2) The covering force includes machine guns and mortars. These are single weapons left in position with minimum crews. These weapons conduct fire to simulate normal activity. In accordance with the regimental order, the battalion commander will designate the number of heavy machine guns and mortars that will be left in position by the respective platoons. Weapon carriers of each element of the covering force are left with the covering force. These carriers are held under control of the battalion covering force commander and join their respective units at times and points designated by him.

(3) All movements at night are made without lights; unnecessary noises are avoided.

b. Daylight withdrawal.—Machine-gun and mortar fires are extensively used to cover the withdrawal of other elements of the battalion. Rear machine guns cover the withdrawal of front-line units by overhead fire and by fire through gaps in the line. Forward guns are usually attached to rifle companies for the withdrawal. Rear guns may be retained under company control, or attached to the battalion covering force.

SECTION III
DEFENSE IN WOODS

73. FIRE SUPPORT OF HEAVY WEAPONS COMPANY.—*a. General.*—The fire plan for a defense in woods is the same as that for defense in more open terrain. However, greater reliance must be placed on close defensive fires because of lack of observation and limited fields of fire. Heavy weapons emplaced in woods must be given adequate rifle protection to prevent their destruction by infiltrating enemy personnel.

b. Fire lanes and clearings.—Lanes are cut for machinegun fires along the front and flanks of organized areas. (See fig. 15.) Thinning trees, cutting off lower limbs, and cutting undergrowth is less conspicuous from the air and ground than a more complete clearing. *Clearings must be skillfully executed in order not to disclose the defensive position and system of fires.* Extensive use is made of wire entanglements whose forward edges are swept with flanking fires so as to hold the attacker in these prepared fire lanes.

Stringing wire or stretching concertina (or laying mines, usually) is a waste of time and labor unless the areas so prepared are observed and covered by fire.

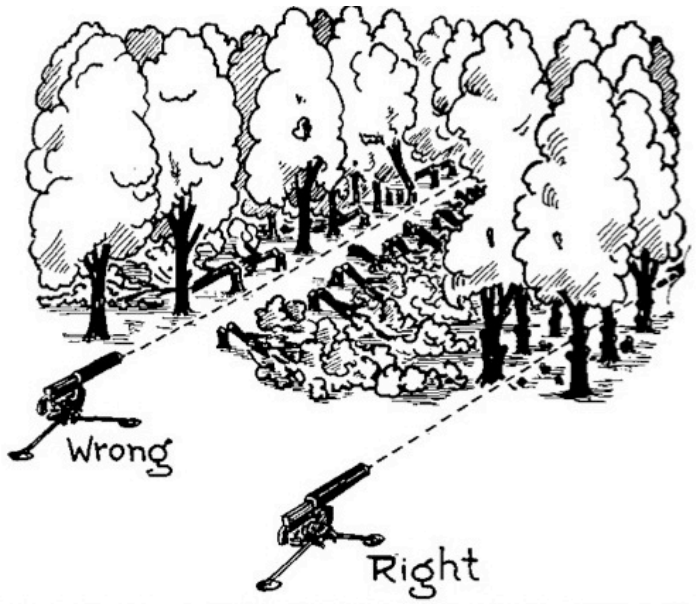


FIGURE 15.—Wrong and right methods of clearing fire lanes for machine guns—defense in woods (shown schematically).

c. Heavy machine guns.—Little or no opportunity will exist for long-range machine-gun fires, and guns in rear of the main line of resistance are emplaced well forward for limitation of penetrations. Either they are sited along existing paths, or fire lanes are cut. Supplementary machine-gun positions for flank protection and for supplementary interior fires in depth are prepared.

d. Mortars.—The high-angle fire of the 81-mm mortar permits mortar units to be sited in small clearings; its

plunging fire is affected little by the trees. Observers may be located in the forward edge of the woods or in trees near mortar positions.

SECTION IV

DEFENSE IN TOWNS AND VILLAGES

74. FIRE SUPPORT OF HEAVY WEAPONS COMPANY.—*a. Fires on approaches.*—When the defense is conducted within a town or village, machine-gun and mortar fires are employed to cover the streets which lead to the defensive position. Flanking machine-gun fires are planned on the lateral streets or roads in order to secure interlocking bands of fire across the front of the position. Close defensive mortar fires are planned to cover the principal approaches.

b. Firing positions for heavy machine guns.—Overhead fires from rear machine guns may be obtained from upper stories of well-constructed buildings. When employed to fire through windows, the machine guns are placed well back from the windows in order to avoid disclosing their locations. When possible, loopholes are cut in the walls, and inside firing emplacements are protected by sandbags. Buildings particularly vulnerable to artillery fire and those which present a fire hazard are avoided. If hostile aviation is active, machine guns are not emplaced on roofs.

c. Improvement of firing positions.—Heavy weapons emplaced on hard-surfaced streets, which prevent the digging of emplacements, are protected by sandbags or other improvised barricades. Camouflage is employed: overhead cover is improvised to give protection to the crew from debris falling from nearby buildings.

SECTION V

DEFENSE OF RIVER LINE

75. FIRE SUPPORT OF HEAVY WEAPONS COMPANY.—*a. Battalion defending normal frontage.*—When a river line is being used as an obstacle directly in front of the main line of resistance (see **FM 100-5**) and the battalion is defending a normal frontage (1,000-2,500 yards), the fires of the heavy weapons company are planned as on any other comparable terrain. (See fig. 16.)

(1) The main line of resistance may be located on the near bank of the river. In such defense, close defensive fires are planned on the river itself or on the far bank, depending on the width of the river and height of the banks.

(2) In order to secure better concealment and better fields of fire, the main line of resistance may be withdrawn

slightly from the river and fires planned against probable points of crossing on the far bank. Close defensive fires also are planned to hold the rear bank under prearranged fires.

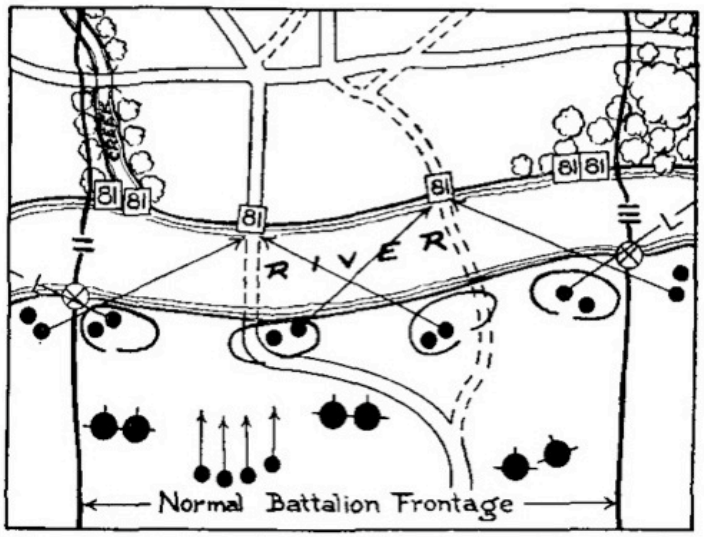


FIGURE 16.—Battalion defending river line—normal frontage. Plan of supporting fires of heavy weapons company.

(3) In either case given above, long-range fires are planned to cover the approaches to the far bank. Security forces operate on the far side of the river.

b. Battalion defending wide frontage.—When the battalion is charged with the defense of a wide area, as in defensive-offensive action (see **FM 100-5**), the near bank of the river may be lightly held by outguards. In such defense the bulk of the battalion is held mobile, prepared to occupy any one of several possible defense areas so as to block the attempted crossing. (See fig. 17.)

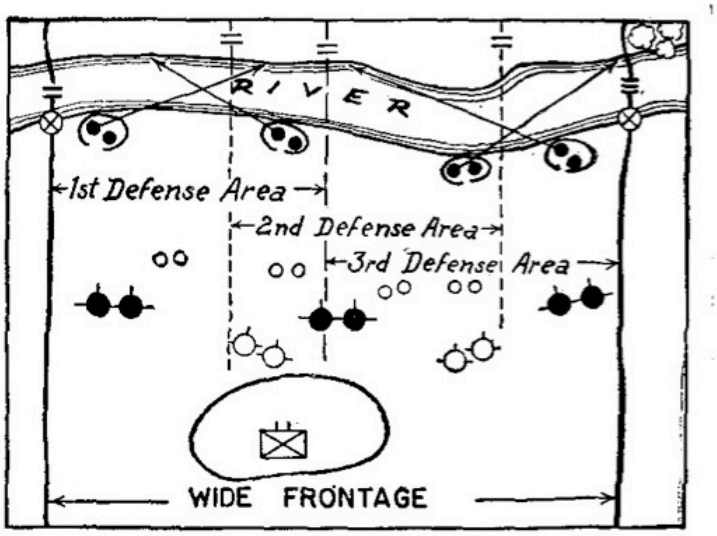


FIGURE 17.—Battalion defending river line—wide frontage. Plan of supporting fires of heavy weapons company.

(1) Machine-gun units are attached to the outguards. Final protective fires are planned for these guns. Mortar sections may initially be widely dispersed laterally in order to bring immediate fire on any portion of the river.

(2) Routes of movement are planned for all weapons to shift them rapidly from initial locations to defense areas to be occupied by the battalion. Provisions for the protection of the flanks of the battalion are made by holding a mobile reserve and preparing supplementary flank positions for rear machine guns.

SECTION VI

DEFENSE AGAINST AIR-BORNE OPERATIONS

76. DEFENSIVE ACTION OF HEAVY WEAPONS COMPANY.—*a.* Hostile air-borne forces may be expected to have one or more of the following missions:

(1) Seizure of a critical area in conjunction with, or pending the arrival of, other forces.

(2) Destruction and demoralization in exploitation of a success.

(3) Destruction of supplies and communications in rear areas of the opposing forces.

b. Immediately preceding an attempted landing by air-borne troops, enemy combat aviation may be expected to bomb and machine-gun intensively all defenses surrounding the selected landing area. During and following a landing, they may be expected to continue machine-gun and low altitude bombing attacks.

c. Troops transported by air include *parachute troops* and *air landing troops.*

(1) Troops landing by parachutes are practically defenseless until they have reached the ground, disposed of their parachutes, secured their rifles, light machine guns, and mortars, and formed into small fighting units. Until such time, parachute troops can be dealt with readily by small fighting units which quickly close in on them before they can secure their weapons and organize into small units.

(2) Air landing troops, transported by airplanes or gliders, are ordinarily landed in combat units equipped with all infantry weapons and portable means of signal communication. Weapons and equipment landed, with them may include light artillery, the smaller types of vehicles, and light tanks. Ordinarily these troops can land only after suitable landing areas have been seized by parachute troops.

d. The mission of defending infantry is to destroy parachutists while descending and parachutists and air land-

ing troops who have landed, before they are able to assemble their equipment and units and reorganize.

e. The commander must so employ his available personnel that an attempted parachute landing will be met with surprise by the maximum coordinated fire. This requires a careful plan involving the preparation of weapon emplacements, including alternate emplacements for all-around fire, provision for rapidly alerting all personnel, careful concealment and camouflage of all defensive works, and the distribution of available forces into elements for fixed defense and local mobile reserves. *It is particularly important that plans* of *fire and movement be prepared and executed so that friendly troops do not fire into friendly troops.*

f. Heavy machine-gun targets include enemy aircraft within a slant range of 1,000 yards, descending parachutists, and any airplanes, gliders, and troop units that may affect a landing. Mortar targets include landed airplanes and gliders, and areas defiladed from flat-trajectory fire in which enemy landings have been observed (or reported by the warning service), or in which hostile troops are known to be reorganizing preparatory to an attack, In so far as practicable, these fires are prepared in advance, under direction of the company commander or higher authority.

g. Machine-gun emplacements intended primarily for the defense against air-borne operations are located on commanding ground, well dug in and camouflaged. Mortar emplacements are defiladed and concealed. All observation posts and command posts are carefully camouflaged. Rifle units should be detailed for the local protection of all heavy weapons units. Weapon carriers are dispersed and concealed. As a means of protection against air bombing, standing type one-man foxholes must be prepared for use by all individuals not *in* weapon emplacements. Formations, as well as routes and methods of movement, should be planned to reduce losses from the intensive air attacks which are to be expected.

h. All members of the heavy weapons company armed with rifles or carbines and not required for the operation or control of heavy machine guns and mortars, together with rifle units detailed for local protection of heavy weapons units, participate in fire fights in their immediate vicinity. Unless otherwise ordered, chauffeurs remain with their vehicles and operate the carrier automatic rifles.

CHAPTER 5

CALIBER .30 MACHINE-GUN PLATOON

SECTION I

GENERAL

77. REFERENCES.—For mechanical training, gun drill, marksmanship, fire orders, and technique of fire, see FM 23-55. For extended order drill, see FM 22-5. For the training of individuals in other weapons, see FM 23-5, 23-7, 23-10, 23-15, 23-30; and 23-35.

Comments in this chapter are sparse because most notes in the previous chapter would be repeated.

78. COMPOSITION.—The heavy machine-gun platoon is composed of a command group (headquarters) and two sections. The command group comprises a platoon leader, platoon sergeant, agent corporal, instrument corporal, transport corporal, chauffeur(s) who drive(s) the truck(s) assigned to platoon headquarters, messengers, and basic privates.

79. DUTIES OF THE COMMAND GROUP.—*a. Platoon leader.*—The platoon leader is responsible for the training, discipline, control, and tactical employment of his platoon. He receives his orders from the heavy weapons company commander, except when the platoon is attached to a rifle unit and is thereby placed temporarily under the direct orders of the rifle unit commander. The platoon leader, assisted by his command group; controls the action of his platoon through timely orders issued-to his section leaders. During combat, he is responsible for the effective delivery of the fires required by his mission. He is responsible that alternate and supplementary firing positions are selected and are occupied when necessary to avoid hostile fire or to carry out an assigned mission; that displacements are promptly and properly made when directed by the company commander, or when necessary to comply with his mission; that his fires do not endanger friendly troops; that adequate amounts of ammunition are delivered to the guns from the point where ammunition is made available by the company commander; and that reorganizations are made when necessary to maintain combat efficiency. For signal communication he employs foot messengers, chauffeurs of trucks assigned to his platoon headquarters, and arm-and-hand or pyrotechnic signals. When they are made available to him, he employs sound-powered telephones and radio- telephones (see ch. 10).

b. Platoon sergeant.—The platoon sergeant is second-in-command of the platoon. On the march he usually moves at the rear of the foot elements of the platoon in order to maintain control. He takes charge of the platoon when the platoon leader is absent. In attack he is located in rear of the platoon observation post so as to supervise the activities of ammunition bearers and perform any other duties assigned by the platoon leader. During forward displacements, he actively commands the rear element of the platoon. In a defensive situation, he may be with a section that is widely separated from the platoon leader, or be located toward the rear of the platoon area so as to facilitate communication with the company.

c. Agent corporal.— The agent corporal assists the platoon leader in reconnaissance when so directed. In the attack, the agent corporal usually acts as a liaison agent with the commander of an attacking rifle company. In defense, he is usually employed to maintain liaison between the commander of the heavy weapons company and the machine-gun platoon. He assists the instrument corporal whenever practicable, and is trained and prepared to assume his duties.

d. Instrument corporal.—The instrument corporal has charge of the platoon fire-control equipment. He assists the platoon leader in reconnaissance, in preparing firing data, in the search for targets, in surveillance of the progress and safety of friendly troops, and in the control of fire. He establishes platoon observation posts, and assists in liaison duties.

e. Transport corporal.—In accordance with orders, the transport corporal conducts the platoon weapon carriers during their operation as ammunition supply vehicles as well as during the transportation of weapons. See paragraph 241 for duties pertaining to ammunition supply. He insures the security of the vehicles by timely reconnaissance, dispersion in defilade, concealment, camouflage, and the fire of carrier weapons. He closely supervises the first echelon maintenance of all platoon vehicles.

f. Chauffeurs.—The chauffeur(s) drive(s) the vehicle(s) assigned to platoon headquarters. They conceal and camouflage their vehicles at all halts and carry out the instructions of the transport corporal, when released by the platoon leader. Each chauffeur is responsible for the first echelon maintenance of his vehicle.

g. Messengers.—Messengers are used to transmit oral and written messages. They may act as observers, perform security missions, or operate sound-powered telephones or other signal equipment assigned to the platoon. One messenger is habitually sent to the company commander when the company develops for combat.

h. Basic privates.—Basic privates are trained as replacements for members of squads. Until assigned as re-

placements, they are employed as messengers or ammunition bearers.

80. MARCHES.—For dispositions, missions, and conduct of the platoon in route march; when a part of an advance guard, flank guard, or rear guard; or during movement by motor, see paragraphs 19 to 23, inclusive.

81. BIVOUAC. The platoon, or some of its elements, may be attached to the supports of the bivouac outpost; or it may be disposed for the antiaircraft security of the bivouac. For details of dispositions and missions, see paragraph 24.

SECTION II
ATTACK

82. APPROACH MARCH BY DAY.—*a.* The company commander's development order, frequently issued in fragmentary form, prescribes the mission of the platoon during the approach march. The platoon is ordinarily given an antiaircraft security mission; it may be given a ground security mission in addition to its antiaircraft security mission. The platoon may be directed to follow and support a leading rifle company, or may be attached to it. For other details see paragraphs 26 and 27.

b. (1) When the platoon marches as a unit, the platoon leader may dispose it in line of sections, in platoon column, or with sections echeloned. A formation in line of sections is generally best adapted to rapid movement over exposed terrain, but increases the difficulties of control. Platoon column permits maximum control. This formation is used to take advantage of covered or concealed routes of advance, to avoid obstacles, to move through gaps between areas under hostile fire, and for movement through woods, fog, or smoke. A formation with one section echeloned to the right or left rear is more easily controlled than sections abreast; it also facilitates rapid entry into action toward an exposed flank.

(2) The platoon leader usually prescribes the initial formation within each section, but section leaders are authorized to change this formation whenever required by the terrain or the situation.

(3) When weapon carriers which have been released to the platoon cannot move rapidly because of broken terrain or limited visibility, the foot elements and carriers may move together. However, where conditions permit, the carriers usually follow the foot elements by short bounds. In such movements the carriers should be within arm-and-hand signaling distance of their units at all times. At the end of each bound the carriers are halted, if possible, in folds of the ground which afford protection against shell

fragments and flat-trajectory fire. Each carrier should also be concealed from air observation. At any halt expected to be of some duration, camouflage of carriers is started immediately. While the machine guns are on the carriers, they are mounted and manned for antiaircraft fire, the carrier automatic rifle of each section is manned, and one man rides the other carrier of each section with the M1903 rifle and antitank rifle grenades for antitank defense. Under these circumstances air-antitank guards are detailed from the personnel transported on weapon carriers as well as from the foot elements.

(4) Each squad having an antiaircraft mission, or otherwise required to be prepared for prompt action, must have its gun and initial ammunition supply constantly with it; this requires hand-carrying whenever the carriers cannot closely follow the foot elements. When weapon carriers accompany the platoon, the platoon leader makes any changes in their disposition required by signals or messages from the company commander (or from the officer in control of the movement of the company) or necessitated by changes in the terrain. At various times, therefore, the platoon leader's decision may be:

(a) To have weapons on weapon carriers, each carrier accompanying its squad.

(b) To have weapons on weapon carriers, the latter following the foot elements by short bounds.

(c) To have weapons carried by hand, the weapon carriers following the foot elements by short bounds.

(d) To have weapons carried by hand, the weapon carriers moving forward in an extended column in rear of foot elements.

(5) When the platoon guides on another unit, contact must be maintained by connecting files whenever the intervening terrain makes visual contact difficult. Double connecting files increase the certainty of maintaining contact.

(6) The platoon leader usually controls the direction of advance by designating the command group as the base unit and directing its movements. Since the platoon sergeant follows the foot elements of the platoon, the platoon leader designates a temporary leader for the command group. If a march objective assigned the platoon by the company commander cannot be pointed out to the leader of the base unit, the movement is made in a series of bounds to intermediate platoon march objectives. The platoon leader should indicate the next march objective to the base unit in time to prevent halting on the preceding objective or to reduce to the minimum any unavoidable halt.

(7) The platoon leader moves where he can reconnoiter the zone of advance of the platoon and direct the movement of his leading or base element. When necessary to accomplish properly an assigned security mission, he

sends observers to nearby observation points. He leads the platoon around heavily shelled areas, or takes advantage of lulls in the hostile fire to send it across such areas by rushes. Sections may be directed to cross, in a single rush, any dangerous area such as a road or ridge exposed to hostile observation. In these rushes, carriers may be directed to follow their squads or sections closely, to cross the area at high speed after the foot elements have cleared, or to detour around the area. Minor detours should be made around any prominent point. Gassed areas are avoided.

c. If the company order directs that the foot elements of the platoon march with the main body of the company while an assigned security mission is performed by skeleton crews moving by carriers, the platoon sergeant usually is placed in charge of the foot elements. He receives instructions concerning the location and initial disposition of the foot elements from the company commander or from the officer in control of the movement of the company. Unless attached to, or directed to follow, another platoon, he conducts the march of the foot elements in a manner similar to that outlined in *b*(2), (5), and (7) above. The platoon, section, and squad leaders move with the carriers and skeleton crews.

d. Throughout the approach march, the platoon leader should observe for firing positions for use either in carrying out any assigned security mission, or to be used if the platoon is ordered to cover the advance of the rifle companies or the enemy is encountered unexpectedly. He should also observe for off-carrier positions.

e. If the situation requires the battalion to attack directly from the approach march, the company commander (or the commander of the rifle unit to which the platoon is attached) will usually designate a concealed or defiladed area in the vicinity of the platoon's firing position area as the final march objective of the platoon. The firing position area itself may be designated. The platoon may be furnished guides to lead it to its position area.

83. APPROACH MARCH BY NIGHT.—*a.* A night approach march is executed along routes which, if possible, have been carefully reconnoitered and marked in daylight. The platoon may be distributed by sections or squads throughout the depth of the battalion formation, with the mission of firing on attacking hostile airplanes. (See par. 28b.) If the platoon has no security mission, its transport is usually held under battalion or company control in a concealed area in rear, and released to the platoon in the new assembly area shortly after the arrival of the foot elements. Under these circumstances, the foot elements of the platoon usually move in platoon column with reduced distances.

b. When the platoon is given a separate route, or is assigned a zone of advance and march objectives, the platoon leader makes such daylight reconnaissance as is practicable in order to secure accurate compass directions, plot and mark the route, and post guides at critical points. Where feasible, the route selected should follow easily distinguishable terrain features in preference to routes more direct but less clearly marked.

c. Contact is maintained; connecting files are used whenever necessary.

84. ASSEMBLY AREA (POSITION).—*a*. The platoon may enter the fire fight directly from the approach march. However, if practicable, the battalion occupies an assembly area preliminary to deployment for attack, under protection provided by a covering force, an outpost, or local security elements. In the assembly area the platoon usually is employed on antiaircraft security missions but may be part of the covering force or outpost, or may be assigned the mission of fire support for local security elements. Occasionally the platoon may be reinforced by the attachment of riflemen and directed to provide local security for the battalion against ground attack from a specified direction.

b. Based on the orders received from the company commander, the platoon leader assigns the section position areas and the section or squad sectors of fire, and prescribes the conditions under which fire is to be opened.

(1) For details of positions for antiaircraft fire, see paragraph 128*b*. In the absence of instructions from the company commander, fire against hostile airplanes should be prohibited unless they actually attack the assembly area or it is obvious that they have discovered it and they are in effective range.

(2) The actions of the platoon when part of the covering force or outpost, or when supporting local security elements, are similar to its conduct when in support of a combat outpost. (See par. 65*b*.)

(3) When the platoon constitutes a local security element, its mission, in case of attack, is to provide time for the main body of the battalion to prepare for combat. Positions are selected which will permit fire to be opened at long range and the enemy to be held under constant fire as he approaches the position. As necessary supplementary positions permitting fire to the flanks are also selected. Attached riflemen are employed to patrol areas where observation is limited and to provide close-in rifle protection to the machine-gun positions.

(4) One man in each section, armed with the M1903 rifle and antitank rifle grenades, is posted for antimechanized protection of his section. The platoon leader may adjust his location to provide better protection for the entire platoon.

(5) The platoon, less foot elements, may be directed to precede the battalion in order to occupy its firing positions prior to the arrival of the battalion. The orders may prescribe only that the platoon move to a general area from which it will either reinforce the fires of troops already in position, or provide protection against air or ground attack from one or more specified directions. Selection of the platoon firing position area is then the responsibility of the platoon leader. The foot elements of the platoon, arriving later, may rejoin their squads or may occupy an assigned portion of the company assembly area.

c. The platoon leader or, in his absence, the platoon sergeant insures that vehicles and men are dispersed and concealed, that men not adequately protected in holes or ditches dig individual prone shelter (see fig. 26), that the physical condition and equipment of each individual are checked, and that men are rested as much as possible. Individual rolls, if carried, are removed and stacked in an accessible covered location as directed by the company commander. Ammunition which has been expended is replaced.

85. RECONNAISSANCE AND PLANNING PRIOR TO ATTACK.—*a.* In attack, the platoon ordinarily is employed as an integral part of the heavy weapons company, either directly under control of the company commander, or under mission orders issued by him from time to time. (See par. 32b (3).) When terrain conditions make communication with the company commander inadequate, the platoon may be attached to a leading rifle company.

b. During the halt in the assembly area (or while en route to, or after arrival at, the final march objective, if no assembly area is occupied), the platoon leader usually will be summoned to join the company commander, or the commander of the unit to which attached, for orders. Occasionally the attack order will be received in the form of a message. When summoned to receive the attack order, the platoon leader usually takes with him the instrument corporal, a messenger, and also the agent corporal if he is not performing a liaison mission.

c. For missions which may suitably be assigned the machine gun platoon in attack see paragraph 25a. For details of an attack order see FM 101-5 and paragraph 33 of this manual.

d. (1) When the attack order indicates that immediate forward displacement of the platoon is required, the platoon leader should, before proceeding on reconnaissance, signal the platoon forward, or order the movement by messages to the platoon sergeant and to any elements detached from the platoon. The platoon usually is directed to move to a concealed and defiladed area in the vicinity of its initial firing positions. The signal or message should indicate whether or not weapon carriers are to be used. If

carriers are to be used, and the company commander has not designated the off-carrier position (either in the assembly area or farther forward), the platoon leader should prescribe its location. It should be the most forward point to which carriers can be moved without separating them from the foot elements or exposing them to ground observation and flat-trajectory fire. Instructions that section leaders are to lead their sections, or to report to the platoon leader without delay, should be included.

(2) Suitable instructions should also be issued for the movement of any section or squad which is to be attached to a rifle unit.

e. If the platoon is given the mission of supporting a particular rifle company, the platoon leader must contact the rifle company commander to learn his plans and his desires with reference to machine-gun support. When not given such a support mission, he should endeavor to contact the rifle company commander in whose zone of action his platoon is to be located, so as to be familiar with the plan of action for the rifle company.

f. On reconnaissance, the platoon leader, accompanied by his assistants, locates the assigned firing position area, or selects one if none has been assigned. He selects an observation post affording the clearest available field of view over his sector of fire, and requires the instrument corporal to establish the platoon observation post. He identifies his targets or sector of fire, points occupied by the enemy, and points of likely enemy occupation. He notes the disposition of friendly rifle elements already in position. He then plans the employment of his platoon and locates the firing position areas of the sections. With the assistance of the instrument corporal, he computes firing data for assigned targets, for localities that may be occupied by the enemy, and for key terrain features. He surveys the zones of action of rifle units which might be endangered by his fires and establishes the necessary safety limits for the fires of the platoon. He determines the danger space in front of his machine guns and takes necessary measures to prevent messengers or other personnel from entering it. He then returns to meet his platoon if it has already moved forward; otherwise he either rejoins the platoon and leads it forward or, by signal or message, directs that the section leaders report to him for orders, and that the platoon move forward to the firing position area.

86. SELECTION OF FIRING POSITION AREAS.—*a.* Where the platoon leader has latitude in selecting his firing position area, his primary consideration must be to select an area from which the mission or missions of the platoon can be accomplished, and which can be properly occupied in the time available. Where more than one possible area fulfills these conditions, factors to be considered in deciding between them are—

(1) The field of fire.

(2) Possible interference with nearby rifle troops or other supporting weapons.

(3) Safety for guns and personnel-areas which permit selection of positions affording concealment and protection against air or mechanized attack should always be sought.

(4) Rearward routes of approach to the firing positions.

(5) Access to routes for displacement forward.

(6) Ease of maintaining contact with the rifle unit being supported. See the detailed discussion of these factors in paragraph 130.

b. Whenever the platoon occupies defiladed primary positions, the platoon leader selects supplementary positions to which the machine guns may be moved quickly to execute secondary or subsequent fire missions, such as resistance to adjacent units or engagement of emergency targets. Likewise he selects alternate firing positions for use when hostile fire threatens destruction of the guns and their crews. (See par. 5.)

87. ORDERS.—*a.* If practicable, the platoon leader gives his attack order to the section leaders in the vicinity of their firing position areas. His order includes—

(1) Pertinent information of the enemy and our own troops.

(2) Mission(s) of the platoon.

(3) Initial position area and fire mission of each section (targets or sector of fire, or rifle unit to be supported).

(4) Any restrictions on the opening or conduct of fire.

(5) Location of alternate and supplementary position areas and the signals for occupying them.

(6) Instructions concerning any security measures to be taken, such as the posting of air-antitank guards.

(7) Instructions for watching certain areas or sectors in which secondary or emergency targets may appear.

(8) Instructions concerning ammunition expenditures and supply.

(9) Location of the battalion aid station.

(10) Location of the platoon observation post.

(11) Instructions as to how or when sections are to occupy their positions may be included.

(12) A fire order, or the pertinent parts of it, if desired. If a fire order is to be issued later, section leaders should be so informed.

b. If the platoon sergeant is not present when the platoon leader gives the order, the platoon leader acquaints him with its contents at the first opportunity. The platoon

sergeant, and the transport corporal if available, are informed of the final details of ammunition supply, including the disposition and employment of weapon carriers under platoon control.

88. OCCUPATION OF FIRING POSITIONS.—*a.* The platoon leader sets the time for the occupation of firing positions so as to allow time for the sections to be prepared to execute their initial fires. The platoon leader supervises the occupation of firing positions, the establishment of observation posts, and the arrangements for ammunition supply. He notifies the company commander when occupation of positions has been completed, and informs him of the safety limits and fire capabilities of the platoon.

b. In occupying firing positions, the first consideration must be to get the guns into firing positions on time, without being seen, and with the fewest possible casualties. Positions which cannot be occupied except under enemy observation are entered rapidly at the last possible moment.

89. Observation of Fire.—Effective machine-gun fire depends upon observation. The platoon, section, and squad observation posts must provide continuous observation of the location and movements of the attacking echelon, and of the sector of fire or target areas assigned to the platoon. The observers located at these posts call at the proper time for the cessation or lifting of fires dangerous to the supported units. The platoon observation post should be close enough to the firing positions to facilitate the prompt transmission of fire orders to section leaders, preferably by arm-and-hand signals. Throughout the attack, observers located at the platoon observation post determine ranges to convenient reference points so as to facilitate prompt engagement of all targets of opportunity which appear in the field of fire.

Supplementary platoon observation posts are established as necessary, from which to observe the situation on the flanks. They are also established so as to permit observation of the company observation post when any fire control signals are expected from the company commander.

90. SECURITY.—*a.* The platoon leader complies with all orders of the company commander regarding air-antitank guards; in the absence of orders he continuously maintains his own guards. Concealment, dispersion, and use of ground unfavorable for tank movement are employed as means of protection. (See pars. 18*c* (2) and (3) and 37.)

b. Unless closely protected by rifle units, the platoon must also maintain observation to its flanks and rear in order to prevent surprise attack by hostile patrols or by hostile elements bypassed during the attack.

91. FIRES DURING ATTACK.—*a. General.*—Unless otherwise directed, the platoon leader employs his platoon as a fire unit whenever possible, in order to gain surprise and mass its fires. Within the latitude permitted him by company order, the platoon leader exercises the utmost energy and initiative in searching for and engaging targets. His selection of targets is based on his knowledge of the distribution and known effect of the fires of rifle units, 81-mm mortars, cannon company weapons, and artillery, on the probable effectiveness of his own fires, and on the status of ammunition supply. (See also par. 25.)

b. Close support fires.—Unless otherwise clearly indicated by the mission of the platoon, fires against crew-served weapons (particularly machine guns) and organized defense areas directly opposing the advance of the attacking rifle units, are of primary importance throughout the attack.

c. Long-range fires.—The terrain may permit the successive engagement of targets in rear of the hostile positions from the initial firing position area. In such cases, whenever the fire of the platoon on a primary target is masked by the advance of the supported rifle unit, a new safety limit is established and the next rearward target of greatest importance is engaged.

d. Flanking fires.—When the progress of a supported rifle unit is greater than that of an adjacent rifle unit, the platoon must be prepared both to assist the retarded unit and to furnish flank protective fires to the supported unit. It assists a retarded unit of its own battalion on the initiative of the platoon leader when such action will not jeopardize its primary mission of close support. Direct assistance to an adjacent battalion is furnished only when ordered. Observation of the flanks, with particular attention to areas on exposed flanks which are favorable for hostile counterattacks. must be continuous.

"Retarded" in the traditional sense of "held back" or "slowed."

92. DISPLACEMENT.—*a.* The platoon will fire from initial positions as long as its fire assists the advancing troops. When the fire is masked by the advance of friendly troops, or when for any reason fire is no longer practicable from its present position, the platoon must be advanced promptly and energetically to new firing positions which will permit continued close support and protection of the attacking rifle units.

b. The commander of the heavy weapons company (or the commander of a rifle company to which the platoon is attached) may order that the platoon displace forward when notified by the platoon leader that his fires are masked. In other cases, such as when the platoon is acting in support of a particular rifle unit, this decision may be delegated to the platoon leader by appropriate instructions. Similarly, the location of the new firing positions, the routes thereto, and the missions to be executed after

displacement, may be prescribed by the company commander or left to the initiative of the platoon leader. In either case the platoon leader plans ahead for the timely forward displacement of the platoon by constant observation of the progress of supported units, by close liaison with the commander who may direct or request the displacement, and by reconnaissance to the front made by designated platoon personnel. The instrument corporal or the agent corporal may be used for this reconnaissance.

c. The platoon may displace forward as a unit when so ordered by the company commander. In such case other elements of the company habitually take over any remaining missions of the platoon and cover its advance, except in isolated instances (such as in rapid pursuit) when the situation may clearly indicate that coverage is unnecessary. However, *the normal method of advancing the platoon is by section.* One section advances to a new firing position while the other remains in position. The section remaining in position covers the displacing section and remains ready to engage a hostile counterattack; it continues to support the attack by fire if targets are seen which can be fired on without endangering friendly troops. It usually remains in position until the leading section has occupied its new firing position.

d. The platoon leader, accompanied by available members of his command group, precedes the platoon in order to reconnoiter the route and the next firing position area. Before leaving, he prescribes, in orders to the platoon sergeant and section leaders, the method of advance to be used (see *f* below) and indicates the route or routes to be followed. He may direct the displacing section(s) to follow him at a given distance, or he may direct that they advance by bounds on his signal. When displacing by section echelon, he may designate the time of movement for the rear section, or direct that it advance on his signal.

e. When each section arrives at the new location, the platoon leader indicates its position area, designates the targets to be engaged, prescribes the rate and kind of fire to be employed, and, in general, conducts the fire as at the initial firing position.

f. Displacement is usually by hand. Displacement by carrier may be advantageously employed in pursuit or where the enemy is fighting a delaying action.

93. SUPPORTING FIRES DURING THE ASSAULT.-During the assault, any portion of the platoon not displacing supports the assaulting units. It takes advantage of gaps between rifle units to maintain fire on the hostile position or fires long-range frontal and flanking fires which will assist the assaulting troops to capture and retain the position. The element remaining in position also furnishes antiaircraft security, and must be in constant readiness to engage hostile counter- attacks. (See **FM 7-10** and **7-40.)**

94. PROTECTING REORGANIZATION OF FRONT-LINE RIFLE UNITS.—*a.* Leading rifle units, after capture of a hostile position. may halt to permit reorganization. During such a period hostile counterattack may be expected. One of the principal means of protection against counterattacks is the quickly developed fire power of machine guns. Machine guns therefore must be disposed promptly to give the greatest possible assistance in holding the captured position.

b. When protection of rifle units, during reorganization, cannot be provided from the positions occupied by the machine guns prior to the reorganization, prompt forward displacement is necessary. Where displacements have been left to the judgment of the platoon leader, he should make the decision to displace as soon as it is evident that the hostile position will be captured. One section should be started forward in time to reach the hostile position within a few minutes after its capture. Where protection can be afforded from the present position area, the platoon leader may modify the siting of guns whose positions are unsuitable for protecting the reorganization. In such cases the changes of position are made with as little movement as possible and must be rapidly accomplished.

95. REORGANIZATION OF PLATOON.—If possible, complete reorganization of the platoon should be postponed until the battalion objective is captured; however, partial reorganization must be effected whenever casualties, or disorganization, have seriously affected its fighting efficiency. Any reorganization should be carried out during a temporary cessation in the combat. Frequently the period during which the platoon is protecting the reorganization of rifle units offers the best opportunity for this purpose. Leaders who have become casualties are replaced: ammunition bearers or basic privates replace other casualties. Adjustments are made within the platoon by reassignment of key men. Ammunition supply is replenished. The platoon provides its own local protection while the reorganization is in progress, utilizing its individual as well as its crew-served weapons.

96. RESUMING ATTACK.—During the reorganization of the leading rifle units, the platoon leader contacts the commander under whose orders the platoon is operating, in order to secure instructions regarding the mission to be performed by the platoon when the attack is resumed. A new position area may be assigned to the platoon, or it may be given a mission requiring selection of a new area. The platoon leader promptly completes the reconnaissance and other preliminary arrangements necessary to permit rapid occupation of the new positions. Movements to and occupation of new positions must be accomplished at such time as to assure effective support of the renewed attack.

97. PURSUIT.—*a. General.*—Upon capture of the final objective, a pursuit may be ordered. Battalions in the attacking echelon then continue the advance in order to maintain direct pressure on the enemy and prevent his successful withdrawal. At the same time, other forces may carry out an encircling maneuver to block the hostile retreat.

b. Direct pressure.—(1) When the machine-gun platoon is part of a battalion which is pursuing the enemy by direct pressure, it usually is attached to a rifle company or is directed to render close support to a designated rifle company. (See par. 42*b*.) At times a squad or section may be attached to a rifle unit, while the remainder of the platoon is directed to support another rifle unit. In either situation, weapon carriers are usually released to the platoon. Carriers are used whenever practicable for the movement of guns, skeleton crews, and ammunition.

(2) The initial stages of the pursuit often closely resemble an approach march. The platoon must be constantly prepared both to defend itself and to provide protection to the unit which it is supporting, or to which it is attached, in case of hostile air attack. It must also be prepared to go into action, at a moment's notice, against ground targets to the front or to a flank. When hostile resistance is encountered, firing positions affording long and wide fields of fire are selected whenever available. In particular, positions are sought from which effective fires can be delivered on rearward groups of the enemy and on roads or defiles through which the enemy must retire.

c. Encircling force.—When the platoon is with an encircling force, it will usually be provided with motors for movement of its foot elements. The platoon, or any of its elements, may be assigned antiaircraft missions during the movement of the pursuing force or may be attached to an advance, flank, or rear guard.

d. Initiative of subordinate leaders.—Pursuit usually demands decentralization of action and always requires exercise of great initiative, judgment, and aggressiveness on the part of platoon, section, and squad leaders.

98. ACTIONS WHEN THE ADVANCE IS HALTED.—When the advance of the battalion is definitely halted by hostile resistance, the leading rifle companies dig in on the ground held. The platoon is employed to protect the attacking echelon, during its organization of the ground, in the same manner as for protecting a reorganization. It may later be ordered to occupy more suitable defensive positions or to move to positions from which a resumption of the attack may be supported. The platoon leader's actions are then identical with those discussed under paragraph 96 for resuming the attack.

99. SPECIAL OPERATIONS.—For the employment of the machine-gun platoon in support of a raid or night attack,

during combat in woods or villages, and in river crossings, see sections V to IX, inclusive, of chapter 3.

SECTION III
DEFENSE

100. DISTRIBUTION OF MACHINE GUNS.—*a. Front-line battalion.*—Heavy machine guns of a front-line battalion are distributed throughout the battalion area. Usually one platoon is assigned positions and missions in close support of the main line of resistance. The remaining platoon is usually assigned positions and missions in rear of the main line of resistance. (See fig. 11.)

b. Reserve battalion.—By regimental order, heavy machine guns of a reserve battalion are usually assigned firing positions in the rear areas of front-line battalions and are given initial missions of long-range fire in support of the main line of resistance. Supplementary firing positions within defense areas to be occupied by the reserve battalion also are assigned. The platoons are released to the battalion when it occupies its defense areas or is employed in counterattack. (See par. 63*a*.)

101. MISSIONS AND POSITIONS OF HEAVY MACHINE GUNS IN CLOSE SUPPORT OF MAIN LINE OF RESISTANCE.—*a.* The company order will generally indicate a firing position area for each section, the area (sector of fire) it is to cover, and the approximate direction of final protective line(s). Both guns of the section are sited to cover the same sector of fire. Where the terrain permits of divergent final protective lines, they may be assigned by the platoon leader. However, the line indicated by the company commander is the primary line and fires must be maintained along this line by the section; if the gun firing the primary line goes out of action, the section leader immediately switches the other gun of the section onto the primary line.

b. (1) Close rifle protection to prevent the rushing or outflanking of machine guns is essential. Where rifle units on the main line of resistance wire in their defense areas, firing positions are selected within the protective wire. Where the terrain permits, primary firing positions are selected slightly to the rear of rifle units so as to obtain protection to the front. (See fig. 11.)

(2) *Firing positions within hand grenade range (50 yards)* of *a defiladed approach, such as the head of a draw or ditch, must be avoided.*

(3) Ammunition bearers not employed in maintaining the supply of ammunition are located to afford close protection to the section (fig. 18.) These bearers join the fire fight within the effective range of their weapons.

c. The platoon leader designates alternate positions from which, as nearly as possible, the same sector of fire can be covered and fire along the final protective line can be delivered. The primary and alternate emplacements are separated by at least 100 yards in open terrain. In each position the two guns should be separated by at least 30 yards.

d. Supplementary positions and missions may be assigned forward guns by the company order. Supplementary positions from which long-range fire missions are to be fired must be far enough in front, or in rear, of platoon defense areas so as not to disclose the location of the main line of resistance. A covered route to the primary firing position must be available.

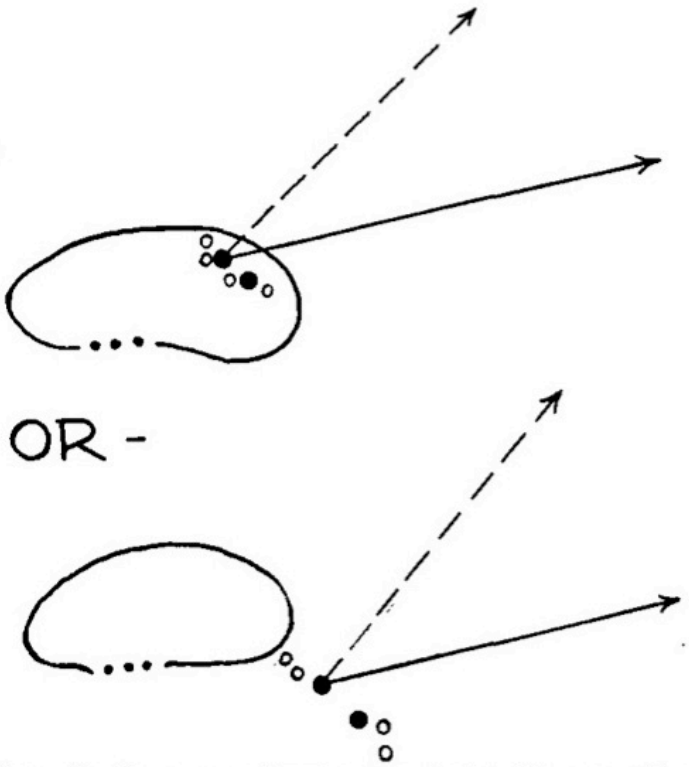


FIGURE 18.—Spare ammunition bearers protect machine-gun section.

102. MISSIONS AND POSITIONS OF REAR HEAVY MACHINE GUNS OF FRONT-LINE BATTALION.—*a.* Heavy machine guns in rear of the main line of resistance may be assigned several locations and missions by the company order.

(1) Long-range fire.—The primary mission of these guns is long-range overhead fire delivered in front of the main line of resistance. The guns are preferably sited by platoon for this mission. If the position does not afford at least partial defilade, distribution is by section, and a sector of fire is assigned each section. Defiladed positions are desirable from which observers standing at or near the

gun positions can observe the target. For night positions, see paragraph 118.

(2) *Limitation of penetrations.*—Supplementary firing positions are assigned from which to fire along or against the flank of likely avenues of penetration within the battalion area. The company order will usually include a fire mission and a general location for each section. More than one supplementary position for each section or gun may be assigned. Generally these positions are in the vicinity of the defense areas prepared by the reserve company of the battalion. They may be as far forward as the support areas of the front- line rifle companies.

(3) *Flank protection.*—Supplementary positions for each section may be assigned for the flank protection of the battalion.

(4) *Support of counterattack.*—Plans are prepared for the use of rear guns in support of contemplated counterattacks of the reserve company. These plans are prepared by collaboration between the reserve company commander and the machine-gun unit commander.

b. Initially, part or all of the rear heavy machine guns of a front-line battalion may be attached to the combat outpost. If all rear guns are so employed, the heavy weapons company commander will select firing positions to be occupied upon withdrawal to the battalion defense area, and have the emplacements prepared and firing data computed. The commander of the machine-gun elements with the combat outpost must be informed by his company commander of the location of and routes to these rear positions.

103. ALTERNATE AND SUPPLEMENTARY FIRING POSITIONS.—Alternate firing positions are prepared for each machine-gun position as time permits and in the order of priority announced in the company order. Platoon and section leaders move to alternate positions upon their own initiative. Movement to or from supplementary positions is made only on company or battalion order, except when an emergency, such as a flank attack, requires such action and communication with the company commander cannot be secured immediately.

104. RECONNAISSANCE.—*a.* Upon receipt of the company defense order (see par. 62), the leader of a machine-gun platoon takes such steps as are necessary to move his platoon to its assigned area. The platoon sergeant brings the platoon forward. The platoon leader, accompanied by such personnel as he desires (agent corporal, instrument corporal, messenger) usually precedes the platoon to reconnoiter section firing position areas from which each section can accomplish its prescribed mission, locations of friendly troops, the sector of fire assigned each section, and the location for the platoon observation post. The leader of a machine-gun platoon in close support of the

main line of resistance also determines the exact direction of the final protective line(s) assigned each of his sections.

b. In the hasty occupation of a position by a front-line battalion, when lack of time has prevented the development of a complete battalion fire plan, the sections of one of the platoons may be attached initially to front-line companies. The other platoon may be attached to the reserve rifle company or held under control of the heavy weapons company. When attached to a rifle company, the machine-gun platoon leader, under the direction of the rifle company commander concerned, reconnoiters for locations from which he can best protect the company defense areas. As time permits, more detailed reconnaissance follows, and initial measures are readjusted in accordance with a coordinated fire plan of the battalion.

105. ORDERS OF PLATOON LEADER.—If practicable, the platoon leader issues an oral field order to his section leaders on the ground to be occupied by the section. His order includes—

a. Essential information of the enemy.

b. Location of adjacent troops, or areas to be occupied by them.

c. Primary and alternate firing positions for each section and missions, to include sectors of fire. (For forward guns only, final protective lines are assigned.)

d. Supplementary position areas, and missions to be fired, if prescribed.

e. Instructions for opening fire.

f. Organization of the ground to include clearing fields of fire, type of emplacements, cover for personnel, and priority of work.

g. Instructions governing ammunition supply.

h. Location of battalion aid station.

i. Location of platoon leader (platoon observation post).

106. MOVEMENT TO POSITIONS.—If the situation permits, the platoon leader directs that weapon carriers unload in the vicinity of the gun positions. Otherwise the platoon leader instructs the platoon sergeant to move the platoon to the nearest available cover and concealment where the guns, their equipment, and ammunition are unloaded from the carriers and sent forward to the firing positions.

107. OCCUPATION OF POSITIONS.—*a.* During the organization of the position, the platoon leader insures that guns are set up in temporary firing positions to cover their assigned sectors of fire.

b. Every precaution is exercised to prevent discovery of machine-gun positions by the enemy. Regardless of the effectiveness of concealment, all unnecessary movement

must be avoided. During inactive periods, the positions are occupied by skeleton crews; other men occupy nearby cover positions.

108. PREPARATION OF POSITIONS.—*a.* The platoon leader is responsible for the preparation of firing positions and for the later development and improvement of the work. Work on the position is begun as soon as possible after it is occupied. The platoon leader supervises the improvement of the work. Excavations and paths are camouflaged. Upon the continued occupation of a position, splinter-proof overhead cover is constructed at each gun emplacement. (See appendix I.)

FIGURE 19.—Machine-gun sector of fire before field of fire has been cleared.

b. Clearing of fire lanes through brush or patches of woods is held to the minimum necessary for effective fires, since more complete clearing may indicate firing positions to ground and air observers, or be discernible on aerial photographs. Fire lanes can be adequately cleared by cutting out heavier clumps of brush or chopping off the lower limbs of trees. (See fig. 15.) Tactical wire, if employed, is strung along the near side of final protective lines, so that the wire will stop the enemy in the line of fire.

109. PREPARATION OF FIRING DATA.—In order that the heavy machine guns may be prepared to deliver fire promptly on likely targets in any situation, and under any conditions of visibility, firing data are prepared for each gun position and recorded on range cards. For the preparation of range cards, see PM 23-55.

110. FIRE PLANS.—*a.* As soon as locations for emplacements have been selected and final protective lines have been determined, the platoon leader submits an overlay or sketch of his dispositions to his company commander. The overlay or sketch shows the exact location of each primary firing position and sector of fire: for a Platoon in close support of the main line of resistance, all final protective lines are shown. Final protective lines are drawn to scale and show the extent of the line and any dead spaces in that line, The overlay also shows alternate and supplementary firing positions. Reference to the map or airphoto from which the overlay was made, and coordinate inter-

sections, are included on the overlay. See figure 12 for data pertaining to each heavy machine-gun platoon as reported by the company commander to the battalion commander.

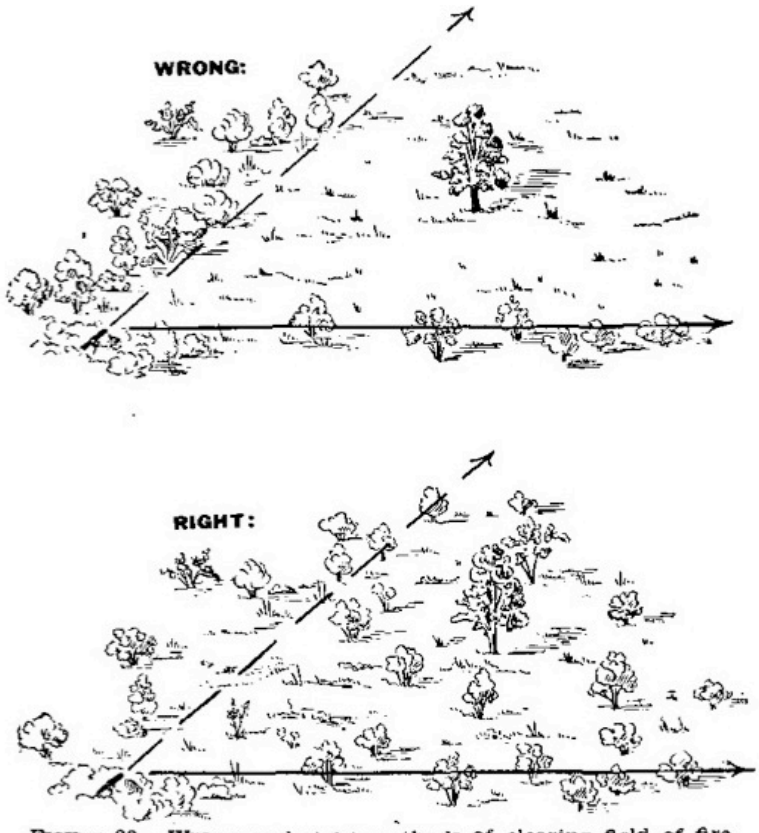


FIGURE 20.—Wrong and right methods of clearing field of fire.

As always, avoid giving the enemy information (e. g., "this is a machine gun field of fire!") for free. Be subtle. Don't for example, cut down all the bushes and pile them on the position.

b. The platoon leader insures that all members of the platoon are thoroughly familiar with all the details of the action to be taken against enemy attack. It will usually be impossible for the platoon leader to exercise continuous personal control over both sections once the actual fight has begun. Section leaders will be called on to make most of the decisions as to the targets to be engaged. They must, therefore, be given detailed instructions as to how they will perform their missions and the emergency signals prescribed for final protective fires. The platoon leader makes frequent inspections to insure that his orders have been understood and are being carried out. He questions the section leaders as to what they will do if the enemy attacks from different directions, or under various conditions of visibility. As necessary, he issues additional instructions concerning action to be taken. He examines sentinels at the emplacements to assure himself that they understand their duties.

■ **111. OBSERVATION OF FIRE.**—*a.* Where the two sections of the platoon are emplaced in the same general area, the observation post of the platoon leader should be located so

as to provide observation over their sectors of fire and be sufficiently near to the gun positions to permit constant and immediate control of fire. Where the sections of the platoon are widely separated, the platoon leader places himself where he can best oversee the actions of the section with the more important mission. However, he is free to go wherever he is needed. The platoon sergeant may be with the other section, or located toward the rear of the platoon area so as to facilitate communication with the company.

b. Where the platoon is attached to a rifle company, the platoon observation post should be near the observation post of that company.

112. FIRES DURING DEFENSE.—*a.* A platoon with long-range fire missions opens fire as soon as the enemy comes within range. If the platoon has a primary mission of close defense of the main line of resistance and is located in supplementary long-range firing positions, it displaces in ample time to occupy its primary firing positions. As the enemy approaches, guns in rear of the main line of resistance continue their long-range fire missions.

b. Machine guns on or near the main line of resistance do not disclose their firing positions until the main hostile attack is under way. Ordinarily fires are withheld until the foot elements of the enemy approach within 500 yards of the position and present suitable targets. (See **FM 7-40**.) Scouts preceding the main hostile attacking echelon are not considered suitable targets for machine guns. As the enemy advances closer, the fires of the machine guns become more and more enfilading until the guns eventually fire on their final protective lines. When front-line units call for close defensive fires, only those machine guns whose final protective lines protect the unit calling for such fires lay on their final protective lines.

113. ANTIAIRCRAFT SECURITY.—For active and passive measures for antiaircraft security, see paragraphs 18*c* and 66.

114. ANTIMECHANIZED DEFENSE.—For actions to be taken in case of tank attack, see paragraphs 18*c* and 64*e*.

115. AMMUNITION SUPPLY.—*a.* The amount of ammunition to be placed on the position is prescribed by higher headquarters. The platoon leader allots the proportionate amounts to be placed at primary, alternate, and supplementary positions. Replenishment cannot be expected before dark; hence ammunition expenditures must be carefully supervised. (See par. 239.)

b. Ammunition shelters are located conveniently to each gun crew. Shelters may be provided by tunneling, or extending the gun emplacement to either side and roofing the top of the shelter with light logs and earth, suitably

camouflaged. The floor of the ammunition shelter should be slightly higher than the floor of the emplacement and sloped toward the emplacement so as to provide drainage. The essential requirements for ammunition are that it be convenient for the gun crew, and be kept dry and concealed.

116. DISPOSITIONS AT NIGHT OR IN FOG OR IN SMOKE.—During periods of reduced visibility guns are prepared to deliver prearranged fires. Guns in close support of the main line of resistance are habitually laid on their final protective lines at night, or in fog or smoke. As prescribed by the battalion fire plan, rear guns either occupy primary firing positions for long-range harassing and interdiction fires, or supplementary positions for limitation of penetrations, or flank protection. For long-range fire at night the positions selected should provide complete defilade in order to hide the muzzle blast. The positions may be other than those occupied for long-range fire during daylight.

117. DELAYING ACTION.—*a.* Generally all heavy machine guns will be located initially on the delaying position for long-range fire.

b. Positions are selected near the topographical crest from which long-range fires can be executed. Early reconnaissance for routes of withdrawal and subsequent rear positions is initiated. The weapon carriers are held close in rear of the crest on the contemplated route of withdrawal. (See fig. 14.) Only sufficient ammunition for the immediate mission is placed at each gun position.

c. Displacement to the rear may be by squad, section. or platoon.

d. Intermediate positions between successive delaying positions may be occupied by one or more machine guns, protected by small rifle groups. They occupy positions covering road blocks, demolitions, or advantageous locations from which the hostile advance can be taken under long-range fire. These groups initiate their withdrawal in time to prevent destruction or capture.

118. WITHDRAWAL.—For doctrines and methods of employment of heavy machine guns in night withdrawal and daylight withdrawal, see paragraph 72.

119. HEAVY MACHINE GUN PLATOON ON SECURITY MISSIONS.—*a.* The platoon may be employed with an advance guard, a flank guard, a rear guard, or an outpost.

(1) Advance guard action is characterized by rapid attack. For employment of the machine-gun platoon as part of an advance guard, see paragraph 20.

(2) Flank guard, rear guard, and outpost actions are, in general, forms of delaying action. For employment of machine guns with a flank guard, rear guard, outpost,

and in a delaying action, see paragraphs 21, 22, 65, and 71, respectively.

b. The platoon, or any of its elements, may be employed to cover antitank obstacles such as road blocks or mine fields. When protecting a mine field, the unit leader establishes a traffic warning patrol over the mine field, in order to prevent damage by mines to friendly vehicles, The firing positions should be so located that the obstacles can be kept under fire under any condition of visibility; the positions should also be outside the zone of dispersion of artillery fire or dive bombing directed at the obstacle, dug in, and well concealed. Men armed with carbines, or any attached riflemen, must be so located as to prevent hostile patrols from encircling the Positions without coming under observation and fire.

CHAPTER 6

CALIBER .30 MACHINE-GUN SECTION AND SQUAD

SECTION I

GENERAL

120. COMPOSITION.—The caliber .30 machine-gun section consists of a section leader and two squads. Each squad comprises: a corporal (squad leader), a gunner, an assistant gunner, ammunition bearers, and a chauffeur.

121. DUTIES AND LEADERS.—*a. General.*—Section and squad leaders are responsible at all times for the training, discipline, appearance, and conduct of the members of their units.

b. Section leader.—The section leader leads his section in route march and in approach march. In combat, he selects and assigns locations for the squads within the firing position area assigned the section; assigns targets or sectors of fire to squads; controls the fire of the section; regulates the displacement of the weapons; and insures replenishment of ammunition by the ammunition bearers. Whenever greater efficiency will result, he combines the squad ammunition bearers under his control. If the bearers are unable to maintain an adequate ammunition supply, he makes timely requests to the platoon leader for ammunition. Whenever the machine guns are being transported on weapon carriers he details one man to operate the section carrier automatic rifle and another man, armed with the section M1903 rifle and antitank rifle grenades, to ride the other carrier for antitank defense. (See par. 18*c*.)

c. Squad leader.—The squad leader leads the squad to its designated location. He is charged with the selection of the exact firing position, and its preparation and occupation: entrenchment; camouflage; observation and adjustment of fire; fire discipline: and the employment of his ammunition bearers to replenish the ammunition supply of his squad.

122. COMMAND.—*a.* The section and squad are usually employed as part of the platoon. The platoon leader may exercise direct command, determine the action required by each change in the situation, and issue the necessary orders; or he may issue orders requiring that a section, or squad, engage all suitable targets appearing in a given

area or that it support a particular rifle unit. When the section or squad is supporting a particular rifle unit, the section or squad leader will comply with all requests for fires from the supported unit unless such requests are in conflict with instructions issued by his platoon leader.

b. When the section or squad is attached to a rifle unit, the commander of the unit to which it is attached exercises direct command over the attached unit.

123. COMMUNICATION.—Communication within the section (and from the section to the platoon leader, or to the commander of a rifle unit to which the section may be attached) is chiefly by voice or arm-and-hand signals. Ammunition bearers are used as messengers when necessary. Exceptionally the section may be furnished with other means of communication such as sound-powered telephones. (See ch. 10.)

124. CONDUCT OF FIRE.—*a.* The section is the basic fire unit. The employment of both guns against the same target gives greater density and effect to the fire, facilitates covering deep or wide targets effectively, and provides considerable insurance against the fire being interrupted in case of stoppages. The two guns are given separate missions only when absolutely necessary to accomplish the mission assigned the section.

b. Fire is conducted in accordance with the technique set forth in FM 23-55. Machine-gun crews and leaders constantly watch for signals from the next higher leader, who may direct the opening or cessation of fire, that the rate of fire be changed, or that the fire be shifted to new targets.

c. Whenever control by the platoon leader (or by the officer commanding a rifle unit to which the section or squad is attached) becomes impracticable, the section or squad leader conducts his fires according to his judgment in conformity with his mission and his knowledge of the fire support to be rendered by other weapons.

d. When a squad is detached from its section, or when fire control by the section leader becomes impracticable, the squad leader must conduct his fires according to his own judgment, and display the same initiative as is required of the section leader.

e. Even though the squad is reduced by casualties, machine-gun fire can be conducted effectively from one firing position by one determined member. Displacement, however, usually will be impracticable under such a condition.

f. When ammunition must be hand-carried long distances, careful regulation of its expenditure is essential, in order that there may be sufficient ammunition on hand to engage important targets as they appear.

125. MARCHES.-For dispositions, missions, and conduct of the section and squad in route march, or when part of advance, flank, or rear guards, or for movement by motor, see paragraphs 19 to 23 inclusive.

126. BIVOUAC.—The section may be attached to the bivouac outpost or disposed for the antiaircraft security of the bivouac proper. Antiaircraft missions are conducted as prescribed in paragraph 128*b*. For other details, see paragraph 24.

SECTION II

ATTACK

127. APPROACH MARCH.—*a. General*—The approach march may be made in daylight or at night. The machine-gun section usually marches as a part of the platoon, and its initial formation and location in the platoon formation are prescribed by the platoon leader. The section leader may change the initial formation (disposition) of the section upon his own initiative in order to take advantage of cover, avoid undue casualties, maintain control, or increase the section's readiness to go into action. If the section is directed to guide on another unit, connecting files (preferably double) should be employed whenever the terrain, or lack of visibility, makes it likely that visual contact may be broken.

b. Approach march by day.—(1) The section ordinarily is given an antiaircraft security mission; it may be given a ground security mission in addition to its antiaircraft mission. It may be directed to follow and support a leading rifle unit, or it may be attached to that unit. The platoon leader either will direct that weapon carriers accompany the section or that the machine guns and an initial ammunition supply be carried by hand. When transported by carriers, the guns are mounted for antiaircraft fire and manned by skeleton crews of two men. These men are in addition to the chauffeurs and the men who operate the section automatic rifle and the M1903 rifle. (See par. 121*b*.) An assigned mission may be accomplished by skeleton crews moving by weapon carriers separately from the remainder of the section. In such cases the section and squad leaders accompany the guns and carriers (if necessary, as members of the skeleton crews), while the remainder of the section moves with the foot elements of the platoon.

(2) When the entire section marches as a unit, the section leader should precede his section by a short distance; squad leaders watch him for signals and insure that their squads make the best use of available cover and concealment.

(3) If the section is detached from the platoon, the section leader controls the movement of weapon carriers accompanying the section, provides air-antitank guards, and reconnoiters in advance of the section for dangerous areas, and for possible off-carrier and firing positions. (See par. 82.) The leader of a squad detached from its section performs the duties outlined above for the section leader.

c. Approach march by night.—(1) If required by conditions of visibility, the section may be detached from its platoon and assigned a location in the battalion formation with the mission of antiaircraft security. At times a squad may be detached from the section and given a similar mission.

(2) Unless the section has such an antiaircraft mission, its weapon carriers usually are held in rear; they are brought forward under control of a higher unit and rejoin the foot elements of the section after these elements arrive at their destination.

(3) Close supervision must be exercised by the section and squad leaders to prevent loss of contact or direction, and straggling by individuals.

d. Approach march-dispositions.—(1) The section may be disposed in section column, in line of squads, or with squads echeloned to the right or left. These formations have the same advantages, disadvantages, and usefulness as the similar formations for the platoon. (See par. 82*b.)*

(2) The usual formation for the squad is squad column. For rapid crossing of dangerous areas, the squad leader may deploy the squad as skirmishers.

128. ASSEMBLY AREA (POSITION).—*a.* (1) At times the section may enter the fire fight directly from the approach march. However, if the battalion occupies an assembly area preliminary to deployment for attack, the section is usually employed, ordinarily as part of its platoon, on one of the missions discussed in paragraph 84*a.* Occasionally the section, reinforced by the attachment of riflemen, may constitute a local security element; such a mission is performed as prescribed for the platoon in paragraph 84*b*(3).

(2) The orders received may direct that the guns be handled only by skeleton crews. Section and squad leaders are with their guns. In some situations the platoon leader may take the skeleton crews forward on weapon carriers, in advance of the battalion, so as to occupy the firing positions before the battalion arrives. Depending on the mission assigned and on other factors of the situation, the platoon leader may direct that the other members of the squads, arriving later, rejoin the gun crews or occupy a portion of the company assembly area under command of the platoon sergeant.

b. When the section is assigned an antiaircraft mission, positions should be selected which will permit fire on

attacking airplanes from any direction. Each carrier is placed under cover. Since the halt in the assembly area may be temporary, the necessary protection to guns and crews from bomb fragments or aerial machine-gun fire should be provided by mounting the guns in existing ditches or small holes. If these are not available, emplacements are dug. The gun position is camouflaged unless there is sufficient natural cover to conceal it from aerial observation. Personnel not required at the gun position are dispersed and utilize ditches, holes, foxholes, or individual prone shelters for their protection. (See appendix I.) The two guns of the section are separated by at least 50 yards. If one gun of the section is so located that it cannot fire at airplanes approaching from a given direction, the other gun should be able to fire effectively in that direction. Personnel at the guns must be constantly on the alert; reliefs are provided if the assembly area is occupied for more than two hours. Observers (air-antitank guards) are posted to give warning of the approach of hostile airplanes or tanks.

c. If the platoon leader does not prescribe a location and mission for the section M1903 rifle, it is placed to cover the most likely avenue of approach for armored vehicles. Other positions are selected to which it can be moved promptly should armored vehicles attack from other directions.

d. While the battalion is in the assembly area, squad leaders inspect the physical condition of every man under their immediate control. (See FM 21-10.) Each man's equipment is also checked, as well as the squad weapon, ammunition, and equipment. The section leader should supervise this inspection and take steps to replace ammunition which has been expended. Personnel not present in the vicinity of the guns are inspected by the platoon sergeant.

129. MOVEMENT TO INITIAL FIRING POSITIONS.—*a.* (1) When the situation requires the battalion to move directly from the approach march into an attack without halting in an assembly area, the platoon leader (or the commander of a rifle unit to which the section is attached) usually will assign a covered location near the firing position area of the section as the final march objective.

(2) When the battalion is to occupy an assembly area, the section is directed, by message or signal, to move from its antiaircraft or other firing positions (or from its position in the assembly area, if it is not being employed on security missions) to a covered location near the section's firing position area.

(3) In either situation given above, these instructions will usually direct whether the guns and ammunition are to be carried farther forward by weapon carriers and may specify the off-carrier location.

b. The platoon may move forward as a unit under the platoon sergeant, while the section leaders report without delay to the platoon leader to receive their orders. Or each section leader may lead his section until it reaches a point where the covered location near the firing position area and the area itself can be pointed out to the senior squad leader. He should then issue brief instructions for the further movement of the section, turn control over to the senior squad leader, and proceed immediately to report to the platoon leader or, if attached to a rifle unit, to the commander of that unit.

c. The off-carrier position should be as far forward as practicable in order to conserve the strength of personnel prior to the attack. The primary mission of the weapon carriers after the attack starts is to maintain an uninterrupted supply of ammunition within hand-carrying distance of the firing positions. Therefore, the weapon carriers must not be brought so far forward that they are exposed to hostile ground observation and flat-trajectory fire, nor should they become very far separated from the foot elements of the section. If the carriers transporting the weapons and ammunition are allowed to take a circuitous route in order to get farther forward, they may be delayed and the section may not be able to go into firing positions in time to perform its initial mission. Therefore, whenever a point is reached where the carriers cannot be moved farther forward without either separating them from the foot elements of the section or exposing them to hostile observation and fire, the guns and an initial supply of ammunition should be removed from the carriers and hand-carried the remainder of the distance.

d. On reporting to the platoon leader (or to the officer commanding the unit to which the section is attached), the section leader orients himself and receives the attack order. For contents of the order, see paragraph 87.

e. Having received the order, the section leader rapidly reconnoiters his assigned position area, selects the approximate locations for the two machine guns, determines how he will engage the assigned targets or cover the assigned sector of fire, and selects the section observation post.

130. SELECTION OF FIRING POSITIONS.—*a. Definitions.*—For definition of primary, alternate, and supplementary firing positions, see paragraph 5*a*.

b. Factors.—Factors to be considered by squad and section leaders in selecting firing positions in the attack are:

(1) *The mission.-This* is the paramount factor; all others are secondary. The firing position must permit fire to be placed on all assigned targets, or on any target appearing in the assigned sector of fire. To accomplish the mission effectively, the squad leader must be located close

enough to the gun to permit control by voice or by arm-and-hand signals, and yet be able to observe the target, or targets, and adjust the fire of the gun on *them.* Also, from his location, the squad leader must be able to observe friendly rifle units, at least when they near the safety limit of the gun, so as to order that the fire be stopped (or shifted to other targets) before it will endanger friendly troops.

(2) *Location.— a.* Whether the gun is in position defilade or partial defilade with respect to its targets or sector of fire, it should be so located that it is protected in all other directions from hostile observation and flat-trajectory fire. (See par. 25*b* (3) *(c)* and fig. 9.) Thorough reconnaissance of the section's position area is usually required in order to find such positions, but they must be found and used if they exist. Otherwise the gun will soon be discovered, and either destroyed or forced to move to escape destruction. Where mounds or buildings are lacking, the side slopes of hills usually offer the best positions.

(b) Often position defilade near an inconspicuous crest can be used initially and later, by a short forward movement of the guns, partially defiladed positions can be used for accomplishing subsequent fire missions. Frequently a gun can be laid, by means of the sight, from a position providing partial defilade and then be moved carefully a yard or two to the rear into position defilade, without causing any difficulty in adjusting fire on the target.

(c) In selecting any firing position, the following items must be considered:

1. How will trees or other obstacles interfere with the fire?

2. If a particular rifle unit is to be supported from its line of departure to the main hostile positions, is the field of fire of sufficient length and width, and can the progress of the supported unit be constantly observed? If definite targets are assigned, are the ranges to the targets and the facilities for observation such that effective fire can be accurately placed on the targets?

3. As determined by the safety rules for lateral and overhead fire, will friendly troops probably be so located that they mask the fire of the gun at any time when its fire must be effective?

These considerations dictate the use of fairly commanding ground or of gaps between attacking units. Where safety to the attacking units requires such action, the guns are placed well forward, even though machine guns draw fire.

(3) *Safety for guns and personnel.*—If it is possible to fire overhead, or through a gap, firing positions among the leading rifle units are undesirable, because hostile fire concentrated on these rifle units may put the machine

guns out of action at the time they are needed most to gain fire superiority. Other factors that the leader must consider are—

(a) Can the guns be placed from 30 to 100 yards apart to prevent one shell from destroying both?

(b) Are the flanks of the firing position protected by adjacent troops? If not, can the exposed flank or flanks be watched by observers to prevent surprise attack?

(c) Are alternate positions available, if their use becomes necessary?

(d) Does the position take the best advantage of any existing natural or artificial tank obstacles as protection against hostile mechanized counterattack?

(e) Are there any holes or ditches close to the position in which the gun and personnel can be sheltered, should the position be subjected to hostile mechanized or air attack, or artillery or mortar bombardment?

(f) Does the position provide terrain features, or vegetation, to conceal the gun and crew from enemy ground and aerial observation?

(4) *Time available for occupying firing positions.*—In the attack, time usually is short. This element alone may require the discarding of the best firing positions in favor of less desirable ones which can be more quickly occupied. The available time can be fully utilized only by planning ahead, by making timely and speedy reconnaissance, and by developing smooth teamwork in the squad.

(5) *Routes to firing positions.*—The length and passability of, and the concealment and cover on, routes from the rear must be considered in choosing a firing position. These factors materially affect the ability of the unit to occupy the position without excessive casualties and to keep an adequate ammunition supply at the gun. Easy access to covered routes by which the gun can be moved to alternate or supplementary positions and by which it can be displaced forward as the attack progresses, is also important.

(6) *Contact with unit being supported.*—Another important consideration is whether contact can be made without difficulty with a rifle unit being supported, or the next higher machine-gun unit.

131. SECURITY MEASURES.—*a.* Ordinarily the platoon leader directs the posting of air-antitank guards to give warning of hostile air, mechanized, or infantry attack on machine- gun positions. When the section is attached to a rifle unit, or when its firing positions are widely separated from those of the remainder of the platoon, the section leader maintains his own guards unless he has received instructions to the contrary.

b. The M1903 rifle and antitank rifle grenades are employed for the close-in protection of the section against hostile armored vehicles. (See par. 18*c*.)

c. For antiaircraft security, the squad and section rely chiefly on dispersion of personnel and equipment and on the use of cover and concealment. The conditions under which the machine guns and other weapons fire on hostile airplanes are prescribed in paragraph 18*e*.

132. OCCUPATION OF FIRING POSITIONS.—*a.* Up on completing his reconnaissance of the position area, the section leader calls, or signals, his squad leaders forward to a location from which their firing positions and targets, or sectors of fire, can be pointed out to them. He then issues his orders and supervises the occupation of the firing positions by the squads.

b. Squad leaders select the exact firing positions of their guns. At the proper time they call or signal their squads forward, emplace the guns, and issue necessary instructions to members of their squads.

c. (1) In order to avoid casualties, and to enable the initial burst of fire to be delivered by surprise, every effort is made to occupy firing positions without being detected by the enemy. Any shiny articles of equipment are covered or smudged. When time permits, members of the squad enter an exposed firing position individually, by creeping or crawling.

(2) If the firing position is completely exposed to hostile observation, and time does not permit entering by individual movement, it should be entered with the utmost speed just before fire is to be opened.

d. The platoon leader, or the leader of a rifle unit to which the section is attached, is notified as soon as the section is in position and ready to fire.

133. ORDERS.—*a.* The section leader's attack order to his squad leaders should include—

(1) Necessary information of the enemy and of friendly troops.

(2) Mission of the section.

(3) Boundaries of the sector of fire, or the location of the target or targets.

(4) Firing position for each squad.

(5) Any necessary instructions as to how or when the squad firing positions are to be occupied.

(6) Instructions for posting air-antitank guards; instructions concerning observation for secondary targets or for guarding against surprise attack by hostile infantry.

(7) The location of the battalion aid station.

(8) Instructions concerning ammunition supply.

(9) The location of the section and platoon leaders.

(10) The fire order, including the time to open fire, if desired; if not, the squad leaders should be informed that the fire order will be issued later.

b. Later orders issued by the section leader contain only those items necessary for squad leaders to perform subsequent missions efficiently.

c. Squad leaders are questioned to insure their understanding of all orders.

d. Squad leaders issue orders which include only so much of the matter contained in the section order as pertains to their squads.

e. All elements of fire orders are repeated as received, element by element, by all subordinates. Whenever practicable, arm-and-hand signals are used both to give and to acknowledge orders.

f. For fire orders, see FM 23-55.

134. OBSERVATION OF FIRE.—*a.* The section leader establishes an observation post in the immediate vicinity of the firing positions. The observation post should satisfy these requirements:

(1) Provide a good view of the target(s) or sector of fire, including observation of friendly troops at points where they may come within the line of fire.

(2) Permit constant and immediate control of fire.

(3) Permit prompt receipt of instructions from the next higher leader, preferably, by signal.

b. For post of the squad leader, see paragraph 130*b*(1).

135. OCCUPATION OF ALTERNATE AND SUPPLEMENTARY POSITIONS.—These positions ordinarily are occupied on orders from the next higher leaders. However, in the absence of such orders, the section (or squad) leader is authorized to move to alternate positions whenever hostile fire threatens destruction of the gun and crew. The section (or squad) leader orders movement to supplementary positions on his own initiative when given a mission which requires observed supplementary targets to be engaged without further orders. When a section (or squad) is detached from its platoon (or section), its leader decides when alternate or supplementary positions are to be occupied.

136. FIRES DURING THE ATTACK AND ASSAULT.—A section (or squad) attached to a rifle unit, or with a mission of supporting a particular rifle unit, employs its fires as prescribed for the platoon. (See pars. 91 and 93.) The section (or squad) leader notifies the next higher leader as soon as his fires are masked.

137. DISPLACEMENT.—*a.* When the section is operating as part of the platoon, displacements are made as directed by the platoon leader. Ordinarily the section then displaces as a unit. The platoon leader will direct whether the displacement is to be commenced on order or when fire is masked. Either prior to or during the displacement, he will assign the new position area and the new targets or missions. The section leader precedes the section at a distance which will enable him to reconnoiter the route and still maintain control of the section by signal. Upon arriving at the new position area, the section leader observes the location of friendly front-line troops, notes the enemy activity, locates an observation post from which the new targets or sector of fire can be observed, and determines the approximate location of the firing positions. He then summons the squad leaders and issues the necessary orders; the positions are occupied in the same manner as are the initial firing positions.

b. When the section is detached from the platoon (as, for example, with a mission to follow and support a particular rifle unit) the section leader decides when displacements are to be made. A displacement is made when fire is masked by the advancing rifle units, when necessary to provide protection to a supported rifle unit during a reorganization, or whenever otherwise necessary to accomplish the assigned mission. Unless the section leader has been notified that other units will cover his displacement and provide protection against hostile counterattacks, he usually orders the section to displace by squad echelon. One squad remains in its present firing position, prepared to fire on hostile counterattacks or on hostile elements hindering the advance of the supported rifle unit or the movement of the displacing squad, until the latter has reached its new firing position area. After instructing the leader of the rear squad as to the area he is to watch, when to displace, and what route his squad later will follow, the section leader leads the displacing squad to the new position area as described in a above. Whenever possible, the movement should be made by concealed and covered routes.

c. When the section is attached to a rifle unit, the commander of that unit may order all displacements or may leave decision as to when and where to displace to the judgment of the section leader. Before the attack starts, if he has not been told whether or not he may displace on his own initiative, the section leader should ask the rifle unit commander for definite instructions.

138. REORGANIZATION.—*a.* The section may be employed to protect front-line rifle units while they reorganize. Heavy machine guns occupy positions from which they are able to protect the front and flanks of the supported unit and fire on attacking airplanes.

b. Section and squad leaders take advantage of every lull during the reorganization of the supported rifle unit to reorganize their own units and replenish ammunition supply. Key men who are casualties are replaced by other members of the squads. As necessary, the strength of the two squads is equalized by transfers from one squad to the other. The squad or section leader makes contact with the commander of the unit under whom he is operating to get instructions as to the mission of the unit when the attack is resumed. Frequently the next mission cannot be accomplished from the same positions occupied to protect the reorganization; a new position area may be assigned, or the section leader may be directed to select it. The reconnaissance of the new area must be completed promptly. As far as practicable, orders are issued and other preparations are made in advance, so that the movement to the new positions can be completed in the short time usually available.

139. PURSUIT.—Pursuit, except by fire, is undertaken only when ordered by the commander under whom the section is operating. The section may be employed as an integral part of its platoon; it may be attached to a rifle unit; or it may be given orders to follow and support a designated rifle unit. Pursuit is conducted as prescribed for the platoon in paragraph 97.

140. ACTION WHEN ADVANCE IS HALTED.—If the advance of the battalion is definitely halted by hostile resistance, the section is employed to protect the leading rifle companies while they organize the ground for defense. It takes measures as discussed in paragraph 138.

141. SPECIAL OPERATIONS.—For the details of employment in support of a raid or night attack, during combat in woods or villages, and in river crossings, see sections V to IX, inclusive, chapter 3.

142. AMMUNITION SUPPLY IN ATTACK.—*a.* When the section is operating under control of the platoon leader, he keeps the section leader informed of the nearest location at which a loaded weapon carrier is spotted, or at which ammunition has been dumped.

b. If the section is attached to a rifle unit, the section leader must secure instructions from the commander of the unit to which he is attached as to whether he is to send his weapon carriers directly to the battalion ammunition distributing point for refill, or whether they will operate under the supervision of a designated representative of the rifle unit commander. If the platoon transport corporal does not accompany the section, the section leader should place the senior chauffeur in direct charge of the carriers.

c. Weapon carriers of the platoon, when loaded with ammunition, are disposed to take advantage of all available cover and concealment. Chauffeurs of rear carriers keep In contact with the chauffeur of the next preceding carrier, by signals or by moving forward on foot. As a carrier moves forward to a new concealed location, the next carrier in rear may move forward and occupy the position just vacated. When a carrier is sent to the rear for refill, and is loaded, it moves forward and takes position at the rear of the chain of carriers.

SECTION III
DEFENSE

143. TACTICAL EMPLOYMENT—SECTION IN SUPPORT OF MAIN LINE OF RESISTANCE.—*a. Orders when attached to rifle company.*—In the hasty occupation of a defensive position, the heavy machine-gun section may initially be attached to a rifle company. When thus attached, the section leader receives his instructions from the rifle company commander, and emplaces his section so as best to protect the rifle company area. (See par. 104*b*.)

b. Orders from platoon leader.—When time permits a more deliberate occupation of a position, the section leader receives his orders from his platoon leader. The platoon leader assigns firing positions and missions in accordance with the company commander's orders (battalion fire plan).

(1) The section leader usually receives the platoon leader's orders on the ground to be occupied by his section. The order will include primary and alternate firing positions for the section; sector of fire; and direction of final protective line(s). Supplementary firing positions may be assigned. (See par. 105.)

(2) The section leader determines the exact locations of primary and alternate firing positions for each gun of the section within the area prescribed by the platoon leader. He makes contact with the leaders of adjacent rifle platoons in order to insure coordination between his firing positions and the dispositions of the rifle platoons. His firing positions must neither mask the fire of rifle units, nor be masked by them.

c. Selection of firing positions.—(1) *Primary firing positions.—(a)* The section leader selects the exact location for primary firing positions so that both guns of the section are able to cover the assigned sector, and obtain the maximum extent of grazing fire on the assigned final protective line. He emplaces his guns at least 30 yards apart. If two divergent final protective lines are assigned, both guns must be so located as to be able to fire along the designated primary line.

(b) It is essential that cover and concealment be provided for each firing position. Locations are sought that are defiladed from all directions except the area included in the fire sector. Whenever time permits, emplacements for each gun are dug. If time is lacking, firing positions affording partial defilade to the front are selected. Such positions may be found in depressions or folds in the ground. (See par. 25*b*(3) *(b)* and fig. 8.)

(2) *Alternate firing positions.*—An alternate firing position is selected for each gun, from which, as nearly as practicable, the same sector of fire can be covered and fire along the final protective line can be delivered as from the primary firing position. Each alternate position should be far enough from its primary position so that hostile fires directed against the primary position will not endanger the alternate position (at least 100 yards in open terrain). The section leader is authorized to move either gun of his section to its alternate position when such movement will keep it in action longer and more effectively. Emplacements are concealed or camouflaged.

(3) *Supplementary firing positions.—(a)* Locations of supplementary firing positions for the guns may be designated, and the missions to be fired from them prescribed, by the platoon leader in accordance with the company order.

(b) The section leader is not authorized to move either of his guns from a primary or alternate firing position to a supplementary position except-

1. On direct order of the platoon leader.

2. When an emergency, such as a flank attack, requires such action and communication with the platoon leader cannot be secured immediately.

144. ORDERS—SECTION ON CLOSE SUPPORT OF MAIN LINE OF RESISTANCE.—*a.* The section leader issues his oral field order to the squad leaders on the ground to be occupied by the section. His order includes—

(1) Essential information of the enemy.

(2) Location of adjacent troops.

(3) Firing positions.

(4) Sector of fire and final protective line(s).

(5) Instructions for opening fire.

(6) Type of emplacements to be dug in each position, and priority of construction.

(7) Fields of fire to be cleared.

(8) Ammunition supply.

(9) Location of battalion aid station.

(10) Location of platoon leader.

b. The squad leader then issues his order. In addition to matter contained in the section leader's order which pertains to his squad, the squad leader's order assigns tasks to each member of the squad.

145. ORGANIZATION OF POSITION—SECTION IN CLOSE SUPPORT OF MAIN LINE OF RESISTANCE.—*a.* (1) As soon as the squad arrives at the indicated position, the gun is temporarily mounted to cover the assigned sector of fire. The sector of fire is indicated on the ground by locating and pointing out definite terrain features to the gun crews. The methods of covering the sector depends upon its width, and is designated by the section leader.

(2) The gunner and assistant gunner construct the primary gun emplacement. (See figs. 33 to 35, incl.) The corporal's foxhole is dug a few paces to the right or left rear of the emplacement, at a location from which the corporal can observe the sector of fire, supervise the actions of the gun crew, and communicate readily by arm-and-hand signals with the section leader. Ammunition bearers not employed in maintaining the supply of ammunition are located to afford close protection to the section. Individuals dig standing type one-man foxholes (see appendix I).

(3) Routes are selected by which the crew may move the gun to its alternate or supplementary positions. Since crawl trenches are difficult to camouflage and may disclose the locations of gun positions from the air, routes between positions should follow existing defilade, ditches, or drainage lines. Where narrow crawl trenches must be provided in order to connect covered areas, they *should* be dug, where practicable, in areas (under the limbs and foliage of trees and bushes) concealed from air observation. If this is impracticable, a crawl trench connecting two emplacements should be extended at least 100 yards beyond each emplacement.

(4) The section leader's standing type foxhole is dug at a point from which he can overlook the sector of fire and control the fire of the section.

(5) Primary firing positions are completed first. The orders of the platoon leader will include the priority of organization of alternate and supplementary positions.

(6) Natural cover is utilized wherever possible. The camouflage of all works on the position is planned simultaneously with their construction. Parapets are sodded as fast as they are finished. Additional sod required for parapets is dug at a considerable distance from the gun position, and is selected to resemble the sod in the immediate vicinity of the gun position. Existing paths are used, wherever possible. New paths, unavoidably formed, either are carried past the gun position for at least 100 yards, or are made to end in woods or bushes.

b. The squad leader prepares a range card for each firing position.

c. If the position is organized prior to contact with the enemy, the section is withdrawn to nearby cover when all work on the position has been completed. Both guns are left mounted in their primary emplacements. One man remains on duty with each gun at ill times.

146. FINAL PROTECTIVE LINE.—*a.* In the absence of other instructions, fires on the final protective line are opened with the gun clamped in its most advantageous position for grazing fire. The fire should not be closer to friendly troops than 50 yards. This will prevent ricochets endangering the troops and will stop the approach of the enemy before he reaches hand-grenade range. Where tactical wire entanglements are constructed in front of the main line of resistance, the final protective line will lie just in front of the wire.

b. As soon as the guns are brought to the primary firing position, each squad leader has a member of the crew walk the final protective line, while the gunner observes him through the sights. The gun is then laid to produce the maximum extent of grazing fire. The extent of the line and dead spaces in the line are reported to the platoon leader. (See FM 23-55.)

c. A different final protective line may be assigned to each gun of the section. In such case, if the gun firing on the primary line goes out of action, the section leader causes the other gun of the section to switch immediately to the primary line.

147. FIRE PLAN—SECTION IN CLOSE SUPPORT OF MAIN LINE OF RESISTANCE.—*a.* The section fire plan is based on the instructions of the platoon leader. It includes conditions under which fires will be opened; conditions for moving to supplementary positions; conditions for firing on the final protective line, the prescribed signal for such fire, and the location from which the signal will be fired; distribution of fire within the assigned sector; and measures for control and conduct of fire. (See FM 23-55.)

b. When final protective fires are called for from the front line, only those machine guns open fire whose final protective lines protect the rifle unit calling for such fire.

c. (1) During periods of good visibility the section leader determines the rate and duration of fire on final protective lines.

(2) Under conditions of reduced visibility the battalion order may prescribe the rate and duration of fire. In the absence of instructions, the usual section rate of fire on final protective lines is 250 rounds per minute for two minutes, and then 125-rounds per minute until ordered to cease fire. The section leader prescribes whether the section rate of fire will be maintained by one gun, or by both

guns, each firing at a slower rate of fire and firing alternating bursts.

148. OBSERVATION OF FIRE—SECTION IN CLOSE SUPPORT OF MAIN LINE OF RESISTANCE.—*a.* During combat the section leader observes his assigned sector of fire and issues the necessary fire orders to squad leaders for the designation of targets and distribution of fires. The squad leader observes the effect of his fire on each target and makes such adjustments as are required.

b. At night, in addition to one man on duty with each gun, each section posts three reliefs, each of one observer. In addition to general surveillance of the sector of fire, the observer watches particularly the location from which the signal for final protective fires is to be fired.

149. **REAR HEAVY MACHINE GUNS OF FRONT-LINE BATTALION.**—A section located in rear of the main line of resistance may be given any or all of the following missions: long-range fire, limitation of penetrations, flank protection of the battalion, and support of counterattack.

b. Firing positions for these missions, and the sectors and principal direction of fire from each position, are assigned by the platoon leader. The section leader selects the exact locations, and has his squads construct and occupy the firing positions, as described for a section in close support of the main line of resistance. Each gun is mounted to deliver its most advantageous fire on the principal direction line. Alternate emplacements also are prepared, from which the same fire missions can be executed as from primary emplacements.

150. ANTIAIRCRAFT SECURITY AND ANTIMECHANIZED DEFENSE.—*a.* For active and passive measures for antiaircraft security, see paragraphs 18*c* and 66.

b. For action against mechanized attack, see paragraphs 18*c* and 64*e*.

151. SECURITY MISSIONS.—The heavy machine gun section, when employed on security missions, operates as described for the platoon in paragraph 119.

152. AMMUNITION SUPPLY.—For ammunition supply, see paragraph 115.

CHAPTER 7
81-MM MORTAR PLATOON

SECTION I
GENERAL

153. REFERENCES.—For mechanical training, gun drill, marksmanship, fire orders, and technique of fire, see FM 23-90. For extended order drill, see FM 22-5. For the training of individuals in other weapons, see FM 23-5, 23-7, 23-10, 23-15, 23-30, and 23-35.

154. COMPOSITION.—The 81-mm mortar platoon is composed of a command group (headquarters) and three sections. The command group comprises a platoon leader, platoon sergeant, agent corporal, instrument corporal; transport corporal, chauffeur(s) who drive(s) the truck(s) assigned to platoon headquarters, messengers, and basic privates.

155. DUTIES OF COMMAND GROUP.—*a. Platoon leader.*—The platoon leader is responsible for the training, discipline, control, and tactical employment of his platoon. He receives his orders from the heavy weapons company commander except when the platoon is attached to a rifle unit and is thereby placed temporarily under the direct orders of the rifle unit commander. The platoon leader, assisted by his command group, controls the action of his platoon through timely orders to his section leaders. During combat he is responsible for the effective delivery of the fires required by his mission. He is also responsible that alternate and supplementary firing positions are selected, and are occupied when necessary to avoid hostile fire or to carry out an assigned mission; that displacements are promptly and properly made when directed by the company commander or when necessary to comply with his mission; that his fires do not endanger friendly troops; that adequate amounts of ammunition are delivered to the mortars from the point where ammunition is made available by the company commander; and that reorganizations are made when necessary to maintain combat efficiency. For signal communication he employs foot messengers, chauffeur(s) of truck(s) assigned to his platoon headquarters, and arm-and-hand or pyrotechnic signals. When they are made available to him, he employs

sound-powered telephones and radiotelephones (see ch. 10).

b. Platoon sergeant.—The platoon sergeant is second-in-command of the platoon. On the march he ordinarily moves at the rear of the foot elements of the platoon in order to maintain control and keep in touch with the situation to the flanks and rear. He takes charge of the platoon when the platoon leader is absent. During an attack he remains at or in rear of the mortar firing positions and is responsible to the platoon leader for maintaining an adequate flow of ammunition to the mortars. During forward displacements, he commands the rear element(s) of the platoon. In a defensive situation he is located toward the rear where he can observe the operation of the mortar crews and supervise ammunition supply.

c. Agent corporal.—The agent corporal assists the platoon leader in reconnaissance when so directed. His. principal mission in combat is to act as a liaison agent with supported rifle units, or between the company commander and the mortar platoon, as required by the situation. He assists the instrument corporal whenever practicable and is trained and prepared to assume the latter's duties.

d. Instrument corporal.—The instrument corporal has charge of the platoon fire-control equipment. He assists the platoon leader in reconnaissance, in preparing firing data, in the search for targets, in surveillance of the progress and safety of friendly troops, and in the control of fire. He establishes platoon observation posts, and assists in liaison duties.

e. Transport corporal.—In accordance with orders, the transport corporal conducts the platoon weapon carriers during their operation as ammunition supply vehicles as well as during the transportation of weapons. See paragraph 239 for duties pertaining to ammunition supply. He insures the security of the vehicles by timely reconnaissance, dispersion in defilade, concealment, camouflage, and the fire of carrier weapons. He closely supervises the first echelon maintenance of all platoon vehicles.

f. Chauffeurs.—The chauffeur(s) drive(s) the vehicle(s) assigned to platoon headquarters. They conceal and camouflage their vehicles at all halts and carry out the instructions of the transport corporal, when released by the platoon leader. Each chauffeur is responsible for the first echelon maintenance of his vehicle.

g. Messengers.—Messengers are used to transmit oral and written messages. They may act as observers, perform security missions, or operate sound-powered telephones or other signal equipment assigned to the platoon. One messenger is habitually sent to the company commander when the company develops for combat.

h. Basic privates.—Basic privates are trained as replacements for members of squads. Until assigned as re-

placements, they are employed as messengers or ammunition bearers.

156. CONDUCT OF FIRE.—*a.* The squad is the basic fire unit and establishes its own observation post. A single mortar can effectively cover a target area 100 by 100 yards. For technique of fire, see FM 23-90.

b. Sectors of fire are assigned to each section. When practicable, the squads of the section are grouped so that the section leader can exercise close personal supervision of his section. Section control insures continuity of fire on a target, simplifies the supply of ammunition, and permits greater flexibility of fires.

c. Within each section one noncommissioned officer is constantly in charge of the mortar positions, while the others function as observers. The platoon leader prescribes the post of the section leader whenever this is a necessary part of his plan for the employment of the section. For further details, see paragraph 199.

d. In order to deliver accurate surprise fires, thorough training in range estimation, in issuing fire orders, in laying and firing the mortar, in sensing, and in adjustment of fire is essential.

e. When the status of ammunition supply permits, initial adjustment on a point some distance from the target may permit surprise fire for effect on the target itself.

157. MARCHES.—For dispositions, missions, and conduct of the platoon in route march; when part of an advance guard, flank guard, or rear guard; or during movement by motor, see paragraphs 19 to 23, inclusive.

158. BIVOUAC.—The platoon, or some of its elements, may be attached to the supports of the bivouac outpost. Otherwise it occupies an assigned portion of the bivouac. For details of dispositions and missions, see paragraph

SECTION II
ATTACK

159. APPROACH MARCH BY DAY.—*a.* The company commander's development order, frequently issued in fragmentary form, will state whether readiness for immediate ground action is required throughout the movement. For other de- tails, see paragraphs 26 and 27.

b. Both the company commander and reconnaissance officer may accompany the battalion commander during the march. If the machine gun platoon leaders are engaged in security missions, the mortar platoon leader frequently will be charged with controlling the disposition

and movement of his own platoon and elements of the machine-gun platoons moving with it. (See par. 27*e* and *f*.)

e. Exceptionally, as directed by the battalion commander, the company commander will attach two sections of the mortar platoon to leading rifle companies or direct that they follow and support these companies. Otherwise, the platoon leader may dispose it in line of sections, in platoon column, or with sections echeloned.

(1) A formation in line of sections is generally best adapted to rapid movement over exposed terrain, but increases the difficulties of control. Platoon column permits maximum control; this formation is used to take advantage of covered or concealed routes of advance, to avoid obstacles, to move through gaps between areas under hostile fire, and for movement through woods, fog, or smoke. A formation with sections echeloned to the right or left rear is more easily controlled than sections abreast; it also facilitates rapid entry into action toward an exposed *flank.*

(2) The platoon leader usually prescribes the initial formation within each section, but section leaders are authorized to change this formation whenever required by the terrain or the situation.

d. When weapon carriers which have been released to the platoon cannot move rapidly because of broken terrain or limited visibility, the foot elements and carriers may move together. However, where conditions permit, the carriers usually follow the foot elements by short bounds. In such movements the carriers should be within arm-and-hand signaling distance of their units at all times. At the end of each bound the carriers are halted, if possible, in folds of the ground which afford protection against shell fragments and flat-trajectory fire. Each carrier should also be concealed from air observation. At any halt expected to be of some duration, camouflage of carriers is begun immediately. Whenever the mortars are transported by weapon carriers. the carrier automatic rifle of each section is manned and one man rides *the* other *carrier* of the section with the M1903 rifle and antitank rifle grenade for antitank defense.

e. Each squad required to be prepared for prompt action must have its mortar and initial ammunition supply constantly with it. This requires hand-carrying whenever the carriers cannot closely follow the foot elements. When weapon carriers accompany the platoon, the platoon leader makes any changes in their dispositions required by signals or messages from the company commander (or other officer in control of the movement of the company), or necessitated by changes in the terrain. At various times, therefore, the platoon leader's decision may be:

(1) To have weapons on weapon carriers, each carrier accompanying its squad.

(2) To have weapons on weapon carriers, the latter following the foot elements by short bounds.

(3) To have weapons carried by hand, the weapon carriers following the foot elements by short bounds.

(4) To have weapons carried by hand, the weapon carriers moving forward in an extended column in rear of foot elements.

f. When the platoon guides on another unit, contact must be maintained by connecting files whenever the intervening terrain makes visual contact difficult. Double connecting files increase the certainty of maintaining contact.

g. The platoon leader usually controls the direction of advance by designating the command group as the base unit and directing its movements. Since the platoon sergeant follows the foot elements of the platoon, the platoon leader designates a temporary leader for the command group. If a march objective assigned the platoon by the company commander cannot be pointed out to the leader of the base unit, the movement is made in a series of bounds to intermediate platoon march objectives. The platoon leader should indicate the next march objective to the base unit in time to prevent halting on the preceding objective or to reduce to the minimum any unavoidable halt.

h. The platoon leader precedes the platoon sufficiently to reconnoiter the zone of advance of the platoon and direct the movement of his leading element. He leads the platoon around heavily shelled areas, or takes advantage of lulls in the hostile fire to send it across such areas by rushes. Sections may be directed to cross, in a single rush, any dangerous area such as a road or ridge exposed to hostile observation. In these rushes, carriers may be directed to follow their squads or sections closely, to cross the area at high speed after the foot elements have cleared, or to detour around the area. Minor detours should be made around any prominent point. Gassed areas are avoided.

i. Throughout the approach march the platoon leader should observe for firing positions for his weapons and for off-carrier positions.

j. If the situation requires the battalion to attack directly from the approach march, the company commander will usually designate a concealed or defiladed area in the vicinity of the platoon's firing position area as the final march objective of the platoon. The firing position area may be designated. The company commander may furnish guides to lead the platoon to its position area. If the platoon leader is summoned to report for orders, he turns the platoon over to the platoon sergeant and issues the necessary instructions for the conduct of the platoon in his absence.

160. APPROACH MARCH BY NIGHT.—*a.* A night approach march is executed along routes which, if possible, have been carefully reconnoitered and marked in daylight. Platoon transport is usually held under battalion or company control in a concealed area in rear and released to the platoon in the new assembly area shortly after the arrival of the foot elements. The foot elements of the platoon are frequently directed to follow another unit at a prescribed distance; unless the distance is so short that visual contact can be otherwise maintained, connecting files must be employed.

b. When the platoon is given a separate route, or is assigned a zone of advance and march objectives, the platoon leader makes such daylight reconnaissance as is practicable to secure accurate compass directions, plot and mark the route, and post guides at critical points. Where feasible, the route should follow easily distinguishable terrain features in preference to routes more direct but less clearly marked.

c. For purposes of control, the platoon usually moves in platoon column with reduced distances.

161. ASSEMBLY AREA (POSITION).—*a.* At times the platoon may enter the fire fight directly from the approach march. However, if Practicable, the battalion occupies an assembly area preliminary to deployment for attack, protected by a covering force, an outpost, or local security elements. All or part of the platoon may be assigned the mission of fire support for the covering force, outpost, or local security elements. This may require the occupation of firing positions outside the company assembly area.

b. The actions of any elements of the platoon given a fire support mission are similar to their actions when in support of a combat outpost. (See par. 65*b*.)

c. The platoon leader or, in his absence, the platoon sergeant, insures that men and vehicles are dispersed and concealed in the assembly area. In accordance with the company plan of defense, one man in each section, armed with the M1903 rifle and antitank rifle grenades, is posted to cover a likely avenue of tank approach to the company area. Each man is required to utilize existing ditches or holes, or to dig an individual prone shelter (see fig. 26) as protection against shell or bomb fragments. Individual rolls, if carried, are removed and stacked in an accessible covered location as directed by the company commander. Any ammunition which has been expended is replaced. Squad and section leaders check each man's physical condition and equipment and squad equipment; the platoon leader or platoon sergeant supervises this inspection. Men are given the maximum rest consistent with the above requirements.

162. RECONNAISSANCE AND PLANNING PRIOR TO ATTACK.—*a.* During the halt in the assembly area (or while en route

to or after arrival at the final march objective if no assembly area is occupied) the platoon leader will usually be summoned to join the company commander for orders. Occasionally the attack order will be received in the form of a message. When summoned to receive the attack order, the platoon leader usually takes with him the instrument corporal and a messenger. If the agent corporal is not performing a liaison mission, he also accompanies the platoon leader. For tactical employment of 81-mm mortars in the attack, see paragraph 25.

b. The attack order will direct any attachment of an element of the platoon to a rifle unit and will prescribe the missions of the platoon in support of the attacking echelon of the battalion. For additional details of the order, see paragraph 33.

c. (1) When the attack order indicates that immediate forward displacement of the platoon is required, the platoon leader should signal the platoon forward, or order the movement by a message to the platoon sergeant, before he proceeds on reconnaissance. The platoon is usually directed to move to a concealed and defiladed area in the vicinity of its initial firing positions. The instructions should include whether or not weapon carriers are to be used. If carriers are to be used and the company commander has not designated the off-carrier position (either in the assembly area or farther forward) the platoon leader should prescribe its location. It should be the most forward point to which carriers can be moved without separating them from the foot elements or exposing them to ground observation and flat-trajectory fire. Instructions that section leaders are to lead their sections or to report to the platoon leader without delay should be included.

(2) Instructions should be issued at this time for the movement of a section or squad which is to be attached to a rifle unit.

c. Accompanied by his assistants, the platoon leader then reconnoiters the assigned firing position area, or selects one if none has been assigned. He identifies his sector(s) of fire, points occupied by the enemy, and points of likely enemy occupation. He notes the disposition of friendly rifle elements already in position. He determines the localities in which the observation posts of the sections should be placed, in order adequately to cover the platoon *sector(s)* of fire. Based on this reconnaissance, he plans the employment of his platoon, locates the firing position areas of the sections, and determines their sectors of fire. He also selects a position for the platoon observation post and requires the instrument corporal to establish it. With the assistance of the instrument corporal, he determines firing data for targets, for localities that may be occupied by the enemy, and for key terrain features. He surveys the zones of action of rifle units which may be endangered by his fires and locates points on the ground be-

yond which they cannot advance with safety unless his mortars cease fire or lift to rearward targets. He then returns to meet his platoon, if it has already moved forward; otherwise he either rejoins the platoon and leads it forward or, by signal or message, directs that the section leaders report to him and that the platoon move forward to the firing position area.

163. SELECTION OF FIRING POSITION AREAS.—*a.* Desirable characteristics sought in selecting mortar positions are—

(1) Proximity to observation. The position should be close enough to suitable observation to permit communication by voice or arm-and-hand signals.

(2) Cover for mortars and crews.

(3) Concealment from ground and air observation.

(4) A covered route of approach for ammunition supply.

(5) Convenience to the combat location of the commander from whom fire missions will be received.

(6) As far forward as a reasonable compromise with the other desirable characteristics will permit.

b. Good observation is essential to effective mortar fires. Therefore, whenever possible within the limits allowed by the company commander's orders, the platoon leader locates the firing position area of each section in terrain which affords good observation over its sector of fire. Such commanding terrain usually affords suitable mortar positions on its rear slopes, within voice or arm-and-hand signaling distance of the observation. When this is not possible the section position areas must be close enough to suitable observation to maintain communication by available means (one-half mile is the maximum distance if sound-powered telephones are furnished by the company commander).

c. When it is impracticable to obtain observation over the entire battalion zone from one general area, sections are separated by greater distances. Fire control is then largely decentralized to section leaders.

d. The position area assigned each section should be large enough to permit the two mortars to be separated by 50 to 100 yards so as to reduce the likelihood of both being put out of action by a single shell. Wherever possible, section position areas should be separated by at least 100 yards.

e. In addition to the primary positions, the platoon leader selects one or more alternate position areas for each section. These alternate positions are occupied by section leaders on their own initiative. He also selects supplementary position areas to which sections may be moved on his order to execute secondary or subsequent

fire missions, such as assistance to adjacent units or engagement of emergency targets. Exceptionally, section leaders are authorized to occupy these positions on their own initiative. (See par. 5.)

164. ORDERS.—*a.* If practicable, the platoon leader gives his attack order to the section leaders at a location from which their sectors of fire and their firing position areas can be pointed out. His order includes—

(1) Pertinent information of the enemy and our own troops.

(2) Mission(s) of the platoon.

(3) Initial position area and fire mission of each section, including its sector of fire and such firing data as have been prepared.

(4) Locality in which the observation posts of each section are to be placed.

(5) Any restrictions on the opening or conduct of fire.

(6) Location of supplementary and alternate position areas and the signals for occupying them.

(7) Instructions concerning any security measures to be taken, such as the posting of air-antitank guards.

(8) Instructions for watching certain areas or sectors in which secondary or emergency targets may appear.

(9) Any necessary instructions concerning ammunition expenditures and supply.

(10) Location of the battalion aid station.

(11) Location of the platoon and company observation posts and of the company command post.

b. If the platoon sergeant is not present when the platoon leader gives the order, the platoon leader acquaints him with its contents at the first opportunity. The platoon sergeant and the transport corporal are informed of the final details of ammunition supply, including the disposition and employment of weapon carriers under platoon control.

165. OCCUPATION OF FIRING POSITIONS.—Weapons must be emplaced in adequate time to assure that the sections are prepared to execute their initial fires. The platoon leader notifies the company commander when all guns are in firing position and observation posts are established.

166. OBSERVATION OF FIRE.—a. The platoon and squad observation posts must provide good observation over the assigned sector(s) of fire, including observation of the location and movements of the attacking echelon. The observers located at these posts call at the proper time for the cessation or shifting of fires dangerous to the supported units.

b. The platoon observation post should be located on commanding ground from which all or the major part of the battalion zone of action can be seen. Its location should permit communication with the sections by arm-and-hand signals. Throughout the attack, observers located at the platoon observation post determine ranges to convenient reference points so as to facilitate prompt engagement of all targets of opportunity which appear in the field of fire. Supplementary platoon observation posts are established as necessary to observe the situation on the flanks and to permit visual contact with the company observation post. One or more alternate platoon observation posts should be selected and prepared for use should hostile fire or smoke require movement from the primary observation post. Covered routes between the various observation posts should be reconnoitered.

167. SECURITY.—*a.* The platoon leader complies with all orders of the company commander regarding air-antitank guards. In the absence of orders he maintains his own guards. Concealment, dispersion, and use of ground unfavorable for tank movement are employed as means of protection against air or mechanized attack. For further details, see paragraphs 18c (2) and (3) and 37.

b. Unless closely protected by rifle units, the platoon must also maintain observation to its flanks and rear in order to prevent surprise attack by hostile patrols or by hostile elements bypassed during the attack.

168. FIRES DURING THE ATTACK.—*a. General.*—The mortars may fire only a small part of the time during an attack, but they are kept in constant readiness to engage suitable targets promptly. The platoon, if not displacing to a new position, is always in position-either firing or prepared to fire.

b. Close support fires.-Unless otherwise clearly indicated by the mission of the platoon, fires against suitable targets (see par. 3*d*) directly opposing the advance of the attacking rifle units are of primary importance throughout the attack. The platoon leader must insure the prompt engagement of suitable targets which are left unengaged when artillery fires are shifted.

c. Long-range fires.—Available observation may permit the successive engagement of targets in rear of the hostile forward positions from the initial firing position area. In such cases, as the fire of each squad or section is masked by the advance of the supported rifle units the squad or section lifts Its fire to rearward targets. The company commander may direct that fire be placed on reverse slopes which are known or suspected to be occupied by hostile reserves.

d. Flanking fires.—When the progress of its own battalion is greater than that of an adjacent battalion, the platoon must be prepared both to assist the retarded unit, if

ordered to do so, and to furnish flank protective *fires to* its *own* battalion. To this end constant observation of the flanks is maintained, especially of areas which are favorable for hostile counterattacks.

169. DISPLACEMENT.—*a.* The platoon will fire from initial positions as long as its fire assists the advancing troops. When the fire is masked, or is about to be masked, by the advance of friendly troops, or when observation becomes deficient, the platoon must be advanced promptly and energetically to new firing positions which will permit close support and protection of the attacking rifle units to be continued.

b. Displacement may be by order of the company commander or he may delegate this decision to the platoon leader. Similarly, the location of the new firing positions, the routes thereto, and the fire missions to be executed after displacement may be prescribed by the company commander, or left to the initiative of the platoon leader. Under any conditions, the platoon leader must plan for the timely forward displacement of the platoon by observation of the progress of supported units, close liaison with the company commander, and reconnaissance by designated platoon personnel.

c. The platoon may displace forward as a unit when so ordered by the company commander. However, the normal method of advancing the platoon is by section. One or two sections advance to a new firing position, while the other section(s) remain in position ready to engage suitable enemy targets. The platoon leader, accompanied by available members of his command group, precedes the leading section(s) in order to reconnoiter the route and the next firing position area(s). Before leaving, in orders to the platoon sergeant and section leaders, he prescribes the method of advance to be used (see *e* below), indicates the route or routes to be followed, directs the displacing sections to follow him at a given distance or to advance by bounds On his signal. He may designate the time, or signal, for movement of the section(s) remaining in position.

d. When each section arrives at its new location, the platoon leader indicates its position area, designates the targets to be engaged or the new sector of fire, and in general, conducts the fire as at the initial firing position.

e. Displacement is usually by hand. Exceptions may occur in pursuit, or when the enemy is fighting a delaying action.

170. SUPPORTING FIRES DURING THE ASSAULT.—During the assault by rifle units, any portion of the platoon not displacing must be particularly alert to engage suitable observed targets in rear of the position being assaulted, or on its flanks, whose neutralization will assist the assaulting troops to capture and retain the position. For further details, see paragraph 38.

171. PROTECTING REORGANIZATION OF LEADING RIFLE UNITS.—*a.* Leading rifle units, after capture of a hostile position, may halt to permit reorganization. During such a period, hostile counterattacks may be expected and protection by heavy weapons is essential.

b. When protection of the reorganizing rifle units cannot be provided from the positions occupied for support of the attack, prompt forward displacement is necessary. Where displacements have been left to the judgment of the platoon leader, he should make the decision to displace as soon as the action indicates that the hostile position will be captured. At least one section should be started forward in time to reach the hostile position within a few minutes after its capture.

c. The mortars are sited to cover avenues of approach that cannot be adequately covered by other weapons of the battalion, and to fire on hostile heavy weapons and counter- attacking troops.

172. REORGANIZATION OF PLATOON.—If possible, complete reorganization of the platoon is postponed until the battalion objective is captured. However, partial reorganization must be effected whenever casualties, or disorganization, have seriously affected its fighting efficiency. Any reorganization should be carried out during a temporary cessation in the combat. Frequently the period during which the platoon is protecting the reorganization of rife units offers the best opportunity for this purpose. Leaders who have become casualties are replaced: ammunition bearers or basic privates replace other casualties. Adjustments are made within the platoon by reassignment of key men. Ammunition supply is replenished. The platoon provides its own local protection while the reorganization is in progress, utilizing its individual as well as its crew-served weapons.

173. RESUMING ATTACK.—During the reorganization of the leading rifle units, the company commander may assign new position area(s) to the platoon, or may assign new attack missions which require the selection of new areas. The platoon leader must then promptly complete the reconnaissance and other preliminary steps necessary to Permit rapid occupation of the new positions. Movement to them is made when directed by the company commander.

174. PURSUIT.—*a. General.*—Upon capture of the final objective a pursuit may be ordered. Battalions in the attacking echelon continue the advance in order to maintain direct pressure on the enemy and prevent his successful withdrawal. At the same time, other forces may execute an encircling maneuver to block the hostile retreat.

b. Direct Pressure.—(1) Squads or sections or the platoon may be attached to rifle units pursuing the enemy by

direct pressure. (See par. 42*b*.) Weapon carriers are usually released to the platoon. Carriers are used whenever practicable for the movement of guns, Skeleton crews, and ammunition.

(2) The initial stages of the pursuit often closely resemble an approach march. The platoon must employ dispersed formations, utilize all available concealment, and be prepared to defend itself with its individual weapons in case of hostile air attack. It must also be prepared to go into action promptly against ground targets to the front or to a flank. When hostile resistance is encountered, firing positions affording observation *by* which *effective fires* can be delivered on rear- ward groups of the enemy, and on roads or defiles through which the enemy must retire, are selected whenever available.

c. Encircling force.—When the platoon is with an encircling force in pursuit, it will usually be provided with motors for the movement of its foot elements. During the movement of the pursuing force, the platoon or any of its elements may be attached to an advance, flank, or rear guard.

d. Initiative of subordinate leaders.—Pursuit usually requires decentralization of action and demands the utmost in initiative, judgment, and aggressiveness on the part of platoon, section, and squad leaders.

175. ACTION WHEN ADVANCE IS HALTED.—When the advance of the battalion is definitely halted by hostile resistance, the leading rifle companies pass to the defensive on the ground held. The platoon is employed to protect the attacking echelon, during its organization of the ground, in the same manner as for protecting a reorganization; suitable defensive formations are adopted for the defense of the position.

176. SPECIAL OPERATIONS.—For the employment of the platoon in support of a raid or night attack, during combat in woods or villages, and in river crossings, see sections V to IX, inclusive, chapter 3.

SECTION III
DEFENSE

177. DISTRIBUTION OF MORTARS.—*a. 81-mm mortars of front-line battalion.*—Mortars are distributed, generally by section, both laterally and in depth. Firing positions are usually located in rear of the support platoons of the forward rifle companies so that minor penetrations of the main line of resistance will not force them to displace to the rear in order to fire on the captured locality. (See par. 58*a* and fig. 11.)

b. 81-mm mortars of *reserve battalion.*—By regimental order, 81-mm mortars of a reserve battalion are usually assigned firing positions in the rear areas of front-line battalions, and are given initial missions in support of the main line of resistance. Firing positions within defense areas to be occupied by the reserve battalion are also assigned. The platoon is released to the battalion when it occupies its defense areas or is employed in counterattack. (See par. 63.)

178. MISSIONS AND POSITIONS OF MORTAR PLATOON OF FRONT-LINE BATTALION.—*a. General.*—The company order will assign the firing missions to the platoon and indicate general firing position areas for the sections.

b. Missions.-Missions for mortars may include-

(1) *Secondary target areas forward* of *position.*—Prearranged fires in front of the position cover reverse slopes, wooded areas, ravines, and other areas defiladed from flat-trajectory fire. Firing data are prepared for as many target areas as time permits; they cover areas, within the sectors of fire, from the immediate front of the position to the limit of effective range and observation,

(a) The platoon leader divides the battalion front into overlapping sectors of fire and assigns one sector to each section. Both prearranged fires and fires on targets of opportunity, which lie within the sector of fire of a particular section, will usually be executed by that section.

(b) One or two sections may be given initial missions of close support of the combat outpost. Upon the withdrawal of the combat outpost, these mortars displace to their primary firing positions. When the mortars are attached to the combat outpost the withdrawal is ordered by the combat outpost commander.

(2) *Massing of fires.*—The battalion fire plan may prescribe areas where mortar fires are to be massed. Each section prepares data to fire into such areas.

(3) *Primary target areas.*—Primary target areas (one for each mortar) are assigned as part of the battalion fire plan. These target areas are located as close to the main line of resistance as safety will permit. The close defensive fires of all supporting weapons (machine guns, mortars, artillery, and infantry cannon) are coordinated by the battalion commander, so that the combination of these fires will present a continuous curtain of fire across the front of the battalion. Primary target areas for the mortars usually will not be designated until the final protective lines of the machine guns in close support of the main line of resistance have been determined. (See par. 58.) The platoon leader assigns one of these primary target areas to each mortar squad.

(4) Fires within position.—Fires within the position are planned to cover areas of likely penetration. To ac-

complish these fires against deep penetrations, supplementary positions to the rear will usually be designated.

(5) *Support of counterattack.*—Counterattacks to regain lost portions of the main line of resistance are planned by the commander of the battalion reserve. These counterattacks are supported by all available fire. The mortar platoon leader plans the supporting fire for his platoon. These supporting fires may include massing of fire on the penetrated area, fire across the base of the penetration to prevent the entrance of additional enemy forces into the penetrated area, and smoke missions to deny hostile observation. The details of the supporting fire plan include the initial mission to be fired, rate of fire, length of time the mission is to be continued or signal to lift or shift fires, and subsequent mission.

c. Firing positions.—(1) Within the localities designated in the company order, the platoon leader selects firing positions for each section. Firing positions must be within communicating distance of observation posts from which the fire sector can be observed. When practicable, mortars are emplaced within arm-and-hand signaling distance of the observation post. The firing position should provide defilade and concealment, and facilitate ammunition supply by motor.

(2) Ammunition bearers not employed in maintaining the supply of ammunition are located to afford close protection to the section.

d. Alternate and supplementary firing positions.—The platoon leader designates alternate observation posts and alternate firing positions for each section. The primary and alternate firing positions are separated by at least 100 yards. In each position the two mortars are separated by at least 30 yards. Alternate firing positions are prepared for each mortar position as time permits, and in the order of priority announced in the company order. Section leaders are authorized to move to alternate positions upon their own initiative. Displacement to supplementary positions is coordinated by the platoon leader, so that some mortars remain in firing positions at all times. (See par. 5.)

■ **179. RECONNAISSANCE.**—Upon receipt of the company defense order the leader of the mortar platoon takes such steps as are necessary to move his platoon to its assigned area. The platoon sergeant brings the platoon forward. The platoon leader, accompanied by such personnel as he desires (agent corporal, instrument corporal, messenger), usually precedes the platoon. His reconnaissance of the assigned area seeks to determine sectors of fire for each section, squad observation posts, section firing position areas, locations of friendly troops, and the location for the platoon observation post. He makes such reconnaissance of the foreground of the battalion area as time permits.

180. ORDERS OF THE PLATOON LEADER.—*a.* The platoon leader issues an oral field order to his section leaders. His order includes—

(1) Essential information of the enemy.

(2) Location of the main line of resistance and local security forces.

(3) Primary and alternate firing position areas for each section.

(4) Observation posts for each squad.

(5) Sectors of fire; primary and secondary target areas.

(6) Supplementary firing position areas and missions to be fired, if prescribed.

(7) Instructions for opening fires, including the signal for firing on primary target areas.

(8) Organization of the ground to include type of emplacements, cover for personnel, and priority of construction.

(9) Instructions governing ammunition supply.

(10) Location of battalion aid station.

(11) Location of platoon leader.

b. The order usually will be issued in fragmentary form. Initial orders covering firing positions, ammunition supply, and organization of the ground preferably are issued from a location from which the platoon leader can point out the firing positions. Instructions regarding sectors of fire and target areas should be issued at a point overlooking the foreground of the position.

181. MOVEMENT TO POSITIONS.—If the situation permits, the platoon leader directs that weapon carriers unload in the vicinity of the mortar positions. Otherwise the platoon leader instructs the platoon sergeant to move the platoon to the nearest available cover and concealment. At that point the mortars, their equipment, and ammunition are unloaded from the carriers and sent forward to the firing positions.

182. OCCUPATION OF POSITIONS.—*a.* During the organization of the positions, the platoon leader insures that observers are posted at squad observation posts and that mortars are set up in temporary firing positions to cover their assigned sectors of fire.

b. Every precaution is exercised to prevent discovery of mortar positions and observation posts by the enemy. Regardless of the effectiveness of concealment, all unnecessary movement must be avoided. During inactive periods, the positions are occupied by skeleton crews; other men occupy nearby cover positions.

183. PREPARATION OF POSITION.—*a.* The platoon leader is responsible for the preparation of firing positions and for the later development and improvement of the work. Work on the positions is begun as soon as possible after they are occupied. Excavations are camouflaged. Wherever possible, existing paths are used. Where new paths must be formed, either they are carried past the mortar emplacements and observation posts for at least 100 yards, or they are made to terminate in woods or brush. Upon the continued occupation of the position, splinter-proof overhead cover is constructed at each observation post. (See appendix I.)

b. Overhead clearing to permit fire from wooded areas is held to the minimum necessary for effective fire, since more complete clearing may indicate firing positions to air observers, or be discernable on aerial photographs.

184. PREPARATION OF FIRING DATA.—*a.* Firing data are prepared for each mortar position and recorded on range cards. Data are determined for laying on primary and secondary target areas. Secondary targets are numbered for reference only. The range card data for the secondary target nearest a target of opportunity form the basis for the delivery of fire on the target of opportunity.

b. Firing data for defiladed targets are determined by taking the azimuth and pacing the distance from some reference point that is visible from the observation post. Having obtained firing data for several key target areas, fires may be readily shifted to other nearby target *areas.*

c. The platoon leader, assisted by the agent corporal and instrument corporal, makes such reconnaissance of the foreground of the position to locate target areas and prepare firing data as time and the situation *permit.* Upon their arrival, section leaders supplement this reconnaissance for their sectors. For details of technique in the preparation of firing data, see FM 23 90.

185. FIRE PLANS.—*a.* As soon as locations for emplacements have been selected and target areas have been determined, the platoon leader submits an overlay or sketch of his dispositions to his company commander. The overlay or sketch shows the exact location of each primary firing position, the sector of fire for each section, and primary and secondary target areas. The overlay also shows alternate and supplementary firing positions. Reference to the map or airphoto from which the overlay was made, and coordinate intersections, are included on the overlay. See figure 21 for example of an overlay showing the prepared fires of a mortar platoon.

b. It will usually be impossible for the platoon leader to exercise continuous personal control over all sections once the actual fight has begun. Section or squad leaders will be called on to make most of the decisions as to the targets to be engaged. The platoon leader therefore insures

that all members of the platoon are thoroughly familiar with all the details of the action to be taken in case of enemy attack.

c. The platoon leader makes frequent inspections to insure that his orders have been understood and are being carried out. He questions the section and squad leaders as to what they will do in case the enemy attacks from different directions, or under various conditions of visibility. He examines sentinels on duty at the emplacements to assure himself that they understand their duties.

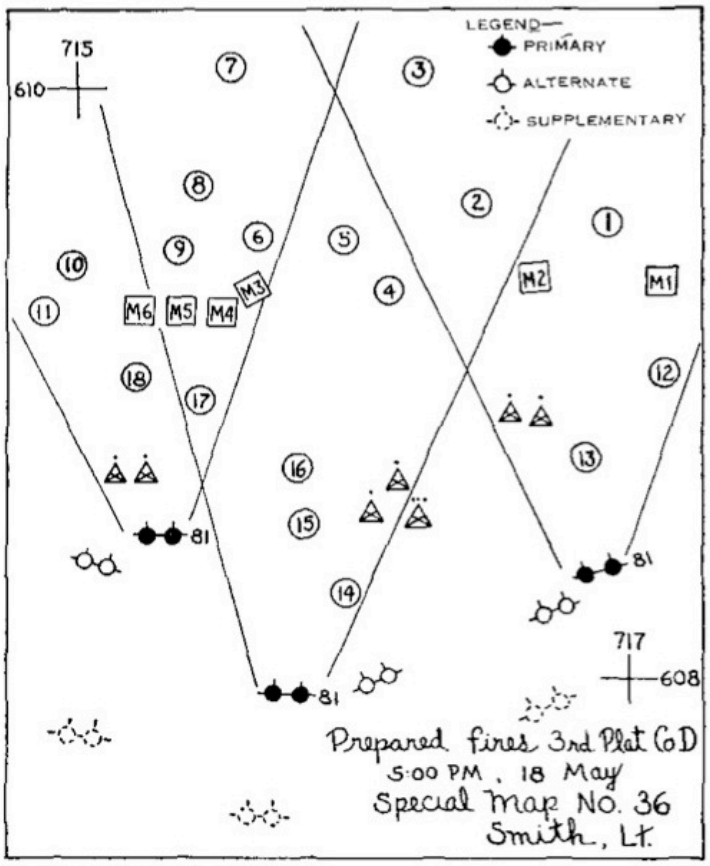


FIGURE 21.—Platoon leader's overlay, showing firing positions and planned fires—schematic.

NOTE.—In many cases, the observation available to a mortar section will not lie to the immediate front of its firing position. This will necessitate assignment of a sector of fire extending to the left front or right front of that section. For example, in the above diagram it might be necessary to assign the right section the central sector of fire, and the center section the right sector of fire. This would involve a change in the numbers given primary target areas, since each is given the number of the squad to which it is assigned. Hence, in this example, Ml and M2 would become IM and M4, respectively; M3 and M4 would become Ml and M2, respectively. No change would be made in M5 and M6.

186. OBSERVATION OF FIRE.—*a.* The platoon observation post is located so as to afford observation over as much of the foreground of the battalion position as possible, or over the more important part of the foreground, and to facilitate control. The platoon sergeant is located toward the rear where he can supervise the operation of the mortar crews and ammunition supply. Within the section, one noncommissioned officer usually acts as observer for each squad and one noncommissioned officer remains in charge of the mortar positions. The platoon leader may prescribe the posts of the noncommissioned officers of the section. (See par. 223.)

b. Alternate and supplementary observation posts are selected for the platoon leader and squad observers.

c. If arrangements can be made to clear friendly troops from the vicinity of target areas, mortar fires should be adjusted prior to hostile contact. The massing of surprise fires is facilitated by prior adjustment.

187. FIRE DURING DEFENSE.—The battalion fire plan prescribes the time, or conditions, under which fires will be released. With an ample supply of ammunition, mortars usually fire at maximum effective range at targets within their sectors of fire. The hostile attack is held under fire as it advances toward the position. Favorable mortar targets are covered routes of approach, hostile assembly areas, and hostile mortars and machine guns in defiladed positions. As the enemy advances closer, fires are laid on primary target areas. When a front-line unit calls for close defensive fires, only those mortars open fire whose primary target areas protect the unit calling for such fire.

188. ANTIAIRCRAFT SECURITY.—Measures for antiaircraft security of the mortar platoon are passive in character. Advantage is taken of all available natural cover and concealment. Camouflage is employed to provide concealment of emplacements from ground observers, as well as from aerial observation and photography.

189. ANTIMECHANIZED DEFENSE.—If a hostile tank attacks a mortar emplacement, the mortar crew takes advantage of the emplacement and individual foxholes for protection. The crew resumes its fire mission as soon as the tank passes. The M1903 rifle and antitank rifle grenades are used to combat tanks attacking the section firing position.

190. AMMUNITION SUPPLY.—*a.* The amount of ammunition to be placed on the position is prescribed by higher headquarters. The platoon leader allots the proportionate amounts to be placed at primary, alternate, and supplementary positions. After depositing the prescribed ammunition, weapon carriers move to the rear, remain concealed, and await orders. Replenishment cannot be ex-

pected before dark: hence ammunition expenditures must be carefully supervised. (See par. 239.)

b. Ammunition shelters are located so as to be convenient to each mortar position. Shelters may be provided by tunneling, or extending the mortar emplacement to either side and roofing the extension. The roof should be constructed of logs and earth at least one foot thick to minimize the effect of explosion. The floor of the ammunition shelter should slope toward the emplacement so as to provide drain- age. The essential requirements are to keep ammunition dry and well concealed.

191. DISPOSITIONS AT NIGHT OR IN FOG OR SMOKE.— During periods of reduced visibility, fire missions for mortars include those fires that may be prescribed by battalion and also fires on primary target areas.

192. DELAYING ACTION.—*a.* Initially mortars are usually emplaced well forward for long-range fires. They will generally be withdrawn to positions with the covering force in time to assist the withdrawal of the forward elements. Rear positions, successive delaying positions. and routes are reconnoitered and selected early. Weapon carriers are retained as near the mortar positions as practicable. (See par. 71.)

b. Where wide frontages have been assigned to rifle units. and mortars are to withdraw with those units, elements of the mortar platoon may be attached to rifle companies.

193. WITHDRAWAL.—*a. Night withdrawal.*—(1) The mortar platoon, less mortars left with the battalion covering force, may be withdrawn directly to the battalion assembly area, or attached to rifle units in whose areas the mortars are located. Routes of withdrawal and the assembly area are reconnoitered during daylight.

(2) Mortars are hand-carried to the rear to the location designated by the battalion order as the forward limit of transportation. (See par. 72*a*.)

(3) The number of mortars to be left in position with the covering *force* is prescribed in the battalion order. These are usually single mortars. Only enough men are left with each mortar to carry it out by hand on the withdrawal of the covering force. These mortars conduct fire to simulate normal activity. Ammunition requirements are carefully estimated to require the minimum evacuation or destruction of ammunition when the weapons withdraw.

b. Daylight withdrawal.—(1) The mortar platoon is withdrawn in accordance with the battalion plan. Some mortars will usually be left in position until rifle platoons on the main line of resistance have been withdrawn. Supplementary positions in rear of the battalion reserve may be occupied by other mortars.

(2) Mortars fire on those targets, whether weapons or personnel, most threatening to the withdrawal of the forward units.

194. 81-MM MORTAR PLATOON IN SECURITY MISSIONS.— The platoon may be employed with an advance guard, a rear guard, a flank guard, or an *outpost.*

a. Advance guard action is characterized by rapid attack. For employment of the 81-mm mortar platoon as part of an advance guard, see paragraph 20.

b. Flank guard, rear guard, and outpost actions are, in general, forms of delaying action. For flank guard, see paragraph 21; for rear guard, see paragraph 22; for outpost, see paragraph 66, and for delaying action, see paragraph 71.

CHAPTER 8

81-MM MORTAR SECTION AND SQUAD

SECTION I

GENERAL

195. COMPOSITION.—The 81-mm mortar section consists of a section leader and two squads. Each squad consists of a squad leader, a gunner, an assistant gunner, ammunition bearers, and a chauffeur who drives the squad weapon carrier.

196. DUTIES OF LEADERS.—*a. General.*—Section and squad leaders are responsible for the training, discipline, appearance, and conduct of the members of their units.

b. Section leader.—The section leader leads his section in route march and in approach march. In combat he selects and assigns general locations for the squads within the position area assigned the section; assigns observation posts and targets or sectors of fire to squads; supervises the fire of the section (see par. 156*b*); regulates the displacement of the weapons; and insures replenishment of ammunition by the ammunition bearers. Whenever greater efficiency will result, he combines the squad ammunition bearers under his control. If the bearers are unable to maintain an adequate ammunition supply, he makes timely requests to the platoon leader for ammunition. Whenever the mortars are being transported on weapon carriers he details one man to operate the section carrier automatic rifle and another man, armed with the section M1903 rifle and antitank rifle grenades, to ride the other carrier for antitank defense. (See par. 18*c*.)

c. Squad leader.—The squad leader is charged with the movement of the squad to designated locations; the selection of the exact location, and the preparation and occupation of firing positions and squad observation posts; intrenchment; camouflage; and the engagement of targets.

197. COMMAND.—*a.* The squad and section are usually employed as an integral part of the platoon. The platoon leader may exercise direct control, determine the action required by each change in the situation, and issue the necessary orders; or he may direct that a section, or squad, engage all suitable targets appearing in a given area or that it support a particular rifle unit. In the latter case the section or squad leader will comply with all re-

quests for fifes from the supported unit unless such requests are in conflict with instructions issued by his platoon leader.

b. If the squad or section is attached to a rifle unit, the commander of the unit to which it is attached exercises direct command over the attached unit.

198. COMMUNICATION.—*a.* Communication from the section to the platoon leader, or to the commander of a rifle unit to which the section may be attached or which it may be supporting, is primarily by voice or arm-and-hand signals; ammunition bearers may be used as messengers when necessary.

b. Two sets of reel equipment CE-1 (each set comprising one sound-powered telephone handset and one breast reel containing ¼ mile of light wire) are usually allocated to each squad by the company commander and carried in the squad weapon carrier. The two sets provide telephone communication (one channel) over a maximum distance of l2 mile. Additional wire may be provided by the company commander. (See ch. 10.) This equipment is furnished for communication between the squad observation post and the mortar positions when the two are so far separated that fire control cannot be satisfactorily exercised by voice or arm-and-hand signals. In moving situations requiring frequent displacement of the mortars, every effort should be made to locate the mortars within visual signaling distance of their observation posts.

199. OBSERVATION AND CONTROL OF FIRE.—One noncommissioned officer of the section remains in charge of the mortar positions at all times to supervise ammunition supply and the execution of fire orders by the mortar crews. The other two noncommissioned officers of the section are the observers at the squad observation posts. They control and adjust the fire of the respective mortars for which they are observing.

a. The section leader may divide the section sector of fire into two overlapping squad sectors. Each squad fires on suitable targets within its assigned sector and fires on targets in adjacent sectors as secondary missions when there are no remunerative targets in its own sector. The section leader may mass the fires of both mortars on particularly favorable or threatening targets. If the sector of the section is narrow, each squad may be assigned the entire sector.

b. Each squad engages suitable targets within its sector and fires into adjacent sectors as secondary missions. When necessary, the section leader specifies the time of opening fire; he may restrict the expenditure of ammunition, either by limiting the type of targets that may be fired on, or by limiting the number of rounds that may be expended on a single target, or by a combination of both methods. If the section leader remains in charge of the

mortar positions, he communicates with his squad leaders at their observation posts by voice and arm-and-hand signals; or, if the mortars are separated from the observation posts by a considerable distance, he uses sound-powered telephones.

200. CONDUCT OF FIRE.—*a.* Fire is conducted in accordance with the technique set forth in FM 23-90. Mortar crews and leaders must be alert at all times for signals or commands from the next higher leader, which may direct the opening or cessation of fire, that the rate of fire be changed, or that the fire be shifted to new targets.

b. Whenever control by the platoon leader (or by the officer commanding a rifle unit to which the section or squad is attached) becomes impracticable, the section or squad leader conducts his fires according to his own judgment in conformity with his mission and his knowledge of the fire support to be rendered by other weapons. If he is operating under a mission order (as, for example, to support a particular rifle unit), he unhesitatingly opens fire on each favorable target that appears in the area covered by his mission. He must not wait each time to receive a request from the supported unit, but must anticipate its needs for fire support and deliver the needed fires whether or not they are requested.

e. Careful regulation of ammunition expenditure is essential, especially when the ammunition must be carried long distances by hand. Sufficient ammunition must be on hand to engage important targets as they appear.

201. MARCHES.—For dispositions, missions, and conduct of the section and squad in route march; or when part of advance, flank, or rear guards; or for movement by motor, see paragraphs 19 to 23, inclusive.

202. BIVOUAC.—See paragraph 24.

SECTION II
ATTACK

203. APPROACH MARCH.—*a. General.*—(1) The approach march may be made in daylight or at night. The mortar section usually marches as a part of the platoon, and its initial formation and location in the platoon formation are prescribed by the platoon leader. Occasionally the section or squad may be attached to, or directed to follow and support, a leading rifle company. The section leader may change the initial formation (disposition) of the section upon his own initiative in order to take advantage of cover, avoid undue casualties, maintain control, or increase the section's readiness to go into action. If the section is directed to guide on another unit, connecting files (preferably double) should be employed whenever the terrain or

lack of visibility makes it likely that visual contact may be broken.

(2) In daylight, the section leader should precede his unit by a short distance: squad leaders watch him for signals and insure that their squads make the best use of available cover and concealment. If the section is detached from the platoon, the section leader controls the movement of weapon carriers accompanying the section, provides air-antitank guards, reconnoiters in advance of the section for dangerous areas, determines how they can be avoided or how they should be crossed, and reconnoiters for possible off-carrier and firing positions. (See par. 159.) The leader of a squad detached from its section performs the duties outlined above for the section leader.

(3) At night, close supervision must be exercised by the section and squad leaders to prevent loss of direction or straggling.

b. Approach march-dispositions.—(1) The section may be disposed in section column, in line of squads, or with squads echeloned to the right or left. These formations have the same advantages, disadvantages, and usefulness as the similar formations for the platoon. (See par. 159*c*.)

(2) The usual formation for the squad is squad column. For rapid crossing of dangerous areas, the squad leader may deploy the squad as skirmishers.

204. ASSEMBLY AREA (POSITION).—*a.* At times the section may enter the fire fight directly from the approach march. However, if the battalion occupies an assembly area preliminary to deployment for attack, the section may be given the mission of fire support for the covering force, outpost, or local security elements which protect the assembly area. When the section is thus employed, observation posts are established and firing positions selected as described in paragraphs 65 and 161. Since the halt in the assembly area is usually temporary, the necessary protection to weapons and crews from bomb fragments or aerial machine-gun fire should be provided by mounting the mortars in existing ditches or small holes. If these are not available, emplacements are dug. (See appendix I.) Positions are camouflaged unless there is sufficient natural cover to conceal them from aerial observation. Forward observers and personnel at the firing positions must be constantly alert; reliefs are provided if the assembly area is to be occupied for more than two hours. Personnel not required at the mortar positions utilize existing ditches or holes, or dig protective entrenchments. (See figs. 26 and 27.) Weapon carriers are placed in covered positions and concealed. If the platoon leader does not prescribe a location and mission for the section antitank rifle, it is placed to cover the most likely avenue of approach for armored vehicles.

b. If the section is assigned a location in the assembly area, action is taken by the platoon leader as indicated in paragraph 161.

c. While the battalion is halted in the assembly area, squad leaders inspect the physical condition of every man. (See FM 21-10.) Each man's equipment is also checked, as well as the squad weapon and equipment. The section leader supervises this inspection. Any ammunition which has been expended is replaced.

205. MOVEMENT TO INITIAL FIRING POSITIONS.—*a.* (1) When the situation requires the battalion to move directly from the approach march into an attack without halting in an assembly area, the platoon leader (or the commander of a rifle unit to which the section is attached) usually will assign a covered location near the firing position area of the section as the final march objective.

(2) When the battalion is to occupy an assembly area, the section is directed to move from its local security positions, or from its position in the assembly area if it is not being employed on security missions, to a covered location near the section's firing position area.

(3) Instructions for the movement forward will usually direct whether the mortars and ammunition are to be carried farther forward by weapon carriers and, if so, may specify the off-carrier position.

b. The platoon may move forward as a unit under the platoon sergeant, while the section leaders report without delay to the platoon leader to receive their orders. Or each section leader may lead his section until it reaches a point where the covered location near the firing position area and the area itself can be pointed out to the senior squad leader. He should then issue brief instructions for the further movement of the section, turn control over to the senior squad leader, .and precede the section as rapidly as possible to report to the platoon leader or, if attached to a rifle unit, to the commander of that unit.

c. The off-carrier position should be as far forward as practicable in order to conserve the strength of personnel prior to the attack. The primary mission of the weapon carriers after the attack starts is to maintain an uninterrupted supply of ammunition within hand-carrying distance of the firing positions. Therefore, the weapon carriers are brought as far forward as possible without exposing them to hostile ground observation and flat-trajectory fire. If the carriers transporting the weapons and ammunition are allowed to take a circuitous route in order to get farther forward, they may be delayed and the section may not be able to go into firing positions in time to perform its initial mission. Whenever, therefore, a point is reached where the carriers cannot be moved farther forward without either separating them from the foot elements of the section or exposing them to hostile observation and fire,

the mortars and an initial supply of ammunition should be removed from the carriers and hand-carried the remainder of the distance.

d. On reporting to the platoon leader (or to the officer commanding the unit to which the section is attached) the section leader orients himself and receives the attack order. For contents of the order see paragraph 164.

e. Having received the order, the section leader rapidly reconnoiters his assigned position area, selects the approximate locations for the two mortars, determines how he will engage the assigned targets or cover the assigned sector of fire, and selects locations for the mortar observation posts. He decides which noncommissioned officer is to remain in charge of the mortar positions, if this has not been prescribed. (See par. 199.)

206. SELECTION OF FIRING POSITIONS.—*a.* The two mortars should be separated from 50 to 100 yards, to reduce the chances of both being put out of action by a single shell. Wherever possible, each mortar position should-

(1) Be close enough to the squad observation post to permit the transmission of fire orders by voice or by arm-and-hand signals. (Because of the frequent displacements in attack, sound-powered telephones should be used only when fire control cannot be exercised efficiently by other means of communication.)

(2) Provide protection from fire, and concealment from air or ground observation, for the mortar and the crew. If possible, it should be situated among natural tank obstacles.

(3) Have a covered route (for ammunition supply) leading to it from the rear.

b. If mortar positions providing the necessary cover and concealment, and to which an adequate supply of ammunition can be maintained, cannot be found within voice or arm-and-hand signaling distance of the squad observation posts, the positions must be located close enough to permit fire orders to be transmitted by sound-powered telephone or, if this means of communication is not available, by the relay of signals. (See par. 198.)

c. The section leader selects alternate positions and notifies squad leaders of their location. There should be a route between the primary and alternate firing positions which is protected from hostile fire.

207. OBSERVATION POSTS.—*a.* The observation post for each mortar should satisfy the following requirements:

(1) Provide a good view of the targets or sector of fire, including observation of the friendly rifle troops being supported.

(2) Permit receipt of instructions from the next higher leader, by signal if possible.

(3) Provide concealment from enemy observation and, if possible, cover from hostile fire.

(4) If practicable, be close enough to the mortar position to permit fire control by voice or arm-and-hand *signal.*

b. Section or squad leaders select alternate observation posts, to be used if hostile fire forces them to move, or when the primary posts are blinded by smoke. If practicable, the location selected for the alternate observation post should afford a route from the primary observation post that is protected from flat-trajectory fire.

c. In the movement into primary or alternate observation posts, as well as during their occupation, care must be taken to avoid all unnecessary movement or exposure that would attract hostile attention and fire.

208. SECURITY MEASURES.—*a.* Ordinarily the platoon leader directs the posting of air-antitank guards to give warning of hostile air, mechanized, or infantry attack on the mortar positions. When the section is attached to a rifle unit, or its firing positions are widely separated from those of the remainder of the platoon, the section leader maintains his own guards unless he has received instructions to the contrary. Under similar circumstances, the section leader is responsible for utilizing any available ground unfavorable for tank movement, both during displacements and for firing positions.

b. It is the section leader's duty to employ the section M1903 rifle and antitank rifle grenades for close-in protection against hostile armored vehicles. The section leader may decide to carry this weapon himself during the action. If not, he decides where it is to be posted and who is to use it, and issues instructions accordingly. (See par. 4.)

c. For antiaircraft security the squad and section rely chiefly on dispersion of personnel and equipment and on the use of cover and concealment. In the absence of specific orders, fire against hostile low-flying airplanes should be prohibited unless they actually attack the section, or it is obvious that they have discovered its location. When fire is opened, all available men armed With rifles or carbines participate. (See par. 18*c.*)

209. OCCUPATION OF FIRING POSITIONS.—*a.* Upon completing his reconnaissance, the section leader signals his squad leaders forward to a location from which their firing positions can be pointed out to them. If the squad targets or sectors of fire can be seen from this point, the section leader then issues his complete order. Otherwise he issues sufficient instructions to enable the squads to occupy their firing positions and completes his order later, preferably by visiting each squad leader.

b. Squad leaders select the exact firing positions of their mortars, call or signal their squads forward, direct

the emplacement of the mortars, and issue instructions concerning dispersion and use of cover by members of the squad. Ammunition is distributed, each pile being placed under cover. The positions are improved as time permits. If cover and concealment is lacking, each mortar should be well dug in and camouflaged.

c. The platoon leader, or the leader of a rifle unit to which the section is attached, is notified as soon as the section is in position and ready to fire. When time permits, the section leader includes a simple sketch, or overlay, showing the dispositions of the section and reference points in the enemy areas which may be used in designating targets.

210. ORDERS.—*a.* The section leader's attack order to his squad leaders should include—

(1) Necessary information of the enemy and of friendly troops.

(2) Mission of the section.

(3) General location of each squad's observation posts and of its primary, alternate, and supplementary firing positions (if not already indicated); and the boundaries of its sector of fire, or the location of its targets.

(4) Any restrictions on the opening or conduct of fire.

(5) Instructions for posting air-antitank guards; any necessary instructions concerning observation for secondary targets, or for guarding against surprise attack by hostile infantry.

(6) Location of the battalion aid station.

(7) Instructions concerning *ammunition* supply.

(8) Announcement as to which noncommissioned officer is to be in charge of the mortar positions.

(9) Location of the platoon observation post.

(10) A fire order, if desired. If one is to be issued later, a statement to that effect should be included.

b. Later orders issued by the section leader contain only those items necessary for squad leaders to perform subsequent missions efficiently.

c. Squad leaders are questioned to insure their understanding of the important details of all orders, or they may be required to repeat them. In addition, all elements of fire orders are repeated as received, element by element, by all subordinates. Whenever practicable, arm-and-hand signals are used, both to give and to acknowledge orders.

d. For fire orders, see FM 23-90.

211. OCCUPATION OF ALTERNATE AND SUPPLEMENTARY POSITIONS.—*a.* Observers move to alternate observation posts on their own initiative when movement is necessitated by hostile fire or smoke. (See par. 5.)

b. Section leaders are authorized to move the mortars to alternate firing positions whenever hostile fire threatens destruction of the mortars and their crews. When the section leader acts as observer, he may delegate authority to make this movement to the squad leader in charge of the mortar positions but should require the squad leader to inform him immediately of the movement.

c. Movements to supplementary firing positions are ordinarily made only when directed by the platoon leader. The exception is when the section is given a mission which requires it to engage targets from supplementary positions without further orders from the platoon leader.

212. DISPLACEMENT.—*a*. The squad (or section) leader notifies the next higher leader when his fires are masked, or are about to become masked, by the advance of friendly rifle troops, or when observation becomes deficient.

b. When the section is operating as part of the platoon, displacements are made as directed by the platoon leader. Under these conditions the section ordinarily displaces as a unit. The platoon leader directs whether the displacement will be begun on order, or when fire is masked. Either prior to, or during the course of, the displacement he will assign the new position area and the new targets or missions. The section leader precedes the section at a distance which will enable him to reconnoiter the route and still maintain control of the section by signal. On arriving at the new position area, the section leader observes the location of front-line friendly troops, notes the enemy activity, locates observation posts from which the new targets or sector of fire can be observed, and determines the approximate location of the firing positions. The squad leaders are then summoned, necessary orders issued, and the positions occupied in the same manner as are the initial firing positions,

c. When the section is separated from the platoon (as, for example, when given an order to follow and support a particular rifle unit), the section leader decides when displacements are to be made. They are made when fire is masked by the advancing rifle units, when necessary to provide protection to a supported rifle unit during a reorganization, or whenever otherwise necessary to accomplish the assigned mission. The section usually displaces by squad echelon. After instructing the rear squad as to the area to be watched, when to displace, and what route to follow, the section leader leads the displacing squad to the new position area as described in *b* above.

d. When the section is attached to a rifle unit, the commander of that unit may order all displacements, or may leave decision as to when and where to displace to the judgment of the section leader. Before the attack starts, if he has not been told whether or not he may dis-

place on his own initiative, the section leader should ask the rifle unit commander for definite instructions.

213. REORGANIZATION.—*a.* As the attack progresses, the section may be employed to protect front-line rifle units while they reorganize. Mortar positions and observation posts are selected from which the section can cover the front and flanks of the supported unit.

b. Section and squad leaders take advantage of every lull during the reorganization of the supported rifle unit to reorganize their own units and replenish ammunition supply. Key men who are casualties are replaced by other members of the squads. If necessary, the strength of the two squads is equalized by transfers from one squad to the other. Contact is made with the leader under whose orders the unit is operating to secure instructions as to the mission of the unit when the attack is resumed, Frequently the next mission cannot be accomplished from the same positions occupied to protect the reorganization; reconnaissance for suitable new positions must be made promptly. Instructions are secured from the next higher leader as to when movement to the new positions can be made. As far as practicable orders are issued and other preparations made in advance, so that the movement to the new positions can be completed in the short time usually available.

214. PURSUIT.—Pursuit, except by fire, is undertaken only when ordered by the commander under whom the section is operating. The section may be employed as an integral part of its platoon; it may be attached to a rifle unit; or it may be given orders to follow and support a designated rifle unit. Pursuit is conducted as prescribed for the platoon in paragraph 174.

215. ACTION WHEN ADVANCE IS HALTED.—When the advance of the battalion is definitely halted by hostile resistance, the section is employed to protect the leading rifle companies while they organize the ground for defense. Its action is similar to that discussed in paragraph 213 for reorganization.

216. SPECIAL OPERATIONS.—For the details of employment at night, during combat in woods or villages, and in river crossings, see sections V to IX, inclusive, of chapter 3.

217. AMMUNITION SUPPLY IN ATTACK.—*a.* When the section is operating as part of the platoon, the platoon leader keeps the section leader informed of the nearest location at which a loaded weapon carrier is spotted, or at which ammunition has been dumped.

b. If the section is attached to a rifle unit, the section leader must secure instructions from the commander of the unit to which he is attached as to whether he is to

send his weapon carriers directly to the battalion ammunition distributing point for refill, or whether they will operate under the supervision of a designated representative of the rifle unit commander.

c. Weapon carriers loaded with ammunition are disposed to take advantage of all available cover and concealment. Chauffeurs keep in contact by signals or by moving forward on foot. As a carrier moves forward to a new concealed location, the next carrier in rear moves forward and occupies the position just vacated. When a carrier is sent to the rear for refill, the next carrier in rear may move forward and occupy the vacated position.

SECTION III
DEFENSE

218. TACTICAL EMPLOYMENT.—*a. 81-mm mortars of front-line battalion.*-(1) The platoon leader assigns specific missions to each section in accordance with the company order. The platoon order usually will be issued in fragmentary form. Initial orders covering primary and alternate firing positions, ammunition supply, and organization of the ground preferably are issued from a location from which the platoon leader can point out the firing Positions. Instructions regarding observation posts and sector of fire for the section (to include a primary target area and secondary target areas for each squad) should be issued at a point overlooking the foreground of the position. For other details included in the platoon leader's order, see paragraph 180.

(2) In addition to these normal missions, a section may be emplaced initially in support of the combat outpost. When so employed, the platoon leader may use other personnel to prepare its primary and .alternate firing Positions and the necessary firing data for missions in support of the battle position. A section supporting the combat outpost is withdrawn from forward positions to its primary firing positions in time to execute assigned missions in support of the battle position. (See par. 178*b* (1).)

b. 81-mm mortars of reserve battalion.—Missions and positions of the 81-mm mortars of a reserve battalion are usually assigned by regimental order. (See par. 63.)

219. RECONNAISSANCE.—Upon completion of the platoon order, the leader of a mortar section of a front-line battalion selects observation posts, or verifies those assigned by the platoon leader. (For conduct of fire, see par. 156; for observation and control of fire, *see* par. 199.) The section leader makes such forward reconnaissances as are necessary to identify registration points and target areas, and to prepare firing data. He ascertains the location of the main line of resistance and nearby rifle units. He locates routes

to his position for replenishment of ammunition, and marks them, if necessary.

220. SELECTION OF FIRING POSITIONS.—Within the firing position areas assigned by the platoon leader, the section leader selects the location for each mortar. Each firing position should be defiladed and concealed, and must be within communicating distance of the observation posts (not over one-half mile if sound-powered telephones are employed). The two mortars should be sufficiently far apart (30 yards minimum) to avoid simultaneous destruction by a single shell.

221. ALTERNATE FIRING POSITIONS.—At least one alternate firing position is selected for each mortar: alternate positions for the section should be at least 100 yards from the primary firing position. Alternate observation posts may be necessary. Section leaders are authorized to move their sections to alternate firing positions if required by hostile fires. (See par. 5.)

222. SUPPLEMENTARY FIRING POSITIONS.—The platoon leader may assign supplementary firing positions to the rear from which fire may be delivered on deep penetrations within the battalion area. Movement to supplementary positions is coordinated by the platoon leader in order to keep some mortars firing at all times.

223. ORDERS.—The orders of section and squad leaders follow generally the outline of the order of the platoon leader. (See par. 180.) Unless prescribed by the platoon leader, the section leader designates the noncommissioned officer who will remain in charge of the mortar positions to supervise ammunition supply and the execution of fire orders. (See par. 199.)

224. OCCUPATION AND ORGANIZATION OF FIRING POSITIONS.—*a.* As soon as the squad arrives at the indicated position, the mortar is temporarily mounted to cover the assigned sector of fire. An observer remains at the observation post. The section leader indicates the sector of fire to the corporal by pointing out definite terrain features.

b. The gunner and assistant gunner construct the primary mortar emplacement. When ammunition has been distributed, the other members of the squad start preparation of the alternate emplacements. Individual standing type foxholes are dug for all members of the squad. (See appendix I.) (Ammunition bearers who remain at the position are located to provide close protection to the section.)

c. Routes are selected by which the crew may move the mortar to its alternate or supplementary positions.

d. Primary firing positions are completed first. The order of the platoon leader will include the priority of reorganization of alternate and supplementary positions.

e. Camouflage is carried on concurrently with all steps in the organization of the position. Camouflage discipline includes avoidance of making new paths (or vehicle tracks) leading to emplacements or observation posts. Where such paths are unavoidably formed, they are carried beyond the mortar emplacement or observation post. Spoil from pits is carried off or sodded over as soon as dug, Camouflage nets are placed over emplacements as soon as practicable.

225. SECTORS OF FIRE.—Sections are assigned overlapping sectors of fire. The section leader divides the sector into two overlapping squad sectors, or, if the observation posts of the squads are near each other, he may have each mortar cover the entire sector. Each squad fires on targets of opportunity within its assigned sector, It fires on target areas in adjacent sectors as secondary missions.

226. TARGET AREAS.—*a.* Mortar target areas are classified as primary and secondary.

b. Each mortar squad is assigned one primary target area by the platoon leader. The squad must be prepared to deliver fire promptly on this area whenever the prearranged signal for close defensive fires is given. When not firing on other targets, the mortar is laid on the primary target area.

c. Secondary target areas in front of the position cover reverse slopes, wooded areas, ravines, and other areas defiladed from fiat-trajectory fire. Firing data are prepared for as many secondary target areas as time permits. They cover areas extending from the limit of effective range and observation to areas on, and in rear of, the main line of resistance to limit hostile penetration and support friendly counterattack.

d. Mortar fires should be at least 200 yards from friendly troops.

227. FIRE PLAN.—*a. Firing data.*—Firing data for the assigned primary target area and for secondary target areas are prepared as a range card by the squad leader. (See FM 23-90.) These fires are known as prearranged fires.

b. Fire plan.—The fire plan includes instructions under which fires are opened; for moving to supplementary positions; and for firing on the primary target area, the prescribed signal for such fire, and the location from which the signal will be given.

(1) *Fires on secondary targets.-Secondary* fires are executed in accordance with the approved fire plan, or upon the initiative of the squad or section leader if opening of such fire is left to their judgment.

(2) *Fires on primary targets.—(a)* Fire on the primary target area may be called for by the mortar observer if a remunerative target is presented, by prearranged signal from a front-line unit, or by order of higher authority. When such fire is called for by signal from a front-line unit, only those mortars whose primary target areas protect that unit open fire. The battalion fire plan designates those mortars that will fire on signal from a specified area.

(b) If the observer (squad or section leader) can see the target, he determines the rate and duration of fire within the limitation placed on ammunition expenditure by higher authority. When the observer cannot see the target because of fog, smoke, darkness, or defilade, he maintains the rate and duration of fire as specified in the battalion fire plan. In the absence of instructions, the usual rate is 9 rounds per minute for two minutes, and thereafter 6 rounds per minute until ordered to cease fire.

228. AMMUNITION SUPPLY.—Replenishment of ammunition usually cannot be accomplished prior to dark. The section leader must exercise careful supervision over ammunition expenditures. For construction of ammunition shelters, see paragraph 190*b*. (See fig. 36.)

229. DISPOSITIONS AT NIGHT OR IN FOG OR IN SMOKE.—During periods of reduced visibility, methods of engaging targets are the same as those employed for prearranged fires at any other time. Due to lack of observation, the effect will be uncertain. For the technique of night laying, see FM 23-90.

230. ANTIAIRCRAFT SECURITY.—The mortar section employs passive measures for antiaircraft security. (See par. 188.)

231. ANTIMECHANIZED DEFENSE.—When a tank nears the emplacement, the mortar crew takes advantage of the emplacement and individual foxholes for protection. The crew resumes its fire mission as soon as the tank passes. The section leader employs the *M1903* rifle and antitank rifle grenades to combat tanks approaching within 75 yards of the section position.

CHAPTER 9
ADMINISTRATION

SECTION I
SUPPLY

232. REFERENCES.—For definitions, fundamentals, and methods relating to supply, see FM 100-10; for logistical data, see FM 101-10; for supply within the infantry regiment, see **FM 7-30** and **7-40**.

233. RESPONSIBILITY.—Supply is a responsibility of command which cannot be delegated. The company is the basic unit with administrative functions. The company commander is responsible for making timely requests for supplies, and for distributing supplies to his company. The company is also responsible for the supply of attached units or personnel.

234. MEANS.—*a. Personnel.*—The administration group in company headquarters consists of the following personnel, whose duties and locations are as indicated:

(1) *Mess sergeant, cooks, and* cooks' *helpers.*—The mess sergeant is responsible to the company commander for checking rations and water issued to the company, the division of rations into meals, the supervision of the cooks and cooks' helpers in the preparation of meals, and for the distribution of meals to the company. Usually, he and his assistants are in the regimental train bivouac, working under the direct supervision of the commander of the service company.

(2) *Supply sergeant and armorer-artificer.*—The supply sergeant is responsible for checking and distributing supplies, except rations and water, and for the supervision of the activities of the armorer-artificer. During combat the supply sergeant will usually be in the forward area in order to assist the company commander in matters relating to supply, particularly ammunition supply. He may be located at the company ammunition point. (See par. 239*b* (2).) The armorer-artificer will usually be located in the train bivouac where he assists in the checking and distribution of supplies, executes minor repairs on weapons, and performs simple carpentry tasks.

(3) *Company clerk.*—The company clerk keeps the company records. As a member of the regimental person-

nel section, he is employed under the personnel officer. In the field the personnel section may be separated from the regiment, and operate and move with the rear echelon of the division or corps; otherwise, it operates in the regimental train bivouac.

b. Transportation.—(1) The company transport comprises those vehicles organically assigned to the company. Ordinarily, these vehicles are used for command, communication, and the transportation of weapons, ammunition, and certain personnel of the company.

(2) Vehicles in the battalion section of the kitchen and baggage train are allotted to the company. These vehicles carry organizational equipment, rations, water, and other impedimenta not carried on company transport. When part of the organic loads have been dumped, kitchen and baggage train vehicles may be used to haul the individual rolls of personnel.

(3) In the battalion section of the ammunition train, one or more vehicles are allotted to the heavy weapons company. Initially, this transportation carries loads of small-arms and mortar ammunition and special ammunition (grenades and pyrotechnics) in quantities prescribed in the Table of Basic Allowances. Their employment in ammunition supply is discussed in paragraph 239.

235. CLASS I SUPPLY.—*a. General.*—(1) Rations and water are the principal items of class I supply for the company. These items are consumed at a relatively uniform daily rate, irrespective of combat operations.

(2) A ration is the allowance of food for one person for one day. The field ration is ordinarily issued in time of war, national emergency, or during field training. It is issued in kind; its components and substitutes are prescribed by the War Department or by the commander of the field forces. It may consist of field rations A, B, C, or D, or combinations of these. See **FM 7-30** for a description of these rations and their uses.

(3) Troops should receive three meals daily. At least two of these meals should be hot. Plans for feeding troops are based upon the tactical situation, availability of vehicles, road net, traffic conditions, terrain, and weather. Methods of preparation and distribution of rations are discussed in **FM 7-30**.

b. Attachments for rations.—Mess personnel at the kitchen location will be informed of any attachments for rations in time to insure the preparation of an adequate amount of food and the appropriate loading of kitchen vehicles to secure proper distribution. If mess personnel are at a company mess location, the information is furnished by the company commander; if at a battalion kitchen location, by the battalion supply officer; if under regimental control in the train bivouac area, by the service company

commander, who, in turn, has been furnished the feeding plan by the regimental supply officer.

c. Battalion release of kitchen and baggage vehicles; action by company.—(1) The kitchen and baggage train usually moves and bivouacs under regimental control. The battalion section of the train is released to battalion control when necessary.

(2) The battalion supply officer (S-4) formulates a plan for feeding the companies of the battalion. The plan includes the time and place of release of kitchen vehicles and the time and place they are to revert to battalion control. After approval of the plan by the battalion commander, the battalion supply officer advises each company commander of the details of the plan and arranges for company guides. (See *d* below.)

(3) The company provides a guide, who meets the company kitchen vehicles at the battalion point of release and conducts them over the most suitable route to the company mess location. The company commander is responsible for returning these vehicles to battalion control at the prescribed point, on or before the hour specified in the battalion plan.

d. Company mess location; method of distributing rations and water to individuals.—(1) The company mess location should be as near the troops to be fed as tactical conditions permit. The location should afford concealment from hostile observation and should provide defilade from hostile flat- trajectory fires. The company commander selects the company mess location, and insures that the men of his company and those of any attached elements are fed. The feeding of personnel at detached posts must not be overlooked.

(2) *(a)* After the kitchen vehicles arrive at the company mess location, feeding of troops begins as soon as preparations are completed. If a majority of the men can be served at the mess location, this is the most satisfactory method of feeding. Care must be taken to prevent congestion at the mess. Dispersion may be secured by serving the meal by squad, and requiring that squads remain separated by safe distances while at or near the mess location. Food and water in containers may be transported by carrying parties to those men who cannot come to the mess.

(b) In some instances elements of the company will be employed at a considerable distance from the mess. It may be practicable to deliver food and water containers to these elements by use of a company vehicle, such as a weapon carrier; or platoons or sections may be attached to nearby companies. When expedient, kitchen transportation of companies adjacent to heavy weapons elements may deliver and return food and water containers of these elements. In any event, it is incumbent upon the commander of the heavy weapons company to make timely

recommendations to the battalion commander of a plan for distribution of rations which will insure that his men are fed.

(c) Platoon leaders, after being informed of the time, place, and method to be used for the distribution of the meal, are responsible for having carrying parties, or organic platoon transportation, present at the company mess location when the kitchen vehicles arrive. Each carrying party, or the driver of the platoon vehicle, is informed as to the latest hour at which the empty containers must be returned to the company mess location.

(3) Filled water containers are sent forward with meals. Canteens are refilled at the company mess location. This is expedited by emptying containers into sterlizing bags having multiple outlets from which the canteens may be refilled. When men are unable to come to the mess location, their canteens may be brought to the mess location by others and refilled, or water may be transported to them in water containers by carrying parties or company vehicles. Water is replenished locally wherever practicable. Before use, however, this water must be tested, purified if necessary, and its use approved by appropriate medical personnel. For details of water purification see FM 8-40.

236. CLASS II SUPPLY.—*a. General.*—Class II supplies comprise articles for which allowances are established by Table of Basic Allowances. Type items are clothing, gas masks, arms, trucks, and items of signal equipment.

b. Replacement.—(1) Clothing and individual equipment are ordinarily replaced during periods when the company is not engaged in combat.

(2) When weapons or prescribed items of individual or organizational equipment are required during combat to replace those which have been damaged, destroyed, or lost, the company sends its requests through command channels to the regiment. Small amounts are usually involved, and delivery is made through the same channels as for class I supplies.

(3) The company sends back damaged weapons and equipment to the train bivouac by kitchen vehicle or other transport going to the rear. The armorer-artificer makes such repairs as he can. The supply sergeant, or armorer-artificer, arranges with the supply office group (S-4 section) of the service company to turn in and secure replacement for articles damaged beyond local repair.

237. CLASS III SUPPLY.—*a. General.*—Class III supplies for the company consist of gasoline, lubricating oil, and grease. The regiment carries a reserve of gasoline and oil in containers. A part of this reserve may be distributed to individual vehicles. These containers and the fuel tanks of vehicles are refilled at every opportunity.

b. Distribution.-(1) During movement or in combat, the regiment and higher headquarters will establish class III distributing points for the resupply of motor fuel. At such points resupply may be effected by exchanging empty for filled containers or by the direct filling of vehicle tanks from multiple-outlet trucks.

(2) Individual vehicles sent to rear area supply establishments are serviced with gasoline and oil at these points. Other vehicles are resupplied at or from the regimental gas and oil distributing point which is established in the regimental train bivouac or other suitable location. To facilitate supply, small stocks of class III supplies may be established at the battalion ammunition distributing point, or filled containers may be delivered with class I supplies to the company area.

238. CLASS IV SUPPLY.—*a. General.*—Class IV supplies comprise articles which are not covered in Table of Basic Allowances and the demands for which are directly related to the operations contemplated or in progress, except articles in class III and class V. Engineer field fortification materials are the principal class IV items of concern to the company.

b. Engineer supply.—The company commander is informed by the battalion commander as to where and when engineer field fortification materials will be furnished. Likewise, when additional intrenching tools are to be furnished by the battalion, he is informed of the details of distribution.

c. Medical supply.—During combat, emergency requirements are obtained by informal request to the nearest medical unit.

d. Other supplies.-Other items of class IV supply, such as additional field wire, additional decontamination apparatus, and the like, are obtained by informal requisition, either orally or by message, sent through command channels to the regiment.

239. CLASS V SUPPLY.—*a. General.*—(1) Class V supplies include all classes of ammunition, pyrotechnics, antitank mines, and chemicals.

(2) Initial supply of ammunition for the heavy weapons company is carried as follows:

	Carried on—
For individual weapons.....	Individual soldier.
	Weapon carriers.
	Battalion section of the regimental ammunition train.
	Division train.
For crew-served weapons.....	Weapon carriers.

Battalion section of the regimental ammunition train.
Division train.

(3) The Table of Basic Allowances prescribes the amounts of ammunition carried.

b. Replenishment during offensive combat.—(1) *Control of weapon carriers.—(a)* During route marches the company weapon carriers, except those of elements engaged on ground or antiaircraft security missions, usually move by bounds in rear of the foot elements of the battalion or regiment.

(b) Prior to entry Into combat, weapon carriers are released to company control and join their platoons as directed by the company commander.

(c) The transport corporals conduct weapon carriers to selected off-carrier locations, which are as near as practicable to the initial firing positions of the weapons of each platoon.

(d) Ammunition in the amount prescribed by the company commander is unloaded at, or carried forward to, the initial machine-gun and mortar positions. The remaining ammunition should then be placed on one or more weapon carriers, and the empty weapon carriers sent back to the company ammunition point. (See **FM 7-30**.)

(2) *Replenishment—genera1.—(a) Responsibility.*—The battalion commander is responsible for the delivery of ammunition to one or more points selected by the company commander from which the latter can effect distribution to his platoons with the means at his disposal. The battalion transport officer supervises, coordinates, and expedites the movement of ammunition-carrying vehicles forward of the battalion ammunition distributing point. The company commander is responsible for making an adequate supply of ammunition available to his platoons. The platoon leader is responsible for the delivery of ammunition to his weapons. Figure 22 shows the system of ammunition supply when conditions permit the operation of weapon carriers in the forward area.

(b) Battalion ammunition distributing point.—The battalion ammunition distributing point is located in the most practicable advanced area. It is operated under the supervision of the battalion supply officer by personnel of the battalion ammunition and pioneer section. In attack, the battalion ammunition distributing point is advanced by bounds along a route of ammunition advance prescribed by the battalion commander.

(c) Company ammunition point.—The company commander selects one or more company ammunition points. Desirable characteristics of a company ammunition point are:

1. Location at or in rear of the point where covered routes to the platoons diverge.
2. Concealment from air and ground observation.
3. Defilade from hostile flat-trajectory fire.
4. Ease of identification.
5. Facility of motor movement to the rear.

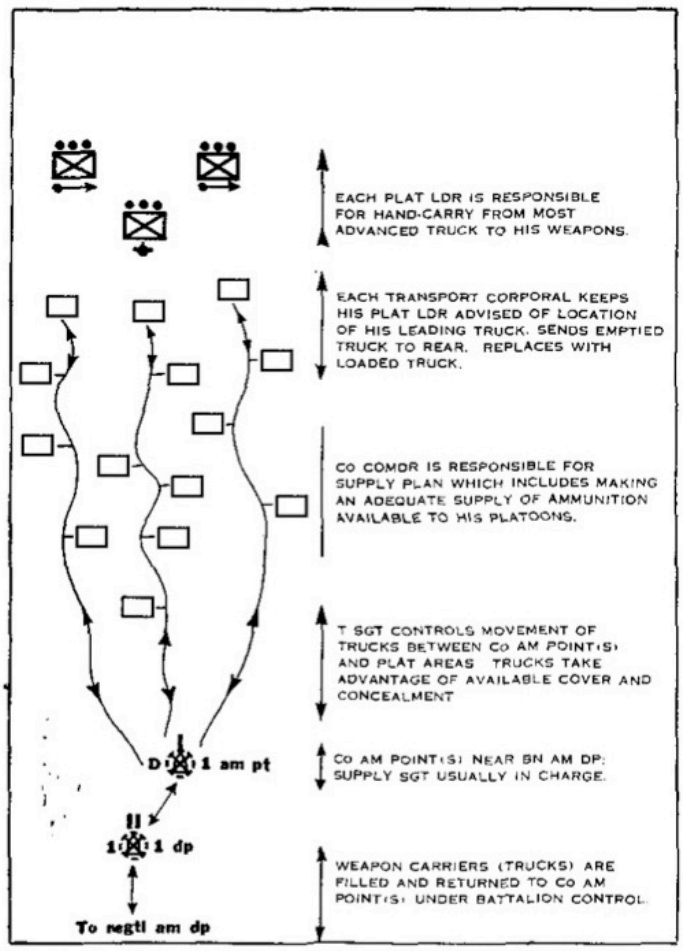


FIGURE 22.—System of ammunition supply when conditions permit operation of weapon carriers in forward area.

The company ammunition point(s) may be near the battalion ammunition distributing point or at a more forward location. If combat and terrain conditions permit the operation of motor *vehicles* in the forward area, the company ammunition point(s) will usually be located near the battalion ammunition distributing point. Where hand-carry forward of the battalion ammunition distributing point is required, the company ammunition point(s) will usually be located farther forward.

(d) Operating personnel.—The supply sergeant assisted by the transport sergeant or other personnel designated by the company commander operate the company ammunition point(s).

(3) *Replenishment by weapon carrier.—(a)* When conditions permit the operation of vehicles forward of the battalion ammunition distributing point, each platoon retains one loaded weapon carrier as near its weapon positions as practicable. (See fig. 22.) If sections are widely separated, a loaded weapon carrier may be retained near each section. The initial locations of these vehicles may be forward of the off-carrier position, using circuitous routes, if necessary, to move forward under cover. The platoon leader, acting through his transport corporal, moves the most advanced vehicle(s) forward as the platoon advances. Squad ammunition bearers carry ammunition from the vehicle to the positions of the weapons. Other loaded weapon carriers are echeloned to the rear. They may be anywhere along the platoon route of advance between the company ammunition point(s) and the platoon firing position area. The platoon transport corporal maintains contact between these vehicles and the platoon. As soon as a weapon carrier under platoon control is emptied, the transport corporal replaces it with a loaded vehicle and dispatches the emptied vehicle through the company ammunition point to the battalion ammunition distributing point. Before dispatching the emptied carrier, the transport corporal contacts the platoon leader, ascertains the type of ammunition desired, and gives the chauffeur a message indicating these requirements. At the battalion ammunition distributing point, this message is turned over to the battalion supply officer, who has the vehicle refilled and returned to the company ammunition point from which it came. In the absence of other instructions, the vehicle is dispatched from the company ammunition point along the prescribed route to the platoon from which it came.

(b) The transport sergeant controls the movement of vehicles between the company ammunition point(s) and the platoon areas.

(c) In combat, platoon carriers remain under platoon control unless otherwise specified by the company or battalion commander. The company commander may keep or regain control of platoon carriers at any time. Control by the company commander may be dictated by the following considerations:

1. Concealment and cover are reasonably available in some central location for disposing the carriers.

2. One platoon has suffered vehicle losses which necessitate employing the carriers of another platoon for its supply.

3. Control can be more efficiently exercised by company personnel.

(d) A platoon leader confronted with emergency ammunition requirements notifies the company commander, who may direct the diversion of certain amounts of ammunition to that platoon.

(4) *Replenishment by hand-carrying.—(a)* Where conditions do not permit the operation of vehicles forward of the battalion ammunition distributing point, the company ammunition point(s) usually will be at the farthest practicable point forward of the battalion ammunition point. (See fig. 23.) The system of supply is fundamentally the same as described in (3) above, except that ammunition is carried by hand.

1. Hand-carrying of ammunition between the battalion ammunition distributing point and the company ammunition point(s) is accomplished by the battalion ammunition and pioneer section, or by other personnel made available by the battalion commander.

2. The company commander is responsible for the hand-carrying of ammunition between the company ammunition point(s) and the ammunition point selected by each platoon leader. The company commander endeavors to foresee the need for such hand-carrying and makes timely requests to the battalion commander for any needed assistance. The battalion commander may arrange for ammunition to be hand-carried by battalion personnel through the company ammunition point(s) to platoon ammunition points, or may attach members of the battalion ammunition and pioneer section to the company for the necessary hand-carrying within the company area.

3. Each platoon leader is responsible for hand-carrying of ammunition by squad ammunition bearers from his platoon ammunition point to the firing positions of his weapons.

(b) The platoon transportation is held under company or battalion control at a designated location in *rear.*

(c) If weapons carriers are held under battalion control, each transport corporal is with his transportation, unless specifically authorized to remain in the forward area by the company or battalion commander. When authorized to remain in the forward area, each transport corporal maintains liaison between his platoon and the company ammunition point in order to keep the supply sergeant informed as to platoon requirements. Special requests for priority to fill emergency needs *are* made to the company commander by platoon leaders as in supply by vehicle.

(d) The company commander keeps the battalion informed of his requirements, either by special messenger or by sending requests back to the battalion ammunition distributing point by the battalion carrying party.

(5) Replenishment when platoon or section is attached to rifle company.—The rifle company commander is responsible for the supply of the attached heavy weapons. The supply of the platoon or section is the same as when it operates as part of the heavy weapons company.

c. Replenishment during defensive operations.—(1) The quantity of ammunition to be placed on the position having been prescribed by the battalion commander and unloaded on the position, replenishment should not be required prior to nightfall. After contact is made with the enemy, replenishment of ammunition within the company generally will be made under cover of darkness. Loaded weapon carriers are delivered by battalion to the company ammunition points. Loads are usually dumped at the company ammunition point and the vehicles returned to the battalion ammunition distribution point. Additional loads brought forward are also ordinarily dumped at the company ammunition point.

(2) Distribution to platoon is effected by hand-carry. If conditions permit the vehicles to move directly to the weapon positions, the company ammunition point is merely a control station. Platoon leaders report the amount of ammunition on hand. Based on these reports, the company commander effects distribution.

d. Replenishment during rapidly moving situations.—In a rapid forward movement, such as advance guard or pursuit, the system of ammunition supply is similar to that in attack. It must be expected that distances will be greater between supply points, with a consequent greater time lag which must be taken into consideration in figuring ammunition supply requirements. An additional initial allowance and the requisite transportation for its movement may be furnished by higher headquarters.

e. Replenishment in retrograde movements.—During retrograde movements there will seldom be replenishment of ammunition to forward areas. Sufficient amounts for the contemplated action are left with each unit. Ammunition-carrying vehicles may be released to the company on rear positions or resupply may be effected by the establishment of dumps by higher headquarters on rearward positions or en route thereto. The battalion commander will inform the company commander of the location of such dumps.

240. INDIVIDUAL ROLLS.—On the march the individual rolls of members of the company may be transported in kitchen and baggage train vehicles when part of the organic loads have been dumped. Rolls are delivered to the company during long halts when the duration of the halt and weather conditions warrant. The battalion supply officer effects delivery of rolls to companies of the battalion and recovers the rolls at the time prescribed by the battalion commander. During offensive combat, rolls may be

sent forward with supper and collected by the battalion supply officer after the serving of breakfast. In defensive situations, the members of the company often may keep individual rolls with them.

241. ORDERS.—*a.* Administrative matters in the company order may include such of the following items as are applicable:

(1) Location of company ammunition point and of battalion ammunition distributing point.

(2) Battalion route of advance of ammunition (in attack only).

(3) Amount of ammunition to be placed on position (in defense only).

(4) Disposition of company vehicles.

(5) Location of battalion aid station.

b. Additional instructions of an administrative nature may be included in the order, or issued later in fragmentary form to those concerned. These instructions may include the plan for feeding, the detailing of guides, carrying parties, or other such matters.

SECTION II

MEDICAL SERVICE AND EVACUATION

242. REFERENCES.—For details of the composition and equipment of the medical detachment of the infantry regiment, see Tables of Organization and Table of Basic Allowances. For general mission, organization, and functions of the headquarters and battalion sections of the medical detachment, see **FM 7-30**.

243. PERSONNEL AND DUTIES.—The two medical department enlisted men serving with the heavy weapons company are known as company aid men; they are members of the company aid squad of the battalion medical section. They are attached to the company when it is on the march, in bivouac, or in combat. Each of these men carries two pouches containing first-aid equipment, such as dressing, bandages, and tourniquets. Their duties are as follows:

a. To maintain contact with the heavy weapons company.

b. To administer first aid where needed.

c. To instruct walking sick and wounded as to the exact location *of* the battalion aid station and the route to be used in proceeding thereto.

d. To send information to their battalion surgeon by litter bearers and walking wounded. Their messages give

the location of the company and the approximate number and location of casualties in the company area.

e. In combat, to place all seriously wounded in defiladed locations along the *route of advance,* thus *facilitating* the work of litter bearers.

244. LITTER BEARERS.—Litter bearers follow behind the company aid men and remove the seriously wounded to the battalion aid station, which is established and operated by the aid station squad.

245. ORDERS.—The company order *should* always include information as to the location of the battalion aid station. This information should be made known to all members in the company.

SECTION III

MOTOR MAINTENANCE

246. PERFORMANCE OF MOTOR MAINTENANCE.—*a.* The company commander is responsible for the operation and maintenance of his vehicles. Operating personnel are carefully selected. The most important link in the chain of vehicle operation is the driver. He is selected for his ability, judgment, and conscientious performance of duty. He is instructed in his duties, the inspections required of him, and the first echelon maintenance operations that he is required to perform. By personal observation and by frequent inspections, the company commander insures that these operations are accomplished.

b. The company motor mechanics, under supervision of the transport sergeant, are charged with second echelon maintenance. A mobile maintenance crew from the service company supplements their work. The battalion transport officer supervises and coordinates their activities.

c. Vehicles requiring third or fourth echelon maintenance are reported to the battalion commander. For echelons of maintenance, see FM 25-10.

CHAPTER 10
SIGNAL COMMUNICATION

247. REFERENCES.—For methods of installing, operating, and maintaining the means of signal communication, see FM 24-5. For details of signal communication methods and procedure within the infantry regiment, see **FM 7-25**.

248. EQUIPMENT.—*a.* The heavy weapons company has 20 sets of reel equipment CE-II (sound-powered telephone handset). Each set comprises one sound-powered telephone handset and one breast reel containing ¼ mile of light wire. A tool equipment set, type TE-33, consisting of a knife and pliers carried in a small leather pouch, is authorized for each set of reel equipment CE-11 and is obtained by requisition. In order to establish communication between two points, it is necessary to use two sets of reel equipment. As much wire as is needed, using either one or both reels, is installed between the two points, and a telephone handset is clipped on each end of the line. Thus, one channel of communication may be established over a maximum distance of ½ mile. Ten channels can be established in the company. When desired, additional handsets may be attached to the circuit, thus establishing a party line.

b. The ground signal projector M4 and the Very pistol M11 are devices for projecting pyrotechnic signals. One ground signal projector M4 is issued to each heavy weapons company and one Very pistol is issued to each platoon.

c. The flag set consists of an orange-colored flag mounted on a staff. Two sets are issued to the company.

d. Flashlights are issued in accordance with Table of Basic Allowances. A whistle is issued to each officer and to the first sergeant, each platoon sergeant, and each section leader.

249. EMPLOYMENT OF MEANS OF SIGNAL COMMUNICATION.-*a.* Arm-and-hand signals are the principal means of visual signaling employed by the heavy weapons company. This means is employed by platoon, section, and squad leaders to control their units during movement or during firing. For pre- scribed arm-and-hand signals, see FM 22-5 and FM 23-90.

b. Other means of visual signaling, such as flashlights, flags, or pyrotechnics, are used to send only the simplest kind of prearranged messages. Pyrotechnics are used in accordance with the battalion commander's instructions, which in turn are based on signal operation instructions of higher headquarters. Elements of the heavy weapons company deliver prearranged supporting fires when called for by the prescribed pyrotechnic signal. These fires cease

or shift after a certain specified length of time, on order, or upon another such prescribed signal.

c. Whistles are used primarily to give the standard warning signal of air or mechanized attack-three long blasts, repeated several times. The whistle is also used by leaders to fix the attention of their units preparatory to giving commands or other signals.

d. Foot messengers are used for communication within the company, and with the headquarters of the battalion and with other units, when a more rapid means of communication is not available. One messenger is habitually sent to the battalion command post upon the initiation of any tactical mission; likewise, one messenger from each platoon reports to the company commander. Chauffeurs of company vehicles may be used as motor messengers when such use will not conflict with other duties or interfere with ammunition supply. Messengers are trained to take brief notes when receiving oral messages, and to deliver messages promptly and correctly. Ordinarily only one simple oral message is given to a messenger at one time.

e. (1) The 20 sound-powered telephone sets (10 channels) authorized for the heavy weapons company are allotted by the company commander to meet the tactical situation. Two possible allotments are illustrated in figures 24 and 25.

(2) A heavy machine-gun platoon may be allotted one or more channels for communication with its sections, **if** the situation warrants such use.

(3) Where the company and battalion command posts are separated by several hundred yards, it may be desirable to maintain communication between them by sound-powered telephones.

(4) There are many other possible combinations, including the use of party lines (more than two stations connected with each other).

(5) Since the usual allotment provides two sets (one channel) for use between the observation post and the firing position of each mortar squad, these two sets are usually issued to mortar squads in advance of any contemplated employment and are carried on the squad weapon carriers. They may be collected and redistributed if the company commander decides to make other allotment. The remaining eight sets (four channels) are usually carried on the company headquarters vehicles pending decision as to their allocation.

250. ORDERS CONCERNING SIGNAL COMMUNICATION.—*a.* The field order issued by the commander of the heavy weapons company for each distinct operation may contain instructions for signal communication. Frequently such instructions consist only of the location of the commander or his command post. Other instructions relative to signal communication may be issued in fragmentary form. Such

instructions include the allotment within the company of the available means of signal communication, and the signal operation instructions of higher headquarters that are applicable to the company.

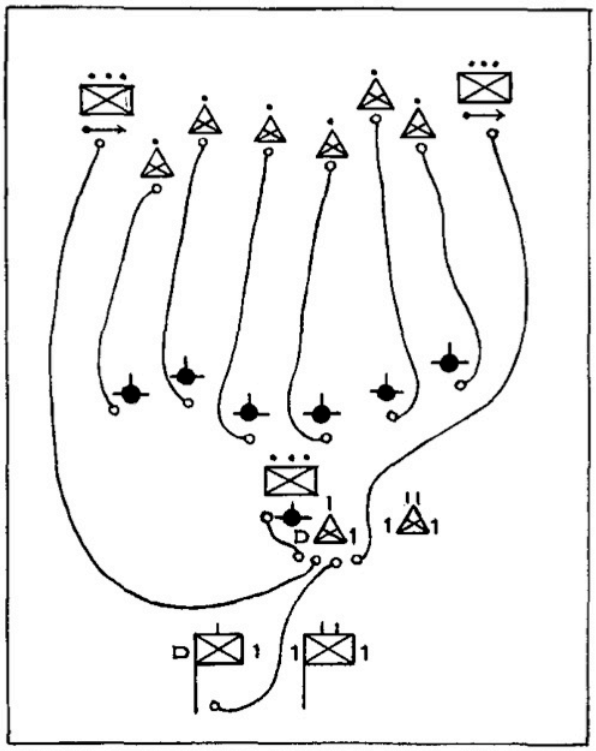


FIGURE 24.—Heavy weapons company in attack. One method of allotting sound-powered telephones for use between elements of company.

(5) Since the usual allotment provides two sets (one channel) for use between the observation post and the firing position of each mortar squad, these two sets are usually issued to mortar squads in advance of any contemplated

b. In the defense, final protective fires may be delivered upon pyrotechnic signal from front-line rifle units. Instructions for the delivery of these fires are covered in the company commander's field order. Platoon leaders insure that all personnel understand this signal and the location or locations from which it may be fired.

c. Standing operating procedure is used, insofar as practicable, to simplify and abbreviate orders.

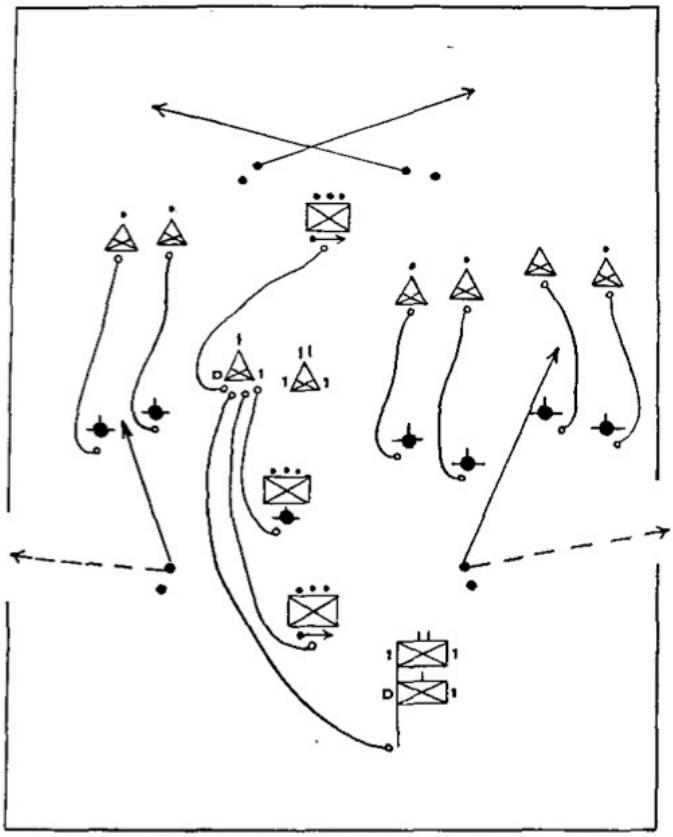


FIGURE 25.—Heavy weapons company in defense. One method of allotting sound-powered telephones for use between elements of company.

company may be allotted one or more portable radiotelephones from the battalion communication section for communication with battalion headquarters or with an isolated platoon. Also, when practicable and desirable during any phase of combat, the battalion commander may allot two or more of these portable radiotelephones for communication with the heavy weapons company commander, when separated from him, or for communication between the company and battalion command posts when these are separated.

c. In defense, the battalion commander may allot one battery-operated telephone, connected with the battalion switchboard, for telephone communication between the heavy weapons company command post and the battalion command post.

APPENDIX I

INDIVIDUAL PROTECTION; EMPLACEMENTS FOR HEAVY MACHINE GUNS AND 81-MM MORTARS; OBSERVATION POSTS; AND HINTS ON CAMOUFLAGE

1. GENERAL.—Individual protection will be sought and improved, or excavated, whenever troops are halted in a combat zone.

2. HALTS.—*a.* When the halt is expected to be brief, troops will take advantage of such natural protection as is afforded by the terrain (for example, ditches, or holes in the ground).

b. When the halt is to be for a longer period but less than 6 hours (for example, a halt in an assembly area), individual prone shelters will be constructed (see fig. 26). Full advantage will be taken of natural cover and concealment in the construction of these shelters. This type of shelter does not provide as effective protection as the standing type one-man "foxhole" (see figs. 27 ① ②, and ③, but it permits the man to receive rest and protection simultaneously and can be quickly dug. It furnishes protection from bomb and artillery fragments and small-arms fire but does not furnish full protection against the crushing action of tanks.

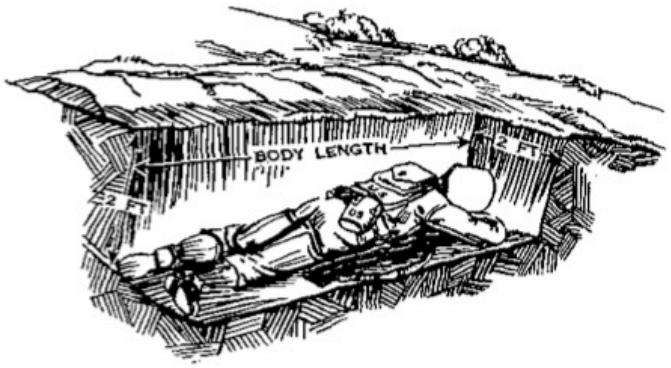
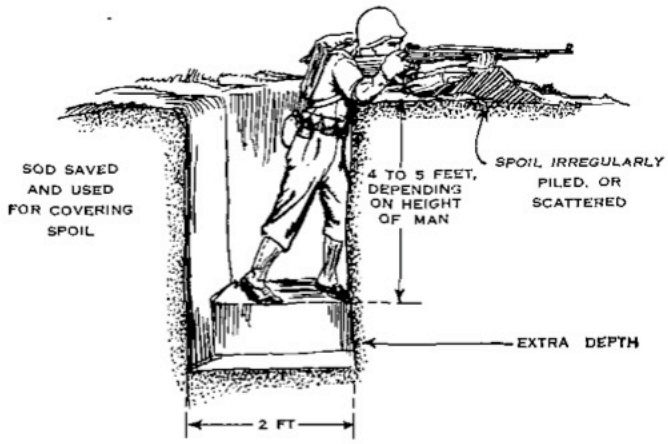
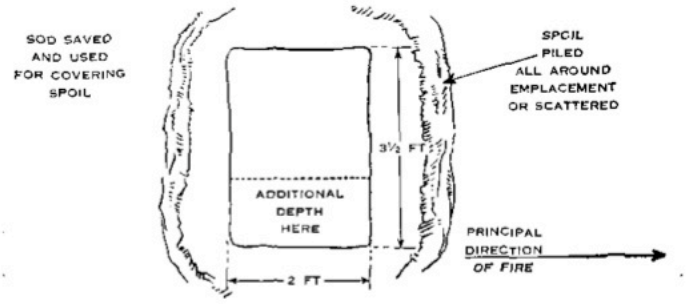


FIGURE 26.—Individual prone shelter or slit trench—oblique cross section.

c. When the duration of the halt may be more than six hours, standing type one-man foxholes should be dug. Men will occupy these foxholes only when an attack is in progress or imminent. (See figs. 27 ①, ②, and ③)



① Side view.



② Top view.

3. HEAVY WEAPONS EMPLACEMENTS.—*a. General.*—On the defensive in particular, and whenever practicable on the offensive, heavy weapons of the infantry battalion are fired from emplacements. The purpose of the emplacement is to afford cover to the weapon and its crew and to lessen the chance of destruction by hostile fire or by the crushing action of tanks. Types of heavy machine-gun emplacements are illustrated in figures 28 to 35, inclusive. The 81-mm emplacement is illustrated in figures 36 to 40, inclusive. Personnel other than the gunner and assistant gunner, such as non- commissioned officers and ammunition bearers required to be near the emplacement, occupy individual foxholes.

b. (1) *Heavy machine-gun emplacement, with standing type one-man foxholes for crew.*—This emplacement consists of three standing type one-man foxholes around the gun position. The tripod is reversed to permit the gunner to stand closer to the gun. The gunner occupies the foxhole behind the gun and the assistant gunner the foxhole to the left of the gun. The foxhole to the right is ordinarily unoccupied, except when the gun fires to its left flank,

when the gunner and his assistant shift their positions to the right.

(See figs. 28 and 29.)

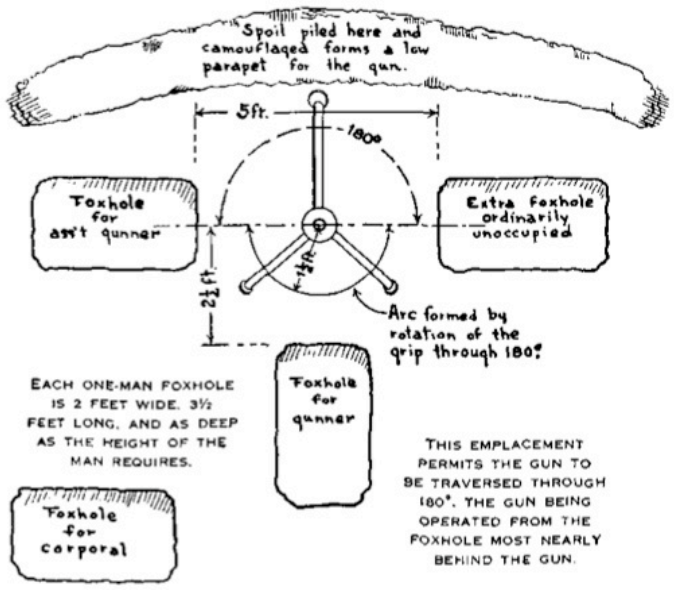


FIGURE 28.—Heavy machine-gun emplacement, with standing type one-man foxholes for crew.

c. Shallow and standing heavy machine-gun emplacements.—When the terrain does not afford natural defilade or sufficient cover, an emplacement is dug for the heavy machine gun. It consists of a shallow gun platform, large enough to give firm support to the tripod, and a U-shaped trench for the gunner and his assistant along the rear and sides of the gun platform.

(2) If time is extremely limited, the hasty emplacement may consist simply of a foxhole for the gunner and another foxhole for his assistant, together with a shallow hole between the foxholes in which the machine gun is placed during firing, or into which it can be withdrawn when a tank is about to run over the emplacement.

c. Shallow and standing heavy rnachine-gun emplacements.-When the terrain does not afford natural defilade or sufficient cover, an emplacement is dug for the heavy machine gun. It consists of a shallow gun platform, large enough to give firm support to the tripod, and a U-shaped trench for the gunner and his assistant along the rear and sides of the gun platform.

FIGURE 29.—Heavy machine-gun emplacement, with standing type one-man foxholes for crew. Gunner and assistant gunner in foxholes. Vacant foxhole to right of gunner is for use in firing to extreme left.

(2) *Standing type emplacement.*—Later the shallow emplacement is developed into the standing type emplacement by digging a trench for the gunner and his assistant around the gun platform (fig. 31). soil, will not afford full protection against the crushing action of medium tanks. Hence, in order to provide tank protection for the gunner and assistant gunner, individual foxholes may be dug in rear of the emplacement.

FIGURE 30.—Shallow type heavy machine-gun emplacement.

FIGURE 31.—Standing type heavy machine-gun emplacement.

NOTE.—The standing type emplacement, other than in very hard soil, will not afford full protection against the crushing action of medium tanks. Hence, in order to provide tank protection for the gunner and assistant gunner, individual foxholes may be dug in rear of the emplacement.

(3) Figure 33 shows the approximate dimensions of shallow and standing type emplacements.

d. 81-mm mortar emplacement.—(1) The emplacement for the 81-mm mortar consists of a pit which is large enough to receive the mortar, the gunner, and the assistant gunner. (See figs. 36 to 40, incl.) The emplacement is small enough at ground level to afford protection against airplane machine-gun fire and the burst of air bombs and artillery shells. At the same time it allows room for the manipulation of the mortar and provides space for some ammunition. Additional ammunition is placed in nearby shelters. The front edge is sloped so as neither to interfere with the sighting of the mortar nor with the trajectory of the shell.

(2) A profile of the 81-mm mortar emplacement, with No,.2 loading the mortar, is shown in figure 37.

(3) A top view of the mortar pit is shown in figure 38.

e. In siting heavy weapons, observation, good field of fire, and protection for the weapon and its crew are given first priority. Unit leaders must provide suitably for ammunition supply, communication, and control, camouflage, and drainage of positions.

FIGURE 32.—Standing type heavy machine-gun emplacement.
NOTE.—Sod has been replaced on firing platform.

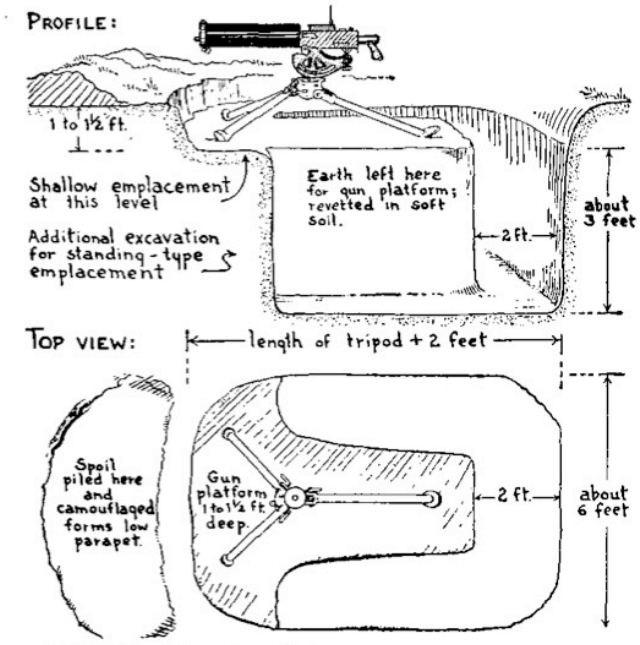
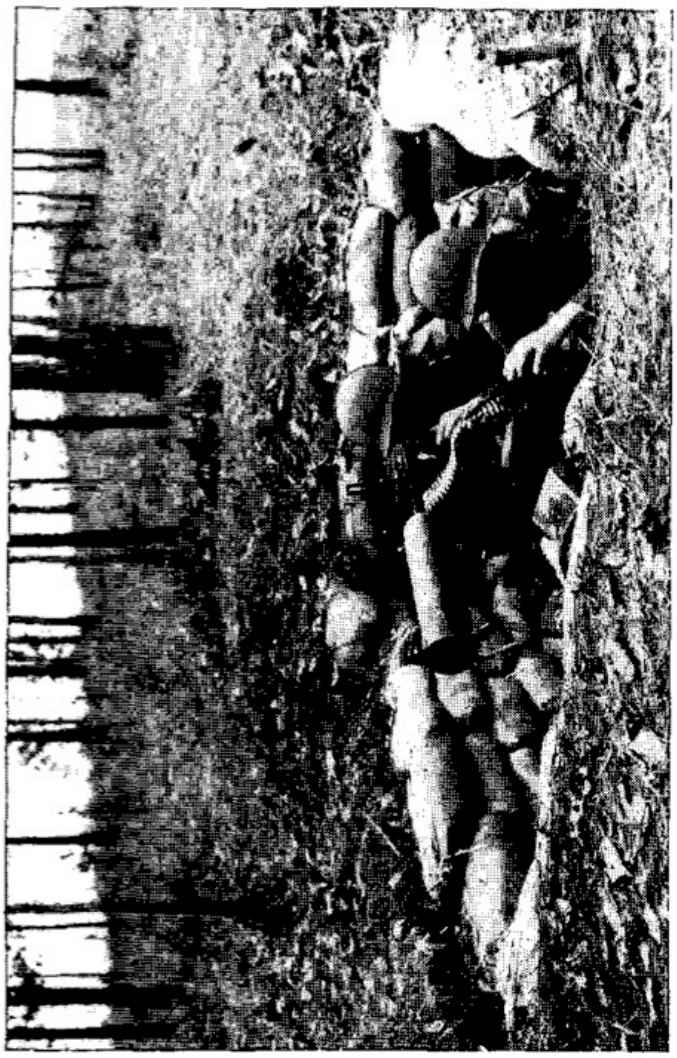


FIGURE 33.—Dimensions of shallow and standing type heavy machine-gun emplacements.



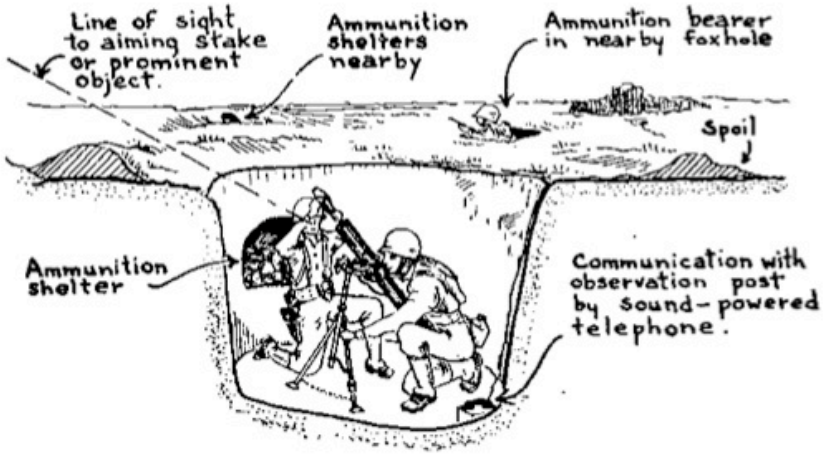
NOTE.—The emplacement is not camouflaged. Overhead concealment is provided by trees.

FIGURE 34.—Standing type emplacement revetted with sandbags.

f. The weapon squad must be trained to make resourceful and rapid use of hasty field fortifications and the natural features of the terrain.

4. FIRING POSITION WHEN TIME DOED NOT PERMIT ENTRENCHMENT.—In the attack, time is seldom available for the preparation of weapon emplacements. This condition may also occur when the unit is suddenly forced on the defensive, as in a meeting engagement or in situations where an attack is brought to a halt by hostile resistance. Even under these conditions every advantage must be taken of existing cover and concealment if the weapon and its crew are to survive. The following photographs (figs. 41 to 49, incl.) illustrate some examples of such positions, and indicate the additional protection that may be obtained by the use of simple camouflage.

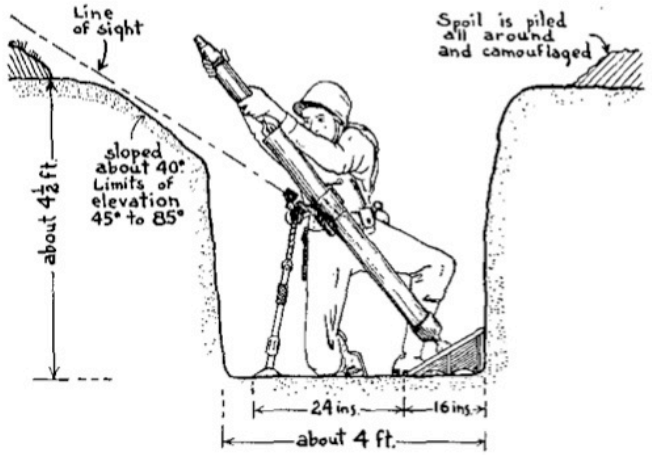
FIGURE 35.—Standing type emplacement shown in figure 34, after camouflage net is in place.
NOTE.—The net is covered with grass and leaves to resemble natural surroundings.



NOTES.—1. Size of the pit will vary with different size men, but the dimensions are roughly 5 feet wide by 6 feet long at ground level, and about 4 ½ feet in depth.

2. The gunner and his assistant will each require space roughly 3 feet in diameter to permit accurate manipulation of the mortar. This space will also permit some shifting of the bipod to right or left when it is necessary to change direction of fire.
3. Spoil from the pit is camouflaged to match natural growth in the area, or is hidden.
4. Foxholes for members of the mortar squad and additional ammunition shelters are prepared near the emplacement.

Figure 36.—Sketch of 81-mm mortar emplacement with crew in action.



NOTE.—Maximum width at ground level is about 5 feet. Length of emplacement is about 6 feet.

FIGURE 37.—Profile of 81-mm mortar emplacement.

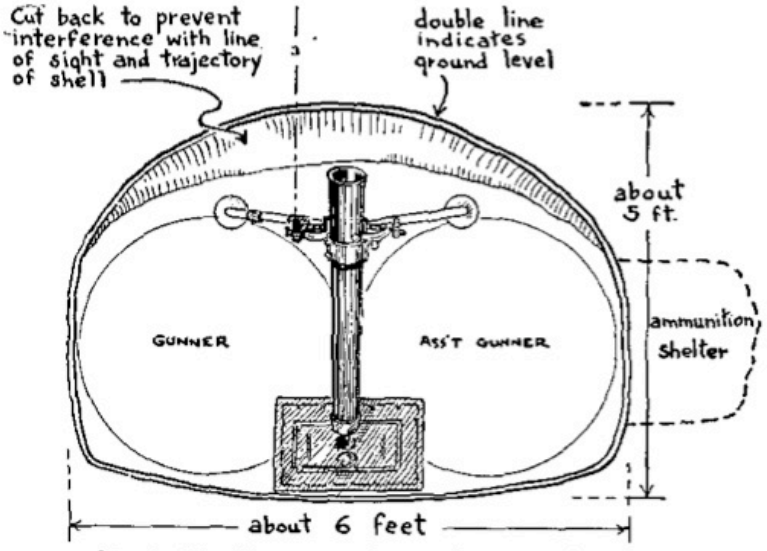


FIGURE 38.—81-mm mortar emplacement, top view.

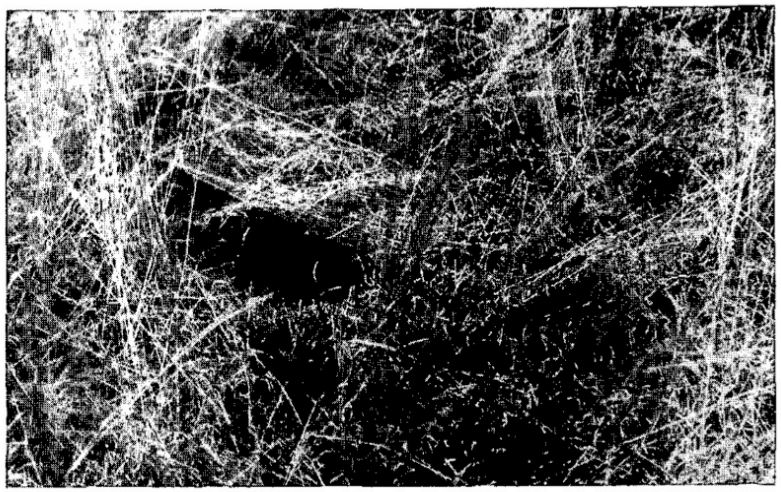


FIGURE 40.—81-mm mortar emplacement shown in figure 39, but concealed with camouflage net and grass to resemble natural surroundings.

NOTE.—Mortar emplacement would be discernible from the air.

FIGURE 39.—81-mm mortar emplaced on reverse slope.

NOTE.—Position is disclosed to enemy by silhouettes of gun crew.

FIGURE 42.—Heavy machine-gun firing position shown in figure 41, as seen from the front.

FIGURE 41.—Heavy machine gun in firing position behind log. Men are not camouflaged.

NOTE.—Brush and camouflage conceal the position.

FIGURE 47.—Heavy machine-gun firing position shown in figure 45, as seen from front.

NOTE.—Machine gun is firing through natural gap in brush.

FIGURE 46.—Heavy machine-gun field of fire as viewed from rear of firing position shown in figure 45.

NOTE.—Firing position provides excellent defilade but is poorly concealed from aerial observation.

FIGURE 49.—Defiladed 81-mm mortar firing position.

NOTE.—Heavy grass provides some concealment from aerial observation.

FIGURE 48.—81-mm mortar set up on reverse slope. Aiming stake is on crest.

■ **5. OBSERVATION POSTS.**—Types of observation posts that may be found useful in defense or attack are illustrated in figures 50 to 54, inclusive. Depending upon the situation and the terrain, observation posts illustrated by these figures are suitable for use by observers from company or platoon headquarters. In addition, figures 52, 53, and 54 may be used by section and squad leaders.

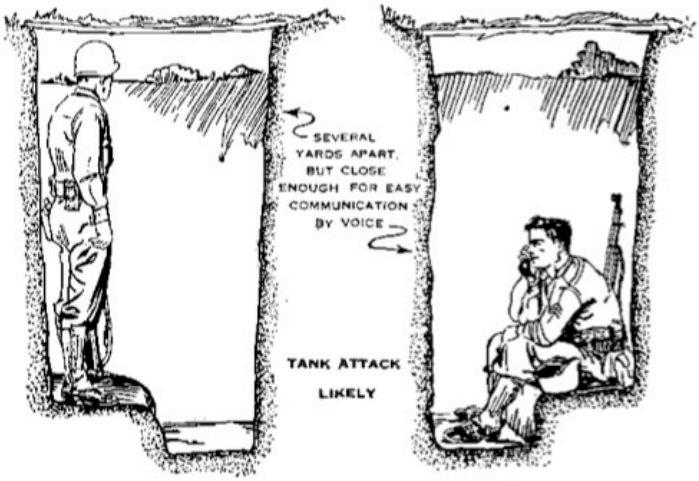


FIGURE 50.—Observation post utilizing two standing type one-man foxholes, each with camouflaged removable top.

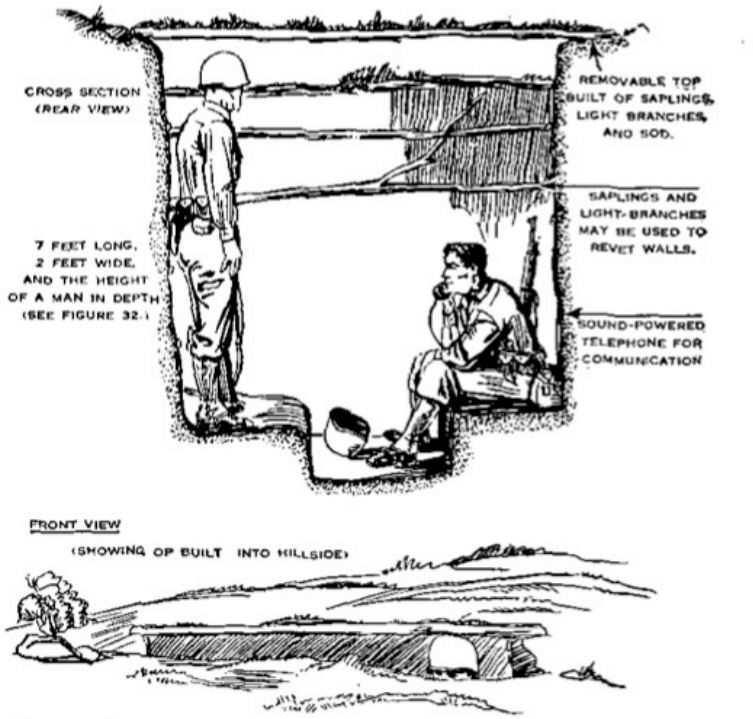


FIGURE 51.—*Observation post in standing type double foxhole.*

FIGURE 52.—Observation post in a tree. Choose a tree near edge of woods or in grove so that surrounding foliage will form a background for and screen the observer.

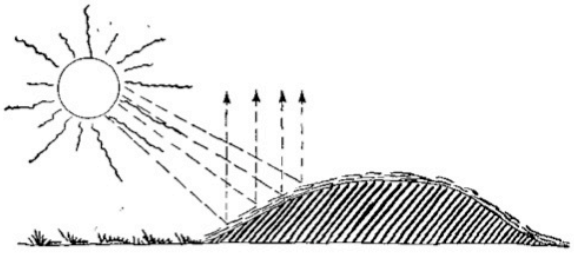
FIGURE 53.—Observation post behind a log. Observer's face should be smeared with mud or charcoal to prevent it from reflecting light. Camouflaged clothing or a covering of net or burlap will reduce possibility of detection by enemy air or ground troops.

FIGURE 54.—Observation post in a hedge.

① Wrong: To introduce unusual growth attracts attention.

② Right: On barren ground, leave positions bare.

FIGURE 55.—Camouflage.



① Wrong: To strew spoil with grass lying flat is unnatural. Also, grass lying flat will reflect light and be easily picked up on aerial photographs.

② Right: Cover spoil with sod or grass growing naturally.

FIGURE 56.—Camouflage.

① Wrong: Branches and brush piled horizontally are unnatural.

② Right: Branches and brush should be placed in growing position.

FIGURE 57.—Camouflage.