

FRENCH FOREIGN LEGION PARATROOPER COMBAT MANUAL



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This manual is not the complete textbook on the combat training of Legion parachutists, since the training is continually updated. The translated text is the consolidated parachute company's instruction manuals *A Carnet de Combat* and the pocket guide issued to every Legionnaire parachutist on completion of training in the "4th Compagnie." This manual covers the 1 BEP from its origin in Indochina to the present-day 2 REP operations in Africa in which the material from the *Carnet de Combat* and actual combat operations are combined.

Also included is the 11 Division of Parachutist requirements. The 2 REP is the leading element of France's Rapid Action Force, "Force de Frape," or "Strike Force."

Chapter 1

The French Foreign Legion: History, Structure and Weapons

The Legion has operated out of France for the last two decades, but its home will always be North Africa, where Legion headquarters was established at Sidi Bel Abbes in 1832. North Africa was the scene of the Legion's first big success: In 1837 it headed a French Army that conquered eastern Algeria. The Legion stayed in Algeria until Algeria was declared free. The Legion headquarters then moved to Aubagne in France where the headquarters now reside.

There are 8,500 men who make up the force--6,700 Legionnaires, 1,400 NCOs and 400 officers. Forty percent name French as their mother tongue; 15 to 20 percent, English; 10 to 15 percent, German; seven percent, African; four percent, Slav; four percent, Nordic, with the remainder claiming everything from Greek to Welsh. Men are assigned to one of the following regiments:

The 1st Foreign Regiment has its main body in Aubagne and is in charge of administration for the entire Legion.

The 2nd Foreign Infantry Regiment, in Nimes, trains all signal, accounting, and motor transport specialists. All companies, except those responsible for training, can be called into metropolitan France as part of operational defense forces, or called overseas to join intervention tasks as part of the Army Rapid Action Force.

The 3rd Foreign Infantry Regiment arrived in French Guiana, where its main depot is in Kourou, in 1973. Duties include security at the Ariane rocket site and surveillance of the Brazil border. The Legion also has a jungle training center here in the equatorial forest.

The 4th Foreign Regiment, in Castelnaudary, is the center for basic training of recruits and further instruction of NCOs.

The 5th Foreign Regiment, located principally on Tahiti and Murua, represents France in the Pacific. For the Pacific Experimentation Center it builds roads and works in power, supply, maintenance, and transport.

The 13th Foreign Legion Half-Brigade, in Djibouti, helps as part of the French forces to ensure the republic's independence and defense.

The 1st Foreign Cavalry Regiment, in Orange, moves between Africa and Mayotte and is part of the French Army's Rapid Action Force.

The 2nd Foreign Parachute Regiment, on Corsica, is kept in constant readiness for overseas action.

The Foreign Legion Detachment in Dzaoudzi on Mayotte, one of the Comoro Islands, offers security, protecting the interests of the civil and military authorities. It is also always on operational alert.

The 6th Engineer Foreign Regiment, near Avignon, was created in 1984 and includes three combat engineer companies. It succeeds the regiment founded in Syria in 1939.

An indispensable asset for France in carrying out its African mission and in maintaining, as it has recently done, a presence in many regions throughout the world, has been the availability of military units specially trained and equipped for intervention. Certainly the most famous of such units is the legendary Foreign Legion 2nd REP, but the French Army's 11th Airborne Division is no less powerful and no less effective. This unit, reinforced in the course of the reorganization of the French Armée de Terre in years past, has distinguished itself particularly in its intervention in Shaba province, Zaire, to protect the white population against waves of xenophobic anti-white hatred connected with a series of insurrections.

The 11ème Division de Parachutistes is constantly in training and division units are scattered around the world in a variety of permanent and temporary bases, including all the French Overseas Territories.

Today, the 11th D.P. is structured as follows: two brigades, each with three paratroop regiments and a command and support battalion. In addition, the division includes a light armored regiment, an artillery regiment, an engineering regiment, and a command and communications regiment.

The organizational chart of the 11th D.P. breaks down as follows:

E.O.D.: 14th RCTP, BOMAP, 1st RHP, 35th RAP, 17th RGP, 1st RPIMa; *1st Brigade*: 420th BPGS, 3rd RPIMa, 8th RPIMa, 9th RCP; *2nd Brigade*: 425th BPCS, 1st RCP, 2nd REP, 6th RPIMa.

The division has the following manpower: 766 officers, 2,505 non-commissioned officers, and 13,316 common soldiers and ratings, giving the division a total of 16,587 men.

The firepower of the 11th D.P. is based on the following weaponry:

Armor: 18 AML armored cars.

Artillery: 18 105mm guns, 105/14, conceived by OTO-Melara

Mortars: 18 120mm mortars, 48 81mm mortars

Anti-aircraft guns: 51 20mm canons

Missiles: 105 MILAN anti-tank missile systems

Rockets: 535 89mm LRAC anti-tank rocket-launchers.

The division's mobility is based on 829 trucks and a number of jeeps, making a total of over a thousand vehicles, including some in light, air-transportable and air-droppable versions.

Air-transport capability depends on 20 SA-341 helicopters, 15 SA-330 helicopters, and 9 Alouette III helicopters.

Engineering, logistics, and communications materiel includes 68 field health units, four INF bridge gangways, 92 two-man boats, 136 six-man boats, five light earth-moving vehicles, 150 TRVM 14-10 W radios, and 40 TRVM 134 100 W radio sets.

The headquarters and main base area of the 11th D.P. is at Tarbes, a charming city near Toulouse in southern France. Naturally, with its weaponry and equipment making it so powerful and versatile a force capable of going into action rapidly almost anywhere in the world, the division has to be based near suitable air-transport facilities. The Armée de l'Air's nearby base provides air transport for the division, in the form of 48 Transalls and the 54 Noratlases still in service with six squadrons, while waiting for the entry into

service of the 28 new Transalls on order.

However, it should be noted that this capability simply does not suffice for the rapid movement of the entire 11th Division when necessary; for instance, to provide support for legitimate African governments threatened by insurgent movements. This is what happened to Zaire, when the Franco-Belgian paratroop operation in the province of Shaba was made possible by a U.S. airlift.

And what of the men of the 11th D.P.? They are heirs to a proud tradition of combat excellence and indomitable courage. Their heritage comes down from the "paras" who fought and won the Battle of Algiers against the Algerian FLN. But here, some second thoughts are called for. The "para" units fought and won the battle on the ground, the only such victory ever obtained. Since that time no Western army has managed to beat a people's liberation guerrilla movement. But it is also true that this was a substantial force, with all its weapons and equipment and American support. In fact, it appears that France has reached a kind of tacit agreement with the United States, whereby the Americans will ordinarily lend part of their fleet of huge transport planes. Also, victory was achieved by methods that are at best somewhat distasteful, such as the systematic torture of prisoners.

However, aside from the Battle of Algiers itself, bear in mind that a large part of the Algerian crisis was the responsibility of the "paras" commanded by dissident or even rebel generals, who from Algeria proclaimed their opposition to the central government, De Gaulle's government, and threatened a "march on Paris" (or rather an air-drop on Paris), to overthrow the government and install one inclined to seek a military solution in Algeria, against the will of De Gaulle. This is still recent history, and for years, if not decades, it has lacerated not just the paratroop units but the French Army as a whole. Only recently has France gotten over its Algerian trauma, though there are still some people around who regret the eventual granting of independence to the former department. The France of Giscard d'Estaing, however, saw the 11th D.P. as a showpiece unit of the French armed forces. That is why, along with the 9th Marine Infantry Division and the Foreign Legion, the 11th is the unit most often called upon to defend French interests overseas.

A quick summary of the actions of the 11th D.P. in recent years is the easiest way to demonstrate the central role of this unit in French policy and strategy. In Africa alone, the division has carried out the following actions: in 1977-78, military assistance to Mauritania against the Polisario guerrilla movement; in 1978, military aid to Chad, administering a beating to Colonel Quaddafi's troops; 1978, airlift and action in Kolwezi, Shaba province, Zaire; 1978, participation in the FINUL contingent in Lebanon; 1969-75, service in support of the Chad government. As one can see, the 11th D.P. has not had time on its hands.

Certainly of interest will be a more detailed look at the traditions the 11th D.P. carries on. In fact, the division is heir to 23 years of service. The 10th and the 25th "divisions parachutistes" were formed in 1956. After the end of the Algerian independence war in 1962, these units were disbanded, their place being taken by the "11ème division légère d'intervention." In 1963, this 11th Light Division became the 11th Division, with three brigades, two paratroops, and one amphibious. In 1971 the 11th took on its present name, 11th Division Parachutiste, and in 1977 it was designated, in addition, the 44th Territorial Division.

The 11th D.P. remains a somewhat atypical unit for the French armed forces. Composed entirely of long-term service volunteers, the division has a highly trained and qualified manpower base. This obviously makes it an elite unit, with skills, capabilities, and dedication that cannot be obtained in units made up of draftees who serve just 12 months.

The continuing involvement of the 11th D.P. in defense of Western interests, especially in Africa and the Mediterranean, was in evidence yet again in the early weeks of 1980. On the morrow of the guerrilla raid on the Tunisian town of Gafsa, which authorities blamed on Tunisian exiles supplied and financed by Libya and based in that country, some units of the 11th D.P. were put on alert, ready to leave at a moment's notice, if necessary, to defend the interests of France, the West, and their friends and allies. France and the

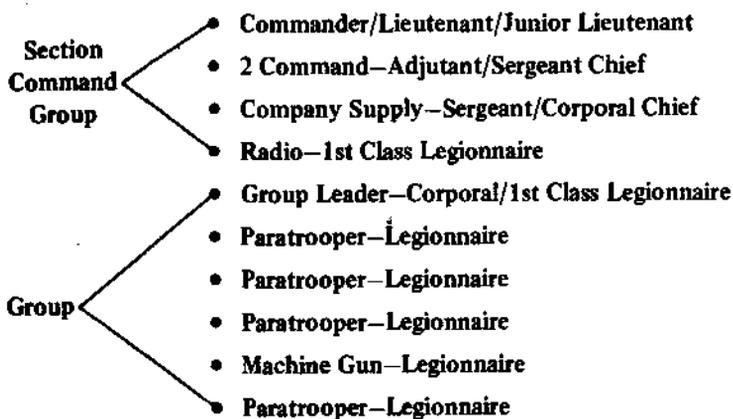
West, in the unstable and threatening world of the 1980s, have one ace always ready to play: the 11th Division Parachutistes is ready.

ORIGIN OF 2 REP

October 2, 1948	1 REP	Algeria
February 9, 1949	Transfer—2 BEP	Indochina
1950-1953	Operations	Indochina
1954	1 BEP—2 BEP (Combined)	Indochina
May 1954	2 BEP—Destroyed (Dien Bien Phu)	Indochina
June 1954	3 BEP (+ 2 BEP Remains)	Indochina
November 1955	Transfer	Algeria
1956	2 REP (2 BEP + 3 REP)	Algeria
1957	Operations	Algeria
1959-1961	Station	Algeria
1962-1967	Strategic Base	Bous/fer Algeria
1967	Transfer 2 REP to 11 DP (R.D. Force)	Calvi, Corsica
1968-1986	Operations 11 DP	Chad, Djibouti, Kolwezi, Zaire, Central African Republic

- 1 CIE PARA/3 ET—1 Para Company—3 Regiment of Infantry
- 1 BEP—1 Battalion of Foreign Legion Paratroops
- 2 BEP—2 Battalion of Foreign Legion Paratroops
- 1 REP—1 Regiment of Foreign Legion Paratroops
- 2 REP—2 Regiment of Foreign Legion Paratroops

LEGION PARATROOPER SECTION (16 LEGIONNAIRES)





Normal section varies from five to ten paratroopers per group depending on company strength. Usually remains at five legionnaires per group unless anti-tank team is added on one or both attack groups if required.

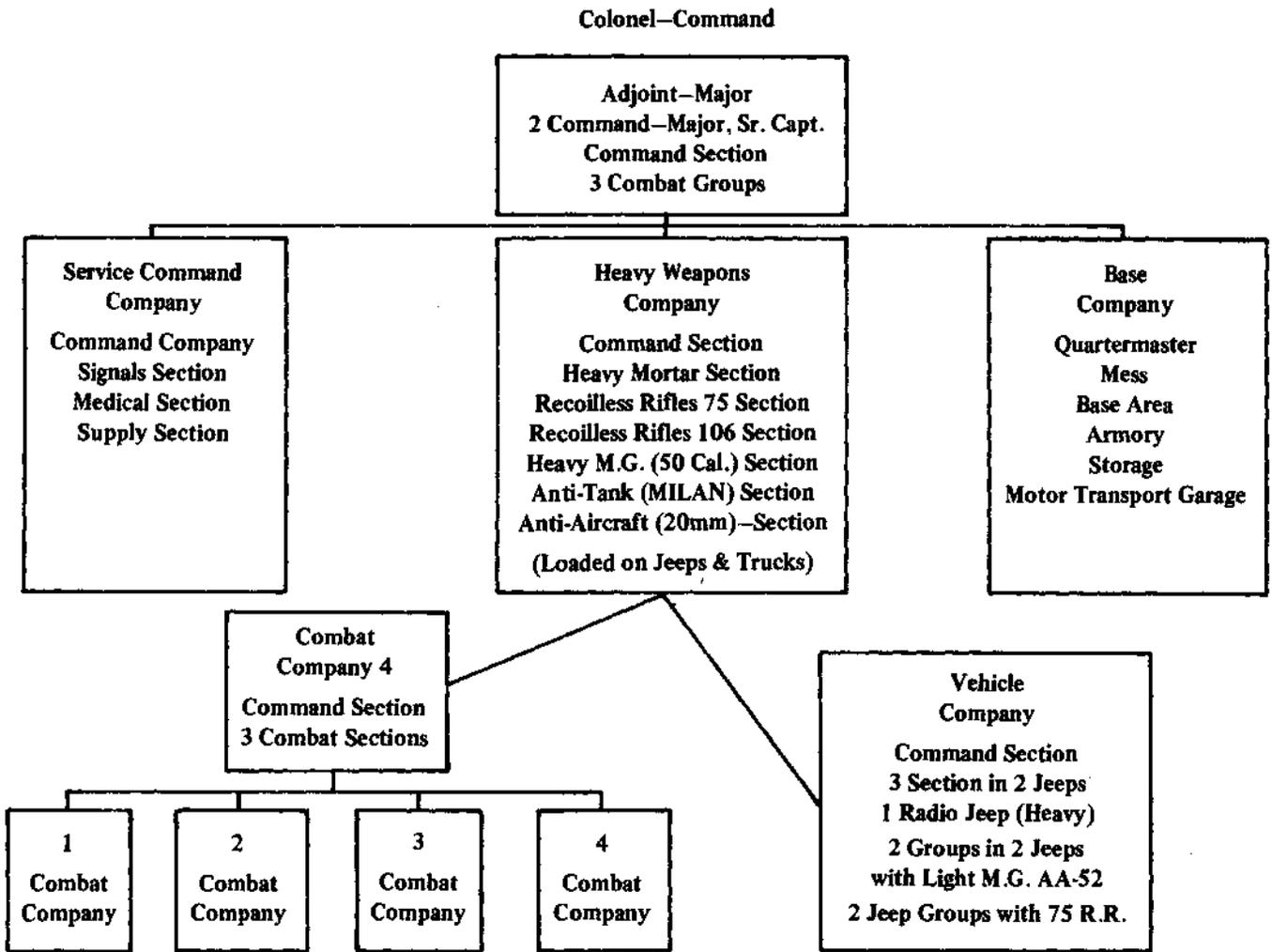
- Commander--Capt.
- 2 Command--Sr. Lt.
- Company--Adjutant Chief
- Radio--Legionnaire
- Supply--Sgt.
- Group Leader--Chief
- Paratrooper--Legionnaire
- Paratrooper--Legionnaire
- 60 Mortar--Legionnaire
- Paratrooper--Legionnaire
- Anti-Tank--1st Class
- Paratrooper--Legionnaire
- Paratrooper--Legionnaire
- 60 Mortar--Legionnaire
- Paratrooper--Legionnaire
- Anti-Tank--1st Class

- | | | |
|---------------------------------------|----------------------------------|----------------------------------|
| • Commander--Lieutenant/Jr. Lt. | • Commander--Lieutenant/Jr. Lt. | • Commander--Lt./Jr. Lt. |
| • 2 Command--Adjutant/Sgt. Chief | • 2 Command--Adjutant/Sgt. Chief | • 2 Command--Adjutant/Sgt. Chief |
| • Section Supply--Sgt./Corporal Chief | • Section Supply--Sgt./Chief | • Section Supply--Sgt./Chief |
| • Radio--1st Class Legionnaire | • Radio--1st Class | • Radio--1st Class |
| • Group Leader--Corporal | • Group Leader--Corporal | • Group Leader--Corporal |
| • Paratrooper--Legionnaire | • Paratrooper--Legionnaire | • Paratrooper--Legionnaire |
| • Paratrooper--Legionnaire | • Paratrooper--Legionnaire | • Paratrooper--Legionnaire |
| • Paratrooper--Legionnaire | • Paratrooper--Legionnaire | • Paratrooper--Legionnaire |
| • Machine Gun--Legionnaire--1st Class | • Machine Gun--1st Class | • Machine Gun--1st Class |
| • Paratrooper--Legionnaire | • Paratrooper--Legionnaire | • Paratrooper--Legionnaire |
| • Group Leader--Corporal | • Group Leader--Corporal | • Group Leader--Corporal |
| • Paratrooper--Legionnaire | • Paratrooper--Legionnaire | • Paratrooper--Legionnaire |
| • Paratrooper--Legionnaire | • Paratrooper--Legionnaire | • Paratrooper--Legionnaire |
| • Paratrooper--Legionnaire | • Paratrooper--Legionnaire | • Paratrooper--Legionnaire |
| • Machine Gun--Legionnaire--1st Class | • Machine Gun--1st Class | • Machine Gun--1st Class |
| • Paratrooper--Legionnaire | • Paratrooper--Legionnaire | • Paratrooper--Legionnaire |

FOREIGN LEGION PARACHUTE COMPANY

(64 MEN)

AIR OR VEHICLE TRANSPORT—RE-ENFORCED PARA-BATTALION

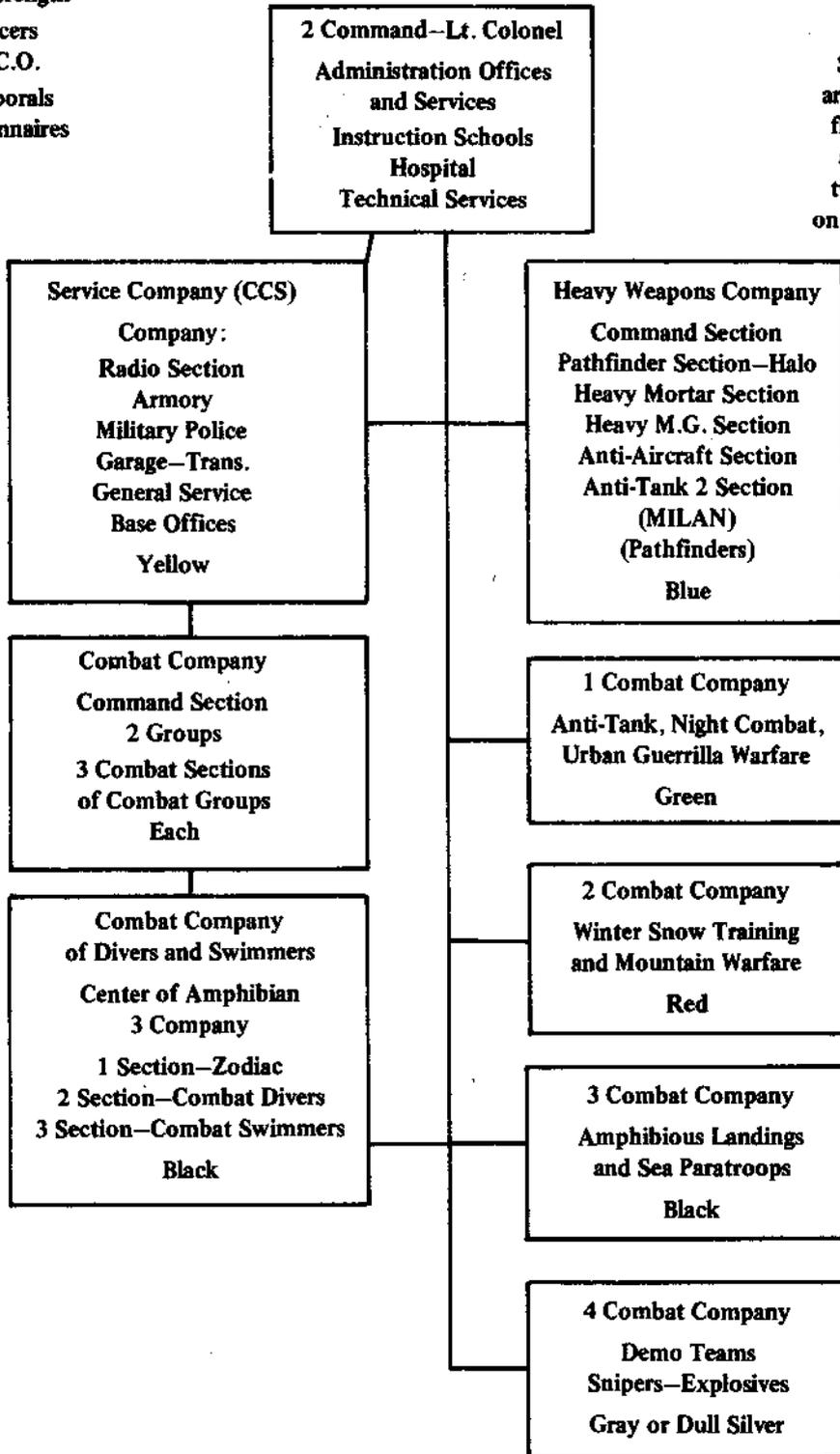


**Commandant-Colonel
(Chief of Regiment)**

Approx. Strength
50 Officers
220 N.C.O.
900 Corporals
and Legionnaires

**Companies are noted
by colors.**

**Strip of cloth
around shoulder
flap to armpit,
also on small
two-inch circle
on back of helmet**



MAIN WEAPONS OF THE 2 REGIMENT OF FOREIGN PARATROOPS

Each parachute battalion has a headquarters and service company, four maneuver companies, and a combat heavy weapon support company. The heavy weapon combat companies are made up of three sections each of four rifle equipes (teams)—the equipes being one NCO, one sniper, and four two-man teams. These two-man teams are known in the French Army as binoms and might be considered the French equivalent of the "buddy system"; the two men live, train, and fight together, act as back-up to each other, and also provide valuable psychological support to each other in combat conditions. The combat heavy weapon support company has two anti-tank sections equipped with MILAN, a scout section mounted in Peugeot PL-4 jeeps, and a mortar section equipped with 120mm mortars.

The basic infantryman's weapon is the rifle, but here the Legion is in something of a tangle. The official latest issue is the FAMAS (Fusil Automatique-Manufacture d'Armes de St. Etienne), known to the troops as "the trumpet" from its peculiar shape. The FAMAS is a 5.56mm NATO bullpup with an enormous, looped carrying handle over the top, inside which are the iron sights. It works on the delayed blowback principle, having a bolt and carrier assembly whose opening is delayed by a lever arm device. It is a selective-fire weapon, giving single shots, automatic fire at about 1,000 rpm, and three-round bursts for one pressure of the trigger. Using a 25-round magazine, it also has a light bipod which allows it to be used as a light machine gun if necessary.

The sniper in the section is issued with the FR-F1 (Fusil a Repetition F1), a 10-shot, heavy-barrel, bolt-action rifle based on the now-obsolete 7.5mm Model 1936 service rifle. It was originally made in the same French service 7.5mm chambering, but most are now chambered for the standard 7.62mm NATO cartridge. The butt can be adjusted to suit the firer by adding or removing spacers and by moving the cheek rest, and the weight and length of the trigger pull can also be adjusted. There is a permanently fixed bipod on the fore-end which can be swung down into place or folded up when not required. The iron sights are provided with luminous spots for night firing, but the weapon is normally used with 4x telescope sight Modele 53-bis. It is deadly accurate out to 800 yards in the hands of a skilled sniper.

Submachine guns are not widely issued in Legion service, being principally for use by transport drivers, command post staffs, and other paratroops who may require a self-defense weapon but want one which can be tucked away until it is needed. It is probable that when the FAMAS rifle is on general issue, the submachine gun will be completely withdrawn from the army. The only submachine gun in Legion service now is the MAT-49, a very reliable and tough design which is largely made of steel pressings and has some interesting design features. The bolt face is about two-thirds of the way back from the actual front edge of the bolt, so that two-thirds of the mass overhangs the barrel at the instant of firing, a method of obtaining the desired bolt weight inside a short receiver length. The face of the bolt, which carries a fixed firing pin, actually enters the rear of the barrel, and the cartridge is fired as the bolt is still moving forward. This means that the explosion has to arrest the bolt and then reverse it, another aid to compact design and one which also reduces the felt recoil. The magazine housing, which also acts as a front hand grip, is hinged, and it and the magazine can be folded forward, underneath the barrel, for carrying. If the weapon is carried cocked, then simply flicking the magazine down readies it for firing. There is no safety catch, nor any selector for single shots; the only control is a grip safety in the rear of the pistol grip, but the folded magazine is an effective safety device in itself.

The standard pistol is the MAS Mle 50. The pistol is in 9mm Parabellum but the mechanism is pure Colt 1911 except that the hammer and its spring can be removed as a single unit for cleaning and maintenance. In other words, it is a single-action automatic, using the Browning drop-barrel method of breech locking, a hinged link pulling the barrel down out of engagement with the slide. The magazine holds nine rounds.

A more modern weapon which is issued as an alternative to the Mle 50, and which will gradually replace

it, is the MAB PA-15. MAB stands for Manufacture d'Armes de Bayonne; the PA-15 is their top military model, a 9mm with a magazine capacity of 15 rounds. Unusually, it is a delayed blow-back weapon, one of the few service pistols not using a locked breech. The system used is a rotating barrel, very similar to the U.S. Savage auto pistol of the 1920s and possibly derived from it. The barrel is connected to the slide by a lug which moves in a cam groove in the interior surface of the slide. When the slide attempts to move backward the cam groove attempts to rotate the barrel, but this movement is resisted by the torque action of the bullet going up the rifling in the opposite direction. Once this ceases, the slide can move the barrel so that the lug moves into a straight section of the cam groove and the slide is free to recoil.

The standard machine gun is the AA-52. This is a "general purpose" gun, belt-fed and capable of being mounted on a tripod for sustained fire or used with a bipod and butt as the platoon weapon. In its original form, it was in 7.5mm caliber but was later changed to 7.62mm NATO and became officially known as the Mle NF-1. Designed to be built cheaply and easily from steel stampings and pressings, it uses a two-part bolt with a delay lever, allowing the chamber pressure to drop before extraction begins. The front part of the bolt carries a short lever which engages in a recess in the barrel extension; as the cartridge case pressure begins to force the bolt head back, so this lever is turned and, at some mechanical disadvantage, pushes the heavy rear section of the bolt back. Until this begins to move, the front part cannot begin extraction, but once it has moved sufficiently to allow the delay lever to clear the recess, then chamber pressure blows the entire bolt unit back.

A slight drawback is that the bipod is attached to the barrel, so that when the gunner's assistant removes the hot barrel to change it, he also removes the bipod and leaves the gunner holding a hot gun off the ground until the new barrel goes into place. It fires full automatic only, at a rate of 900 rpm, and with an optional heavy barrel can deliver accurate fire out to 1,200m range.

For defense against armor, the 2 REP has three weapons: first the LRAC-89 rocket launcher, then the MILAN, and finally the HOT missiles. The LRAC-89 might be called the French equivalent of the Bazooka, since it is simply a light fiberglass tube which is placed on the man's shoulder and used to discharge a HEAT rocket to an effective range of about 450 meters. The difference is that instead of simply loading a rocket into the rear of the tube, the LRAC rocket comes sealed in a short tube which is bayonet-locked onto the back end of the launch tube. This makes the necessary electrical connections, and the gunner merely aims and pulls the trigger. As soon as the weapon has fired, the assistant removes the expended tube, throws it away, and locks a fresh load into the launcher. So far as speed goes, there is nothing lost, and this system has the advantage of keeping the rocket hermetically sealed until the instant of firing. The rocket weighs about five pounds and can blast its way through 450mm of armor at a 30-degree angle. The launcher also has the options of a useful antipersonnel warhead and an illuminating rocket, both of which can be fired to a maximum range of 1,000 meters with reasonable accuracy.

The MILAN missile is the same weapon as used by other NATO countries and described in these pages previously. The HOT missile, made by the same firm of Euromissile, is simply a larger version, carried on light vehicles and with a rather longer range and a heavier warhead with more penetration. HOT stands for "Haute Subsonique, Optiquement, Teleguide," and it hauls a 14-pound warhead to about 4,500 meters and punches holes through over 600mm of armor.

Although a number of missiles are currently being evaluated for the air-defense role, at present the Combat Heavy Weapon Section relies entirely upon 20mm cannons for their anti-aircraft strength. There are three models available: Cerbere, Centaure, and Tarasque, all made by Groupement Industrielle des Armes-Terrestriales (GIAT), the French government consortium. All are basically the same 20mm F2 cannon, the difference being in the mounting. The F2 is yet another delayed blowback design, though the breech locking is in fact quite positive. The breechblock has two locking plates at its sides which engage into recesses in the receiver and lock the breech at the instant of firing. Just ahead of the chamber are two ports which allow gas to pass through and drive two pistons backward; these force the lock flaps open, and there

is still sufficient pressure inside the chamber to blow the breechblock back. There are two belt feeds, one at each side of the receiver, which can be loaded with belts having different types of ammunition; for example, one belt with ack-ack HE shells and the other with anti-tank armor-piercing shells. At the flick of a lever, the gunner can shift feed to one belt or the other, so changing ammunition to cope with different types of targets. The gun fires at about 750 rpm.

The Cerbere equipment is a towed twin-gun mount which can be dropped off its wheels very rapidly. It has complete power operation, with the power coming from a small Wankel engine under the gunner's seat. In fact, the mounting is designed and built by Rheinmetall in Germany and is the standard German equipment except that it mounts a French cannon and sight.

Tarasque is entirely French and is a single-gun, power-operated portable mounting. The interesting thing about this design is that the gunner is suspended in a seat attached to the elevating structure, so that he swings with the gun and does not require any complicated couplings to match his sight to the gun, which is necessary when the gunner sits in one place with a fixed sight. It feels a little peculiar when you first try it, but the movement soon seems natural and it is certainly easier and quicker to pick up a target.

Centaure is a robust and simple hand-operated twin-gun mount carried on a trailer and operated by one man. He sits well behind it and aims through a fairly simple parallelogram sight unit, and can cope equally well with air or ground targets. All three of these equipment systems carry outside magazine for belts and are normally provided with a 100-round belt of HE and a 40-round belt of AP for each gun, plus, of course, plenty of reload belts.

Chapter 2

Legion Para Combat Training: Estimate of the Situation and Combat Orders

1. General

a. Mission.

A commander engaged in paramilitary operations proceeds in accordance with a mission. All of the commander's plans and efforts are directed to the end of accomplishing his mission. The mission itself may be specifically enunciated in orders from higher authority; it may be implied in such orders; or, it may be deducible from the commander's general knowledge of the situation. In any event, it is essential that the commander have a clear and definite understanding of his mission.

b. Decision.

In order to accomplish his mission, the commander must make decisions. Some of his decisions may be highly complicated, some may be simple, some may be vitally important, and some may be relatively unimportant. In any event, his decision must be sound: that is, it must offer the best chances for success in accomplishing his mission. If a decision is to be sound, it must be based on a full and rapid consideration of all factors involved. The way in which a commander considers all factors involved in a situation, and thereby arrives at a sound decision, is called the estimate of the situation.

c. Importance of the estimate.

The importance of the estimate of the situation cannot be overemphasized. The officer who understands and applies correct reasoning gives his force the best chance for success. The officer who fails to do this the right way is simply trusting to luck. Since the lives of legionnaires and the success of many important operations may hinge on any commander's decision, it becomes the duty of every officer to master the art of estimating the situation.

COMMANDER'S ESTIMATE OF THE SITUATION

1. Mission.

State the mission assigned by higher authority or as deduced from knowledge of the situation.

2. The situation and opposing lines of action.

a. Considerations affecting the opposing lines of action.

Determine and analyze those factors of the situation which will influence your choice of a line of action or the enemy's capabilities to act adversely. Indicate conclusions or deductions as to the effect of each factor on any of the enemy capabilities or your own possible lines of action. The following list of factors is suggestive and not complete, nor will all have an important bearing in every situation.

Relative combat power of opposing forces, including:

Numerical strength

Composition

Arms and armament

Combat efficiency, including physical condition, battle experience, and leadership

Assistance to be expected from indigenous troops.

Reinforcements

Time and space, including necessary paratroop movements and the time required

Terrain, including observation, fields of fire, concealment and cover, obstacles, routes of communication, avenues of approach, and terrain features vital to success of the mission.

Dispositions

Status of supply and evacuation

Weather

b. Rebel capabilities.

List, in general terms only, all possible lines of action which your deductions show to be within the physical capabilities of the enemy and which can interfere with the accomplishment of your mission.

c. Own lines of action.

List, in general terms only, all reasonable and practical lines of action open to you which, if successful, will accomplish or facilitate the accomplishment of your mission. In simple situations and in small commands, it is often possible to eliminate all but one of your own lines of action.

3. Analysis of the opposing line of action.

Considering each possible combination separately, think what would happen if each of your lines of action were opposed by each of the hostile capabilities. This helps you determine the degree of success that can be expected from each of your lines of action, and brings out any weakness of each when it is tested against the capabilities of the enemy. State briefly for each the conclusions that have an important bearing on your choice of a line of action.

4. Comparison of own lines of action.

Under each of your own lines of action, summarize the decisive reasons that lead you to discard or adopt it. Then give your conclusion as to the most advantageous line of action. Reach your conclusion by weighing the comparative advantages and disadvantages of your lines of action, and deciding which one has the most merit.

5. Decision.

Your decision should be brief and state clearly the line of action the command as a whole is to adopt to meet the immediate situation.

6. Discussion.

a. Immutable principles.

For a large force, an estimate of the situation may take many hours of intensive study, and may represent the combined efforts of many staff officers. Such an estimate almost certainly would be written in considerable detail. But commanders of small units are often faced with situations calling for immediate action. Then there is no time for writing five-paragraph documents, nor any necessity for doing it. The important thing is for the commander to apply the processes of the standard estimate of the situation. The principles are the same, whether the estimate represents the combined written efforts of a staff, or whether it represents the almost instantaneous decision of a commander in the middle of an attack.

b. Rebel capabilities.

Consider all rebel capabilities that might interfere with your mission, not just the most likely scenarios.

c. Analogy to everyday life.

The process of estimating the situation has often been compared to the process through which decisions are reached constantly in everyday life. The analogy is based on the thought that, before making even a routine decision in everyday life (as, for example, before deciding to cross a busy street), you go through a process of considering and evaluating the things involved. In everyday life you generally do things automatically and even subconsciously. In a military decision, at least two important differences are evident: first, the consequences of error in decision are usually much more serious, and second, the factors to be considered and analyzed are more complicated and less normal. However, as you gain in experience and knowledge you approach closer and closer, in making your military decisions, the confident, automatic manner in which decisions in everyday life are reached.

d. Estimate a continuous process.

The estimate of the situation is a continuous process. As the situation changes, the commander must revise his estimate and, when circumstances warrant, announce a new decision.

Often the commander will be able to include only the what of the matter in his decision. In such case, the when, where, why, and how may come later, after the situation has further developed. For example, early in an operation, before contact with the enemy has been gained, you may decide simply to continue the march. Later, after the situation has developed, you may decide to attack, and still later, you may then extend your decision to include the time, place, and manner of your attack. The general rule is that any decision should be as thorough as the situation requires and as the time available permits. Subsequent estimates should then be made as required, so that you always have the situation well in hand.

COMBAT ORDERS

1. Steps involved.

As the final step in his estimate of the situation, the commander arrives at a decision. His next step is to evolve a plan to put the decision into effect. By means of orders, he then conveys knowledge of his plan to his subordinate commanders. Finally, by means of supervision, he ensures the execution of the orders as issued.

2. Types of combat orders.

Combat orders are orders pertaining to operations in the field. Combat orders are classified as administrative orders (through which administrative details of a plan are announced); letters of instruction (which deal with the strategical phases of large-scale operations); and field orders (through which the directions of the commander for a given tactical situation are given to subordinate commanders charged with the execution of the operations). Commanders of para units are chiefly concerned with field orders, and hence this chapter is devoted exclusively to them.

3. The plan.

The commander's plan comprises the mission to be accomplished by his force as a whole, and by each element of his force. The plan is the heart of the field order. As such, it has certain characteristics, the most important of these being comprehensiveness, to ensure against the doubt and confusion which might result from complicated orders.

4. Classification of field orders.

a. Methods of issue.

Field orders may be issued in written, dictated, or oral form. In the case of the dictated order, the recipients record the order verbatim. In the case of the oral order, the recipients take such notes as each considers adequate. The most important factor influencing the method of issuing a field order is the time available for its preparation and distribution. The criterion is that the order should reach its destinations in time to permit the lowest subordinate commander concerned in its execution an opportunity to reconnoiter, dispose his troops, make other necessary arrangements, and issue his own order before the time set for the operation to begin.

b. Advantages and disadvantages.

The complete written field order is, of course, the most satisfactory of all types; however, it has the disadvantage of taking a long time to prepare. The oral order is the least satisfactory as regards chance of error and misunderstanding; but it has the big advantage of taking little time to prepare. The dictated order stands midway between the written and the oral. When time does not permit a complete written field order but does permit the dictated type, it should always be used in preference to an oral order. When time demands an oral order to be used, great care should be taken to make the latter clear and brief.

c. Complete and fragmentary orders.

Field orders may be either complete or fragmentary. Complete orders cover all essential aspects of the operation, including the assignment of missions to all subordinate commanders. The fragmentary type of field order is issued part by part, as the situation develops. In small units (regiments and smaller) where speed in execution is normally important, fragmentary orders are usual. Thus, officers may expect to use fragmentary orders more than any other kind.

5. Types of orders applicable to small commands.

By way of emphasis and summary, it is noted again that the commander of a para unit engaged in combat will seldom have the time to use written field orders, complete or fragmentary. In the compelling interest of time, he will often use fragmentary orders in dictated or oral form.

a. Reason for standard form for field orders.

For field orders, just as for estimates of the situation, it has been found desirable to develop a standard form, in which all elements of the plan are presented in logical sequence. Use of the standard form ensures ease of understanding, facilitates references, and ensures against omissions. Every officer should train himself automatically to issue his orders in the proper sequence.

b. Guide for preparing field orders.

There is presented below an outline designed to serve as a guide for use in preparing field orders. It will be noted that the field order is divided into three chief parts: the heading (title, place, date, hour, serial number, map references); the body (five paragraphs, one each for the following: information, decision or mission, tactical missions of subordinate units, administrative matters, and communications details); and the ending (signature, authentication, list of annexes, distribution).

c. Application of the guide.

While the above guide refers specifically to a complete written field order, it is also applicable to complete dictated and oral field orders and fragmentary orders. Thus, complete dictated and oral field orders conform generally to it and fragmentary orders conform to the appropriate parts of it. For example, if a commander desires to give only such instructions as would be included in paragraphs two, three, and five of a complete field order, he gives them in that sequence, omitting paragraphs one and four. Similarly, when the situation warrants, the heading and the ending may be omitted. Maintaining proper sequence is important, but the physical form of the order (that is, the method of indenting, lettering, heading paragraphs and subparagraphs, etc.) is relatively unimportant.

6. Suggestions for use in preparing field orders.

a. Procedure.

Much practice is required in gaining the ability to write clear and concise orders. It takes close application and constant training. A suggested procedure, especially helpful to the young commander who has no staff and must prepare his own orders, follows:

- 1) Plan the operation on a sketch or map.
- 2) Block out on paper the paragraph headings and the data to be included in each paragraph.
- 3) Check to ensure all essential details are included.
- 4) Write the order in the correct sequence.
- 5) Make a final check for completeness and clarity.

This way is recommended whether the order is to be written or oral. If it is to be written, the outline of 2) will serve as a checklist; if it is to be oral, the outline will serve as an excellent set of notes.

b. Operation maps.

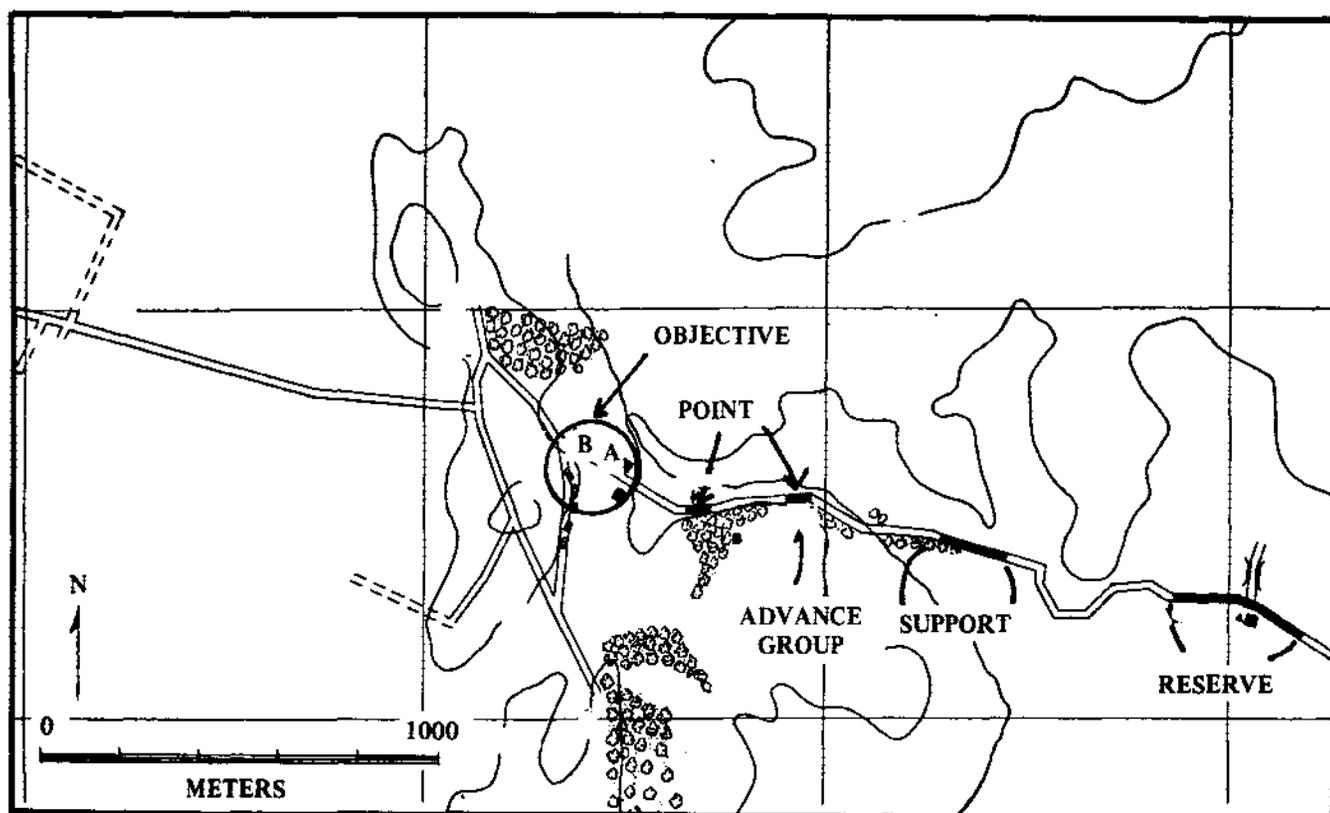
Field orders may be clarified and shortened by putting much of the information on maps and overlays. These are called operation maps. They are especially useful in showing information such as the following: location, strength, and composition of units, both enemy and friendly; lines of departure; boundaries; assembly areas; objectives; directions of main effort; defensive organizations; limiting lines for artillery fires; areas gassed or to be gassed; locations of command posts and axes of communications; routes. In preparing an operation map, conventional signs and abbreviations are

used. The map should bear a title showing that it is an operation map, and a heading showing the date and the time of issue. The map also should bear a statement that it is part of the field order it accompanies. When an operation map is part of a written field order, reference to the map is made in at least two places in the order: in the heading and in the list of annexes.

c. Issue of dictated and oral field orders.

Dictated and oral field orders normally are issued by the commander himself direct to his subordinates, or their representatives. The orders should be issued, if possible, from a point at which at least a part of the field operations is visible. The first step is to orient the group. Terrain features which will figure in the order should then be pointed out and identified, by name if they have any. The commander should issue his order in a way that shows he knows exactly what he wants. He should speak slowly and distinctly, avoiding stilted and mixed-up language. Before beginning actually to issue the order, the commander should make it clear whether it is to be a dictated or an oral order.

SKETCH TO ILLUSTRATE PLAN



**OBJECTIVE: A—TWO MAISONS (HOUSES) BOTH SIDES OF ROUTE
B—JUNCTION OF THE TWO ROUTES**

d. Receipt of dictated and oral field orders.

The recipients of a dictated or an oral field order take notes of data as follows: name and title of issuing officer; time he began to give his order; time issue of order was completed; place; date; type of order (dictated or oral). In recording a dictated field order, the text should be paragraphed in a manner similar to that of a written order. Notes, or notations on a map or sketch may be taken from an oral order. The notes must be legible and comprehensive enough to enable another officer to understand them if the officer receiving the order becomes a casualty.

e. **Clarity, definiteness, legibility, brevity.**

Field orders should be clear and definite, and given in direct, unmistakable terms. They should include no vague statements. If written, they should be distinct and legible, even in a bad light. They should be as brief as is consistent with clarity and comprehensiveness, and not too telegraphic.

f. **Period covered.**

A commander should plan for contingencies, but he should not try to provide in his orders for events too far in the future. In war, the unforeseen often happens. If at such time a command is saddled with an order framed for another situation, surprise and confusion can only result. Accordingly, the commander should in general confine an order to the situation immediately at hand.

g. **Methods of expression.**

- 1) Details of time and place should be stated carefully, as, for example: 5:30 A.M., 11 Aug. In designating a night, the two dates involved should be mentioned; as for example: Night 11-12 Aug.
- 2) Expressions depending for their sense on the viewpoint of the observer, such as "in front of," "behind," "on this side of," "beyond," should be avoided. Instead, reference should be made to points of the compass; as, for example: North of Bou-Saada. However, the terms "right" and "left" may be used along with the directions in connection with boundaries and bodies of troops (always as if facing the enemy), and in connection with the banks of a stream (always as if facing downstream); as, for examples: right (east) boundary; hostile left (north) flank; left (south) bank of Bou-Saada.
- 3) Details of place should be stated carefully. When written, names of places should be in capital letters.
- 4) When maps are provided with grid lines, all features of the terrain not evident at a glance should be designated by coordinates the first time each appears in a different sub-paragraph of the field order. If no confusion will result, the designation need consist only of the coordinates of the southwest corner of the grid square containing the feature in question, as, for example: 418 (20-66). If confusion might result from such an approximate designation, decimals are used, as, for example: HOUSE at (19.4-24.3).
- 5) When maps are not gridded, obscure features should be designated by reference to more prominent features, as, for example: trees 200 meters northwest of Biskra.
- 6) Roads are designated by name, as, for example: Tozeur-Hazoua; or, they are designated by naming an appropriate number of points on the road; as, for example: The road: Ferina-Gafsa.
- 7) Boundaries and other lines are designated by naming an appropriate number of points on the lines; as, for example: Boundaries: right (east) RJ 684-c (incl)-HILL 709 (64-33) (excl)-knoll at (64.3-32.4)- stream junction at (64.55-30.3) (all incl).
- 8) Only well-known abbreviations, the meanings of which are apparent, are used: as, for examples: 11th Div., 5:30 A.M., RF 507.

FORMS FOR FIELD ORDERS

The forms below are to aid the legionnaire in preparing field orders for units not larger than a battalion. The forms, or appropriate parts of them, are applicable to all types of field order: complete or fragmentary; written, dictated, or oral. But no form should be used blindly. The form is only a guide, to be fitted to the situation at hand. The student should also bear constantly in mind that orders for the units he studies in these volumes are seldom issued as written orders. They are far more often given orally, and part at a time (fragmentary form) over a considerable period of time. Fragmentary orders, moreover, seldom work out in the sequences given below. But by the time a unit begins an operation, its commander should have received

from the next higher commander instructions and information covering most of the items listed in the order forms. And the student should not hesitate to add to his order any necessary instructions not covered under the pertinent form. Similarly, any heading without application to the situation at hand is simply disregarded.

FORM FOR A COMPLETE WRITTEN FIELD ORDER

Issuing unit
Place of issue
Date and hour of issue

MAPS: (Those needed for an understanding of the order.)

1. Information. Include appropriate information covering:
 - a. Rebel composition, disposition, location, movements, strength, identifications, capabilities. Refer to intelligence summary or report when issued.
 - b. Friendly forces missions or operations, and locations of next higher and adjacent units; same for covering forces or elements of the command in contact, support to be provided by other forces.
2. Decision or mission. Decision or mission details of the plan applicable to the command as a whole and necessary for coordination.

TROOPS

(Composition of tactical components of the command, if appropriate.)

3. Tactical missions for subordinate units. Specific tasks assigned to each element of the command charged with execution of tactical duties, which are not matters of routine or covered by standing operating procedure. A separate, lettered subparagraph for each element to which instructions are given. Also, instructions applicable to two or more units or elements or to the entire command, which are necessary for coordination but do not properly belong in another subparagraph.
4. Administrative matters. Instructions to tactical units concerning supply, evacuation, and traffic details which are required for the operation (unless covered by standing operating procedure or administrative orders; in the latter case, reference will be made to the administrative order).
5. Signal communication.
 - a. Orders for employment of means of signal communication not covered in standing operating procedure. Refer to signal annex or signal operation instructions, if issued.
 - b. Command posts and axes of signal communication. Initial locations for unit and next subordinate units, time of opening, tentative subsequent locations when appropriate. Other places to which messages may be sent.

Commander

Authentication

Note: Attention should be given to those legionnaires who do not fully read, speak, or understand French. Translators should be present on briefings of company or larger para units.

Outline of An Order for a March

Title
Place
Date and hour

MAPS:

1. a. Information of the enemy—location, composition, rate and direction of movement of any hostile elements which may interfere with the action of this organization.
b. Information of legion troops—location of higher, adjacent, and covering units, or units within supporting distance. Special support furnished by any unit.
2. Decision of the commander—generally to march to or toward a designated locality, giving time movement is to start followed by mission and route.
3. a. Advance guard—commander and composition, initial point, distance at which to precede main body or distance at which main body will follow, conduct in case enemy is encountered, special missions.
b. Reconnaissance detachment(s)—commanders and composition, place of assembly, time of starting, special missions.
c. Main body—units in order of march, initial point, flank protection, liaison.
d. Flank guard(s)—commander(s) and composition, route(s), time of starting, special missions.
e. Rear guard—commander and composition, distance at which to follow main body, special missions. In retrograde movements include initial and successive delaying positions and help that may be expected from the main body.
f. Instructions for outpost, when relieved and place of assembly—instructions applicable to two or more units or elements, or to entire command, which are necessary for coordination but do not properly belong in another subparagraph, such as active and passive measure for anti-tank and anti-mechanized defense, halts, secrecy, and march discipline.
4. Administrative instructions affecting troops of the advance guard only, such as—supply, evacuation, trains, issue of extra ammunition, disposition of packs.
5. a. Position of commander or place to which messages are to be sent.
b. Instructions to signal communication personnel.

(Signature)

Outline of an Order for an Advance Guard—Contact Imminent

Title
Place
Date and hour

MAPS:

1. a. Information of the enemy—location, rate and direction of movement, area of possible or probable contact.
b. Information of legion paratroops—location, routes or zones of higher, adjacent, and covering units, units with-in supporting distance.
2. Decision of commander—a statement that the command forms the advance guard of a larger designated unit and the zone of advance.
3. a. Flank detachments—a separate subparagraph for each, showing composition, initial point and time of departure, routes or zones, special missions.
b. Supports—a separate subparagraph for each, showing composition, initial point or line and time of departure, line on which the advance on a broad front is to begin, zones, conduct when the enemy is encountered, special missions.
c. Reserves—a separate subparagraph for each, showing composition, distance to follow supports, zone, method of advance.
4. General instructions applicable to two or more units or elements, or to entire command—special instructions as to liaison, instructions affecting troops of the advance guard only, such as supply, evacuation, trains, issue of extra ammunition, disposition of packs.
5. a. Position of commander or place to which messages are to be sent.
b. Instructions to signal communication personnel.

(Signature)

Outline of an Order for an Attack

Title
Place
Date and hour

MAPS:

1. a. Information of the enemy—location, strength (known or estimated), composition, dispositions—lines of defense, location of reserves, and artillery, if known.
b. Information of legion paratroops—position of advance units of covering troops, troops on immediate flanks, plan of higher commander, artillery or other support as ordered by higher authority.
2. Decision of commander—designation of attached units; scheme of maneuver of the command as a whole; mission or objective; formation; time of attack for each unit in appropriate subparagraph of paragraph three; line of departure when entire command begins its attacks from same line, otherwise give line of departure for each unit in appropriate subparagraph of paragraph three; direction of attack or zone of action; boundaries between units.
3. a. Paratroop in holding attack—attachments, routes of advance and assembly positions, principal effort, objective, time to exert maximum effort, assistance to be rendered to other units, security on flanks.
b. Paratroop in main attack—routes of advance and assembly areas; mission or objective; direction of attack; special secrecy and security measures.
c. Instructions for attached units (such as anti-tank) —missions, general positions, character of support, method of advance. Separate lettered subparagraphs are allotted to each unit.
d. Organic supporting weapons (light and heavy machine guns and mortars)—general position area, initial targets, and method of control.
e. Reserve composition, location, route (when necessary), time to be in position, special mission (such as flank protection), maintaining contact, support of attack by fire, preparation for pursuit.
f. Instructions applicable to two or more units or elements, or to entire command, which are necessary for coordination but do not properly belong in another subparagraph, such as action of security detachments during deployment, secrecy and surprise measures, limitation on reconnaissance, special use of chemicals.
4. Instructions on the necessary administrative details, such as issue of extra ammunition, location of aid stations, disposition of trains, location of ammunition distributing points.
5. a. Command posts, initial and successive locations of issuing unit and of next principal subordinate units.
b. Instructions to signal communication personnel.

(Signature)

Outline of an Order for a Defense

Title
Place
Date and hour

MAPS:

1. a. Information of the enemy—location, strength (known or estimated), composition, dispositions.
- b. Information of legion paratroops—location and missions of next higher unit and those on right and left; location and mission of covering troops to the front; location and mission of supporting weapons; special support furnished by any unit.
2. Decision of commander.
 - a. General line to be defended.
 - b. Organization of the ground (main line of resistance and extension, outpost line).
 - c. Formation.
 - d. Boundaries of sectors occupied by the command (when interior unit), and between subordinate units, limiting points.
3. a. Assignment of troops to sectors or localities to be defended—lines, sectors, and extensions; security detachments to be employed; details of fortifications to be constructed, such as priority of work; initial garrisons; conduct of the defense.
- b. Instructions for employment of supporting weapons—general location of weapons and mission (separate subparagraph for each unit).
- c. Reserves—designation of units, commander, positions, degree of readiness, work to be done in organization of position.
- d. Instructions for any troops not otherwise covered. Instructions for entire command. This may include time in which the position will be organized, and conduct of defense, as follows:
 - 1) Instructions to troops on outpost.
 - 2) Demolitions and road blocks.
 - 3) Instructions regarding liaison and local security.
 - 4) Counterattack—when made, by what units, and by whom they may be ordered.
 - 5) Instructions for coordination of fires.
 - 6) Use or restrictions on use of sniper teams.
 - 7) Special instructions for organization of ground, priority of work.
4. Administrative instructions—supplies (rations, ammunition, and engineer equipment); location of collecting and aid stations; disposition of trains.
5. a. Command posts—location of issuing unit and of next principal subordinate units.
- b. Instructions to signal communication personnel—reference signal communication annex; special instructions.

(Signature)

Outline of an Order for a Halt for the Night with Outpost

Title
Place
Date and hour

MAPS:

1. a. Information of the enemy.
b. Information of legion paratroops.
2. Decision of commander—to halt and go into bivouac in a specified locality. (Location of bivouac area and disposition of units should be considered in connection with future probable action.)
3. a. Instructions for the outpost—designation of troops and commander, general line to be held, limits of sector to be covered, reconnaissance, connection with other outposts.
b. Main body—bivouac areas for each unit or combat team, local security, observation to flanks and rear.
c. Instructions for any detached posts or reconnaissance detachments sent out by the main body, including troops, commander, location, special missions.
d. General instructions for the entire command which do not belong in another subparagraph, such as conduct in case of an attack, protection of flanks and rear (especially against mechanized units), special instructions as to liaison, measures for secrecy.
4. Necessary administrative details, such as supply of rations, location of aid stations, disposition of vehicles, with special reference to support sections.
5. a. Command posts—location of issuing unit and of next principal subordinate units.
b. Instructions to signal communication personnel.

(Signature)

Outline of an Order for an Outpost

Title
Place
Date and hour

MAPS:

1. a. Information of the enemy.
b. Information of legion paratroops.
2. Decision of commander--a statement that the command establishes the outpost, sector to be outposted, including the outpost line of resistance and boundaries between subordinate units.
3. a. Supports (numbered from right to left)--composition, location, reconnaissance, organization of the ground.
b. Detached post (if used)--composition, position, duties, amount of resistance, reconnaissance.
c. Examining post (if used)--composition, location, special missions.
d. Reserve--location, reconnaissance, local security.
e. Instructions (if not attached to supports or reserves) for supporting weapons (light and heavy machine guns and mortars), areas to be covered by fire, special missions.
f. Instructions applicable to entire command which do not belong in another subparagraph, such as conduct in case of an attack, mutual support, patrolling, liaison.
4. Instructions covering administrative details that pertain to the outpost only, such as supply of rations and extra ammunition, location of aid stations, disposition of prisoners, disposition of vehicles.
5. a. Command posts--of outposts, and of such higher or lower units as may be necessary.
b. Instructions to signal communication personnel.

(Signature)

Outline of an Order for a Rear Guard

Title
Place
Date and hour

MAPS:

1. a. Information of the enemy—location, rate and direction of movement of any hostile elements which may interfere with the action of this organization.
b. Information of legion paratroops—location or routes of higher, adjacent, and covering units, or units within supporting distance. Special support furnished by any unit.
2. Decision of commander—a statement that the command forms the rear guard of the larger designated unit and the route or zone.
3. a. Instructions for the reserve—troops, in the order of march, place and time of departure, or approximate distance it will follow the main body, route, reconnaissance, special missions, delaying positions.
b. Instructions for the support—composition, initial point, time of departure or distance it will follow the reserve, route, any special reconnaissance, special missions, demolitions, delaying positions.
c. Instructions applicable to the whole rear guard, such as time of relief of outpost, measures for anti-aircraft protection, use and restrictions on use of snipers, secrecy, liaison, demolitions or road blocks.
4. Administrative instructions affecting troops of the rear guard only, such as ammunition, collection and disposition of casualties, disposition of vehicles, disposition of packs.
5. a. Position of commander or place to which messages are to be sent.
b. Instructions to signal communication personnel.

(Signature)

Outline of an Order for a Withdrawal from Action

Title
Place
Date and hour

MAPS:

1. a. Information of the enemy—location, composition, dispositions, rate and direction of movement of any hostile elements that may interfere with the action of this organization.
b. Information of legion paratroops—location or routes of higher, adjacent, and covering units, or units within supporting distance; special support furnished by any unit.
2. Decision of commander—to withdraw from action, time operation is to begin, subsequent mission, order in which units break contact, zone of action or routes, defensive positions or assembly area.
3. a. Covering force (if more than one, a separate subparagraph for each)—composition, mission, position and time of occupation, subsequent action.
b. Paratroops (a separate subparagraph for each unit)—time and method of breaking contact, zone of action or routes, defensive position or assembly area to be occupied, special missions, such as covering shell, flank protection.
c. Rear guard (when not formed by covering forces)—composition, initial position, time to be assembled, distance from main body, reconnaissance, successive positions, special instructions.
d. Reserve (when not used as covering force)—composition, movement, and mission.
e. Instructions applicable to entire command which do not properly belong in another subparagraph, such as measures for secrecy, priority on roads, reconnaissance of routes, control of movement, demolitions, guides liaison, special reports.
4. Necessary administrative details, such as supply of rations, ammunition and engineer materials, location of aid stations or evacuation of casualties, salvage or destruction of supplies, disposition of vehicles.
5. Command posts—initial and successive locations of issuing unit and of next principal subordinate units, and hours to be occupied, or place to which messages are to be sent.

(Signature)

Outline of an Order for a Raid

Title
Place
Date and hour

MAPS:

1. a. Information of the enemy—location, including terrain features, strength (known or estimated), composition, dispositions, designation of units if known, details of ground organizations, location of automatic weapons, location and type of obstacles.
b. Information of legion paratroops—location of higher, adjacent and covering units, or units within supporting distance. Special support furnished by any unit.
2. Decision of commander—area to be raided, purpose of the raid, general scheme of maneuver including zone of action (if any) and route of advance and return, time, line of departure (if entire command is launched from the same line, if not, give line for each unit).
3. a. Instructions for “raiding troops.” A separate subparagraph should be given to each unit or party to which instructions are given. For each party, such as an assault party, support or flank guard, the following should be specified: formation, mission, scheme of maneuver (including zone of action and route of advance and return), time line of departure, assistance to be given neighboring units, special instructions as to liaison, flank protection.
b. Machine guns—missions, general location, assignments to support, directions (targets, kinds of fire) for firing during hours preceding, during the raid, and during and after withdrawal of raiding troops.
c. Mortars—mission, general location, directions for firing during the different phases of the raid, as given above for machine guns.
d. Engineers—missions, such as wire cutting, destruction of enemy shelters.
e. Reserves or covering troops—composition, positions, special missions, such as covering withdrawal of raiding troops, flank protection, support assault by fire where possible.
f. Instructions for any troops not otherwise covered. Instructions for each unit are given in a separate lettered subparagraph.
g. Instructions applicable to whole command or to more than one unit, such as—time raiding troops will be in various positions, equipment, uniforms, identification colors, place at which raiding troops will check in on return, signals for beginning of withdrawal and completion of raid, special information desired in order of importance, use of restrictions on use of snipers.
4. Administrative details, such as evacuation of dead and wounded, disposition of prisoners, captured documents and materiel.
5. a. Command posts—raid commander and next higher commander.
b. Instructions to signal communication personnel. Instructions on use of pyrotechnics.

(Signature)

FIELD ORDERS

In the preceding chapter, it was told how a commander arrives at a decision and prepares a field order. Sample forms to be used as guides were given. Here, there is a series of field orders as actually issued. Once again, the student must remember that every situation is peculiar to itself and cannot be solved by blindly transferring to it the solution from some other situation.

Examples of Field Orders

A. Example of complete written field order for a battalion which is to attack.

1 Battalion
2 Foreign Parachute Regiment
Algeria
Woods at (64.1-30.2),
Dec 69 4:30 P.M.

ORDERS

NO.

MAPS: Special Map, F

1. a. A rebel force occupies a defensive position north of AM-GUER.
b. Our 2nd Battalion holds the south bank of AM-GUER. It will protect our assembly area. Our regiment attacks tomorrow morning, 1st and 3rd Battalions abreast, 1st Battalion on right, to capture the high ground near RJ 684-C (63-64). The 2nd section attacks on our right. The 1st Battalion Light (105mm How) Divisional Artillery supports our regiment.
2. This battalion will attack, capture HILL 725 (63-33), and continue the attack to the north.

Time of attack: 6:30 A.M.

Formation: Companies 1 and 2 abreast, Company 3 on right, Company C in reserve.

Line of departure: Line now held by 2nd Battalion.

Boundaries: Right (east): RJ 684-C (incl)—HILL 709 (64-33) (excl)—knoll at (64.3-32.4)—HILL 653 (64-31)—stream junction at (64.55-30.3) (all incl).

Left (west): HILL 693 (62-33) (incl)—HILL 603 (63-31) (excl)—RJ 548 (63-30) (incl).

3. a. Company 1 will attack in zone 400 yards wide on an azimuth of 350°. It will make its principal effort initially along the stream in the eastern portion of the battalion zone, and capture the southwestern slopes of HILL 709 and continue its attack to the north.
b. Company 2 will attack in a zone 500 yards wide on an azimuth of 350°. It will make its principal effort initially on its left, and capture the woods 500 meters south of RJ 705-A (63-33) and continue its attack to the north.
c. Company 3 will await orders in battalion reserve 300 meters east of RJ 578-H (64-30).
d. Company D will be in general support of the attack as follows:
 - 1) The 1st section (MG) (less one section), from positions on HILL 663, will fire initially on enemy positions in the zone of Company 2. It will designate one section for primary anti-aircraft missions from HILL 663.
 - 2) The 2nd Section (MG), from positions just east of RJ 611-G (64-31), will fire on enemy positions in the zone of Company 1.
 - 3) The 3rd Section (anti-tank) will remain in a position of readiness just south of RJ 611-G.
 - 4) The 4th Section (81mm Mort), from positions in the draw 200 meters southwest of HILL 663, will fire on hostile positions in the zone of Company A.

- e. Contact between leading companies will be maintained from right to left.
- 4. Extra ammunition will be issued in the assembly area. Pack will be stacked and held under guard in the assembly area. Assembly 3:30 A.M. 6 December.
- 5. a. Signal communication:
1st Battalion: Jungle at (64.1-30.2)–RJ 611-G—stream valley at (64.0-32.5)–RJ 705-A
- b. Command posts:
1st Battalion: Woods at (64.1-30.2).
Para companies will report the location of their command posts when established.

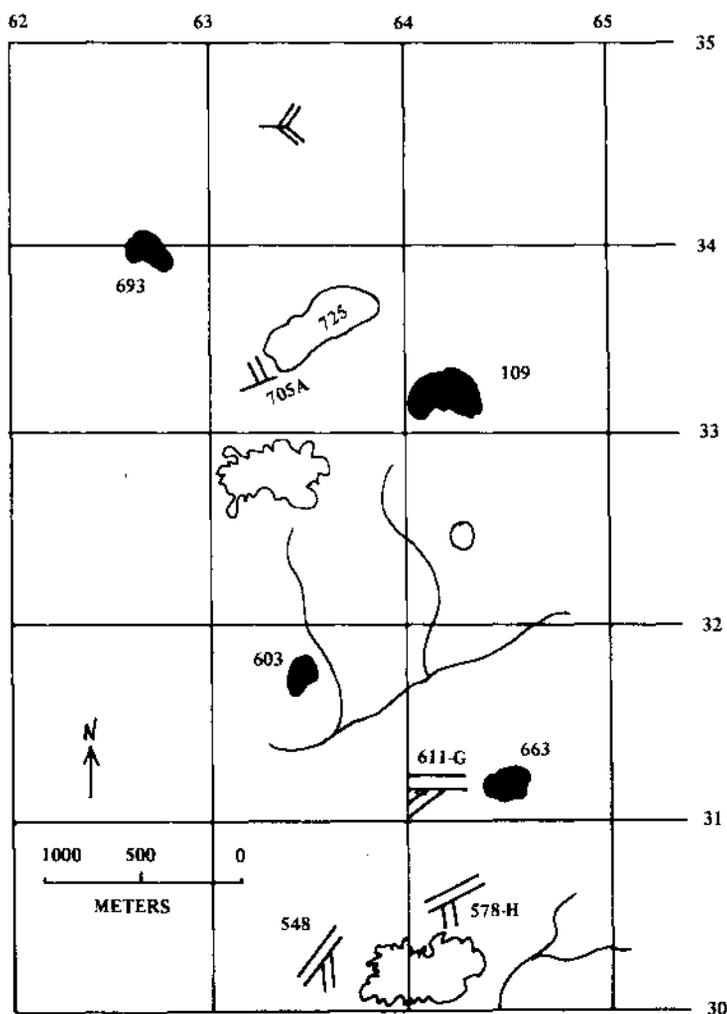
By order of Lieutenant Colonel, 1st Battalion, Paras

Major 1st Parachute
Adjutant and Operations Officer

OFFICIAL:

Major 1st Parachute CIE.
Adjutant and Operations Officer

2nd Parachute Regiment
Company 1
Company 2
Company 3
Company Support—CCS



MAP F 1ST BN, 2 REP. (SAMPLE)

B. Example of complete written field order.

1st Bn. 1st Paras
at (64.1-30.2)
5 Dec. 39, 4:30 P.M.

MAPS: Special Opn. Map

1. a. A rebel force occupies position shown on Opn. Map.
b. Our 2nd Bn. holds the LD and protects our assembly area. Our regt. attacks tomorrow morning and captures the regtl. objective. The 1st Bn. L Div. Atry. supports our regt.
2. This Bn. will attack, capture its objective, and continue to the north.

Time of attack: 6:30 A.M.

Formation, LD and boundaries: Opn. Map.

3. a. Co. 1—as shown on Opn. Map.
b. Co. 2—as shown on Opn. Map.
c. Co. 3—awaits orders in reserve.
d. Co. Sup.—general support:
 - 1) 1st Section (less 1 sec.) fire initially on enemy positions in zone of Co. 2, 1 Sec. AA protection.
 - 2) 2nd Section fire initially on enemy positions in zone of Co. 1.
 - 3) 3rd Section position of readiness.
 - 4) 4th Section fire initially on enemy position in zone of Cie 1.
- e. Contact between leading companies—from right to left.
4. Extra am. in assembly area. Pack rolls stacked and under guard in the assembly area. Assembly, 3:30 A.M. 6 Dec.
5. Opn. Map.

Para sections report locations of CPs when established.

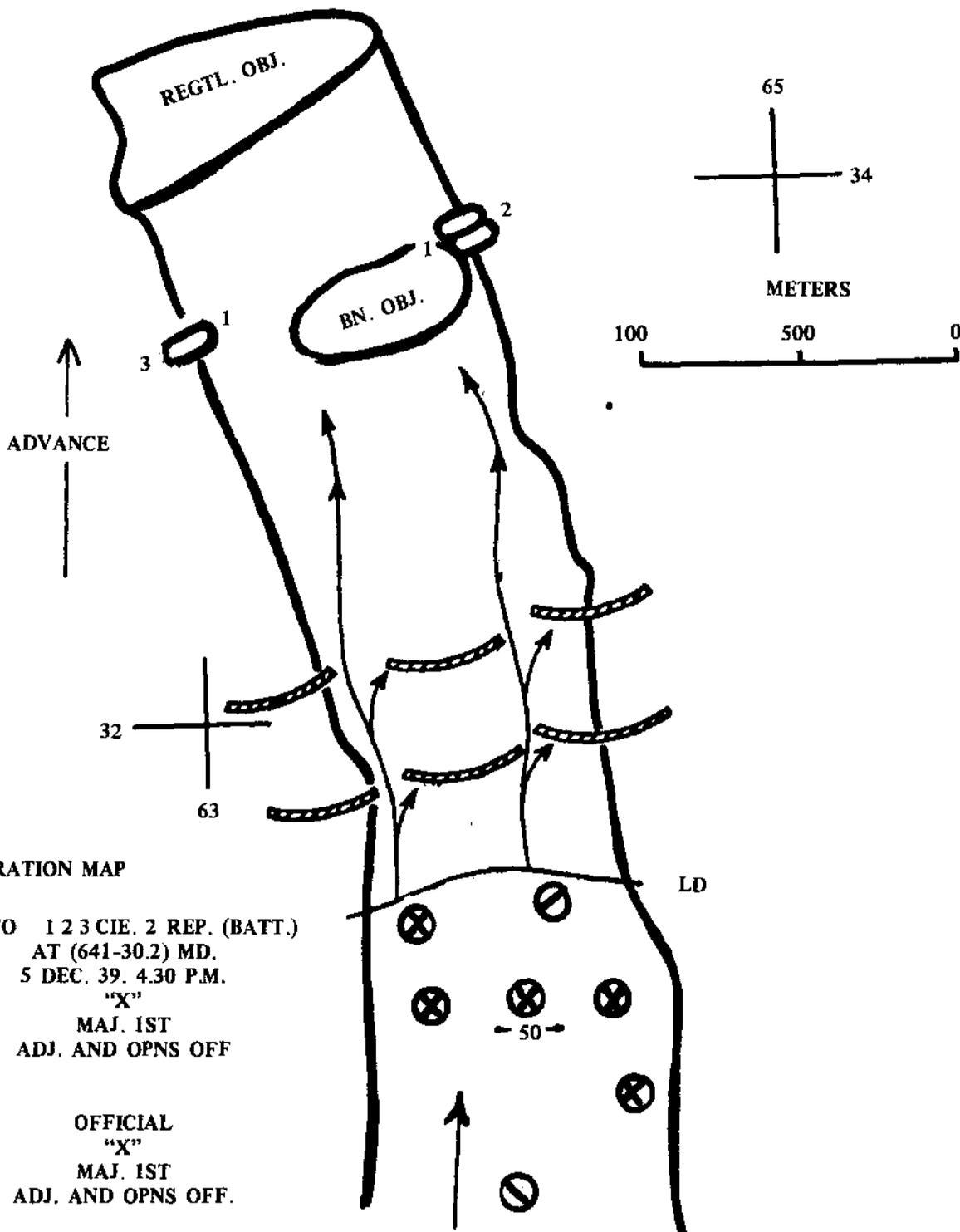
By order of Lt. Col., 1st Battalion, Para

Maj., 1st Para.
Opns. Off.

OFFICIAL:

OPERATION MAP

FIELD ORDERS



OPERATION MAP

TO FO 1 2 3 CIE. 2 REP. (BATT.)
AT (641-30.2) MD.
5 DEC. 39. 4.30 P.M.
"X"
MAJ. IST
ADJ. AND OPNS OFF

OFFICIAL
"X"
MAJ. IST
ADJ. AND OPNS OFF.

C. Example of notes for complete dictated field order.

1. Situation.

The 1st Para Battalion on 10 April is moving from the west toward the defensive area shown on the photo-map. The battalion commander, certain members of his staff, and Captain "Company," preceded the battalion. Lieutenant Colonel "1st Battalion" has completed reconnaissance of the area and decided on his plan of defense. Subordinate commanders have been directed to report to him for orders at BM 471 at 10:45 A.M. The photo-map in the possession of the battalion commander is the only one available. Preparatory to issuing a dictated order for the defense Lieutenant Colonel "1st Battalion" prepared the following notes. (Note: The numbers and letters in the column on the left of the page are not a part of the notes. They are included to indicate the paragraph or subparagraph of a complete written field order in which the matter contained in the respective notes would normally be found.)

2. Sample.

- a. 1) No attack before daylight tomorrow.
 - 2) Supporting troops—sketch.
 - b. Organize, occupy, defend.
 - c. 1) A, south of railroad, forward area.
 - 2) B, north of railroad, forward area.
 - 3) C, reserve, organize hill A and nose 600 meters southeast. Detail one section as outpost. Assemble west slope hill A. Counterattack plans (1), 471; (2), head of draw C—nose at D.
 - 4) D, support, bulk of machine guns forward of hill A, anti-tank section cover 1st Division Road, mortars in ravine C cover dead spaces—sketch prepared to mass fire anywhere in front of MLR.
 - 5) Outpost—mission. See sketch for OPL.
- Local security.
Priority organization—fields of fire, foxholes.
- d. Present loads of ammunition, plus one refill, dumped on position.
 - e. CPs—battalion, section, groups.

D. Example of complete dictated order based on notes given in C, above.

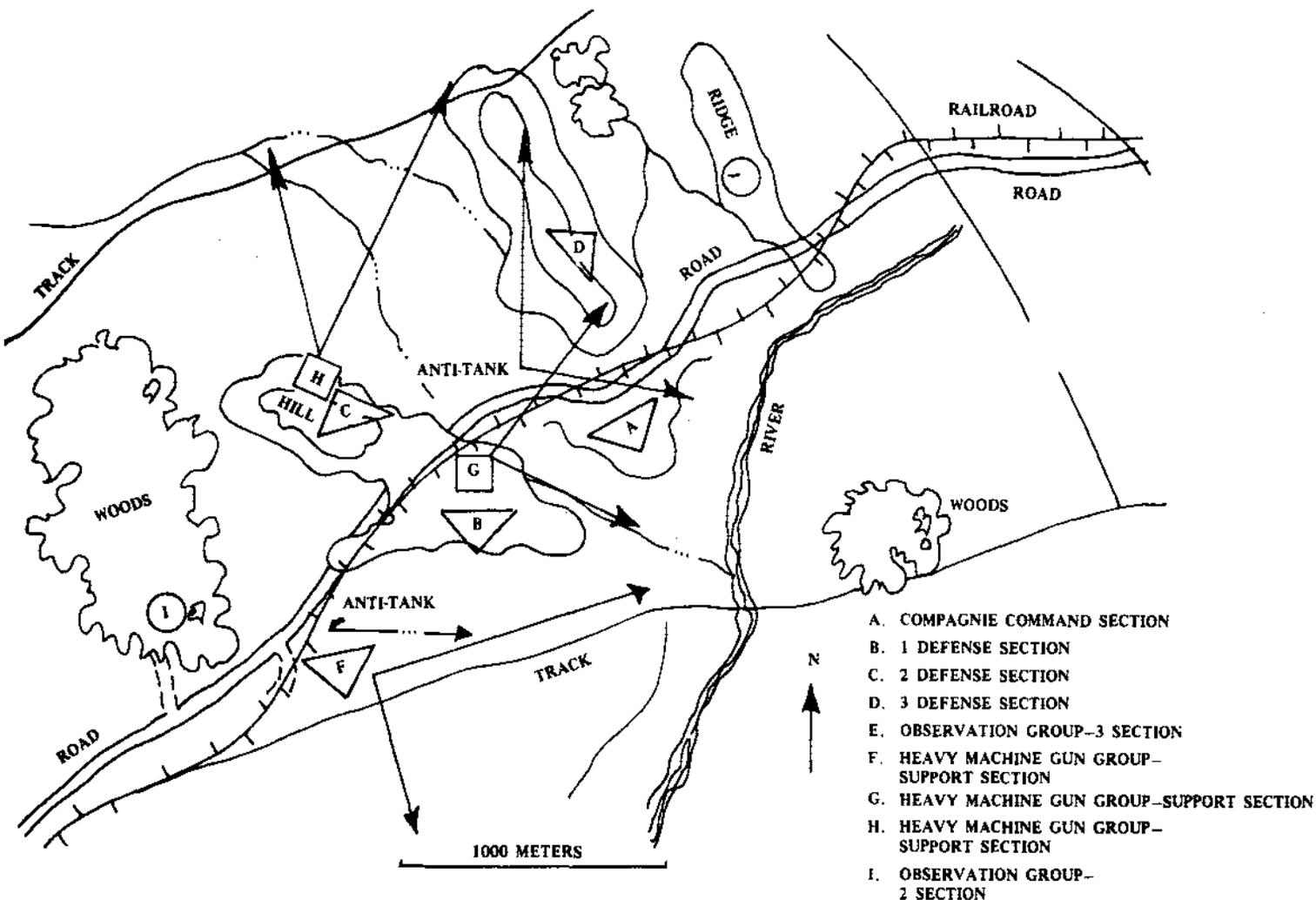
1. Situation continued.

By 10:45 A.M. the staff of the 1st Battalion 2 Paras and all company commanders, have reported to the battalion commander at 471 for orders. All subordinate commanders were issued copies of the accompanying operation sketch, prepared under the supervision of the battalion commander. At this hour, Lieutenant Colonel "1st Battalion" dictated the following field order to the assembled group. (Note: The numbers and letters at the left are not a part of the order. They are included to indicate the paragraph or subparagraph of a complete written field order in which the matter contained in the respective portions of the order would normally be found.)

2. Example of dictated field order.

"Follow me on your field maps. We are now in the approximate center of our defensive area, on hill A. That direction is north (pointing). Note the locations of road junction B, head of ravine at C, nose at D, creek E, and ridge F. You can see them all on the ground as I point to them. I will refer to them later. Copy this order.

- a. 1) It is estimated that a rebel force now advancing from the east cannot attack before daylight tomorrow.
- 2) Location of adjacent troops; see sketch.



(SAMPLE) OPERATION-DEFENSE DE COMPAGNIE-SKETCH TO ACCOMPANY ORDER

- b. This battalion will occupy, organize, and defend the sector; see sketch.
- c.
 - 1) Company 1 will occupy, organize, and defend the forward area south of narrow gauge railroad.
 - 2) Company 2 will occupy, organize, and defend the forward area north of narrow gauge railroad.
 - 3) Company 3, battalion reserve, will organize this hill, with one combat group about 600 meters southeast of here to cover the right (south) battalion boundary. It will detail one section as outpost. When organization is complete the company will assemble on the west slope of this hill. It will prepare counterattack plans in the directions: (1) 471-road junction B; and (2) head of draw C-nose at D.
 - 4) Company CCS will emplace its machine guns in defense of the battalion center of resistance with the bulk of its guns forward of hill A. The anti-tank section will cover the tank approach along the 1st Division Road forward of the main line of resistance. The mortar section, from positions in ravine C, will be prepared fire in front of the main line of resistance across the front of the sector. See the operation sketch for mortar's normal barrages. The outpost will furnish information of enemy approach and block advance of his patrols. Forward para sections will furnish local security on the line; woods east of creek E-ridge F.

Priority of organization: Clearing fields of fire, construction of foxholes for legionnaires and light machine gunners.

- d. Present ammunition loads of company and combat vehicles plus one additional refill will be dumped on battle position prior to daylight tomorrow. Other administrative details later.
- e. Command posts: see operation sketch.

E. Example of oral field order.

1. Situation.

Early in the afternoon Company 1, 1st Para is assembled in the desert just south of trail junction D. Captain "Company 1" has received orders from his battalion commander to attack to the north, and has assembled his legionnaire section commanders and the commander of the weapons section at D for the purpose of giving his orders for the attack. The company commander's order, commenced at 12:35 P.M., is given below.

2. Oral field order.

"Open your compasses for orientation. We have no maps, but I have made a sketch from the battalion commander's map. Come close enough so you can all see it. I've had no time to make copies. We are now close to the center of our zone, facing north. The trail leading northwest from here passes over hill A 700 meters away. About 600 meters north of hill A is hill B, an objective of the 2nd Battalion. Note also the location of hill C, hill E, spur F, and ravine G. Most of them you can see from here on the ground.

Make notes.

- a.
 - 1) The enemy holds hills to the north and northwest and are entrenching along a line about 500 meters north of hill A. Their exact position is uncertain. This fire we are receiving is coming from hills to the north. Machine gun fire is enfilading the railroad from the northwest.
 - 2) Our 3rd Para holds the line of the road to our front. The 2nd Battalion attacks on our right and Company 2 on our left. Company CCS fires in support of our battalion from positions on hill C until our advance masks its fire. The artillery supports our attack by concentrations on enemy positions to our front beginning at 1:30 P.M.
- b. This company will attack at 1:30 P.M. in column of section, 1st Section in assault, 2nd and 3rd Section in support, in the direction: hill A--hill E, and assist the 2nd Battalion in its attack against hill B. Right boundary: spur F (excl)--hill E (incl).
- c.
 - 1) The 1st Section will attack up ravine G toward hill A.
 - 2) The Light Machine Gun Section and the 60mm Mortar Section, in the order named, will follow the 1st Section up ravine G, prepared to go into position and open fire on company order.
 - 3) The 2nd Section in support, will follow the 1st Section at approximately 400 meters. It will maintain contact with the 2nd Battalion with a patrol of not more than three men.
 - 4) The 3rd Section in support, will follow the 2nd Section at approximately 400 meters. It will maintain contact with Company B with a patrol of not more than three men.
- d. Extra ammunition is not being issued. The battalion first aid station will be located in these woods about 100 meters east of this point.
- e. I will follow the 1st Section.

F. Example of notes taken on oral field order shown in E, above.

Lieutenant "1st Section, Company 1" wrote the following notes while his company commander issued the oral field order for the attack.

Captain "Company 2" issued oral orders to section commanders at trail junction D at 12:35 P.M.

Enemy on and north of A. Entrenching. MGs firing down railroad. 3rd out front. 2nd Bn. on our right, 2 Co. on our left. D supports from hill C. Artillery fires concentrations commencing 1:30.

We attack 1:30 toward E and assist 2nd Bn. against hill B. Right boundary; spur F (excl)--hill E (incl).

My section in assault up ravine G against hill A. LMG Sec. and 60mm Mort. Sec. follow my section prepared to fire on company order.

2nd Section in support, follows 1st Section at 400 meters. 3rd Section in support, follows 2nd Section at 400 meters.

Am. being issued. 1st Aid Sta. in these woods.

Captain with my section.

Completed 12:45.

G. Example of oral fragmentary field order.

1. Situation.

Company is engaged in an attack. The two assault sections are stopped by hostile resistance. Captain "Company 1" is with the reserve section. He gives the following oral order to the section leader. (Note: the numbers and letters in the column on the left of the page are not a part of the order. They are included to indicate those portions of the order which correspond to matter usually contained in a complete written field order.)

2. "This company will resume the attack at 4:10 P.M., enveloping the enemy left (east flank).
3. Lead your section through that ravine (pointing) 300 meters to the northeast and attack that hill (pointing). The weapon section will support your attack.
4. I am going to give orders to the assault section.

A. POSITION OF 1 SECTION

B. OBJECTIVE OF PLANNED ASSAULT

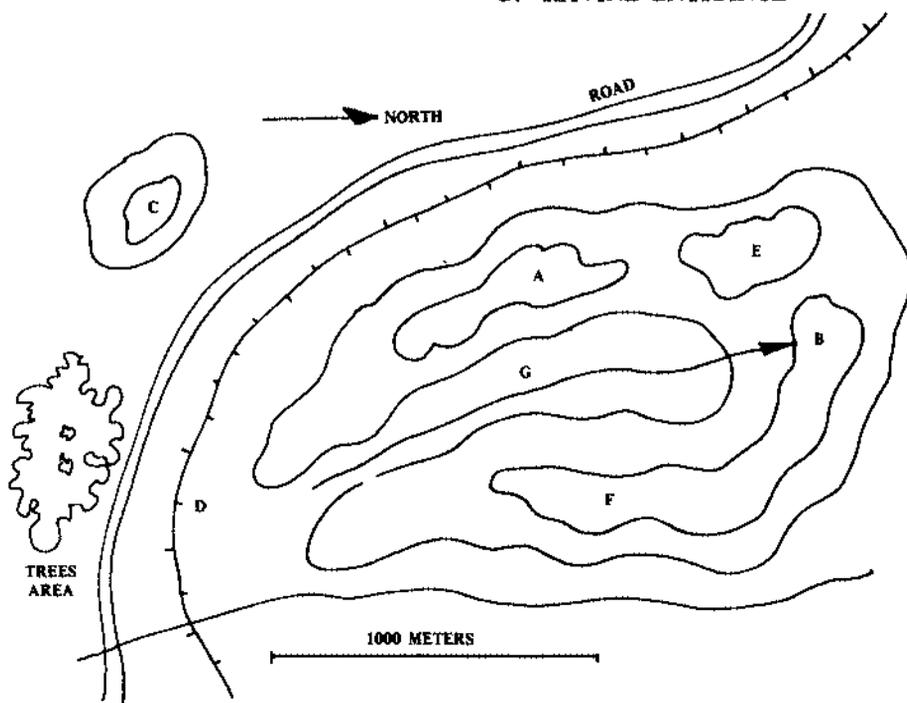
C. SUPPORT FIRE SECTION—HEAVY WEAPONS

D. LAUNCH POINT OF ASSAULT SECTION

E. OBJECTIVE OF 1 SECTION

F. OBJECTIVE OF ASSAULT SECTION

G. RAVINE ENTRANCE



**TYPICAL HAND-DRAWN SKETCH TO ACCOMPANY
ORAL FIELD ORDER**

ILLUSTRATIVE PROBLEM

SITUATION

1. 1st Company, 1st Para with the 1st Section (MG), Company 1, 1st Para attached, is operating as the right (west) flank guard of its regiment, with the mission of seizing and holding HILL 588 (59-31) until 12:30 P.M., when the tail of the regimental column, marching south on the road: RJ 532-B (60-33)—Goz-Beida (30-61), will clear RJ 641-C (61-31). At 10:35 A.M., 10 August 1938, the 1st Section Company with the 1st group Light Machine Gun Section attached, is deployed along the unimproved road just west of Ngolo (60-32), in action, and unable to advance against a force of enemy estimated as about a rifle company and a section of machine guns deployed along the north edge of the jungle just west of RJ 571-# (60-32). 1st Company (less detachments) and 1st Section Company at this hour are assembled in woods 300 meters north of Ngolo at (60.25-32.70) awaiting orders. The company command post has been established there. Captain "Company" accompanied by Lieutenant "Weapons Section" and two messengers, is with Lieutenant "1st Section" near Ngolo.
2. Captain 1st Company has made his decision and worked out a plan of attack, the elements of which are listed, in random order, below:
 - a. 1st Section 4th Company to support the attack from positions near C. PIERCE.
 - b. Captain "1st Company" to accompany the 2nd Section Company I.
 - c. The 1st Section as reinforced, to support the attack by fire from its present position.
 - d. The 3rd Section to follow the Light Machine Gun Section at 150 meters.
 - e. The 2nd Section moving through the desert 300 meters east of Ngolo and stream valley therein to attack to the west through the woods east of RJ 570-H (60-32) at 11:25 A.M. and drive the enemy to the west.
 - f. 1st Company, as reinforced, to attack without delay, drive the enemy to the west, and occupy HILL 588.
 - g. The weapon and ammunition carriers to move to a position in the woods 300 meters east of Ngolo.
 - h. Company command post to remain in its present position until further orders.
 - i. The Light Machine Gun Section (less 1st group) to follow the 2nd Section at 150 meters, prepared to support the attack from positions southeast of RJ 570-H.
 - j. The Mortar Section, from positions in partial defilade north of Ngolo to support the attack by fire on the hostile machine guns near RJ 570-H.
3. Having informed Lieutenant "1st Section" of these plans, Captain "1st Company" and party return to the company assembly point, where he spends one or two minutes in rearranging the details of his attack plans in the form of notes on which to base his subsequent order. Since he has neither a map nor an aerial photograph, he designates certain terrain features by letters as follows:

HILL 588—A

Jungle WEST OF RJ 571-E—B

Jungle EAST OF RJ 570-H—C

NGOLO—D

Jungle 400 meters south of RJ 536-H (60-32)—E

First requirement. The notes for the attack order as actually prepared by Captain "1st Company." The notes, arranged in proper field order sequence, should include only those tactical and administrative details which are included in the plan.

Situation continued. Captain "1st Company's" next step is to order the Sergeant Chief to prepare six copies of a rough sketch to be used as an operation map to accompany the order. This sketch is

to show roughly only those terrain features, lettered as indicated above, which he will refer to in the order.

Second requirement. The operation map (sketch) prepared by 1st Company Sergeant Chief.

Situation continued. At 10:45 A.M. Captain "1st Company" assembles Lieutenant "Second-in-Command," Lieutenant "2nd Section," Lieutenant "3rd Section," Lieutenant "Weapons Section," and Lieutenant "1st Section, Company 1" on the nose 300 meters northwest of Ngolo (60.25-32.70) for orders. At this time none of the lieutenants except the commander of the Weapons Section is familiar with the situation. Each officer has been issued a copy of the operation map (sketch), and each has a fair view of the terrain over which the attack is to be made.

Third requirement. The orders as actually issued by Captain "1st Company" at 10:45, based on his plan and notes.

Situation continued. As Captain "1st Company" issued his order the others made brief notes or marks on their sketches. Lieutenant "2nd Section" made notes. Lieutenant "3rd Section" decided to put marks on his sketch.

Fourth requirement. The notes of Lieutenant "2nd Section" based on the orders of Captain "1st Company."

Situation continued. The attack of 1st Company was successful. HILL 588 was occupied until 12:30 P.M., when, in accordance with orders, 1st Company rejoined its regiment and went into base camp. For purposes of record, the oral field order issued at 10:45 A.M. was reduced to writing, in the form of a complete written field order. No operation map was initially used as an annex. The last field order was number 15. Although the written copy was not completed until 4:00 P.M., it was dated, timed, and recorded as to place of issue, to correspond with the hour of completion of the issue of the oral order. The written copy was signed and authenticated by Captain "1st Company" who was able to identify the actual names of the terrain features and their coordinate locations to which he had given arbitrary designations. These actual names were used in the written order.

Fifth requirement. The complete written field order for the attack, without an operation map, Captain "1st Company" decided that it was unnecessarily long. In order to shorten and simplify it, he decided to use an overlay as an operation map, and to employ this as an annex to the order.

Chapter 3

Map Problems and Combat Reference Tables

The map problem, in which situations are staked out on a map and solved, gives the student the opportunity to make estimates of the situation, reach decisions, frame orders, and take other actions under conditions which, in any (but not all) ways approximate those of combat. Map problems are designed to illustrate principles and to give the student practice in applying those principles. Except for experience gained in actual combat, maneuvers, or field exercises, map problems form one of the most effective methods for training in the art of estimating situations and preparing plans and orders.

Along with its high value, the map problem has several serious limitations. Perhaps the chief of these lies in the impossibility of reproducing in the problem the confusion, uncertainty, danger, and fatigue under which the commander may be operating in actual combat. Also lacking, or nearly so, in the map problem is the so-called "human element," which, in actual combat, may be a controlling factor. Again, in the map problem it is usually necessary to specify enemy dispositions and other information in considerable detail in order to bring out the principle in question and to ensure that all students are working on an equal footing. Corresponding information in actual combat almost certainly would be far less certain and in far less detail. These limitations of the map problem should always be kept in mind. However, serious though they are, they do not obviate the fact that in arriving at a sound solution, the legionnaire must apply the same principles and processes, which, in war, also would lead him to success against our enemies.

Success in battle against enemies depends directly on the soundness of the commander's decisions. That is to say, it depends directly on the soundness of the commander's estimates of the situations. Exactly the same thing is true in regard to map problems.

Below is presented a series of suggestions for use in the solution of map problems. Perhaps the most important suggestion of all is this: the legionnaire must have a thorough grasp of the time-space relationships involved in the problem. "War is a business of position," and position is a business of time and space. The legionnaire should keep in mind certain fundamental time and space data, such as, for example, the fact that troops marching in columns-of-threes require about .8 meters per man of road space; or, the fact that paratroopers marching along a road in daylight average about 8 kilometers per hour; or, marching across country in the dark averages about 4 kilometers per hour. The student will normally have available manuals and handbooks in which other time-space data are to be found. He should acquire the ability to apply and visualize such data expertly and with confidence.

As an example in point, the map problem might involve the march of an infantry company. The tables (or memory) would show that the road space occupied by troops route-marching in columns-of-threes is .8 meters per man; and that 1/2-ton trucks at a halt require 10 meters per truck. If the strength of a company is 223 officers and men, and it has two 1/2-ton weapon carriers, it follows that the road space of the company at the halt is about $175 + 20 = 195$ meters (assuming four men ride in the trucks).

Time and space data taken from tables and charts must be used with judgment. The data pertain only to certain stated conditions. If the conditions obtained in the problem are different, the data must be weighed and adjusted accordingly. For example, if the company considered above were marching in dispersed formation as protection against air attacks, its road space would be much greater than that indicated. If it were marching in bitter cold or driving rain, its rate of march would be much slower than otherwise. Reference data are invaluable as guides, but they must never be applied blindly.

Suggestions for use in solving map problems:

1. Equipment.

The commander should reserve for himself every legitimate advantage. As he begins work on the map problem, he should have available all permissible texts and manuals, and all mechanical aids he may need. Among the latter are the following: colored pencils, charcoal pencil, knife or pencil sharpener, erasers, scales, protractor.

2. Staking out.

The situation presented in the problem must be thoroughly understood before even a beginning can be made toward the actual solution of the requirements. The understanding of the situation is greatly facilitated by the accurate and painstaking staking out of pertinent information on the map. In staking out the situation on the map, full use should be made of conventional signs and abbreviations. Colored pencils should be used to designate troop designations (blue, legion; red, rebel). In staking out the situation, care should be taken to avoid jumping to premature conclusions. The staking out should be regarded as a mechanical operation. It is not a substitute for the estimate of the situation.

3. Budgeting of time.

After having read the problem through carefully, the student usually will do well to budget the time available for the solution. For example, definite periods may be allotted for the staking out operation, for a thorough study of the situation and the requirements, for the estimate of the situation, for the formulation of plans, for the placing of the solution on paper, and for the checking of the final work. Once a time schedule has been adopted, every effort should be made to adhere to it.

4. Terrain.

Considerations of terrain very often form a key factor in the solution of map problems. Anything which may aid the student in visualizing and analyzing the terrain is valuable. Perhaps the most useful single aid is the emphasizing of stream lines and ridge lines by tracing over them in colored pencil (blue for streams, brown for ridges) but this takes time to do. In addition to studying land forms, the student should note carefully other aspects of the terrain, communications net, possibilities for cover and concealment, possibilities for observation, fields of fire, natural obstacles.

5. Attitude.

The paratroop should take the situations as they have been presented, and should not read into them pitfalls which are not there. There should be no "fighting of the problem," and no attempt to solve it by the blind application of facts remembered from previous more-or-less similar problems. In war (and in map problems), every situation is peculiar to itself. But they all have one characteristic in common: all of them may be handled in a sound manner by the application of a sound estimate of the situation. That should be the student's attitude—confidence in the fact that his solutions surely will be satisfactory if (and only if) his estimates of the situation are sound.

6. Reference data.

In solving a map problem, it is essential that the student have immediately available complete data relative to the characteristics and abilities of the units involved in the problem. As has been indicated, certain data should be in the paratroop's head, but in many cases he will need to consult the compilations of "reference data" found in various manuals and handbooks. The special importance of time-and-space reference data already has been discussed. Among the other items of data which frequently will be of importance are the following: organizational data (tables of organization), characteristics of weapons, frontages, dawn-and-dusk tables, water-consumption rates, forms for orders and for estimates of the situation, conventional signs and abbreviations. The student should acquire the ability to use reference data with confidence, judgment, and speed.

REFERENCE

The "reference data" which follow are based upon the latest available information. However, it should be understood that the data apply in general only to units of constant strength operating under average conditions of training, terrain, and weather. In applying the data to any specific situation, allowance must be made for any condition varying materially from the average. In some instances new tables of organization have been adopted. New data based on these will have to be evolved.

ORGANIZATION OF THE PARACHUTE DIVISION

The Division consists of:

41 393

11 Division (26 Officers; 74 Legionnaires)

3 Regiments—light (each 110 Officers, 3,229 Legionnaires), each of:

Regimental and Company (11 Officers, 167 Legionnaires)

Service Company (9 Officers, 143 Legionnaires)

Anti-tank Company (6 Officers, 143 Legionnaires)

3 Battalions (each 28 Officers, 904 Legionnaires)

Divisional artillery (121 Officers, 2,563 Legionnaires), including:

Divisional artillery and Battery (12 Officers, 135 Legionnaires)

3 Battalions light artillery (each 26 Officers, 558 Legionnaires)

Battalion medium artillery (31 Officers, 754 Legionnaires)

Reconnaissance Troop (6 Officers, 141 Legionnaires)

Engineer Battalion (18 Officers, 616 Legionnaires)

Division Support Company (7 Officers, 123 Legionnaires)

Medical Battalion (38 Officers, 482 Legionnaires)

Signal Company (8 Officers, 253 Legionnaires)

ORGANIZATION OF THE PARACHUTE BATTALION

The Battalion consists of:

Battalion (4 Officers, 0 Legionnaires)

Detachment (0 Officers, 48 Legionnaires, 2 1/2-ton C&R trucks, 2 1/2-ton weapon carriers)

3 Rifle Companies (each 6 Officers, 217 Legionnaires), each consisting of:

Company Com. (2 Officers, 19 Legionnaires)
Weapons Section (1 Officer, 39 Legionnaires), consisting of:

Section Com. (1 Officer, 39 Legionnaires, 2 1/2-ton weapon carriers)
60mm Mortar Section (0 Officers, 19 Legionnaires) consisting of:

Section Com. (0 Officers, 4 Legionnaires)
3 Groups (each, 0 Officers, 5 Legionnaires, 1 60mm Mortar)

Light Machine Gun Section (14 Legionnaires), consisting of:

Section Com. (4 Legionnaires)
2 Groups (5 Legionnaires, 1 light machine gun)

3 Rifle Sections (each, 1 Officer, 53 Legionnaires), each consisting of:

Section Com. (1 Officer, 9 Legionnaires)
Automatic Rifle Group (8 Legionnaires, 2 automatic rifles)
3 Rifle Groups (each, 12 Legionnaires, 12 Rifles, M1)

Heavy Weapons Company (6 Officers, 205 Legionnaires), consisting of:

Company (2 Officers, 30 Legionnaires, 1 1/2-ton C&R truck)

Machine Gun Sections (each, 1 Officer, 44 Legionnaires), each consisting of:

Section Com. (1 Officer, 10 Legionnaires, 1 1/2-ton C&R truck)
2 Sections (each, 17 Legionnaires), each consisting of:

Section
2 Groups (each, 8 Legionnaires, 1 .50-cal. machine gun, 1 1/2-ton weapon carrier)

50-cal. Machine Gun Section (1 Officer, 4 Legionnaires), consisting of:

Section Com. (1 Officer, 9 Legionnaires, 1 1/2-ton C&R truck)
2 Sections (each, 17 Legionnaires), consisting of:

Section
2 Groups (each, 8 Legionnaires, 1 .50-cal. machine gun, 1-1/2-ton weapon carrier)

81mm Mortar Section (1 Officer, 44 Legionnaires), consisting of:

Section Com. (1 Officer, 10 Legionnaires), 1 1/2-ton C&R truck)
2 Sections (each, 17 Legionnaires), each consisting of:

Section
2 Groups (each, 8 Legionnaires, 1 81mm Mortar, 1 1/2-ton weapon carrier)

BASIC DATA ON TROOP MOVEMENTS

Computations regarding troop movements are made from the basic data given below. These data have been demonstrated by experience to be approximately correct as an average for trained troops. In actual practice, however, it will be necessary to base computations upon the observed performance of the troops involved.

Paratroops

1. Road space.

Foot troops will occupy the same road space in formation whether halted or in motion. Allowances will be made as follows:

- a. In column of fours: .6 meter per man
- b. In column of threes: .8 meter per man
- c. In column of twos: 1.2 meters per man
- d. For staff of a brigade or regiment: 10 meters in addition to a, b, and c, above.
- e. Distance between march units: 30 meters, in addition to a, b, and c, above.

Motor Columns

1. Computations regarding motor columns are based upon the demonstrated fact that vehicles driving at speeds between 10 and 35 kilometers per hour, both inclusive, and spaced at minimum safe-driving distances, will pass a given point at the rate of 100 vehicles in 8 minutes.

a. Time length.

Based upon the foregoing, the time length of any motor column under the conditions stated above, may be obtained from the formula:

$$TL = N \times .08$$

TL is the time length and N the number of vehicles in the column. From the same formula, if the time length of a column is known, the number of vehicles in it may be obtained.

b. Road space.

The road space of a motor column may be obtained if its time length and approximate speed are known, from the following formula:

$$RS = (TL \text{ divided by } 60) \times \text{mph}$$

RS is the road space, TL the time length and mph the rate in miles per hour. The result will be in miles.

c. Motors at a halt.

Where it is desired to compute the space of a motor column halted and closed up, the following figures will be used:

Any car or truck, 2 1/2-ton or less	10 meters
Motorcycle	5 meters
Trailer	3 meters

d. In estimating time lengths and road spaces of moving motor columns, motorcycles and trailers are ignored, the former because they will usually be used in column control, and the latter because they constitute a part of the vehicle to which they are towed. Where the time length of a column includes a fraction of a minute, the next higher minute is taken.

RATES AND LENGTHS OF MARCHES

The following rates and lengths of marches are based upon modern vehicles, trained personnel, and favorable conditions of roads and weather.

1	2	3	4	5	6	7
	Average Rate of March (Kilo. per hour)				Lengths of March (average)	Remarks
	On Roads		Across country		On Roads Kilo. (miles per day)	
	Day	Night	Day	Night		

PARATROOPS

Paratroops	5-6	4	3	2	12 for a division 15 for smaller units	Length of march increased with well-seasoned troops marching on good roads in favorable weather when required by the tactical situation.
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TANKS

Tanks (light and medium, 35 units under own power)	25 (lights) 10 (no lights)	15	5	150	May cover considerably greater distances for short periods.
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ARTILLERY

Pack (less motor elements)	3 1/2	3	3	2	20	May cover considerably greater distances for short periods.
Truck-drawn, light and anti-aircraft	25	25 (lights) 10 (no lights)	8	5	175	
Truck-drawn, medium Howitzer	20	20 (lights) 10 (no lights)	8	5	140	
Truck-drawn, heavy	15	15 (lights) 10 (no lights)	8	5	100	
Tractor-drawn, heavy	5	5	3	2	30	May cover greater distances for short periods.

CAVALRY

Mule Patrol	6	5	5	4	35	Under conditions requiring maneuver these rates may be increased.
Mechanized (including mechanized elements of Cavalry Division, less cars, armored or scout)	25 (lights) 10 (no lights)	15	5	150	May cover considerably greater distances for short periods. Vehicles operating in units not larger than a troop may march at the rate of 35 kilometers per hour on roads during daylight with lights.	

MISCELLANEOUS

Trucks, ambulances, motorized units (except medium and heavy artillery)	25	25 (lights) 10 (no lights)	8	5	175	May cover considerably greater distances for short periods.
Cars and motorcycles, passenger vehicles		35 (lights) 10 (no lights)	8	5	250	

LOADING OF MOTOR TRANSPORTATION

1. Tonnage capacity of vehicles is figured as the stated capacity of the vehicle in addition to the following: the standard equipment of the vehicle, including tools and mounted weapons (if any); weight of any fuel and lubricants in the built-in fuel tank and crankcase of the vehicle; the vehicle driver and one additional man in the front seat.
2. The weight of personnel traveling on vehicles is figured at 200 pounds per man with his individual equipment.
3. Carrying capacity in personnel for motor vehicles carrying no load of material other than individual equipment is figured as follows:

Passenger vehicles	as stated in their description, as "5 passenger."
Trucks, 1/2-ton	5 men
Trucks, 1 1/2-ton	15 men
Trucks, 2 1/2-ton	25 men

The above figures should be reduced for trips of over 75 kilometers.

4. Time required for loading and unloading vehicles is as follows:

	To load	To unload
Personnel with individual equipment only	15 min.	10 min.
Material and personnel	30 min.	15 min.

5. Time required to prepare the vehicles of an infantry battalion or regiment to begin a coordinated movement is assumed to be one hour. This is in addition to the time required for distribution of the order (or warning order) giving notice of the approaching movement.
6. A driver's inspection of vehicles should take place at every halt. While this is assumed to require 15 minutes, it may be ignored in figuring time for the start of a motor movement, since it will take place concurrently with the loading (or unloading) of the transportation.

TIME AND SPACE FACTORS, TACTICAL

The following arbitrary time and space factors are based upon experience, but it is not to be expected that they can invariably be supplied in the field under all conceivable conditions.

1. Lengths of route columns in combat zone, foot troops only. (Formation: column of files on both sides of road, 2 meters between individuals. Motors, including field artillery, moving by bounds in rear.)

Day:

Para Company	275 meters
Heavy Weapons Company	175 meters
Distance between sections	20 meters
Distance between companies	50 meters
Battalion Hq and Hq Det	35 meters
4 Battalion	1,200 meters
Distance between battalions	100 meters
Regiment	4,050 meters

Night (Same formation as day except no distances between sections and companies.)

- Para Company 210 meters
- Heavy Weapons Company 115 meters
- No distance between companies
- Battalion 780 meters
- Distance between battalions 10 meters
- Regiment 2,630 meters

2. Time required to deploy is the time length of the column at 1 kilometer per hour, plus a time distance of one-half the maximum frontage of the unit at 3 kilometers per hour, plus 10 minutes.
3. Time required to deliver uncoordinated attack by a battalion is time required to move to attack position by nearest covered route, plus time required to deploy, plus 15 minutes to issue orders, plus time to issue extra ammunition if this has not been done.

USE OF ENGINEER ASSAULT BOATS

The standard engineer assault boat is a wooden nesting-type boat, about 13 feet long and 5 feet in beam. It weighs about 190 pounds. The fundamental purpose of the boat is to provide a means for getting the initial waves of infantry across a waterway in face of enemy resistance.

A method for loading engineer assault boats for a river crossing may be calculated from the following basic data. The capacity loads listed are exclusive of two engineer soldiers, who assist in paddling the loaded boat, and who remain with the boat to take it back across the river for additional loads.

An assault boat will safely transport any one of the loads listed below:

- 9 Legionnaires with individual weapons and equipment.
- 8 Legionnaires with one AA-52 machine gun and 20 boxes of ammunition (5,000 rounds)
- 8 Legionnaires with one AA-52 machine gun and 13 boxes of ammunition (3,250 rounds)
- 8 Legionnaires with one .50 caliber machine gun and 4 boxes of ammunition (400 rounds)
- 8 Legionnaires and the equipment of the advancing echelon of a battalion communication section.
- 7 Legionnaires and 1 81mm mortar with 50 rounds of ammunition.
- 7 Legionnaires and 1 60mm mortar with 150 rounds of ammunition.

CHARACTERISTICS OF PARATROOPS WEAPONS

Projectiles

Weapon	Maximum Rate of Fire (rounds per minute)	Sustained Rate of Fire (rounds per minute)	Maximum Range (yards)	Maximum Effective Range (yards)	Effective Radius of Burst (yards) (Fragmentation)

CHARACTERISTICS OF FIELD ARTILLERY

Caliber and Type	Maximum Effective Ranges		Rate of Fire Rounds per Piece per Minute		Average Time to Emplace in Firing Position or Change from Firing to Traveling Position
	Shell	Shrapnel	Prolonged	Short Bursts	
Light 75mm How, M-1, Pack 75mm How 75mm Gun, M1897	8,100	5,500	3	6	3 minutes
	8,100	5,500	3	6	3 minutes
	11,500	6,500	3	6	3 minutes
Medium 105mm How, M-1	10,300	6,500	2	4	3 minutes
Heavy 155mm How 155mm Gun 240mm How	10,500	10,500	1	3	5 minutes
	15,200 22,100				5 minutes emplace; 1 hour to traveling position
	13,900	—	1/4	1/2	8 hours

FIELD FORTIFICATION DATA

1. Entrenching tools.

Principal items of one set of entrenching equipment:

- 26 Axes
- 26 Saws, cross-cut, hand
- 250 Shovels, D-handled
- 125 Picks, Mattocks
- 500 Sandbags
 - 6 Rolls, Tape, tracing, 500 feet per roll
 - 4 Bars, crow.

2. Entrenchments.

Rate of excavation for day work, single relief.

**DAY WORK, SINGLE RELIEF
(USING ENGINEER TOOLS, NOT UNDER HARASSING FIRE)**

Number of cubic feet of excavation per								
	1 hr	2 hrs	3 hrs	4 hrs	5 hrs	6 hrs	7 hrs	8 hrs
Hard	15	24	32	40	47	54	61	67
Medium	23	37	49	60	71	81	91	100
Soft	30	50	66	80	94	106	121	133

**TABLE OF EXCAVATION
(in cubic feet)**

	Squatting	Kneeling	Standing
Foxhole	9	16	20
Connection trench: 2 c.f. per linear foot of trench.		Shallow	Standing
Heavy machine gun emplacement		60	130
Light machine gun emplacement		15	85
.50 cal. machine gun emplacement		75	150
60mm mortar emplacement (men squat)		60	—
37mm gun (M-3)		—	200

1. Obstacles.

Barbed wire entanglement.

- a. Double apron fence: Standard for tactical obstacle. A 10-man wiring party can erect 50 meters in 30 minutes.
- b. 4-strand fence: Classed as protective wiring. An 8-man wiring party can erect 100 meters in 30 minutes.
- c. A 16-man carrying party is needed for 800-meters average carry. Carrying party should be increased or decreased in proportion if average carry is more or less than 800 meters.
- d. For wiring at night, increase time required by 50 percent.
- e. Drill for erecting 50 meters double-apron fence, 4- and 2-pace type.

Material		Wiring party			Carrying party
4 bundles (total of 16) long pickets 4 bundles (total of 32) anchor pickets 26 30 bobbins barbed wire		1 corporal chef (carries pliers) 9 (carry rack sticks) 9 Legionnaires			1 corporal chef 15 Legionnaires
Nos.	First task	Second task	Third task	Fourth task	Fifth task
Corporal Carries out 1 bundle long pickets. Paces off and indicates to Nos. 1, 2, and 3 location of pickets. Supervises work.					
1	Each carries out 1 bundle long pickets.	Lay out and screw in pickets of center line.	Run out front diagonal wire.	Run out bottom horizontal wire of fence.	Run out rear diagonal wire.
2			Fasten front diagonal wire on anchor pickets.	Fasten bottom horizontal wire of fence on pickets. Nos. 2 & 3 working on alternate pickets.	Fasten rear diagonal wire on long pickets. Fasten rear diagonal wire on anchor pickets.
3			Fasten front diagonal wire on long pickets.		
4	Each carries out 1 bundle anchor pickets.	Lay out and screw in front anchor pickets. No. 4 places pickets at head of work.	Run out trip wire, front apron.	Run out second horizontal wire of fence.	Run out top horizontal wire, rear apron.
5			Windlass trip wire to diagonal wire.	Fasten second horizontal wire of fence on pickets.	Windlass top horizontal wire to diagonal wire.
6			Run out second horizontal wire, front apron.	Run out third horizontal wire of fence.	Run out second horizontal wire, rear apron.
7		Lay out and screw in rear anchor pickets. No. 7 places pickets at end of work.	Windlass second horizontal wire to diagonal wire.	Fasten third horizontal wire of fence on pickets.	Windlass second horizontal wire to diagonal wire.
8			Run out top horizontal wire, front apron.	Run out top horizontal wire of fence.	Run out trip wire, rear apron.
9	Carry out 26 bobbin of barbed wire.		Windlass top horizontal wire to diagonal wire.	Fasten top horizontal wire of fence on pickets.	Windlass rear trip wire to diagonal wire.

Note: Diagonal and apron wires begun and finished on end anchor pickets. Horizontal wires on fence not carried down to end anchor pickets.

1. Clearing fields of fire.

Light clearing requires 1 man-hour per 200 square.

FORDABLE DEPTHS OF WATER

Type of unit	Depth of water (meters)
Infantry	1 1/2
Trucks and truck-drawn artillery	1
Light tanks and tractors	1
Medium tanks and tractors	1 1/2
Heavy tanks and tractors	2

CARRYING CAPACITY OF ICE

(New, sound ice in floating contact with water)

Thickness (inches) cm.	Will support
8	Small groups of men
17	Wagons and 75mm guns
22-30	Divisional loads
60	Army loads

MINE FIELDS

Data for an anti-tank mine field 1,000 meters long, mines laid from truck in 3-6 rows, density of 1 1/2 mines per meter of front.

Number of mines	1,500
Total weight of mines (tons)	7 1/2
Man-hours (average)	
Mines laid on surface	12 1/2
Mines laid and buried, soft soil	42 1/2
Mines laid and buried, medium soil	50
Mines laid and buried, hard soil	112 1/2

DAILY WATER CONSUMPTION IN GALLONS

Note: These estimates must be modified according to circumstances, especially in hot climates. The requirements of the maximum month may exceed those of the average month by from 14 to 40 percent.

Unit consumer	Conditions of use	Gallons per unit per day	Remarks
Man (per capita consumption)	In combat:		For periods not exceeding 3 days.
	Minimum	1/3 to 1/2	
	Normal	1	
	In bivouac:		Drinking and cooking only, for periods not exceeding 3 days.
	Minimum	1	
	Temporary camp:		Drinking, cooking, and washing. Includes also bathing. Includes also water for baths, toilets, etc.
	Normal	5	
	Temporary camp	15	
	General hospital	25	
	Semipermanent camp	30	
Permanent camp	50		

Chapter 4

Marches, Security and Combat Development

MARCHES

1. Marches.

a. Importance of marches.

In war, the issue often depends on the ability of a commander to concentrate superior forces at a given time within a given area. That is to say, the issue frequently depends on the marching ability of the paratroops making up the command. This statement is all-inclusive: all elements of a command must be able to perform marches on foot and in vehicles in an efficient manner, so that the mission of the command as a whole is not imperiled simply through the fact that part of it hasn't the toughness, the endurance, to march as it must to reach the places of battle in time. It follows that one of the primary duties of a commander is to train his troops in marching both in motors and on foot.

b. Characteristics of a successful march.

A successful march is one that places the troops at their destination at the right time still in condition for effective combat. The success of a march depends to a large extent on the skill of the commander: on his ability to reconcile the conflicting requirements of speed in movement and conservation of fighting power. To accomplish a successful march, the commander must adapt his dispositions to the terrain, make careful preparations, enforce strict march discipline, require observance of the rules of march hygiene, and, in general, take all measures for the avoidance of unnecessary hardship. It is especially important that the commander ensure that all his men and his transportation be in the best possible condition at the beginning of a march. It then becomes his duty to see that such good condition is maintained.

c. Marching and movement.

1) Normal means of marching.

In the combat zone, troop movements are generally executed by a combination of marching and moving by motor transport. Motor transport is employed whenever practical for the purpose of increasing the mobility of foot troops, and for conserving their strength. This chapter is devoted chiefly to these two types of movement.

2) Other means of movement.

In addition to the types of movement discussed above, troop movement may be by rail, by boat, by animal transport, and by air. Since commanders of small units seldom will be concerned with such types of movement, they are not considered further in this chapter. In winter, marching may be done on snowshoes or skis.

2. Types.

Marches may be classified as:

- a. marches in route column; and
- b. approach marches. The march in route column normally proceeds along roads when losses due to enemy action are not probable. The approach march is a preliminary to attacking the enemy, and is used to bring the troops up close to the enemy, ready to attack with a minimum of losses.

3. Use of motor transport.

Many marches of paratroops are made in trucks. Some units move habitually in trucks which are part of the equipment of their units. If the number of motor vehicles available is insufficient to carry all the troops, the commander may sometimes employ the method of shuttling, using any vehicles he has available. In shuttling, some of the available vehicles dump their regular loads, carry troops forward, and then return for their loads. The rest of the trucks move forward with their loads first, then return and carry troops forward. While not riding in trucks the troops march forward on foot. But usually, when it is desired to move a unit by motors, additional trucks are furnished for the movement by truck companies sent by a higher commander to transport all men who do not normally ride in vehicles. Whether troops are motorized or not, they must be thoroughly trained in hard foot marches, for all fighting units except those who fight in tanks or airplanes fight on foot.

4. Dispositions.

When contact with the enemy is unlikely, the principal object of march dispositions is to facilitate and expedite the movement of the troops, and to conserve their strength. As far as possible, march columns are composed of units having approximately the same rates of march. During operations close to the enemy, tactical considerations govern march dispositions and march columns are formed in accordance with their respective tactical missions. Ammunition carriers may go forward with the troops, while service trains may be held in a protected area until they can be moved forward under cover of darkness. More will be explained in this regard in discussing covered and uncovered approach marches in later chapters. When troops are vulnerable to air attack, whether near the enemy or not, this usually affects their dispositions for marching. Foot columns may then have to move wherever the terrain permits, and motor columns may then have to use extended formations, or for short runs may move at full speed in as dense formations as possible.

5. Security.

The security of a force on the march is a high responsibility of the commander. This matter is covered fully in this chapter.

6. Factors influencing rate and length of marching on foot.

- a. General.

Under favorable conditions, a paratroop unit marching on foot on a road in daylight can average about eight kilometers per hour. This rate of march is affected by many factors, the most important of which are discussed below.

b. Time of day.

Daylight marches are more easily controlled, and in general are less fatiguing than night marches except in extremely hot weather. An infantry unit marching on a road in the dark cannot be expected to average better than four kilometers per hour. Troops marching by daylight may be observed by the enemy, and are hence more vulnerable to enemy attack, especially from the air.

c. Roads or across country.

Marches on roads are more easily controlled and less fatiguing to troops than marches across country. For example, the rate of march of a paratroop unit marching across country is only about one-half as great as its rate of march on a road. Marches in route column normally are made on roads, but approach marches must often be made across country.

d. Weather.

The marching capacity of troops is greatly affected by the weather. In general, any extreme of weather (heat, cold, rain, snow, sleet, hail) will cut down the rates and lengths of marches both on foot and in trucks.

e. Training and condition of the troops.

The condition of the troops, and their state of training, form perhaps the most important factor in their marching capacity. Paratroops in hardened condition can march 75 kilometers or more in a single day.

f. Other factors.

Other factors influencing the rate and length of march include the amount of enemy activity, the kind of country (level or hilly), the kinds of roads and routes (dry or wet, dusty or muddy, hard or soft); the formation of the marching column; and the size of the marching unit.

7. Road space.

In making preparations for a march, it is often necessary to know the road space occupied by the units making up the column. The road space occupied by a unit depends upon the formation and manner in which the unit is marching. For example, a unit marching in close order in columns-of-threes will take less road space than the same unit marching in squad columns in an extended formation. However, the commander of a unit should have a good idea of the road space his unit will occupy under various conditions.

8. Preparations for a march.

As far as the leader of a small unit is concerned, marches are usually undertaken in accordance with orders received from a higher commander. These will specify, in some detail, how the march is to be made. The commander of the small unit then forms his own plan, and takes appropriate steps to put it into effect. Listed below are the more important of the steps. Like all other "check lists," this one should be adapted to the particular situation at hand.

- a. Notify subordinate officers, and key noncommissioned officers (adjutant, adjutant chief, sergeant chief), of his plans for the march.
- b. Make or direct a thorough inspection of all vehicles for condition, lubrication, equipment, and loads.
- c. Determine the exact minute for beginning the march so as to join the higher unit at the hour directed.
- d. Make or direct a thorough inspection of the feet of the men, including the fitting of boots and socks.
- e. Determine the hour for serving the last meal preceding the march.
- f. Determine the type of food to be carried on the march.
- g. Determine the hour when tents will be struck (if necessary) and equipment loaded on vehicles.
- h. Determine the type of equipment to be carried and the uniform to be worn.
- i. Issue an oral or written warning order to the command embodying all of the above pertinent details.

The details shown in subparagraphs e, f, g, and h may be specified by a higher authority.

9. Forming the column.

a. Initial point.

Units in bivouac are usually dispersed over a considerable area. If a march is to be made, the units must first be assembled. It is also necessary that the assembly be carried out in an expeditious and orderly manner. The commander of the column selects the initial point. The initial point (usually referred to as the IP) is some easily-recognizable feature of the terrain (for example, a house or a road junction) lying on the route of march, close to the point at which the last element reaches the route of march. The commander designates the IP in his order, and further specifies the time at which the head of the column will pass the IP. It is then the duty of each subordinate commander to march his unit to the IP at the right time to reach its proper place in the whole column in time for beginning of the march.

b. March to the IP.

In order to do this, the subordinate commander must calculate the time required for that part of the column ahead of him to pass the IP. That is, he must calculate the time length of the part of the column ahead of him. Knowing the time at which the head of the whole column passes the IP, a simple subtraction gives him the time at which the head of his own unit should pass the IP. Knowing the distance from his own bivouac to the IP, and knowing the rate of march of his unit, he can calculate the time at which he must leave his bivouac in order to arrive at the IP at the right hour. The process is illustrated in the illustrative problem, below.

10. Illustrative problem.

a. Situation.

Plate 1, drawn to scale, represents the bivouac area of the 1st Battalion, 1st Para. The battalion commander has announced that the battalion will march to the north via route A-B tomorrow, head of the battalion column passing the IP at the church at road junction C at 7:00 A.M.

Formation for the march: Headquarters and Headquarters Company, 1st Battalion, Company 1, Company 2, Company 3, Company 4. The time distance of Headquarters and Headquarters Company (assume road space of 25 meters) is so small as to be inconsequential. The battalion will march with Para companies in column-of-threes and the heavy weapons company in column-of-

fours. (Assume that the marching troops of a Legionnaire company in a column-of-threes take up 146 meters and the carriers 20 meters, or a total of 166.)

b. Requirement.

At what hour will the head of Company 2 have to leave its bivouac area in order to join the battalion column at the proper moment?

c. Solution.

At 6:57 A.M.

d. Discussion.

With a length of 166 meters and at four kilometers per hour (88 meters per minute), the time length of the company column will be about two minutes (to the nearest whole minute). The road distance from the nearest point of the bivouac area of Company 2 to the battalion IP is approximately 250 meters. Marching at the rate of 88 meters per minute the head of Company 2 will require approximately three minutes to cover the distance (250, 88). These three minutes accordingly represent the time distance. The head of the battalion column has been ordered to pass the IP at 7:00 A.M. The first unit in the battalion column is the Headquarters and Headquarters Company. This unit, however, for practical purposes can be disregarded, since its time length is so small. Accordingly, the head of Company 2 should arrive at the IP at 7:00 A.M., or perhaps a few seconds later. If the head of 2nd Company has three minutes of marching before arriving at the IP, or in other words, if its time distance is three minutes, it follows that it must leave its bivouac area three minutes before it must pass the IP, or at 6:57 A.M. By leaving at this hour it arrives at the IP in time to join the column without confusion.

Now suppose another rifle company had been directed to precede 2nd Company in the battalion column. We have shown that the time length of this company is two minutes. If the head of this company passed the IP at 7:00 A.M., its tail would clear the same point two minutes later, or at 7:02 A.M. Simultaneously, the head of 2nd Company should arrive at the IP. In this case, 2nd Company would not have had to leave its bivouac area until three minutes prior to 7:02 A.M., or at 6:59 A.M.

11. Conduct of the march.

a. Rotation of march units.

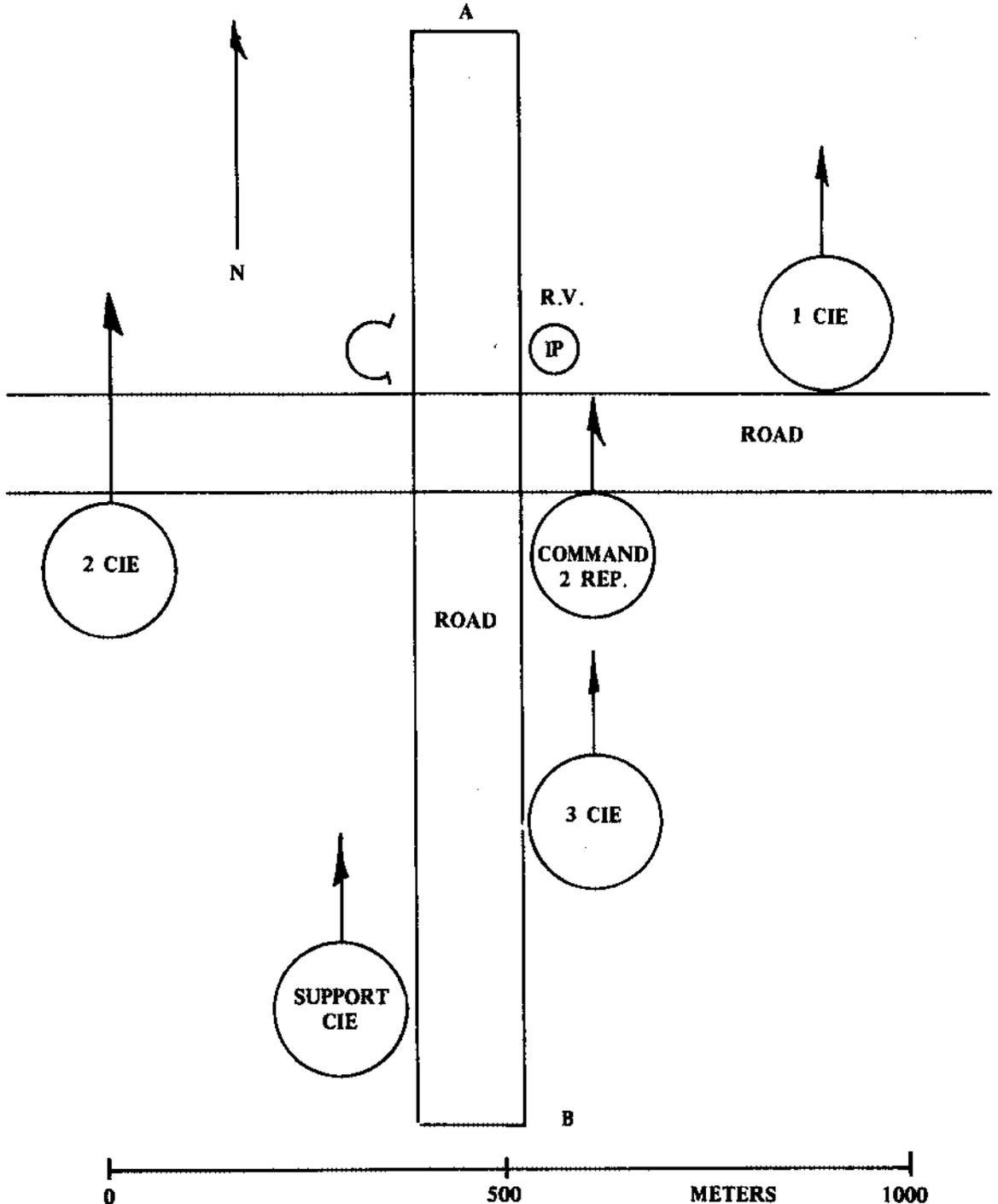
March units within a larger force usually are rotated daily. Thus the battalion that leads the regiment today is the last element in the column tomorrow. Within each march unit, companies, and within companies, platoons are similarly rotated, except that the heavy weapons company of the parachute battalion is usually the last element in the column at all times. If the march is made near the enemy, however, tactical conditions may prevent such rotation, and then the headquarters units habitually march at the head of the march unit, and elements of the heavy weapons unit may be distributed through the column or disposed for its protection.

b. Position of officers.

Officers march where they can best control the march of their units. At least one should march at the tail of each company.

c. Eating and drinking.

Eating during the progress of the march, except at long halts, is prohibited. Drinking is confined to water carried in canteens or containers in the trains. Special care should be taken that men do not drink from roadside springs, wells, or streams. Legionnaires should be encouraged to drink copiously before the the beginning of the march, required to start the march with full canteens, and cautioned to drink sparingly during the march. The trained and experienced Legionnaire, except under excessive hot or dusty conditions, will complete the march with water left in his canteen. The recruit, unless prevented, may empty his canteen in the first hour.



MARCH OF PARACHUTE BATTALION

d. Halts.

1) Intervals.

If the situation permits, a halt of 15 minutes should be made after the first 45 minutes of marching. Thereafter, halts are made for 10 minutes after each 50 minutes of marching. Since small units usually march as parts of larger commands, and as these regulate the time of halts in accordance with the hour of starting of the leading unit, the first halt will usually take place in less than 45 minutes from the hour of starting of units in rear. However, each march unit halts simultaneously, at the prescribed time. Since it is usually desirable to complete any march as early as practical, halts longer than 15 minutes are not generally ordered, except that one such halt may be ordered during the hottest part of a hot day.

2) Conduct at halts.

When a halt is ordered, the men fall out along the sides of the road, remove and adjust their equipment, relieve themselves, and take advantage of the opportunity to rest.

3) Resuming the march.

March units resume the march simultaneously. About one minute before the end of the rest period a warning signal is given by each company commander. Dismounted men sling their equipment and take their places in ranks. The drivers and other men who ride on vehicles resume their places. At the command of the march unit commander the entire unit resumes the march.

e. March discipline.

1) Straggling is strictly prohibited. Legionnaires are not permitted to fall out without the authority of an officer. The officer who marches at the tail of each company examines each man who wants to fall out and either gives him a written permit to report to the medical officer at the tail of the main column or requires him to continue the march.

2) Each unit is kept closed up to the prescribed distance from the unit in front. If proper march discipline is maintained the column will not stretch out. If for any reason it does, the distance is made up before the unit halts. This naturally results in shortening the rest period, and should be avoided whenever possible.

f. Duties of officers.

In addition to the duties specifically mentioned previously, officers:

1) Enforce all march regulations.

2) Correct improper adjustment of men's equipment.

3) At the end of the day's march examine the feet of marching men, make necessary adjustments of shoes and socks, and require the men to bathe their feet, and have abrasions and blisters treated by medical personnel.

12. Marching deployed.

As a protection against air attacks, units are often marched for long distances in deployed formations where the terrain permits deployment. Such marches are conducted in a similar manner to marches in columns in regard to rests and conduct of the march in general.

SECURITY

13. Scope.

Security embraces all measures taken by a command to protect itself against surprise, observation, and interference by an enemy. Security includes special measures taken for protection against attacks from the air, mechanized attacks, and gas attacks.

14. Importance of security.

It is inexcusable for a commander to be surprised, and by the same token, it is one of the commander's foremost duties to take steps against being surprised. This applies to the operations of small units, as well as to those of large units. The commander of a small unit must never assume that, because his command is a part of a larger command, he is relieved of responsibility for his own security. This is so important that it should be repeated; every commander is responsible for taking all measures within his power to ensure the security of his command.

15. Security detachments.

a. General mission.

Security detachments are fractions of a command charged with the following general mission: to furnish the command with information relative to the enemy, to protect the command against surprise and observation by hostile ground forces, and to ensure for the command the time and space it requires in order to make its dispositions for making or meeting an attack. Security detachments form the chief means by which the commander of a small unit ensures the security of his command. It is obviously important for such a commander to understand thoroughly the principles governing the employment of security detachments.

b. Composition.

Security detachments should be no larger than the situation requires. In forming a security detachment, tactical unity should be respected in so far as is practical. For example, if the situation calls for a security detachment of a strength of about three groups, the obvious solution is to assign a whole platoon to the job. Security forces should possess mobility at least equal to that of the forces they are expected to oppose.

c. Information.

Security rests squarely on information. Information is chiefly a result of reconnaissance. It follows that measures for security, and that is to say operations of security detachments, involve constant reconnaissance. The object of such reconnaissance is to obtain as much information as possible concerning the enemy: information as to his location, his dispositions, his strength, his capabilities. It is to be expected that much information will be supplied from higher headquarters. This is especially true for small units, but this does not obviate the equally significant fact that even the commander of a small unit must use his information gathering facilities to the utmost.

d. Resistance.

In addition to obtaining information concerning the enemy, it often will be necessary for any security detachment to resist enemy action. This resistance may be a matter of counter-reconnaissance, to prevent the enemy himself from observing and obtaining information; or, it may be a

matter of attacking or defending in order to ensure to the commander of the main body the time and space he needs to make his own dispositions. The priority which a security detachment applies to these missions of reconnaissance, counter-reconnaissance, and resistance varies with the situation.

16. Nature of security.

a. Always necessary.

Security is always necessary, whether a force is halting and resting, whether it is in bivouac, whether it is on the march, or whether it is engaged in combat.

b. Proximity of the enemy.

During operations close to the enemy, adequate measures must be taken for security both against attacks by hostile ground forces, and against attacks by hostile aircraft. When contact with the enemy is unlikely, special attention must be given to security against attacks by hostile aircraft and mechanized forces. In war, the conditions under which a commander may consider there to be no possibility of an enemy attack, and therefore no necessity for security measures, will be very few indeed. This statement bears repetition: Security is always necessary.

c. Security against attacks by aircraft.

A command may be protected against attacks by hostile aircraft by the employment of friendly combat aviation. Whether or not such protection is available normally is a matter for decision by higher headquarters. The commander of a small unit provides against attack from the air by the proper use of any anti-aircraft weapons available to him, by resorting to night operations and movements, by taking measures for concealment and camouflage, and by distributing his command into small units and groups. For example, the chief measure taken by a section commander for security against attacks from the air might be to move in dispersed formation (say, one file marching along both sides of the road), and to halt and bivouac under the cover of vegetation.

d. Security against attacks of ground forces.

Security against attacks by hostile ground forces depends largely on the operations of the security detachments discussed above. Through his security detachments, the commander obtains information concerning the enemy, and is ensured time and space in which to make his own dispositions. The commander contributes to the security of his command by the skillful use of terrain, and by keeping his units favorably dressed for action. Readiness for action is facilitated by having troops march in a column in the order from front to rear of their probable tactical employment. Each unit should make provision for prompt deployment and movement. Of course, the degree of readiness required varies with the situation.

e. Types of security detachments.

In proximity to the enemy, an advancing force secures itself by an advance guard; a retreating force by an outpost. All of these are special forms of security detachments. When necessary, flanks and rear are protected by other security detachments. In combat, each unit provides its own security by the employment of combat patrols.

f. Security against parachute and airborne attack.

All units always consider the possibility of attack from the air and provide appropriate security measures. In general, these measures have for their purpose the early warning of such attacks, to destroy parachute troops while they are in the act of landing or just afterward when they are most vulnerable, to obstruct all possible landing fields, and to cut off and destroy all air landing forces by immediate attack before they can receive supplies and reinforcements. Routine defensive measures are not used because the habit of doing the same thing in all situations helps the enemy to gain surprise. The detailed plans of commanders for such defense will be different in each situation on different terrain.

17. Security on the march.

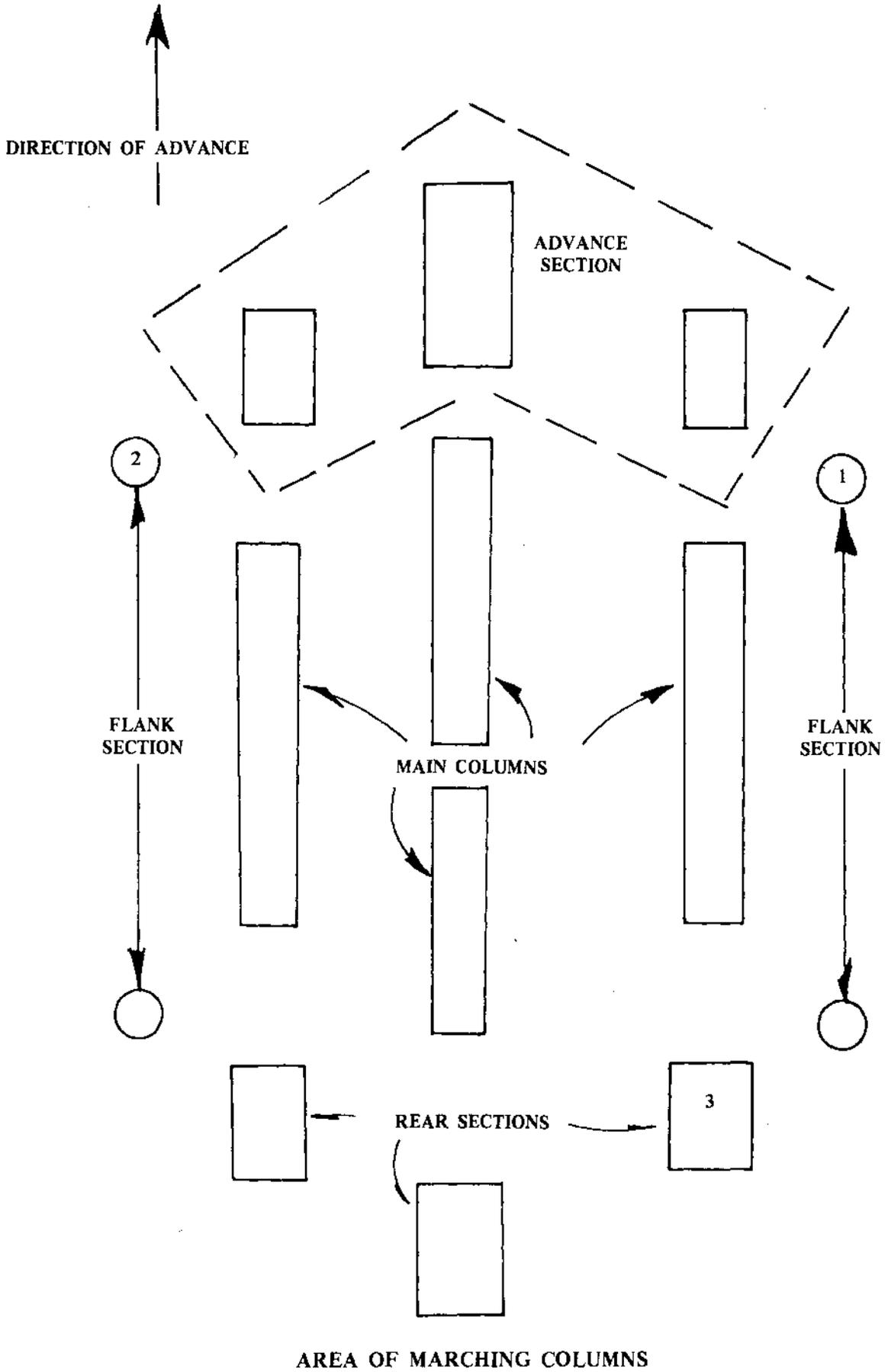
a. General.

Security measures must be employed to protect the main body from enemy observation and interference during the march, and during the transition from march formations to a formation suitable for combat, and vice versa. Normally, this necessitates all around security, since hostile forces may strike from any direction. When the march is conducted within striking distance of the enemy's main ground forces, security is furthered by:

- 1) Employing formations that facilitate deployment.
- 2) Placing road blocks.
- 3) Disposition of anti-mechanized and anti-tank weapons to guard approaches and repel any enemy vehicles or detachments.
- 4) Disposition of anti-aircraft weapons and an effective aircraft warning system.
- 5) Marching under cover of darkness.
- 6) The employment of security detachments (advance, flank, and rear guards).
- 7) Avoiding roads that may come under hostile long-range artillery fire.

b. Covered and uncovered approach marches.

Although every commander is responsible for the security of his own unit, it is clear that his dispositions in the interest of security often will be influenced by the presence or absence of friendly protecting forces. For example, a unit moving forward behind a line held by a covering force, whose mission includes the task of covering the approach of units in its rear, would be making a covered approach. Thus, a battalion might be the covering force and hold a line protecting the advance of the rest of its regiment to a given area. The rest of the regiment would be advancing in covered approach. The covered approach march is one which a unit makes behind forces sufficiently strong to ensure effective protection against ground attacks. An uncovered approach march is one in which the unit is not effectively protected by other troops against ground attacks. For example, a leading battalion of a regiment may be considered as making an uncovered approach march, whereas other battalions following it are making a covered approach. The decision as to whether his approach march is covered or uncovered will involve the exercise of judgment by the commander.



c. Illustration.

Reference is made to the illustration on page 61. On this drawing is shown, schematically, a large force advancing in several columns. It may be assumed that the force is protected against attacks from the air by friendly combat aviation. It is protected by security detachments against attacks by hostile ground forces. As indicated, these security detachments are disposed to the front, to the flanks, and to the rear. Somewhere, at some previous time, an officer of high rank has made the decision which has resulted in the general formation shown on the sketch. Meanwhile, making up the large force are many small units, the commanders of which are concerned with certain specific aspects of the security plan. The problems of these small-unit commanders are of special interest to the students of this book. Accordingly, in the paragraphs which follow, these problems will be discussed in detail. The various security detachments to be discussed (advance guards, rear guards, flank guards) have been ringed and numbered on the sketch. Following the discussions of these detachments, other security problems of the small-unit commander will be considered.

18. Advance guard.

a. Formations.

An advance guard moves in various degrees of deployment depending on how soon contact with the enemy is expected. Thus it may march in any formation from a column on a road to full deployment, depending on the situation. Let us consider that the large force illustrated is advancing generally on roads, and that the advance guard for the right column, which is ringed and marked "1" is a battalion. The battalion would be in the following formation, or in one much like it:

One parachute company leading as the support of the advance guard, then a space of 600-1,000 meters

One paracompany

One anti-tank section

One communications section

One paracompany

One heavy weapons company (less groups)

Attached anti-tank guns, then a space of not more than 1,000 meters

Attached anti-aircraft and field artillery, engineers, and tanks

Other attached combat troops, then another space of not more than 1,000 meters

Medical detachment

Battalion trains (where not detached)

When a danger of attack from the flank or rear exists, assault and anti-tank elements may be distributed throughout the column. This would be true in this case because we can see in Plate 2 that the advance guard we are considering is that of a flank or outside column. Since advance guard work is active and tiring, the order of march of paracompanies is changed from day to day. The leading unit on any day usually forms at the tail of the column on the following day.

Separate movement of paratroops and tactical transportation is not permissible when the situation requires a high degree of readiness for action; the weapons carriers must be able to rejoin foot troops promptly. Vehicles not assigned special anti-aircraft or anti-tank missions are grouped behind the paratroops of the battalion when it is marching on a road. When foot troops march on the sides of the road, or off the road and parallel to it as they may, the vehicles advance at normal speed by bounds. So far as is practical, these bounds are made by successive movement from one covered area to another. The vehicles make bounds often enough to keep generally abreast of their

battalions. In open country lacking cover, the vehicles generally halt on completing a bound when the foremost motor is abreast of the leading foot elements of the battalion. The leading vehicles resume the advance when passed by a designated element of the foot column. For example, they might begin another bound as soon as the second (or third) paracompany had caught up abreast of the leading motor while the vehicles were halted. When defiles are encountered, vehicles follow the foot troops, moving at slow speed.

Attached anti-aircraft and field artillery, engineers, tanks, the battalion train, and the medical detachment usually follow an advance guard by bounds. Thus an advance guard, as we have described it above, might have the general appearance, as it marched along a road.

b. Purposes.

The mission of any advance guard is to protect the main body against surprise and observation, to clear the way by driving back weak enemy forces, removing obstacles, and repairing demolitions, and to secure for the main body the time and space required for its deployment for action in accordance with the plan of its commander. To accomplish these things it usually acts aggressively when it encounters the enemy, each successively larger element in the rear assisting those in front.

c. Strength and composition.

The advance guard varies considerably in strength. It may consist of less than a battalion, or as much as a regiment or more with strong supporting units from other arms attached. It usually consists of rifle and heavy weapons units and may be reinforced with support weapons section, artillery, engineers, and tanks. It may also be supported by combat aviation.

d. Methods of advance.

- 1) In an uncovered approach march advance, guards keep in constant readiness for combat to protect the main bodies, and flank guards protect exposed flanks. Company transport, and the ammunition and medical vehicles of combat trains, move with their units.
- 2) Advance guards, and elements of advance guards when these move forward separately, progress by bounds to successive objectives. Each bound of an advance guard is made to a line of terrain important to the security of its main body or to the eventual combat action of its main body. Once reaching an objective, an advance guard commander, acting in accordance with whatever orders he may have, prepares to make another bound, takes up a defensive position to cover his main body, or launches an attack to gain important ground farther ahead.
- 3) A higher commander may designate the more important of the terrain lines that form advance guard objectives as control lines for coordinating the advance of several adjacent advance guards. Infantry commanders of advance guard units may also designate objectives between those given in higher orders, both for purposes of controlling the approach march and ensuring ready and adequate supporting fires during each bound. Except where the terrain dictates otherwise, a battalion should make bounds of 1,000 to 1,200 meters, and a company, 500 to 600 meters.
- 4) Any commander who designates an advance guard or flank guard objective also gives the orders covering the resumption of the advance or whatever action is to be taken on gaining the objective. In this regard, the length of halts on advance guard objectives is kept to the minimum. Hence the time allowed for reconnaissance on reaching an objective, for reporting the information then obtained, and for sending new orders to advance guard commanders on reaching an objective should in general be necessary only when important new information affects the ori-

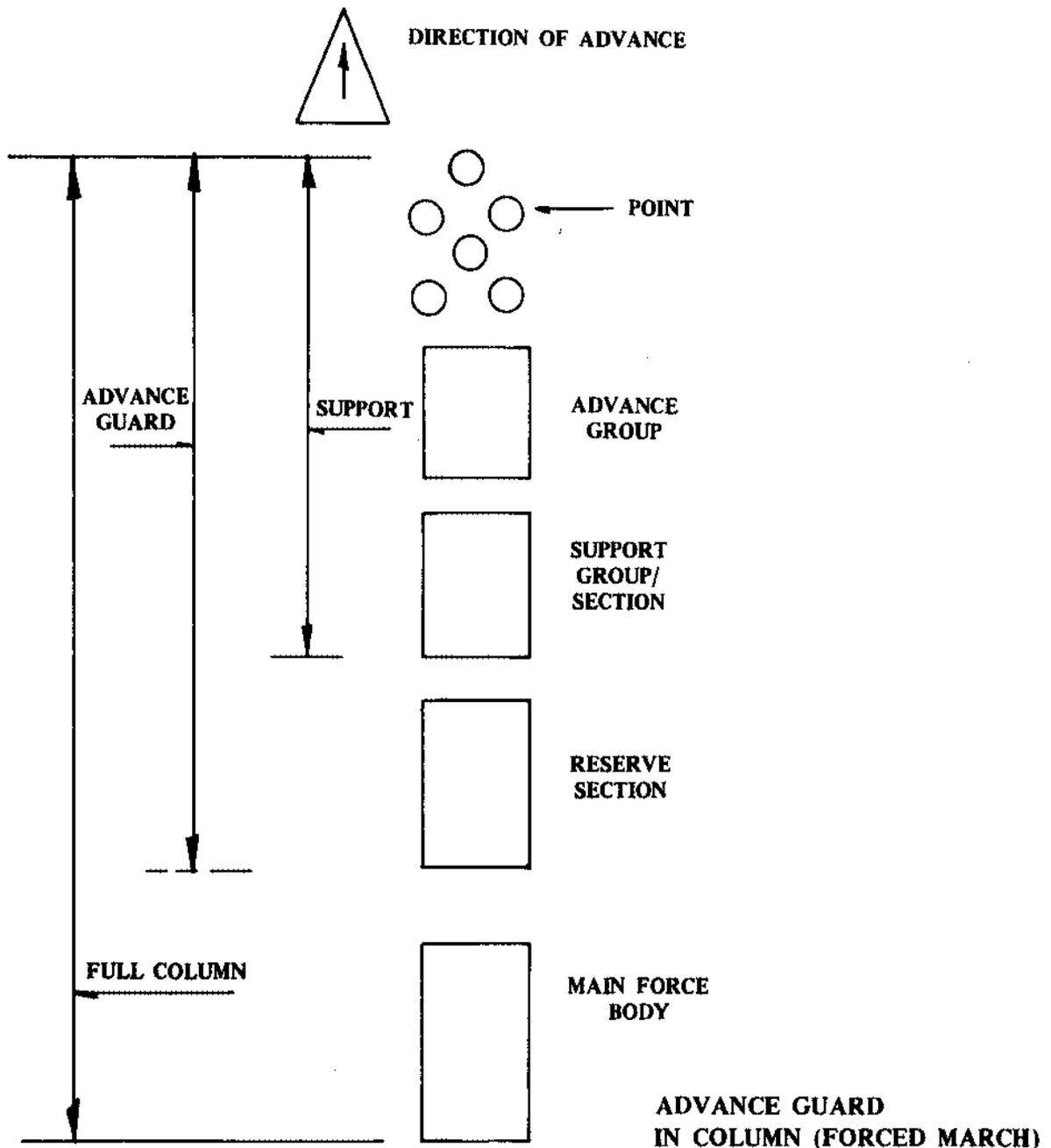
ginal orders given. The original orders should be complete enough to cover probable contingencies.

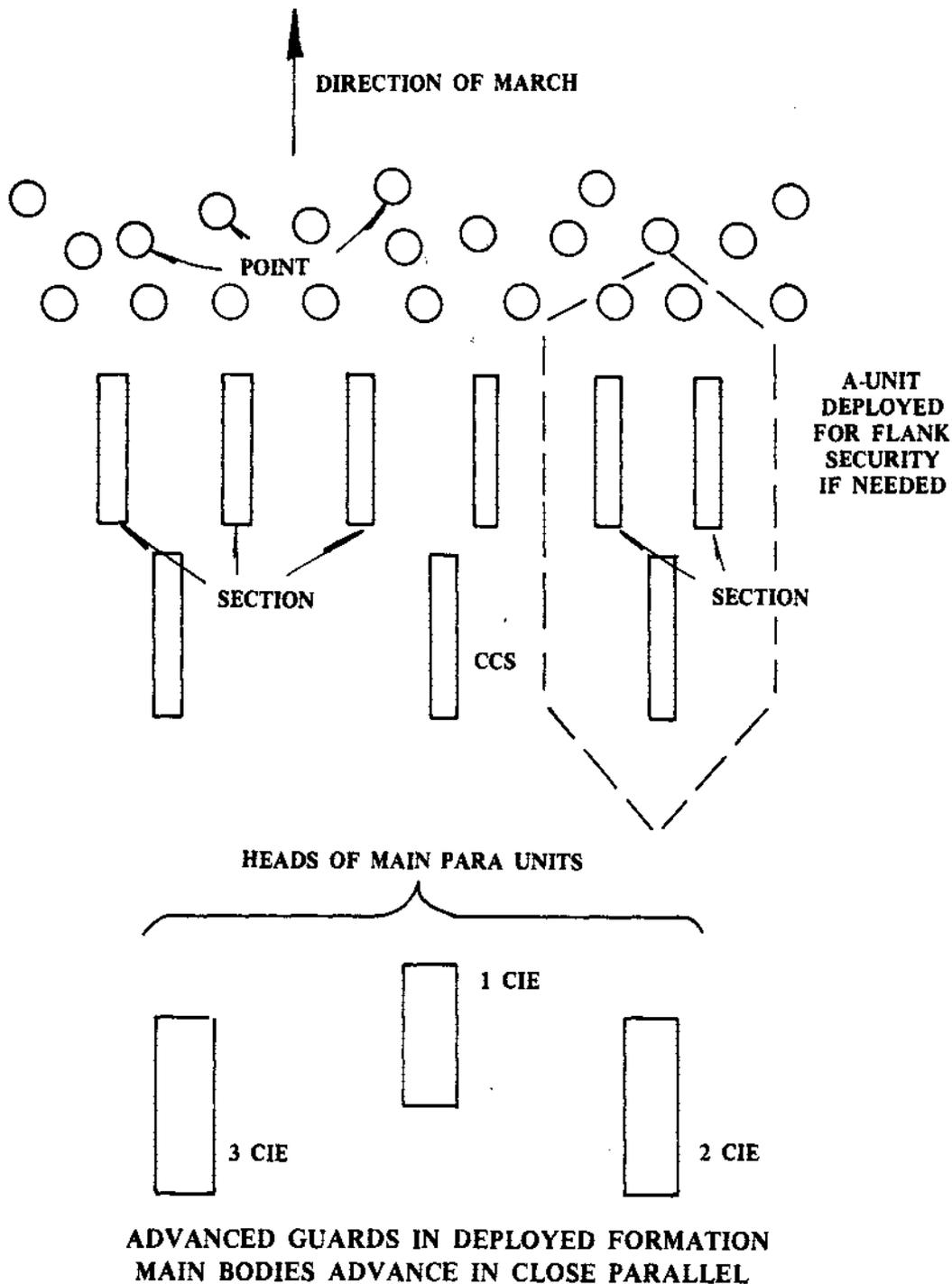
- 5) The leading para units of an advance guard move forward in extended order. Their commanders send out patrols to reconnoiter ahead and thus prevent surprise fire by hostile infantry weapons. As far as it is possible to do so, commanders of leading units restrict the advance of their troops to ground difficult for tanks, sending only a small part of their companies across open areas.

19. Flank guard.

a. Definition.

A flank guard is a detachment sent out by a larger force to protect its flank.





b. Necessity.

While protection to the front by advance guards contributes greatly to the all-around protection of a column, the commander of any body of troops, regardless of the size, must take positive action to ensure the security of his command against flank attack.

c. Method of employment.

A flank guard in uncovered movement advances in much the same manner as an advance guard.

20. Rear guards.

When a force of any size is advancing against an enemy presumed to be to its front, it must protect not only its front and flanks, but also its rear, as the threat of enemy attack from any direction is always potentially present. If the force is withdrawing from the presence of the enemy, and the bulk of the hostile force is in the rear, the necessity for rear guards is, of course, infinitely greater.

21. Security at the halt.

a. General.

The provisions made by a resting command for its security against hostile ground attacks vary with the situation, but usually involve the use of outposts. An outpost is a security detachment detailed to protect the resting command against surprise and observation by hostile ground forces. The various types of outposts are described in the subparagraphs which follow.

b. Short halts.

When a marching column is making a very short halt, as for example, the ten-minute halt at the end of each hour of marching, the column's normal security detachments (advance, flank, and rear guards) remain on the alert in all directions. Normally, they do not move from their route of advance, except to send out patrols and observers to vantage points (to the top of a nearby hill, for example).

c. March outposts.

When the command makes a long halt—say, for two hours—during the course of a march, the security detachments establish outposts. In establishing a march outpost, the leading elements of each security detachment take up advantageous positions from which there is good observation to the front and flanks, and from which the probable routes of the enemy's advance can be covered with fire at long ranges. The rear elements of each security detachment take positions from which they can support the forward elements of the march outpost.

22. Outposts.

a. General.

When a command halts for the night, or for other long periods, it provides for outpost protection in the directions from which the enemy might attack the main body. Security requirements generally increase with the length of time a command stays in one area. For example, the outpost protection provided for a command in bivouac will be more elaborate than that provided during a short, hourly halt.

b. Location of bivouac area.

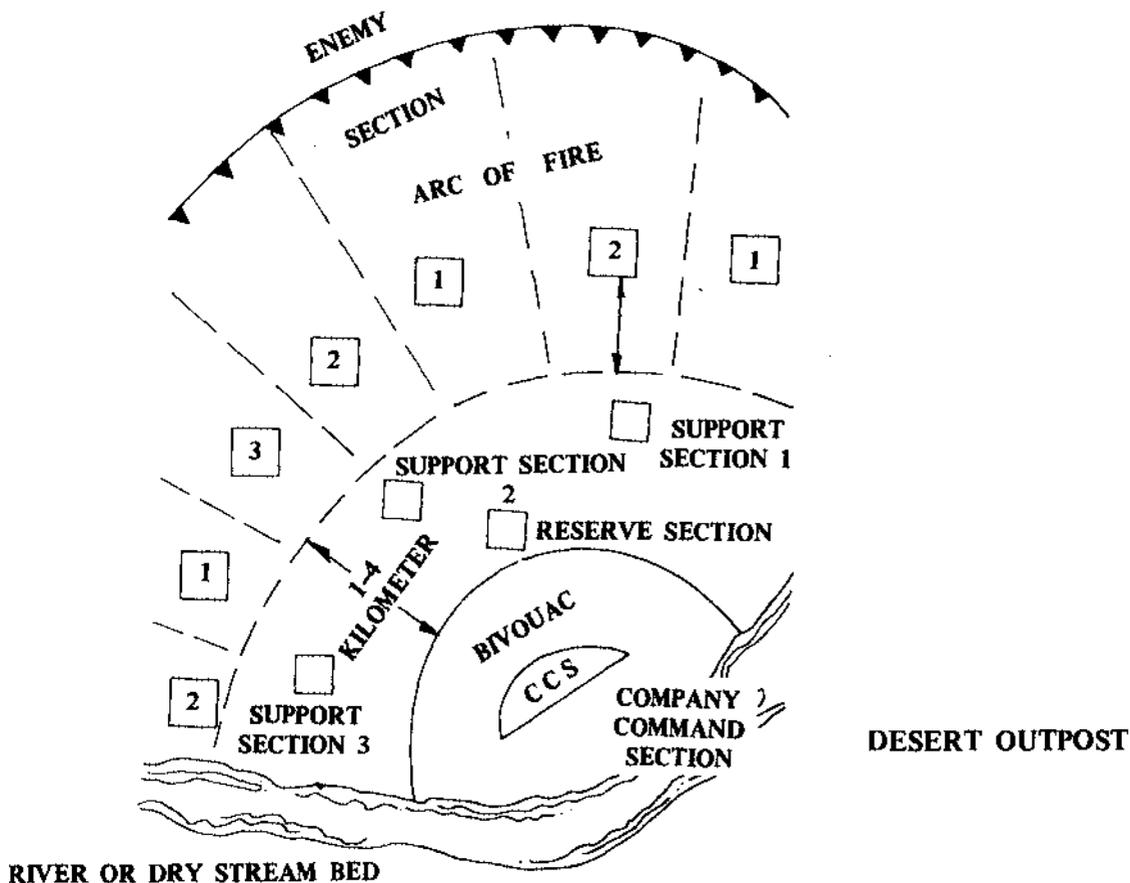
Long halts generally involve the bivouacking of command. The decision of the commander as to the location of the bivouac area largely determines the position and kind of outpost. In order to decrease the area over which the outpost must operate, the bivouac area should be selected so that at least one flank is protected by a natural obstacle such as a river or a swamp.

c. Strength.

In the interest of giving rest to as large a part of the command as possible, the outpost should be kept as small as is consistent with its mission: to protect the main body in bivouac, and to ensure its uninterrupted rest.

23. Composition of an outpost and method of operation.

- a. Elements of an outpost position are illustrated below. From rear to front, these elements of the outpost are known as the reserve, the supports, and the outguards. The mission of the reserve is to furnish the supports and to reinforce them if necessary. It is therefore posted in a central locality. The mission of the supports is to furnish the outguards and to resist the advance of an enemy along a line on which they are situated, known as the outpost line of resistance. Each support is responsible for a certain area, the limits of which are prescribed by means of boundaries by the outpost commander. Supports are numbered from right to left in each outpost. Except for sentinels on duty and those employed in patrolling, the men of the supports are permitted to fall out and remain at ease. The chief missions of the outguard sentinels are to observe the foreground of the outpost position, discover hostile activity, and give alarm in case of attack. Each outguard is responsible for an area to the front and flanks as prescribed by each support commander. Each outguard is numbered from right to left in each support area. Since most of the men assigned to outguards are employed habitually as observers, sentinels, or as members of patrols, they get little rest. The distances shown in the drawing are subject to wide variation.
- b. Outguards vary in size from four men to a section depending on their locations and the number of sentinels they are to furnish. The importance of the locality guarded by an outguard determines its strength, and so does the consideration as to whether the outguard position can be held by the outguard in case of attack until it can be reinforced by the support. The distance of the outguard from its support does not, of itself, determine the strength of the outguard.



c. Action in daylight.

During daylight hours all outguards keep one or more sentinels in observation for the early discovery of the enemy's approach. The rest of the men are held in positions of readiness to repel attacks. Patrols are sent out on reconnaissance to positions in the foreground which are masked from the view of sentinels, and to advanced observation points.

d. Action at night.

During any period when visibility is poor, patrolling in advance of the line of outguard sentinels is increased. If opposing forces are in close contact, reconnaissance is largely restricted to night patrolling.

24. Security in combat.

a. Necessity.

It is absolutely essential for a commander to provide for the security of his force while it is fighting. The nearness of the enemy makes it probable that he will attempt to advance between adjacent units, around their flanks, or by means of mechanized attack, from any direction. Despite the presence of neighboring friendly troops, the commander of any unit, whatever its size, is at all times still responsible for its protection.

b. Security in attack.

1) Interior units.

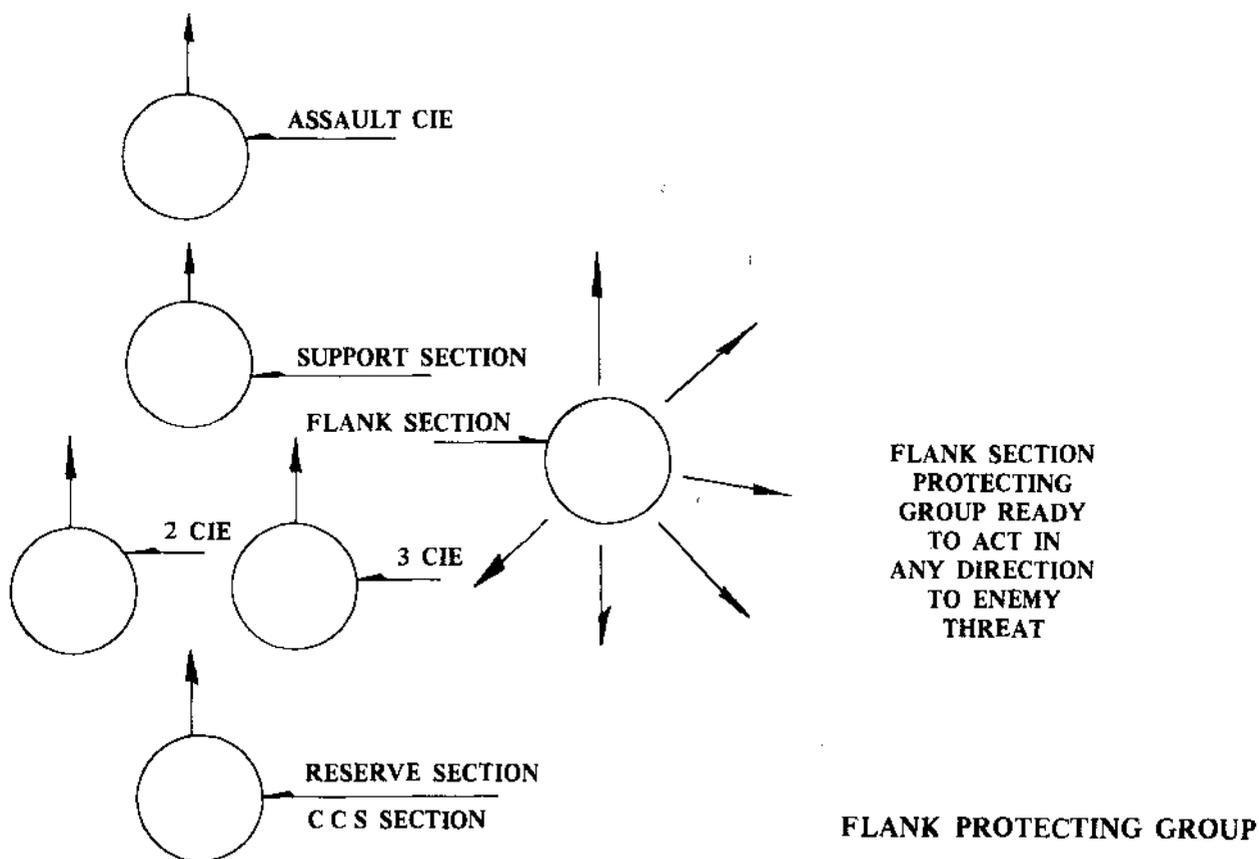
Most small units, such as the company and section, will engage in offensive combat as interior units, that is, they will have friendly troops on both flanks. As long as this is the situation, the friendly troops afford most effective security, and it is only necessary to maintain continuous contact between adjacent units. This contact is provided by subordinate detachments known as connecting groups. For a company attacking as an interior unit, such a connecting group may be an equipe or group, usually detailed from the company reserve. A company or section itself may be employed as a connecting group by a large unit. Such groups move between the adjacent flanks of their own units and those to the right and left. Their principal missions are to maintain contact, give prompt warning of an enemy attempt to infiltrate between the flanks, and resist such infiltration to the utmost.

2) Flank units.

There is often misconception as to the true meaning of the term "flank." Only in the very smallest unit, when fully deployed, can the flank be represented by a single point. In most cases, whether in offensive or defensive combat, the flanks of all larger units have depth. The diagram on page 69 will illustrate this point. It is evident that the flank of even this small unit is longer than its width, or frontage, and the entire flank is vulnerable, necessitating protection. Often an attacking company will find itself so far ahead or behind the units on its flanks that one or both of its own flanks will be exposed. The necessity for flank protection is then greatly increased. This protection is afforded by detachments called "flank protecting groups" or "flank combat groups." Such groups are also usually detailed from the reserve. Their mission is to move abreast of the flank and at some distance away, and to take the measures necessary to prevent a hostile attack against that flank. Such a group does not always move opposite the center of the flank. It may move at a point opposite the leading elements, or even opposite the rear elements, depending on the situation.

c. Rear protection.

The rear of large units engaged in offensive combat is secured by specially detailed organizations. For a small unit, such as a company, the presence of reserves is usually protection enough provided the reserve commander keeps his unit prepared to fight in any direction if this becomes necessary.



25. Security against aircraft.

a. General.

Protection against attacks from the air may be provided by friendly combat aviation, a matter about which the commander of a small unit will have no option. However, there are steps which commander of a small unit may take in order to provide his command with further anti-aircraft protection.

b. Anti-aircraft security on the march.

1) Means available.

The principle means by which a command on the march may secure itself against attacks from the air are:

- a) Marching over routes and terrain that make air operations against ground troops difficult.
- b) Marching under cover of darkness, fog, or smoke, or the shadows cast by the sun in the early morning or evening.

- c) Reduction of the length of exposure in critical areas by making maximum use of mechanical transportation in troop movements.
- d) Obtaining timely information of the enemy from higher headquarters, and employing reconnaissance and security agencies.
- e) Providing for rapid transmission of warnings of approaching attacks by the use of anti-aircraft lookouts.
- f) Preventing the attack by anti-aircraft artillery (only applicable in general to large units).
- g) Making the maximum use of dispersion, increased distances and concealment consistent with tactical requirements.
- h) Using suitable, open-march formations from which defensive fires can be delivered effectively against hostile planes.
- i) Preparing to meet the attack by the fire of organic weapons (rifles, automatic rifles, and machine guns).

c. Anti-aircraft security in bivouac.

Troops in bivouac are protected against hostile air attack by an effective warning system operation on the ground and in the air at long distances from the bivouac, by the fire of anti-aircraft artillery and other weapons and by concealment and dispersion.

d. Anti-aircraft security in combat.

This is a matter in which the commander of a small unit is only indirectly concerned. He can protect his unit only by applying those of the principles discussed above which are applicable to the particular situation. This subject is covered more fully later in this chapter.

26. Security against mechanized attacks.

a. General.

As has been indicated, attacks by hostile mechanized forces may come from any direction, at any time. The security detachments provide protection against all ground attacks, including those by mechanized forces. However, the latter type of attack is especially dangerous, and requires special instructions which follow.

b. Anti-mechanized security on the march.

1) Means available.

A commander secures his force from the ever-present threat of attack by hostile mechanized units, by the same general means used to obtain security against other forms of enemy attack, namely, reconnaissance to ascertain the presence of hostile mechanized forces, and physical defense against them. The company officer is chiefly concerned with the methods of defense, as he may become directly involved with their employment. These consist of fire, principally of anti-tank weapons, and of anti-tank mines, road blocks, or demolitions.

2) Anti-tank guns.

Each heavy weapons company includes a battalion anti-tank section of four rockets, and each regiment has an anti-tank company with 12 rockets and a support company with six 75mm Howitzers and two 105mm Howitzers on self-propelled mounts which may be available for anti-tank purposes.

3) Method of use.

Anti-tank weapons are disposed and used to provide protection for moving columns. Anti-tank weapons are attached to security detachments.

c. Anti-mechanized security in bivouac.

1) Means available.

The commander of a force in bivouac secures his command against mechanized attack by much the same methods as those employed against enemy aircraft, i.e., concealment, dispersion, protection by terrain impractical for mechanized vehicles, the fire of anti-tank weapons, road blocks, demolitions, anti-tank mines, and a widely dispersed warning system.

d. Anti-mechanized security in combat.

This is a matter in which the commander of a small unit is only indirectly concerned. He protects his unit by applying those of the principles discussed above which are applicable to the particular situation.

**DEVELOPMENT AND DEPLOYMENT FOR COMBAT
(COMPAGNIE, SECTION, GROUP, EQUIPE)**

27. Nature of deployment.

a. Definition.

Deployment for combat is a process through which a unit changes from a formation ill-adapted to combat to one well adapted to combat. Usually, the change is from a formation in column, or one approximately in column, to one in several roughly parallel smaller columns. In other words, troops spread out to cover a wider front when they deploy.

b. Phases of deployment.

1) Development.

Development may be defined in general terms as the deployment of large units. In the course of development, the paratroops small units which make up the large units are normally beyond hostile artillery range, and hence the movements of the small units can usually be made in route column. In other words, although the large unit is deploying, the small units of which the large unit is composed are themselves not yet actually deploying. It follows that, in a development, the commander of a small unit has simply to follow orders from higher authority.

2) Approach march.

The approach march may be defined as the formation adopted by a unit in order to decrease its vulnerability to enemy fire and to increase its ability to fire effectively on the enemy. It is the culmination of the deployment. It begins when the column comes under enemy light or medium artillery fire and breaks up into smaller groups, which then move mainly across country. The approach march ends when the unit comes under the enemy's effective small arms fire. Development is completed when the troops have become distributed in accordance with the plan for their later employment and are in an approach march formation favoring rapid deployment.

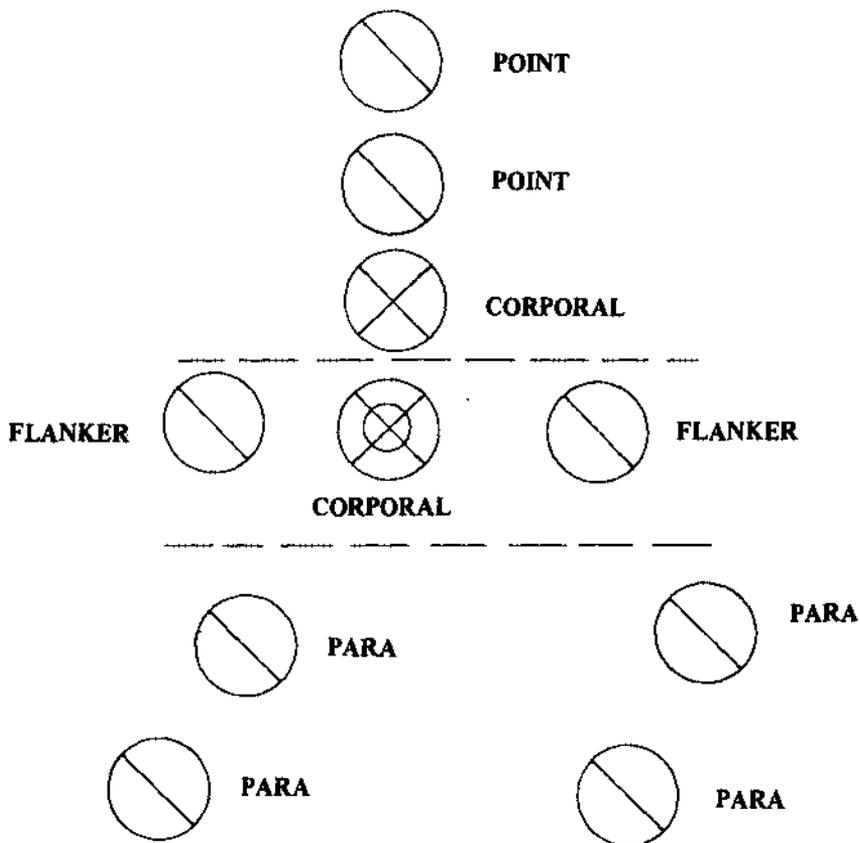
3) Complete deployment.

A unit is said to be fully deployed when it can no longer widen its front (because of the restriction of lateral boundaries, or because there are no remaining undeployed elements), and its leading elements are favorably situated to fire at once, or can be put in position to fire by a slight change in formation.

28. Formations of small units when deployed.

a. The rifle equipe.

The deployment of the smallest infantry unit, the rifle equipe, is a very simple maneuver, and yet it illustrates many of the principles discussed in this chapter. In the following drawing, an equipe advancing in column is shown before deployment. If, in this formation, the equipe is taken under fire from the front, it finds itself in a disadvantageous situation. In the first place, it is vulnerable to the enemy fire, since several casualties may result from a single burst of machine gun fire. In the second place, only one or two men in the equipe can fire to the front. The drawing also shows another equipe with the men taking advantage of all cover and concealment offered by the terrain, advancing in an irregular line. This equipe is completely deployed. In this deployed formation, the equipe is a little harder to control than it would be moving in column; but it is less vulnerable to enemy fire and better able to bring its own firepower to bear on the enemy. An equipe may, of course, become much more spread out, especially in depth, as soon as it has to maneuver against the enemy during an attack.



FORMATION OF PARACHUTE SECTION DURING APPROACH MARCH

b. The rifle equipe.

The drawing on page 72 shows several of the many formations which a rifle equipe may use in the approach march. In all cases represented, it is assumed that the zone in which the section is operating is not restricted by boundaries. In all cases, the individual squads will be in certain prescribed battle formations, such as group/equipe columns, combat line, and group "V." The formation shown in Figure A—section column—gives best control but not maximum combat power. Only the leading equipe is in a position to deliver its full effective fire. In Figure B, the section has been partially deployed. The center group can be forward or back. In these formations, control is still fair and combat power has been greatly increased. Finally, in Figure C, the section is completely deployed. In this case, control is somewhat harder but combat power is at a maximum. There would be no regularity of formation in a deployed section advancing on actual terrain.

c. The para company.

In the drawing on page 74, three of the many possible formations of the para company during the approach march are shown. In each case the para sections may be in any one of the formations already suggested. The weapons parachute sections (A.A.-52 machine gun and 60mm mortar) conform in general to the formations of nearby para section. Control by the company commander is excellent, but the company is in a position to exert only a small fraction of its firepower and shock action. Control is still good, and the company is disposed to exert a large proportion of its firepower and shock action.

d. The heavy weapons company.

During the approach march, a part of this company will be engaged in furnishing anti-aircraft and anti-mechanized protection for the battalion by the suitable employment of its H.B. AA-52 and anti-tank weapons. The heavy weapons company has no definite formation during an approach march since its dispositions will vary so widely in accordance with the situation. Each group, section, and company advances by bounds, preferably in trucks. If motor movements are impractical owing to enemy fire, the troops march on foot, carrying their weapons and conforming generally to the formation of nearby para units.

29. The approach march.

- a. Troops begin the approach march as they first enter the areas in which they are liable to come under the fire of the enemy's light and medium artillery. This is not ordinarily more than 10 kilometers from the hostile batteries. The approach march ends when the troops come within effective range of the enemy's small arms fire. Before the approach march begins, however, individual units may often move deployed as a protective measure against attack by enemy light bombing planes. The approach march is conducted with a view to bringing paratroops close to the enemy in readiness for action and with minimum losses.
- b. The approach march is said to be covered when it is carried out behind forces strong enough to ensure effective protection against ground attack. It is said to be uncovered when the advancing unit is protected by other paratroops or when the elements in front cannot be relied upon to afford adequate protection because they are widely extended or are, for any other reason, not to be relied upon for protection.

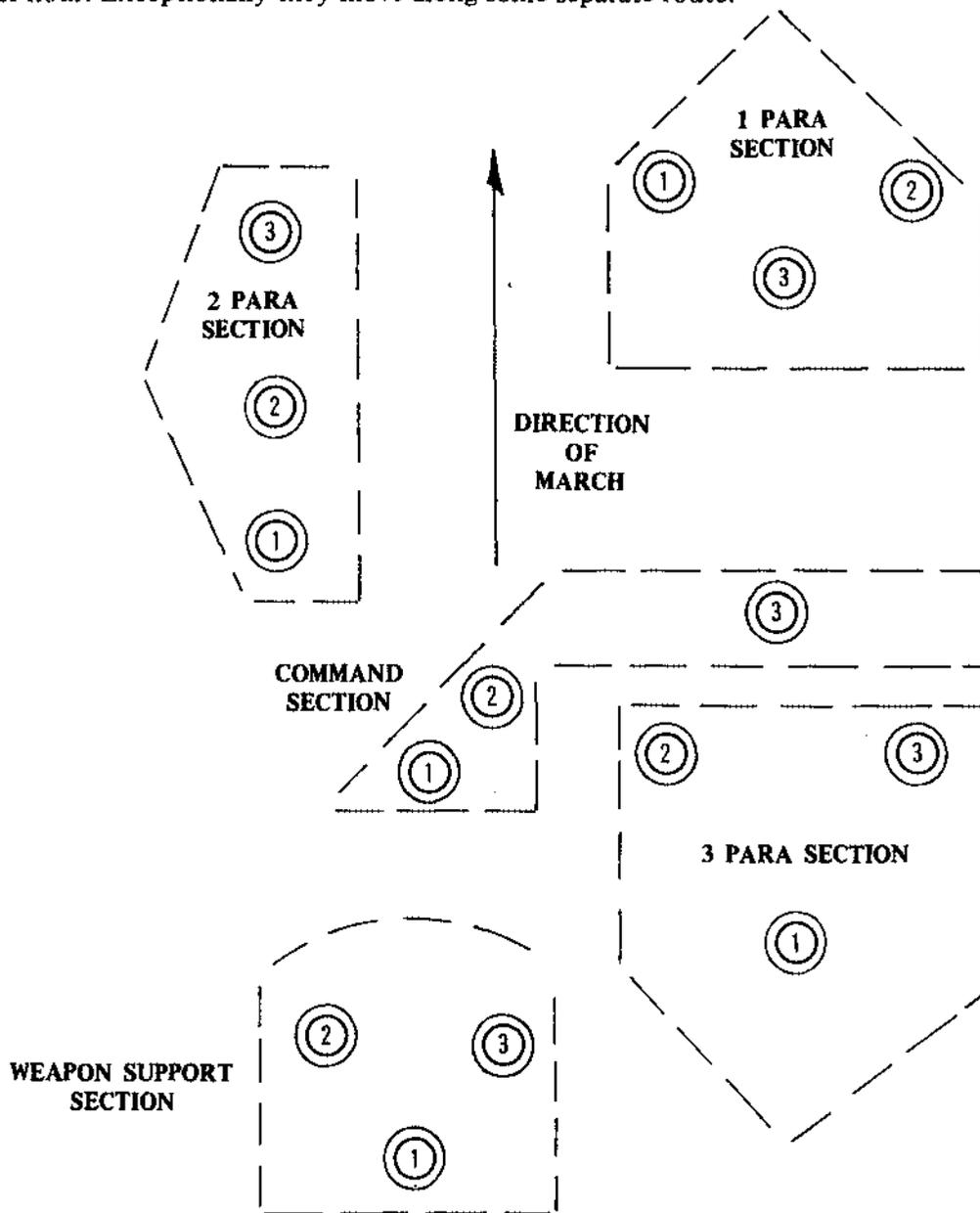
30. Covered approach march.

- a. Assembly areas.

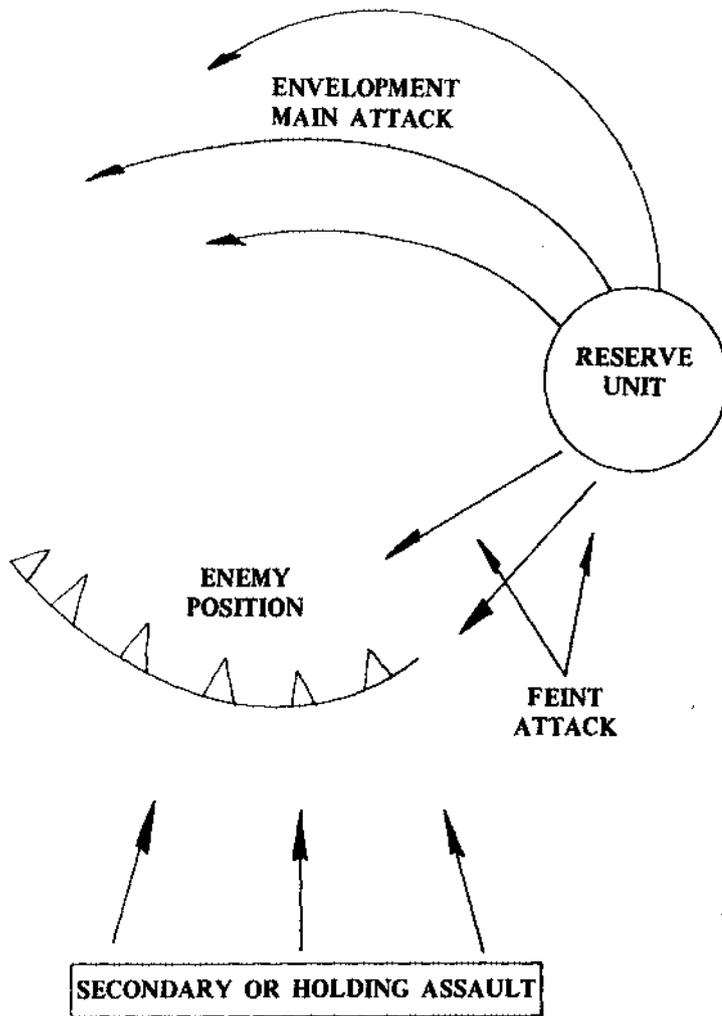
Parachute units usually occupy or pass through divisional assembly areas, where they make preliminary preparations for attack. Where the divisional assembly area is farther from the objective than the range of paratroop's heavy weapons, regiments and battalions usually continue their advance to reach a terrain feature which they occupy as a final assembly position before the attack.

b. Approach by night.

The covered approach march is often made by night to avoid hostile observation and keep down the effectiveness of hostile action. Movement is usually along roads or trails already reconnoitered by day. The size of columns and distances between elements and individuals vary with the visibility, the activity of the hostile artillery, and the danger of air attack. Motors, grouped by regiment or battalion according to the situation, usually follow the paratroops of the column, starting at a later hour. Exceptionally they move along some separate route.



**FORMATION OF PARACHUTE CIE ON FORCED MARCH,
FIVE SECTIONS**



ENVELOPMENT WITH MUTUAL SUPPORTING UNITS

c. Approach by day.

- 1) By day, a covered approach march is made by long bounds along reconnoitered lines of approach to successive objectives. With the troops in small columns the terrain can be used for concealment and for protection against armored attack, the effect of hostile artillery fire and attacks by hostile aviation is minimized. Excessive dispersion is avoided, sections often move in single file or column of twos. In passing over exposed terrain, the distance between elements should be sufficient to ensure that no two small units can be hit by the burst of a single projectile. Paths and trails are utilized except when unduly exposed. Cross-country movements along the edges of woods and cultivated fields and through ravines is also desirable since it hinders observation by hostile aviation. Movement along the sides of hills and the avoidance of valleys and depressions may be necessary to minimize the effects of gas concentrations. Shelled regions, areas contaminated by gas, and points such as villages, defiles, and small woods, which the hostile artillery may already be registered upon are avoided or occupied for short periods only. It is often advisable to cross especially dangerous terrain areas by infiltration, re-forming on a designated line. Direction is maintained by means of compass bearings, assignment of distant direction points, and within battalions and smaller units, by the indication of a base unit upon which other units regulate their movement.
- 2) Contact is maintained with the covering elements. Leaders of the larger paratroop units usually precede their units to prepare their entry into action.
- 3) Company vehicles except those required for anti-tank and anti-aircraft defense and battalion

trains are usually grouped by battalion or by regiment and follow their units by bounds. At the same time, any wide separation of troops and motors is avoided.

- 4) Regimental commanders provide for the security of their troops against attacks or raids by hostile tanks or other armored units. This they do by selecting as approach-march objectives lines of terrain suitable for anti-tank defense. Streamlines are commonly used for this. Motorized detachments which include part of the regimental anti-tank weapons move ahead of the approach-march columns to these lines, and there organize a defense against hostile mechanized attacks that may possibly come through the anti-tank defenses of the covering forces. The regimental commander directs other such detachments to protect the flanks of his unit by moving parallel to the approach-march columns or by taking up successive flank positions for anti-tank defense.
- 5) The anti-tank weapons of paratroop battalion, on their carriers, move forward near the leading battalion elements, ready for immediate action.
- 6) Though anti-tank protection must always govern concealment from the enemy's air observers and protection from his artillery fire are also taken into consideration in designating the bounds to be made by anti-tank detachments and the terrain lines they are to occupy.
- 7) For anti-aircraft protection, air guards keep ahead of each approach-march column and out from its flanks. All Legionnaires and A.A.-52 machine gunners keep ready as they advance to open instant fire on hostile airplanes. Heavy machine gun units cover the columns by leap-frog advances occupying successive anti-aircraft positions.

d. Halts.

In a covered approach march the troops make no regular hourly halts. Rest is obtained at halts on objectives.

31. The uncovered approach march.

a. General.

Uncovered approach marches are made by day, with advance guards in constant readiness for combat protecting the main bodies, and flank guards protecting exposed flanks.

b. Advance of main body.

Where the protection of the advance guard does not appear adequate to guarantee the security of the main body, or when the advance guard has been released from its security mission, commanders of leading battalions or regiments cover their advance by having their leading company or battalion secure their advance. The security element advances by bounds on successive objectives as an advance guard does. The security covers the following echelons on the battalion objectives and protects their occupation of assembly areas.

c. Anti-tank defense.

- 1) Whether determined by the main body commander or a higher commander, the successive objectives to be reached by a main body should be lines of terrain adaptable to anti-tank defense. Heavy woods, strong buildings, streams, steep slopes, ravines, and other obstacles to tanks, are sought in selecting these objectives.
- 2) The main body commander distributes his anti-tank weapons to give continuous protection to his troops through the full depth of his dispositions. Throughout an uncovered approach march, regimental anti-tank weapons move by element and by bounds as the commander of the regiment directs. When the situation requires it, anti-tank units take up positions covering

the directions from which attack by the enemy's tanks is most liable to come, and thus protects the regiment until its rear elements have passed forward of these positions. The support section stays with the main body, moving in rear of the leading battalion until it is, in turn, directed to take up protective positions as the first section has done.

- 3) Battalion anti-tank weapons stay well forward in their battalions during an uncovered approach march. They go into position for anti-tank defense whenever the main body halts on an objective, covering the most dangerous ground from which enemy unit tanks might approach.
- 4) Not merely the anti-tank units alone, but all other elements of a main body conduct a continuous reconnaissance to ensure an early warning of approaching enemy tanks. Warning is repeated from unit to unit by prearranged signals.
- 5) When warning comes in time, para units gain the nearest ground difficult for tanks. Otherwise, men take individual concealment in the nearest cover and avoid grouping. Paratroops do not waste fire on tanks known to have thick armor, but do take under a heavy fire any lightly armored vehicles of the enemy which may be vulnerable to armor-piercing ammunition. All anti-tank weapons open fire as tanks come within range.
- 6) Anti-tank units that are not already in position upon warning of a hostile tank attack move rapidly to any positions from which they can take the approaching tanks under their fire. Those in position stay there if the positions are suitable, or else shift quickly to new positions which give them better fields of fire.

d. Anti-aircraft defense.

During an uncovered approach march, units of main bodies provide for their anti-aircraft protections as in a covered approach march. Part of the heavy machine guns of the advance guard are given anti-aircraft missions. Troops of leading main body elements fire on attacking aircraft unless actually engaged in ground combat.

e. Halts.

- 1) Pauses on objectives usually give the troops enough rest. But if the approach march is long, or otherwise makes unusual demands on the troops, higher commanders order long halts as necessary. These are usually made on important objectives.
- 2) During any long halt, the advance guard commander disposes his units for defense, and sends out a combat outpost to cover his sector. If the halt is one of considerable length, the division commander may coordinate the dispositions of several such outposts. Unless the advance guard duties have not required much activity, the main body commander normally replaces the advance guard with another unit upon resuming the advance.

32. Assembly positions.

a. Definition and significance.

Under exceptional circumstances, when the enemy may be taken at a disadvantage, an attack may be made by units which have deployed directly from the route column. Normally, however, the deployment of a large force consists of a movement to one or more assembly positions. In the final assembly position the commander collects his forces so that he may engage all or most of them in the attack from the very first. Normally, the smallest unit to which an assembly position is assigned is the battalion, but when the situation demands, company assembly positions may also be designated. Although the commander of a small unit—say, of a company or section—normally moves to the final assembly position in accordance with orders, he is vitally interested in everything that transpires from that time on.

b. Location and characteristics of assembly position.

For small units, up to the size of a battalion, an assembly position is a location of assembly for attack, a gathering of the unit for combat. For a larger unit it may be considered a position when a pause of some length may be made for issuing supplies or making other administrative arrangements. Thus a regiment might pause a while in its assembly position to carry out the issuance of extra ammunition, and to make reconnaissance and plans for the attack. The battalions and companies might then move to designated battalion and company assembly positions, but would not be likely to pause in them for any length of time or carry out in them any further steps of preparation for battle. Often, indeed, they would simply pass through their designated assembly positions on the way to beginning their attack.

Assembly positions should be selected so that the units of the regiment are secure from air and ground observation as far as possible, and are not subject to effective fire. The locations of assembly positions tactically must be carefully considered because they have a considerable influence on the commander's future course of action. When the direction of the future employment of a unit can be foreseen, its assembly position should be located so that its movement to its attack or defense positions is facilitated. To facilitate ammunition supply, the assembly position should be located so that it can be reached by ammunition carrying vehicles moving through defiladed routes of approach. A woods, an area on the reverse slope of a hill, or a deep ravine often make suitable assembly positions. The last assembly position must not lie beyond the last cover affording protection from hostile small arms fire. Assembly positions should not be areas which will be too obvious as such to the enemy's observation and bombing planes.

c. Formation in assembly areas.

The massing of units in close formation in assembly positions is to be avoided. There is not prescribed formation. In an assembly position in close terrain, defiladed from hostile fire and well concealed from the air, the units ordinarily may not need to deploy to any extent. In more open terrain, where they may be subjected to hostile fire or are more likely to be attacked from the air, a unit in an assembly position takes up a more extended formation.

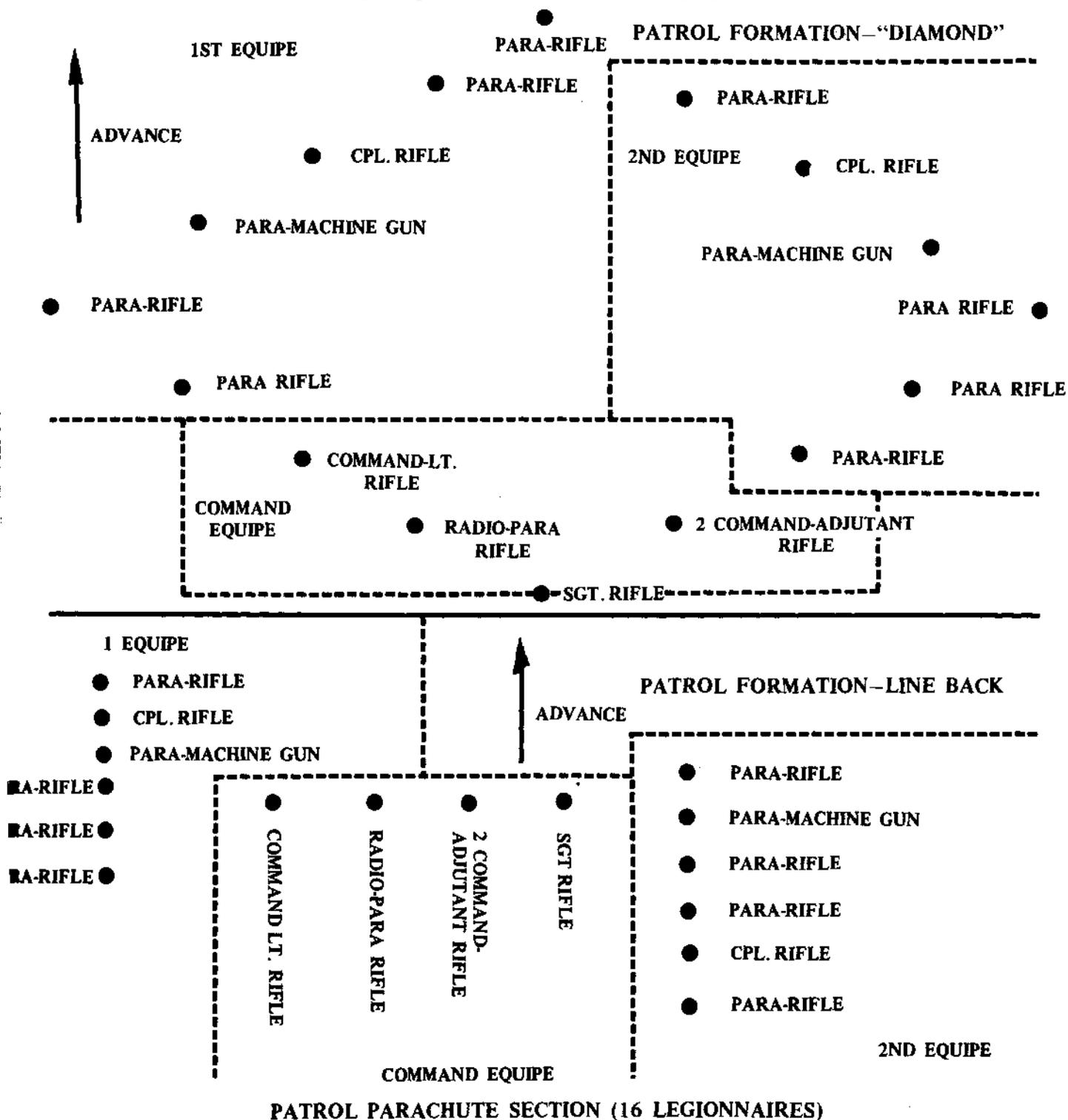
d. Steps taken in assembly position.

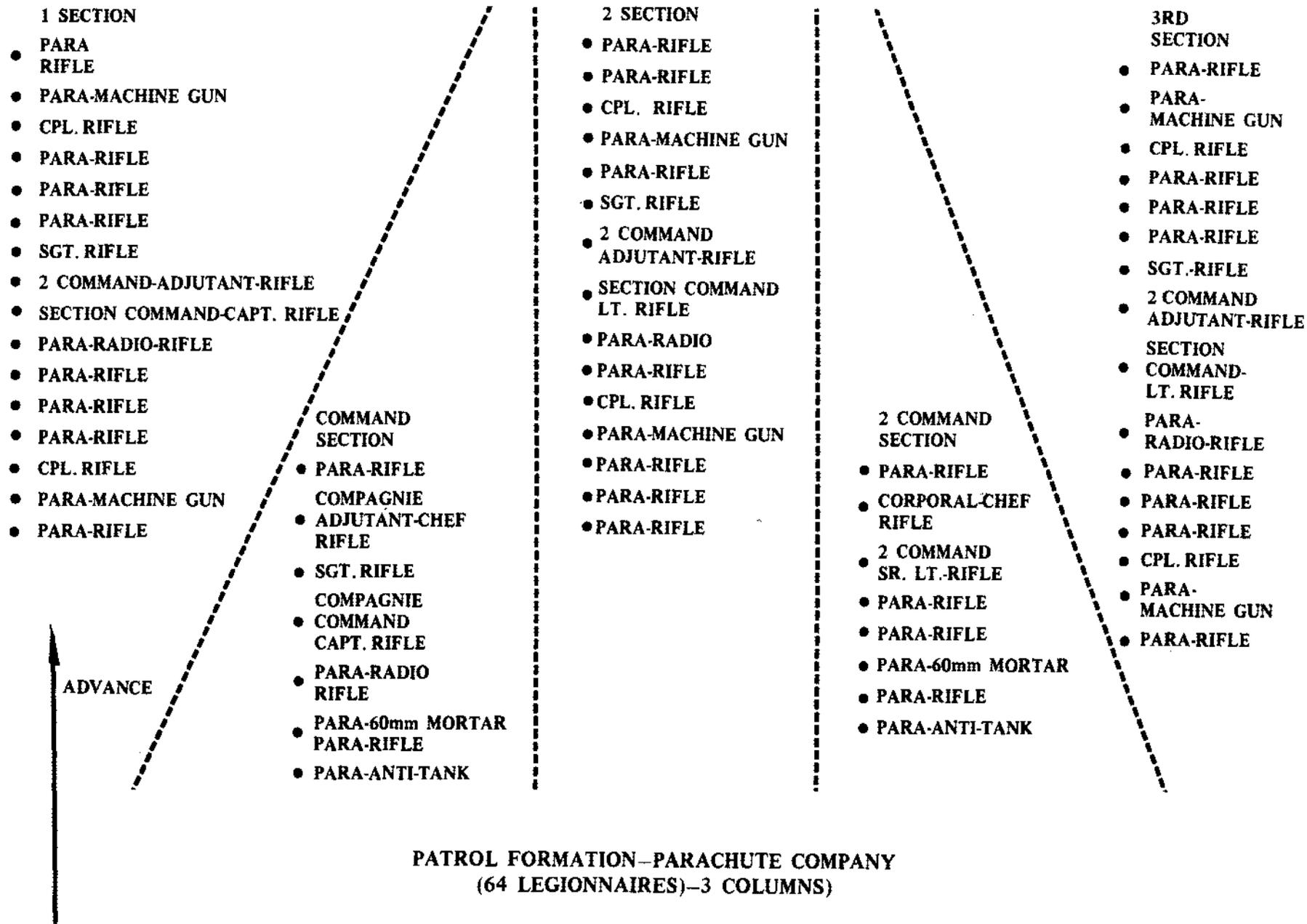
1) Issuing extra ammunition.

- a) Ammunition is issued simultaneously within each infantry battalion after it reaches the regimental assembly position. Once paratroop units have fully deployed, issuing ammunition is much more difficult than when the unit is assembled. Furthermore, it is also desirable to issue out the ammunition loads of combat vehicles before the combat units start the attack so that the vehicles can then go right back to bring up more ammunition.
- b) Ammunition is usually issued simultaneously within each parachute battalion after it reaches its assembly position. The weapons carriers (trucks) of each para company, in addition to transporting the A.A.-52 machine guns and 60mm mortars of the company, also carry sufficient ammunition for these weapons to permit their prompt entry into action. No rifle ammunition is carried on these vehicles. Similarly, the weapons carriers of the heavy weapons company transport the weapons of that company and a limited quantity of ammunition for them. Rifle ammunition is transported on the battalion section of the regimental combat vehicles. When extra ammunition is to be issued, these vehicles are brought forward, if possible, and the weapons and ammunition are unloaded and issued to the sections.

2) Reconnaissance and plans.

Leaders of all units take advantage of the halt in assembly positions to make what reconnaissance is possible of routes forward to the area of combat, and the area of combat itself. Plans for the attack or defense are perfected as far as possible. It is while troops are in assembly positions that many of the orders for the proposed action are issued, leaders usually going forward to an advantageous point of observation for this purpose.





Chapter 5

Offensive Combat

1. Significance.

Only through offensive action can a commander exercise his initiative, and impose his will on the enemy. Thus, successful offensive combat is the ultimate objective of all military operations. It is important that this basic thought be grasped by all commanders, down to those of the smallest units.

2. Nature of the attack.

a. Definition and characteristic.

The attack (which is to say, offensive action), consists of a combination of fire and movement designed to create an impulse of force in a decisive direction, and so to ensure the attainment of the objective. Every attack has the following aims:

- 1) To contain or fix the enemy so that he cannot move.
- 2) To direct a decisive blow at a vital area.

b. Fire, movement, and surprise.

As has just been indicated, the principal means by which paratroops carry out offensive action are fire and movement. Fire is the means by which the enemy is actually destroyed or neutralized. Movement is the means by which the attacking para gains positions from which it can deliver effective fire. Fire and movement must be closely coordinated, and they must be employed with surprise.

Surprise, then, is also essential in a successful attack. Surprise is as important in small actions as in large ones. It may be attained in several ways: by concealing the time and place of the attack, by screening dispositions, by maneuvering rapidly, by deceiving as to true intentions, by avoiding stereotyped procedures.

c. Tactical groupings.

1) Main attack.

Every attack involves the use of two tactical groupings: a main or decisive attack, and a secondary attack. The greatest possible offensive power is concentrated in the main attack, this in

order to strike the enemy at a vital point and bring about a decision. Normally, the objective of the main attack is the capture of some vital terrain feature within the enemy lines. The main attack has a narrow front, great depth, and maximum possible strength. Since the commander depends upon the main attack to decide the issue of battle, he assigns to it every possible man and weapon. The exact distribution of forces between the main attack and secondary attack will depend entirely upon each situation. The main attack of large units is usually supported strongly by artillery, tanks, and other supporting weapons including combat aviation.

2) Secondary attack.

The secondary or holding attack is designed to contain or fix the enemy, to attract his attention, to confuse him, and to cause him to put his reserves into the fight prematurely at some point away from the vital point, and primarily to give maximum assistance in these ways to the main attack. The holding attack usually has a wide front, shallow depth, and relatively weak strength. However, the term "holding attack" must not be understood to imply immobility or a defensive attitude. On the contrary, troops engaged in a holding attack fight with maximum vigor and force. Troops engaged in a holding attack must have the spirit of the offensive just as strongly as those engaged in the main attack.

d. Forms of attack.

1) Envelopment.

There are two forms of attack: the envelopment and the penetration. The distinction is in the position and direction of the main attack. When the main attack is directed so as to engage or pass beyond one or both of the enemy flanks, the attack is known as the envelopment. If but one flank is enveloped, the attack is a single envelopment. If both flanks are enveloped, the attack is a double envelopment. Both types of envelopment have the great advantage of striking with maximum force at a part of the enemy's position that may be lightly defended. The double envelopment is the type promising the most complete success, but it is seldom practical unless the attacker has a superiority in combat power. The single envelopment is normally the form of attack promising the best chances of success, especially for small units. Hence the single envelopment is of special interest to students of this book.

In determining the flank to be enveloped the commander considers the following things:

- a) The time required to attack the flank.
- b) The location of a key terrain feature behind the hostile position, the capture of which will result in the enemy's defeat.
- c) The presence or absence of covered routes of approach toward the selected flank.
- d) The strength of the known or suspected enemy defenses on a flank.
- e) The terrain over which the envelopment will progress, including concealed or defiladed approaches.
- f) The presence or absence of observation for supporting weapons.
- g) Whether the terrain is suitable for the employment of the attacker's tanks.

In considering location and direction of the main effort, the commander of a small unit making an envelopment is influenced by the thought that holding attack and main attack should be within mutual supporting distance of each other.

2) Penetration.

The object of the penetration form of attack is to rupture completely the enemy front with the main attack, and to develop one or both of the flanks created by the break-through. Conditions in which a penetration is demanded are when the enemy's flanks cannot be attacked, or when there is not enough time available to make an envelopment. The essential conditions for success are surprise, sufficient firepower, especially combat aviation and artillery, favorable terrain inside the enemy's ground for the advance of the attacking troops, and strength enough to carry the attack through to the end.

Conditions especially favoring a penetration include the following:

- a) When an undefended or weakly defended gap exists between hostile elements, penetration of which will result in splitting the hostile force into two parts.
- b) When the hostile position is too extensive for the force holding it.
- c) When the terrain and the available observation are favorable for a more effective cooperation of attacking and supporting units.

The success or failure of a penetration will depend largely on the skill with which the commander chooses the direction for his main effort. Of course, there is no iron-clad rule by which he may be certain to make the best choice. In general, he should study the terrain, and direct his main effort along a line where it will find the best cover and concealment and a weak spot in the enemy's dispositions.

e. Enemy reactions.

1) Against an envelopment.

The principal enemy reaction to a single or double envelopment will be to counterattack, usually against a flank of the enveloping force. He may attempt in turn to envelop the flanking force. It is generally better to keep on driving through the enemy's flank in a formation of some depth than to attempt to spread out in order to meet his extension against the envelopment.

2) Against a penetration.

The chief enemy reaction to a successful penetration may be expected to be one or more determined counterattacks against the base or sides of the salient created by the penetration. If such an action is successful, the penetration may be cut off. For this reason, the main attack should be organized in great depth, so that reserves will be available even after the penetration has reached its objective. Many initially successful penetrations of history have ultimately failed owing to the inability of the attackers, through lack of strong reserves, to widen the penetration, and resist the defender's attacks against its sides.

3. Terrain.

- a. The terrain exercises an important and often a decisive influence in tactical situations. It usually dictates the dispositions of parachute units and their plan of maneuver or defense plan. Small paratroop units have only a limited latitude in the choice of terrain for their operations. Consequently, they must make the best possible use of the terrain of the zone of action or sector to which they are assigned. They can leave their own zones to make minor detours during the approach march or the advance of reserves and supporting weapons to take advantage of cover in adjacent zones which have been cleared by the advance of neighboring units. Especially exposed areas in both attack and defense may be left vacant to be covered by flanking fires or the long-range fires of supporting weapons.

**PARACHUTE SECTION (16 LEGIONNAIRES)
3 GROUPS (3 EQUIPES)**

- PARA-RIFLE
- CPL. RIFLE
- PARA-MACHINE GUN
- PARA-RIFLE
- PARA-MACHINE GUN
- CPL. RIFLE
- PARA-RIFLE

1ST EQUIPE

2ND EQUIPE

ADJUTANT
2 COMMAND
RIFLE

PARA
RADIO
RIFLE

COMMAND-
LT.-RIFLE

SGT. RIFLE

ADVANCE

COMMAND
EQUIPE

ATTACK FORMATION—LINE

1 EQUIPE

2 EQUIPE

ADVANCE

PARA-RIFLE

PARA-RIFLE

PARA-MACHINE GUN

PARA-MACHINE GUN

PARA-RIFLE

PARA-RIFLE

CPL. RIFLE

CPL. RIFLE

PARA-RIFLE

PARA-RIFLE

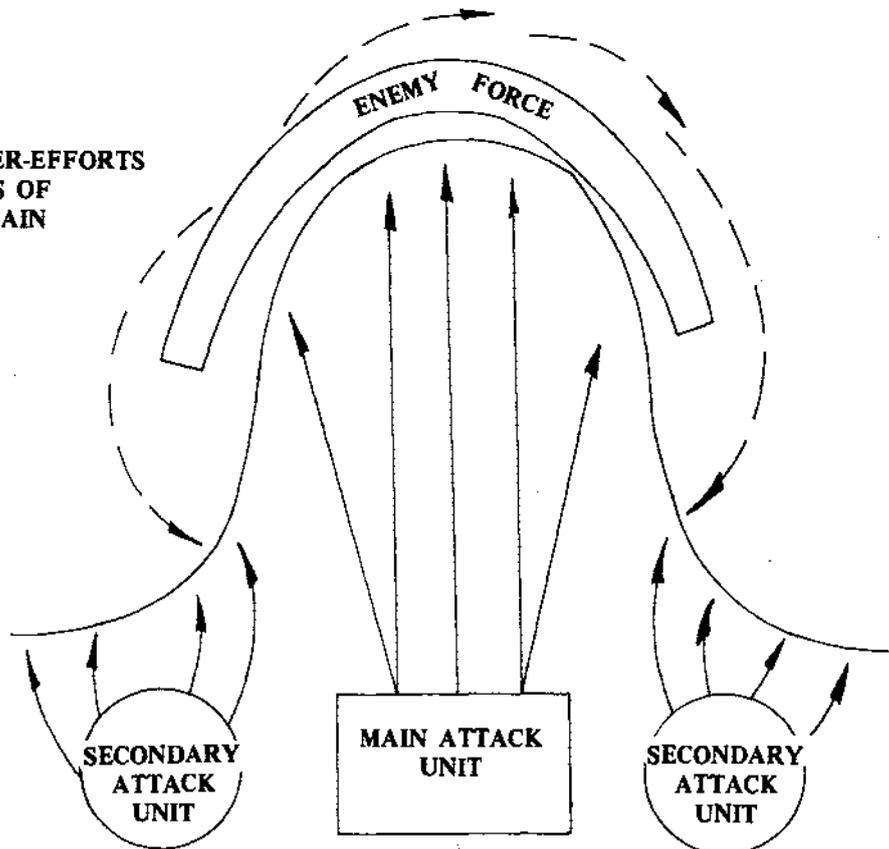
PARA-RIFLE

PARA-RIFLE

- SGT. RIFLE
- COMMAND
EQUIPE
- COMMAND-
LT.-RIFLE
- RADIO-
PARA-RIFLE
- 2 COMMAND-
ADJUTANT
RIFLE

ATTACK FORMATION—V—INVERTED

HOSTILE COUNTER-EFFORTS
TOWARD FLANKS OF
PENETRATION, MAIN
ATTACK FORCE



ENEMY REACTION AGAINST A PENETRATION

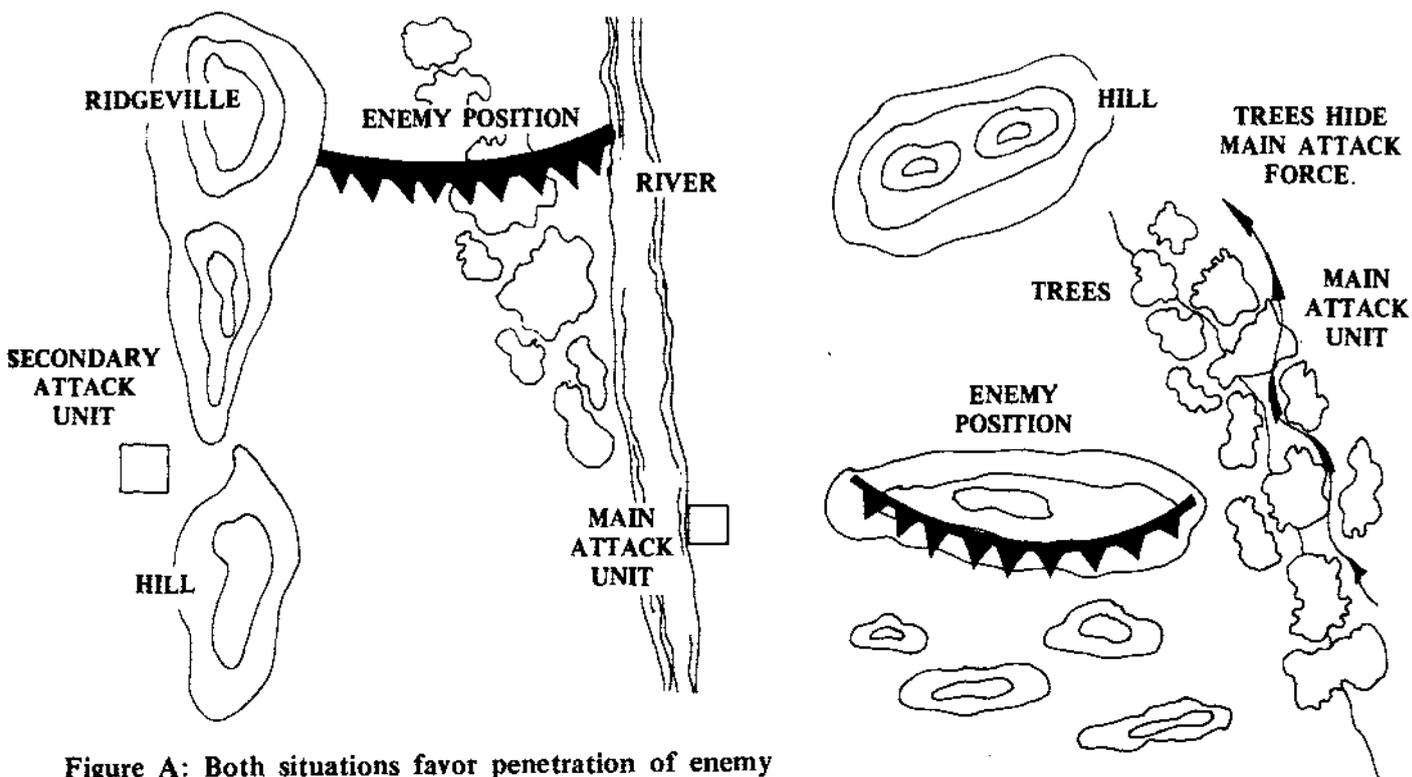


Figure A: Both situations favor penetration of enemy because of poor choice of terrain by enemy forces.

Figure B: 2 terrain situations favoring penetration and envelopment.

- b. Gently sloping open terrain permits full use of the flanking action of flat-trajectory paratroop weapons and hence increases the power of the defense against enemy attack. On the other hand, such terrain offers little cover to attacking paratroops but favors tank attack. Strong tank or artillery support is required to permit paratroops to attack successfully over such terrain without severe losses.
- c. Rough, broken terrain limits the defender's field of observation and flat-trajectory fire and offers cover by which attacking parachute units may approach a hostile position. It tends to contract defensive dispositions and reduce distribution in depth. Broken terrain makes control on the battlefield difficult for all commanders but those of small para units, and also makes artillery support of the attack difficult and comparatively ineffective. Defensive positions located on broken terrain require more troops to defend a given area and more curved-trajectory weapons.
- d. Rolling terrain that affords some cover and facilities for observation is the most favorable for the attacking paratroop company. Crests, ridges, woods, or other features which extend generally parallel to the direction of advance divide the terrain into corridors which are natural avenues of penetration. The assignment of a tactical unit to each corridor, when possible, enables each unit to deal itself with hostile elements capable of bringing fire on troops of the unit. Ridgelines that are perpendicular to the direction of advance permit an attacker to deal successively with elements of the hostile position, so that only a relatively small hostile area need be neutralized at one time. During the advance these crests offer the attacker facilities for observation and fire, as well as shelter behind which he may reorganize his units and form a new base of fire. Such movement across ridgelines must be carefully planned, for leading elements of attacking troops are particularly visible to the enemy at the moment their supporting fires tend to become least effective. Bands of wooded terrain parallel to the front have a similar effect.
- e. Conspicuous terrain features (such as isolated knolls, small woods or thickets, farm houses, roads, and lanes), which may be readily designated as targets or reference points for hostile artillery fire, should be avoided by attacking troops. Long, narrow terrain compartments which lead in the general direction of a hostile defensive area form advantageous corridors for attack. Troops advancing within such a corridor are defiladed from direct hostile fire from outside the corridor, especially from the direct fire of flat-trajectory weapons. Activity within the corridor may be also defiladed to a greater or lesser extent from ground observation from points outside the corridor.
- f. Thus, the most important single element entering the commander's estimate of a situation involving an attack will be the terrain. Considerations of terrain likely will have a determining effect on his decision as to form of attack (penetration or envelopment) and as to the location of his main effort. The situation shown in Figure A involves an enemy position, the flanks of which rest on obstacles difficult to cross. From this circumstance of terrain alone, a penetration is indicated. Another circumstance of terrain—the jungle stream leading into the enemy position—indicates the location of the main attack, since by moving up the stream valley the attacking force will be afforded maximum cover, concealment, and defilade. Meanwhile, the situation shown in Figure B involves an enemy position the front of which is very strong, but the flanks of which are not protected by obstacles. This indicates an envelopment. The circumstance of the jungle stream valley leading up along the right (east) flank indicates a single envelopment, with the main attack up the stream valley. These are not to be taken as rules, however, for in Figure A, it may be possible for enveloping units to use boats on the unfordable stream or make a double crossing, or to follow narrow trails through the mountains.
- g. In both cases illustrated, and in almost every situation encountered in war, terrain plays a determining part. It follows that every officer should acquire the ability to size up the terrain rapidly and accurately.

4. The main effort and secondary attacks.

- a. The main effort of an attacking parachute is to secure ground which, once gained, will make it easier to take the actual objective or to assist other elements in their advance upon it. A commander usually directs his main effort against a weak point in the disposition of the enemy and supports

this effort with the greater part of the firepower available to him. Also, he usually orders his reserves to follow in the same general direction as that of the main effort. But as his attack progresses, he may shift his main effort to another part of his front in accordance with the developments of the battle. This he usually accomplishes by concentrating his supporting fires in a new area, and directing his reserves to follow the new main effort instead of the old.

- b. The weak points of the enemy's defense are to be found where he cannot use his weapons to defensive advantage, where covered approaches offer a way to get close to his defenses, and where these defenses can be readily observed by the artillery supporting the attack. Ground does not favor an advance if the troops must move forward for a long distance under the fire and observation of the enemy before they can reach his positions. Open areas which the enemy can effectively sweep with fire are in general to be avoided. When, however, there is extremely powerful fire available in support, movement over open ground increases the rapidity of the whole advance.

5. Coordination of attacks.

Attacks vary from thoroughly coordinated attacks to hastily coordinated attacks against an unready enemy. All attacks, however, are coordinated to the highest degree the situation permits. In a well-coordinated attack, all units are in position at the beginning, and their operations are coordinated with respect to time. In a hastily delivered attack, the units may be committed to action almost as they arrive in position, but this risks lack of control and sacrifices some of the power of artillery, tanks, and other supporting weapons. Such an attack can usually be undertaken only when the attacker has, and can maintain, combat superiority, when he has insufficient time for a well-coordinated attack, and when he is aiming at only limited objectives.

6. Meeting engagement.

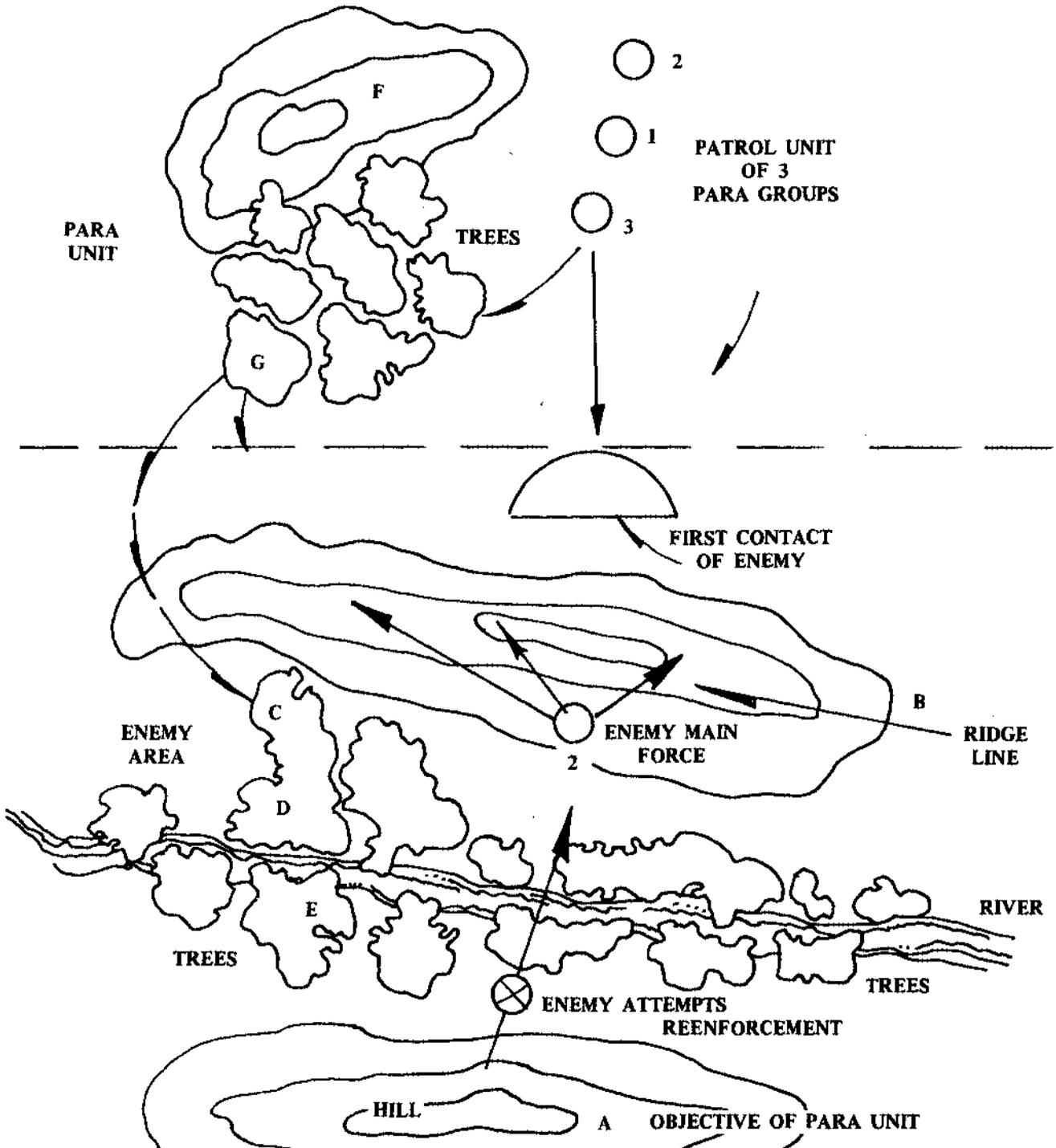
a. General.

A meeting engagement is a collision between two opposing forces more or less unprepared for battle. Ordinarily the collision is due to uncertainty or obscurity in the situation. This often happens in small units or when reconnaissance is poor. A meeting engagement may also come about when each opponent knows the other is near and both attack without delay to gain some tactical advantage or to gain some decisive area or feature of terrain, before the other does. It may also happen simply because both commanders believe they can win by attacking at once. It may also happen when one opponent attacks before the other can reach and establish a defensive position he intends to occupy. Under such circumstances, the attack calls for hasty reconnaissance, quick decision, and vigorous movements.

b. Illustrative example.

The characteristics of a meeting engagement are illustrated in the situation shown in the following drawing. A force of our own, marching south, has the mission of seizing and holding the high ground at A. Its advance guard, Unit 3, moving in a deployed formation, has encountered a hostile force, Unit 2, which is just occupying hill B. The rest of our column, consisting of Units 1 and 2, is marching on the road behind the advance guard. The rest of the enemy force, consisting of Unit 1, is moving up behind their advance guard, but its strength, location, and composition can only be surmised by our own commander, since hill B screens the enemy movements. Stream C is fordable with difficulty by paratroops. All streams have jungle foliage. Terrain conditions are well known to both commanders. In the situation illustrated our own commander's mission demands aggressive action and he keeps that thought in mind as he makes his estimate of the situation. He decides he can and must attack. In forming his plan, he studies the terrain, and decides that the most favorable location for the main attack is from an assembly area in the woods at G, down

stream valley D, and up stream valley E, to the objective, A. Our commander notes that the enemy force is moving up to reinforce its position on B, but that this force is probably about to cross creek C where the ground is low and poor. Therefore, having the enemy at a temporary disadvantage, and having only a limited objective in view, our commander decides to attack as soon as possible—that is, as soon as orders to attack can reach his Unit 3. Thereafter, he will probably find his best action to move his Units 2 and 1 to assembly area G and commits them to action along stream valleys D and E as soon as he can.



Meeting engagement: Patrol para unit on march has contact with enemy at base of Hill-B. Para unit leaves one unit to engage the enemy force. Two para groups enter wood at G, start flanking movement to trees D, and reenter contact of enemy at E, assaulting objective A.

7. Attacks against an enemy occupying a fortified locality.

- a. Often the enemy force will be encountered by the attackers in a position deliberately organized for defense. The longer the defensive force has occupied such a position, the stronger it will be, and the more difficult it will be to attack. Plans to attack such a position must involve thorough reconnaissance, deliberate movements, more centralized control, the assignment of zones of action and a line of departure, and the maximum use of firepower by all supporting weapons. Greater special preparation and training are essential for such a break-through than for other penetrations.
- b. Such an attack may be divided generally into four phases:
 - 1) Reducing the hostile outpost system.
 - 2) Breaking through the fortifications at the most favorable point.
 - 3) Extending the gap by isolating and reducing other hostile positions on its flanks.
 - 4) Moving mobile reserves (armored and motorized units) through the gap to encircle and isolate other fortifications while the attack is also continued against them from the front.

8. Developing the enemy positions.

a. Necessity.

An enemy occupying a position will seek to prevent observation of his dispositions by posting security detachments to his front and flanks. Meanwhile, a commander planning to attack must know at least in general the enemy dispositions. Therefore, it is essential that the attacking force drive back the security screen of the defending force in order to ascertain details of the latter's dispositions. This operation is called "development" of the enemy position.

b. Reconnaissance in force.

Frequently the attacker's leading elements find it impossible to drive in the defensive covering forces unassisted. In this case, an action known as a reconnaissance in force is necessary. The commander of the attacking force may reinforce his advance elements. He must bear in mind that such an operation may disclose to the enemy his own future intentions or those of a higher commander.

c. Against discontinuous resistance.

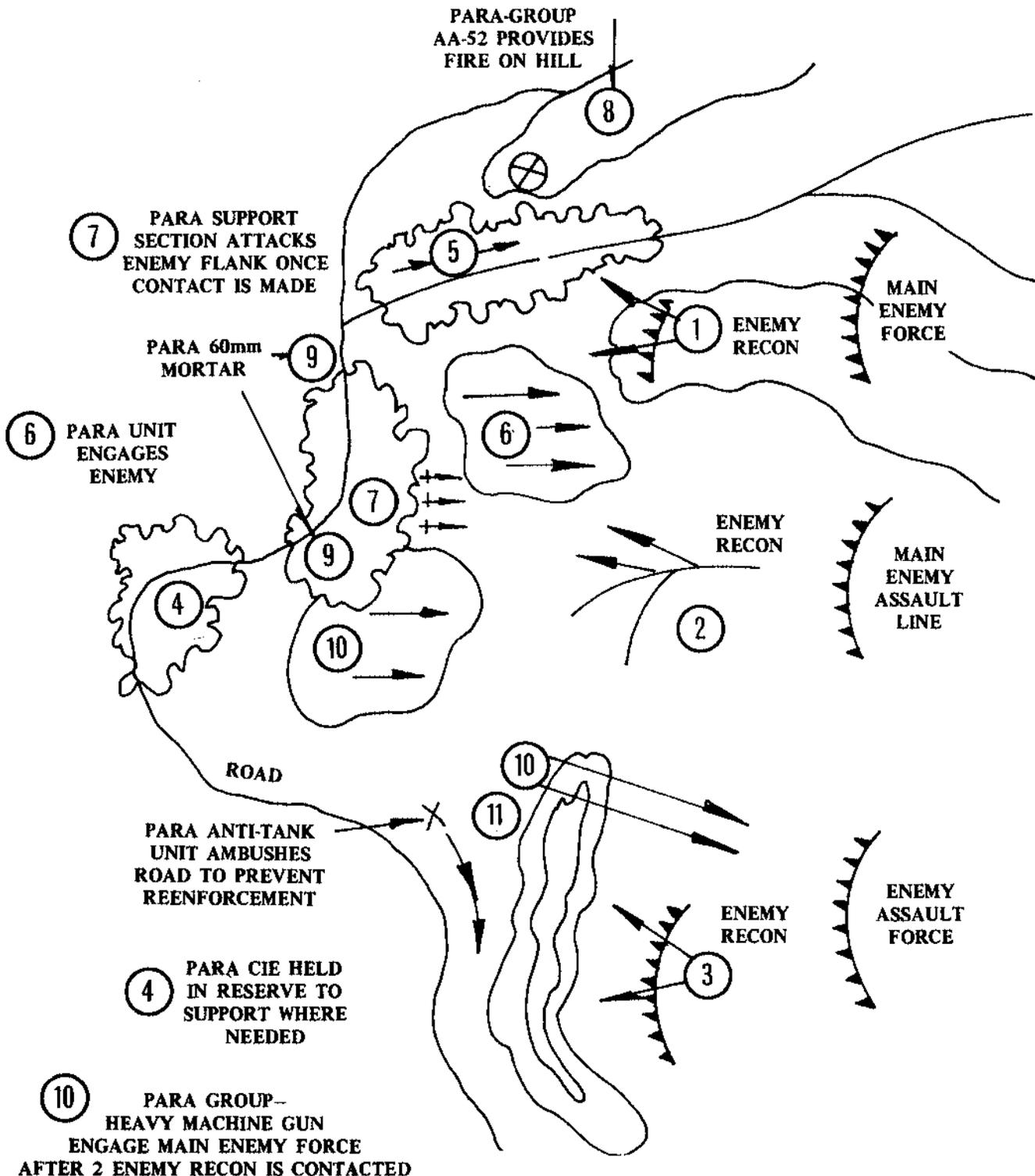
Maneuver by the leading elements, rather than a powerful organized attack, is relied upon to reduce discontinuous (hostile delaying) resistance. Small groups infiltrate along covered approaches and elements which run into no resistance keep on advancing. This outflanks isolated detachments and usually brings about their withdrawal. Hostile elements continuing to resist are reduced by encirclement or by combined frontal and flanking action. Speed is essential in all such attacks. Action against discontinuous resistance is required particularly of the leading elements of advance guards, the leading units of battalions in uncovered approach, and units exploiting a success after breaking the main hostile resistance.

d. Illustrative example.

1) Situation.

Reference is made to the situation shown in the following drawing. Company 2 is one of the two leading companies of the advance guard battalion of a force of our own moving east (the other leading company is on the right of Company 2, and is not shown on the sketch). The

enemy's main positions, shown on the extreme eastern (right) edge of the sketch, are screened by security detachments 1, 2, and 3. These security detachments each consist of about one section with some para supporting weapons. They are firing at Company 2, which is now engaged in driving them back in order to develop the main enemy positions. Meanwhile, the other company of the advance guard battalion, Company 3, is in reserve in the woods at 4.



RECONNAISSANCE PHASE OF THE APPROACH MARCH

2) Dispositions and actions of Company 2.

The detailed dispositions of company B at the moment are as follows: One parasection advancing along the stream valley at (5) in section column, each group in column, is moving to operate against the north flank of the enemy unit at (1), or if possible to pass beyond it without fighting. Another parasection taking advantage of the woods at (6) is advancing with its center group back, each group in group column, preparatory to attacking the same resistance from the south. A third parasection, moving across the open ground at (7), is fully deployed, squads in skirmish line. It will operate against the defended road block at (2). The company's A.A.-52 machine gun section has taken up a position on the high ground at (8), preparatory to assisting by its fire the advance of the northern two parasections. The company's 60mm mortar section at (9) is also in position, ready to support the advance of the parasections.

3) Dispositions and actions of Company 4.

Company CCS, the heavy weapons company of the same battalion, is disposed to support the attack of Company 2 or Company 1, and to furnish anti-aircraft and anti-mechanized protection for the battalion. Its two heavy machine gun sections are on the hill at (10). Its 81mm mortar section is in defilade behind this hill, with its observation on the hill. The battalion anti-tank section has moved to the important crossroads in (11), prepared to combat any enemy armored cars which might approach from the south or east.

9. Surprise.

It must be re-emphasized that surprise is an essential element of a successful attack. Paras effect surprise by concealing the time and place of their attack and screening their dispositions, and by rapidity of maneuver, deception, and avoidance of stereotyped procedures.

10. Fire support.

An overwhelming fire, tank, or combat aviation support is usually required to permit an attacker to advance against strong resistance. A small amount of fire support cannot be compensated for by the engagement of masses of additional men. Whenever the means made available to paras are deficient in kind or amount, it is a primary duty of commanders to arrange for additional supporting fire.

11. Successive objectives.

- a. Until the main hostile resistance has been broken, infantry units advance by bounds toward successive terrain lines on each of which the fire support for the next bound is organized. Each of the terrain lines becomes the objective of one bound of movement and the location of the base of fire for the next. Unit objectives should not, as a rule, be beyond the range of the supporting weapons of the unit or call for a displacement of the fire base to ensure continuity of support.
- b. Normally only the initial objective is designated by commanders of small units prior to the attack. Arrangements must be elastic; the attack is not held to a time schedule over any extended period. The pause on each terrain line is as short as consistent with an effective organization of the base of fire and may be greatly reduced as the hostile resistance weakens. The rapid advance of paratroops is the indispensable condition of victory. For decisive success, paratroops must reach vital objectives before enemy reserves can be thrown across their path. Timely reconnaissances, early initiation of fire base displacements, and skillful handling of his tactical transport—these enable a commander to combine power and rapidity.

12. Flanking action.

Paratroop maneuver attains its most decisive success through flanking action. Para units undertake envelopments rather than penetrations when opportunity offers. The delivery of flanking fire is an outstanding feature of the offensive tactics of small parachute units. Light machine guns are habitually pushed forward behind the units which advance most rapidly, with a view to the delivery of flanking fire across the front of adjacent units. Combination of frontal and flanking fires results in convergent effects that gives Legionnaires flat-trajectory fire its most demoralizing power.

13. Control of battalion supporting weapons.

- a. In a coordinated attack, battalion supporting weapons are initially controlled from a base of fire, usually on higher ground close in rear of the line of departure, from which the greater part of the front of the unit can be covered. This ensures a strong fire support and coordination with the attacking element as a whole under most conditions of combat.
- b. When the attack or defense is made on a broad front or when the terrain of the attack is heavily wooded or extremely broken, part or all of the battalion weapons may be attached to para companies so that a commander in a position to observe the action of the attacking element can coordinate the attack.

14. Direction.

Careful provision must be made for keeping the right direction in approach march and in combat. Compass bearings are habitually given to paratroop units. Landmarks are designated to mark boundaries or as distant direction points whenever possible.

15. Avoidance of alignment.

No attempt is made to maintain alignment on the battlefield. Lines are plainly visible and vulnerable and do not favor the development of offensive flanking fire. Situations must be promptly exploited without concern for keeping on line with adjacent units. Contact with adjacent units is, however, always maintained and provision is made for the protection of exposed flanks. Groups exposed to flanking fire move in extended columns. Otherwise the movement of small groups in wedge or cluster formations generally facilitates readiness for action and adaptation to the terrain.

Security.

- a. Measures for the security of an exposed flank comprise.
 - 1) Locating reserves on that flank.
 - 2) Assigning flank security as a mission of the unit on that flank.
 - 3) Detailing troops for the specific mission.
- b. Antitank units are located to cover approaches favorable for hostile tank counter-attack; they maintain continuous reconnaissance for new positions abreast of the advance.

16. Ammunition supply.

A rapid and continued advance often depends upon keeping up the flow of ammunition for supporting weapons. Motor carriers will often be able to replenish the ammunition supply of heavy weapons in the course of battle. Para company commanders take advantage of all favorable opportunities to issue more ammunition to the attacking element during stops in masked areas and at night, and whenever else possible, but must accomplish this without delaying the advance.

17. Frontages.

- a. The frontage to be covered by paratroop units in the attack depends upon many considerations, including the strength and mission of units, the terrain, the nature of the hostile resistance, supporting fires, and the training, discipline, and condition of the troops. An unequal distribution of troops is usually found. Extremely wide frontages, assigned to units through necessity, are covered by leaving gaps between subordinate elements, not by extending the usual interval between individuals. It is often advantageous to create gaps between units to facilitate the flanking fire of machine guns. This often provides an effective means of extending the front, at the same time facilitating the fire support of the attacking units.
- b. The usual limits for war strength units with flanks covered by other paratroops are as follows:

Unit	Frontage (in meters)
Group	50-75
Section	100-200
Company	200-500
Battalion	500-1,000
Regiment	1,000-2,000

18. Zones of action.

Zones of action are assigned by designating boundaries between advancing units or by indicating the front of deployment and the width of the objective. The battalion is normally the smallest unit for which boundaries are prescribed. Boundaries between units generally coincide with the ground separating terrain corridors when this is practical. Zones of action are not initially assigned over a considerable depth for this is liable to have the effect of restricting infantry maneuver. Except when zones of action must be assigned farther out in order to facilitate planning of artillery fires, para commanders usually announce their zones of action only as far as the objective. They assign further zones after the objective is occupied. The rearward echelons of a unit and supporting weapons units may avail themselves of favorable routes of advance and firing positions in the zones of adjacent units which have gotten well ahead. Overcrowding of masked areas must, however, be avoided. Unless movement into adjacent zones is fully coordinated by the commander concerned, confusion, mixing of units, and unnecessary casualties may result.

19. Position of commanders.

- a. Before entering an action, each para commander should be as far to the front as possible so that he can personally observe the situation, order the deployment of his unit, and ensure that his unit begins the action just as he wants it to.
- b. During the action the higher para commanders leave the detailed conduct of units in the attacking echelon to the lower unit commanders. They intervene when necessary to ensure teamwork between elements or prevent serious errors. They place themselves where they can see or keep in touch with their leading units, without losing contact with their reserves and supporting weapons, which are the principal means by which they can influence the action later on.

20. Preparation for attack.

- a. Occupying final assembly positions.

When para units reach their final assembly positions a short distance in rear of the line of departure, commanders and their troops make their final preparations for the attack and then move to the line of departure. The line of departure is usually not far to the front of the last cover or mask which the leading para units can reach without serious fighting, and it is, of course, the line on which the advance of the units in the attack element is coordinated so that these units will strike the enemy in the order and at the time desired by the commander. Units such as sections and companies may already be fighting before they reach the line of departure. How far the line of departure may be from the enemy's main resistances depends largely upon the terrain. The line of departure itself, and the final assembly positions just to the rear, should afford good cover from the enemy's observers of the ground and air, and from his small-arms fire. At times, commanders have to make local attacks or advance a short distance by night in order to secure good ground for final assembly positions and the line of departure for the general attack that is to follow.

b. Reconnaissance for battle.

As their troops are occupying the final assembly position, commanders usually complete their battle reconnaissance. If the enemy occupies a prepared defensive position, commanders of units that are to lead and support the attack seek detailed information of the type and location of the enemy's works and weapons, and the strength in which he occupies the different sectors of his probable area of resistance. Through battle reconnaissance they try to find out what the terrain ahead is like and what the probable general line of the enemy's resistance will be. By organizing the observation in all units and watching closely for enemy movements and activity, much can usually be learned or deduced as to the hostile dispositions. Commanders obtain information not only from their own reconnaissance detachments, patrols, and observers, but also from adjacent or higher units, from units of other arms, and through their own personal reconnaissances and those carried out by members of their staffs. Information thus obtained gives the commander a basis for planning his supporting fires.

21. Attack orders.

- a. All units attack in accordance with orders which their commanders issue to them. Commanders usually formulate their general plans of attack and the orders to put these plans into effect, either before or while the troops are occupying their final assembly positions. Each commander bases his plan upon the instructions he receives from higher authority, the information he possesses of the enemy, the plans of units adjacent to his own, the fire support that will be available to him, and the ground over which his unit is to attack.
- b. The amount of detail a commander includes in his attack orders depends to a large extent upon how much time he has in which to prepare for attacking and upon the degree of training of his troops. But in no case should a commander anticipate in his orders a particular course of events and endeavor to prescribe the detailed action to be taken in several contingencies. Attack orders should be simple. Everything subordinate commanders will not need in carrying out their missions and issuing their own orders should be left out.
- c. A commander prescribes a detailed tactical plan for an attack only as far in the future as he is reasonably sure of the hostile resistance. In general, the smaller the unit, the less in advance it is practical or desirable to plan a definite maneuver. For a paratroop company, section, or group it is usually enough to announce a simple combination of fire and movement by which the troops are to capture ground within sight, and to give the direction of attack and the objectives that the next higher commander has ordered taken.
- d. Orders to units that are to lead the attack give them a line of departure and a zone of action or direction of attack. Orders to reserve units ordinarily direct them to move to an initial location and instruct them as to their further advance. Orders to parachute supporting units give them a

general combat mission and also, in the usual case, the general location of their first firing positions and targets or sectors of fire. These orders also direct each supporting unit when to make its first displacement forward.

22. Support fires.

- a. All paratroop commanders look upon their supporting fires, whatever their source, as means of combat which they must coordinate toward a single end—the economical and rapid capture of their objectives by their units. Accordingly, they use these fires for two main purposes. They make sure that intense fires are placed upon hostile resistances already located and upon the areas from which the fires of the enemy would have a serious effect upon the progress of the attack, these fires to begin falling usually as the attack begins or shortly beforehand. Commanders also provide for supporting fires to open on any suitable targets that appear after the attack is launched. And whenever a commander finds he needs more fire support than he has, he requests the next higher commander to give him this additional support from the means at the higher commander's disposal, or to obtain it for him from a still higher commander. Whenever possible, of course, this is all prearranged so that it takes but a brief signal or other request to get the additional support.
- b. When there are no tanks in the attack, the fire of the artillery in direct support usually forms the framework of the plan of supporting fires of infantry regiments and battalions. This artillery fire is used to neutralize successive areas, shelling in general the targets nearest to the attacking troops until the safety of those troops makes it necessary to lift the fires to more distant hostile targets. Regimental and battalion commanders make arrangements for such fires by consulting with the commanders of the supporting artillery units. There may, of course, also be support from combat aviation furnished by a still higher commander.
- c. Commanders of paratroop regiments and battalions use their support mortars, and Howitzers to supplement the fires of their supporting artillery—usually for fires on targets which are located accurately during the attack and also on targets which suddenly appear or are otherwise learned of, and which must be fired on at once, without taking time to obtain artillery fire on them. The heavy machine guns reinforce the artillery by long-range fires. A higher commander may direct combat aviation units to add their support to the attack. Para companies use their supporting weapons to complement the supporting fires arranged by higher commanders. Any element may be ordered to support an element next to it.
- d. When there are no supporting tanks, heavy machine gun units have the following as their missions: long-range fire, protection of the flanks of attacking units against hostile counterattacks, and anti-aircraft defense. The heavy machine gun units place their fire close to the leading troops only when the ground is exceptionally favorable for such fire and such fire is needed.
- e. A battalion commander uses his 81mm mortars to place immediate fire on isolated points of hostile resistance which the fires of the supporting artillery have not neutralized. Mortars are placed behind good defilade as far forward as ammunition can be readily brought up to them. They should not be more than 800 meters behind the leading troops, and usually much closer. Commanders of mortar units control the fire of their weapons from nearby observation points from which they must be able to see not only the targets fired at but also the location of the leading para units. In fact, observation is the most important consideration. Only in exceptional circumstances do mortar commanders use wire communication and observation posts some distance from their mortars.
- f. The 60mm mortars are similarly used from firing positions that are ordinarily within 400 meters of the troops leading the attack. They require little defilade.
- g. Light machine guns fire through gaps between units across the front of leading elements of their own companies and those of the companies adjacent. Or a commander may hold these weapons ready to move rapidly forward to positions suitable for such flanking fires. They are used for fires to the front only in grave emergencies because their effect in flanking fire is so great.
- h. The initial location for the anti-tank weapons is on the base of fire, where they defend the attack-

ing troops from any sudden tank attack by the enemy. They are disposed to cover all directions from which such an attack is liable to come. If the ground is mainly open terrain, some anti-tank guns are normally placed on the flanks of each battalion. Anti-tank guns are usually held under cover near firing positions which they can promptly occupy when targets appear. Mobile weapons may be held ready to move in any direction to meet the enemy's tanks.

23. Paratroop support of tank attacks.

The primary missions of all paratroop machine guns in support of a tank attack is the neutralization of the hostile anti-tank guns. Machine guns open fire on any anti-tank weapons that disclose themselves by the flash of their firing or by their muzzle blast, without regard to safety limits. Legionnaires and machine gunners give close-in protection to tanks whenever they are halted or when they have stopped on the objective after gaining it.

24. Coordination in attack of tanks and paratroops.

a. Objectives.

Tanks accompanying paratroops usually attack to gain the same initial terrain objective as the paratroop battalions with which they are operating.

b. Fire and movement.

- 1) The coordination of the fire support and the movement of the paratroops with the movement of the several tank echelons are influenced by the distance of the line of departure from the object, the need of the tanks for the fire support of the paratroops during their movements on the objective, and the need of the paratroops for neutralization of the hostile resistances by the tanks before the paratroop begins its own attack. Coordination depends also on the depth of the tank dispositions, the influence of the terrain on the speed of the attack tanks, and the probability that the hostile paratroops will try to conceal its location, allow the tanks to pass through, and then take the following infantry under fire. The need to reduce the tank-cruising period on the objective to a minimum is also an important factor.
- 2) Where the line of departure lies well within midrange of the estimated location of the hostile position, the paratroop begins its attack when the rear tank element has reached the enemy position. But it supports the tanks with the fire of its machine guns throughout the tank advance.
- 3) When the line of departure lies at long range from the estimated location of the hostile position and only accompanying tanks are present, the paratroops support the tanks in the first part of their advance. They begin their own attack as soon as the last elements of tanks have passed beyond midrange. The paratroops attack to gain a suitable position part way to the objective, from which, if necessary, they renew their fire support of the tanks and take under fire any enemy elements that the tanks have passed over, or have been unable to neutralize. In such an attack, the fire support of the tanks by the para units are interrupted during a part of the advance, and the tanks must consequently rely on their own firepower to protect the final part of their attack.
- 4) Where the tank dispositions, just as the last tank elements begin their attack, completely or almost completely cover the entire zone between the line of departure and the objective, the paratroops support the advance of the foremost tank element and closely follow the last tank elements. The foremost tank element neutralizes the hostile resistances and protects the initial advance of the paratroops. Where the line of departure lies at long range from the objective, the paratroops may advance to gain an intermediate objective where, if necessary, they renew their support and fire action as already described. Launching the tank advance while para-

troops are attacking an objective is seldom done. Such an action is practical only when the tanks have a route of advance that does not pass over the lines of the para units.

c. Passage through foot troops on the line of departure.

Normally one or two zones through the line of departure of a paratroop battalion are reserved for tanks and kept clear of troops. When practical, the tanks pass through the paratroops on a relatively narrow front, and thereafter extend in accordance with the situation. If the situation requires the tanks to begin their attack on a wide front, the paratroops (except for supporting weapons grouped in one or two clearly defined areas which the tanks must avoid) may be held in a sheltered assembly position and move forward to the line of departure only after the tanks have passed them. The rear of all areas occupied by paratroops must be guarded by sentries with some conspicuous means of identification. This is especially necessary in a daybreak attack. Similar measures must be improvised for resuming the advance from an objective.

d. Passage through paratroops between objectives.

- 1) If the tanks are to attack while the para is attacking an objective, a tank zone of advance must be defined prior to their attack and paratroops must be fully informed. Where practical, paratroop commanders keep their units clear of the tank zone, or warn the leaders of subordinate para units of the hour when the tanks will move through their areas.
- 2) If tanks must attack some unforeseen resistance holding up paratroop, it will usually be necessary for the tank units to reconnoiter a route clear of sections.

25. Formations.

a. Leading echelon.

The triangular system of organization obtains in the Legion paratroops. For example, there are four para sections in a para company, and four companies in a battalion. Thus the commander of a small unit of, say, a para company, can adopt one of three attack formations: three units in his leading element, none in reserve; two units leading, one in reserve; or one unit leading and two in reserve. In general, the first formation (three units in assault) enables the commander to cover the widest front, while the last (one unit leading) enables him to cover a very narrow front, but gives him great reserve power. Usually, the second formation (two units leading) is the most advantageous. The third formation (one section leading) is used when particularly favorable conditions for the advance exist on part of the front, and there is poor terrain on the rest of the front.

b. Reserves.

Expert handling of reserves is often the key to success in battle. Reserves may be kept in locations in rear of the line of departure where they are available to be used as required. Normally, this means that the reserves be kept under cover, approximately in rear of the main attack. In small units, such as a company, the most satisfactory plan is usually to dispose the support section so that it can protect the flanks of the leading element.

26. The advance of the para units in the attack.

- a. Unless they are already in close contact with the enemy when the attack begins, para units leading in attack usually move forward to within midrange before they open fire. While they are thus advancing, the fire of supporting artillery and support (CCS) weapons, and of tanks if these are in the battle, gain the initial superiority of fire over the enemy. The advancing troops keep losses

down by moving rapidly from one point of cover or concealment to the next. Up to a distance of some 400 meters from the enemy's main resistances, Legionnaires and machine gunners open fire only when the supporting fires do not keep down the fire of the enemy so that they can gain ground.

- b. But the moment the supporting weapons lift their fire from the nearest hostile areas, the fire of the leading para units becomes vital to the attack. From then on, para units seek to combine their fires with those of supporting weapons which are neutralizing the hostile firing elements farther to the rear, and thus create the combined fire effect which gives the para units their best chances to get ahead. Some of the Legionnaires keep down the enemy's fire while others gain ground moving from one cover or one firing position to another. From each group, each section, there must be enough rifle and machine gun fire to keep low the fire of the enemy. The more fire needed for this, the smaller the number of men able to get forward in a given length of time.

At every lull in the hostile fire leaders push groups to the front, especially to reach ground from which their covering fire will be more effective. Here it is particularly desirable for A.A.-52 machine gunners to gain points from which their powerful flanking fires can make it easier for Legionnaires and support sections to get closer to the enemy's defenses.

27. The action of supporting weapons.

- a. Displacing forward as necessary, the paratroops' supporting weapons cover the leading para section and protect their flanks as they advance to within close range of the enemy, and contribute also toward lowering the hostile resistance. Light machine gunners furnish close support by flanking and oblique fires through gaps.
- b. The heavy machine guns carry out long-range overhead fires, direct their fire at attacking planes, and protect the flanks of the leading para units against counterattacks. They advance by unit to form the most important element of each successive base of fire, thus to ensure that ground once gained is held.
- c. Both 60mm and 81mm mortar units repeatedly displace forward so that they can at any time bring prompt and effective fire to bear on targets of opportunity and thus assist the small para units leading the attack to maneuver more freely and to get close enough to assault the hostile troops. Accurate mortar fire can often put the enemy's automatic weapons out of action and completely neutralize isolated resistance.
- d. The anti-tank weapons follow the advance by bounds, but at all times some of them must be in position to fire. The battalion weapons move forward early behind the leading paratroops. Those of the regiment follow as soon as the leading element of the battalion anti-tank weapons has reached its next firing positions and the leading attack units have gone far enough for the anti-tank guns to make a quick dash forward on their carriers to new positions. Regimental and battalion anti-tank guns alike, when there are no hostile tanks to fire at, fire on any other hostile vehicles in sight.

28. Reaching the enemy.

- a. An attack seldom encounters a continuous line of hostile resistances uniformly held. It usually finds the enemy established in a number of strongly defended areas arranged in depth to cover all the most likely routes of approach against them. Between these heavily held areas, intervals more lightly held are generally found, these covered by the flanking fires of automatic weapons. By a stubborn defense from and in the areas he holds in strength, the enemy attempts to limit any penetration into his general area of resistance and to overwhelm by counterattack troops that may make such a penetration.
- b. Almost any defensive position has its strong and weak points. Moreover, the terrain of the zone of

attack usually favors the advance of some units and hinders that of others. And some units, both by plan and by accident, receive more benefit than others from supporting fires. In consequence, leading units of an attack seldom make an even progress. Some advance steadily, others are held up.

- c. It is this unevenness of an attack that must be exploited by the A.A.-52 machine guns. All units not stopped by the fire of the enemy push on ahead regardless of the fact that flanking troops may have been unable to keep going. And these units, still finding or making inroads toward and into the enemy's defenses, keep working ahead until they have reached the objective or have used their reserves. After that they take up their advance again as soon as a further advance of adjacent units permits.
- d. The truly "leading" units in an attack, those that are able to keep steadily on, by their very progress usually outflank the hostile areas of resistance checking units held up. And there are found the finest opportunities for enveloping action and flanking fire. Meanwhile, the leaders of the units that have been stopped work their reserves around by the path of advance that adjacent unchecked units have followed, and seek to come at the opposing resistance from flank or rear. At the same time, the paratroops kept from gaining ground by the strength of this resistance attempt to gain superiority of fire with the help of supporting weapons. In this way are the enemy's islands of resistance outdone by concerted action from front and flank.
- e. The result of thus combining the successes of unchecked units with flanking fire and maneuver, in order to overcome the stronger resistances of the enemy, is usually to widen and deepen the gaps first gained in his general defensive position. Deep and narrow salients, of course, with their long flanks, are dangerous, and seldom lead to decisive results. So long as the rearmost elements of an unchecked unit can maintain contact with adjacent units no longer advancing, or following reserve or supporting units, it should keep on working forward, but no farther. And when it does halt it should do so, if possible, on terrain from which it can assist its less successful neighbors.
- f. In general, the commander of a unit held up along its whole front uses his reserves in an outflanking maneuver of the kind just described. And the commander of the next higher unit will use his reserves as well, in the main, to reinforce an unchecked unit and not a unit that has ceased to gain ground. But when a checked unit has inadequate reserves, and when the resistance it has come up against is an objective of critical importance to the whole advance, the next higher commander may use his reserves to reinforce such a unit.
- g. As his unit takes and occupies one terrain feature, the commander at once organizes its advance upon the next. He rapidly arranges for the supporting fires he will need and otherwise prepares for the new effort. While the resistance of the enemy remains unbroken, no movement is made without supporting fires to cover it. The ammunition supply of all supporting weapons must be kept organized so that they can deliver unceasing fire support as long as the attacking troops need it.

29. Resuming an attack once stopped.

If an attack comes generally to a stop, the commanders of all para units take steps to bring its resumption about. They make the teamwork between para and supporting units better, they seek more fire support, they put in their reserves—they do whatever the situation demands, whatever they can possibly do. And they do it without delay.

30. Mass tank attacks.

a. Action against anti-tank guns.

- 1) When tanks lead an attack against a hostile position strongly organized, they first silence the anti-tank guns of the enemy, and then smother his automatic weapons. This the tanks do on each important objective they attack. Indeed, the success of the attack as a whole depends in large part on whether the tanks overwhelm the guns placed by the enemy to stop them.

- 2) These guns are hard to locate until they open fire on the attacking tanks, though the general area where they will be found can often be determined beforehand. It is on these areas that the supporting artillery places its preparation if a preparation is ordered, and fires while the first echelon of tanks advances from the line of departure.
- 3) The crews of paratroop supporting weapons hold their fires but watch their designated sectors of fire closely for flashes or other indications of exact locations of hostile anti-tank guns. And at the first sign of one, they open fire with utmost speed. Machine guns open fire on hostile targets close to the tanks as they reach and enter the enemy's defenses. Mortars open on more distant targets.

b. Paratroop advance.

- 1) A large part of the hostile automatic weapons will be neutralized or destroyed as the paratroops move forward. The paratroops advance as rapidly as possible in order to exploit at once the action of the tanks. The advance is carried forward in much the same manner as when there are no tanks in the fight. Rapid dashes are made from cover to cover with minimum periods of exposure. In no conceivable situation should foot troops advance behind the tanks in lines of men.
- 2) Light and heavy machine guns take up their normal missions in support of the section as soon as the section leaves their departure position. The attacking unit opens fire in defense of tanks pressed by the enemy. Mortars lift their fire to targets beyond the hostile position of resistance.
- 3) Usually, part of the heavy weapons move forward immediately behind the leading para companies so that a base of fire can be rapidly established on the next objective.

c. Protection of tanks.

The paratroops must always be on the alert to protect tanks, using all of their light flat-trajectory weapons to help out any tank which is closely assailed by hostile elements.

31. The assault.

- a. When paratroops have come near the enemy's position on an extended front, a general assault coordinated by a higher commander may be delivered. When this can be done, para units, advancing closely behind their supporting artillery fires or tanks, break into the hostile position. After that, a successful general assault breaks up into a series of local fights through the depth of the hostile position.
- b. Inequality of resistance, terrain, support, and other factors almost always produce irregularity in the advance of the attacking forces along the whole front of the attack. Hence, if one unit makes a successful assault, immediate advantage of any weakening of the enemy thus produced must be exploited promptly by neighboring units. A unit should gain the closest available cover to the hostile position before it launches its assault. Units supported by flanking fires from troops which have already broken into the position, or which are advancing behind tanks, may assault from greater distances. The assault of para units is usually begun by some unit whose close approach has been favored by the terrain or which has encountered weak enemy resistance. A heavy burst of fire is delivered by every available weapon, and then the troops rush the hostile position, using assault fire as they need to. Every element in position to give assistance helps a unit deliver an assault.
- c. When the assault is prepared by the fire of combat aviation, artillery, or supporting weapons, the fire ceases or is lifted to other targets at a prearranged hour or on a preconcerted signal. Supporting hostile elements that can fire effectively on the assaulting troops are kept constantly under fire during the assault. Flanking fires of friendly adjacent units are shifted as they see the troops they

are supporting advance to new positions.

- d. As the attacking unit closes to assaulting distance, rear units move forward to support the assault and ensure its driving power.
- e. Elements of supporting weapons move forward as soon as they can be released from their prior missions.

32. Combat through depth of position.

After the first assault, fire is opened on any retreating enemy in sight. Automatic weapons of units that have gained a hold within the hostile position deliver flanking fires against adjacent resistance to support the assault of other units. Reserves are sent in to relieve units of the assaulting elements that are by now too badly disorganized to continue the attack. Units held up use terrain made available by the penetration of the hostile position by adjacent units, for the delivery of flanking fire of A.A.-52 machine guns, and also for the enveloping action of reserves. All units that can do so exploit the advantage gained without delay. Any complete reorganization of smaller units is normally postponed until the battalion objective is gained. Commanders organize their bases of fire as soon as their troops have captured terrain suitable for that purpose.

33. The use of reserves.

- a. Sooner or later in the course of an attack, a paratroop commander will generally find it necessary to put all of his troops into battle, whatever reserve he may have held out initially. He uses his reserve as soon as the situation warrants, and employs it primarily as a maneuvering body to out-flank hostile resistances that hold up his leading unit. He may also use it to continue the advance begun by his leading unit if those troops become exhausted, or to protect his leading element against counterattacks by the enemy. In principle, however, a commander puts in his reserves where the resistance of the enemy is weakening, and not where the enemy has shown a stubborn strength.
- b. Once an attack has begun, commanders of reserve units keep in constant touch with what is going on to their front and flanks. They also reconnoiter routes to places where their units are likely to be used, and keep their units ready for action in any direction.
- c. For the first phase of an attack, a commander stations his reserves where they can have cover and concealment, and where, at the same time, they can furnish security for the flanks and hold themselves ready for prompt entry into combat when the commander needs them. In general, the reserves of regiments and battalions, until they are used, move forward by bounds as the regimental or battalion commander directs, keeping some distance to the rear of the leading units. Company supports may be ordered to follow the leading sections from cover to cover at a distance between specified limits.

34. Interruption by darkness.

If darkness comes before the troops have gained a decision, commanders establish combat outposts and then regroup their units for the continuation of the attack usually to follow on the next morning. Sometimes, however, a night attack may be advisable in order to gain better ground from which to begin the attack again the following morning. All commanders carry on a vigorous reconnaissance through the night to ascertain any changes in the dispositions of the enemy. Ammunition and other supplies are replenished in all echelons.

35. Occupation of objective.

If no further advance is planned, commanders at once take steps to hold an objective their troops have taken. They reorganize their units and dispose them for defense. If an attack results in a decisive suc-

cess, the sequel, of course, is usually an organized pursuit.

36. Pursuit of a defeated enemy.

- a. The pursuit of a defeated enemy requires the utmost exertions of the troops. Fatigue must not be allowed to slacken the pursuit. When the enemy retreats beyond range of weapons, patrols and detachments are rushed forward to maintain contact. As soon as it possibly can be done, a pursuit is started on a broad front. Objectives far ahead are assigned to regiments and battalions. Groups made up of all types of para units are formed by attaching light mortars and machine guns to para sections and heavy weapons to paratroop companies.
- b. The detachments farthest ahead push forward without regard to the progress of units on their flanks. They leave the reduction of resistance to elements following after them. The pursuit must not be held up by small rear guards of the enemy. The advance of the leading detachments quickly shows the zones where the enemy still attempts to resist. Units whose advance is thus blocked attack vigorously to pin down the enemy, and use their reserves to attack the hostile resistance in flank and rear. Units in rear elements pass units which are held up or engaged, so that comparatively fresh units join the action one after another.
- c. Artillery is usually attached to parachute regiments in a pursuit. It is promptly put into the battle when hostile resistance must be broken or the enemy prevented from reforming on some position. It fires especially on enemy forces at road center, defiles, stream crossings, and the like. Combat aviation usually assists in a pursuit.

37. Pursuit at night.

- a. When it becomes evident that the enemy is not going to stick it out where he is, troops in contact launch limited objective attacks that night to disorganize his withdrawal. They especially try to gain possession of road center and command terrain within the enemy lines.
- b. When not in contact with the enemy, pursuing troops push forward along roads. Attached artillery follows to occupy advantageous positions at daylight and extend the depth of the pursuing forces' fires. Reports concerning objectives reached must be sent back promptly to prevent the pursuing paratroops from being fired on by their own artillery.

38. The attack of fortified positions.

- a. Characteristics of such attacks.

It takes powerful means of combat and careful preparation to attack a fortified position. Protection by troops already in contact with the enemy enables the preparations to be made a long time in advance by the troops who will make the attack. Information of the hostile defenses is essential. Strict measures are taken to ensure secrecy. Initially such an attack is methodical, according to careful plan. In its later stage, success depends upon reducing isolated resistances by rapid maneuver. It requires high initiative and quick cooperation. It must reach vital areas before the arrival of motorized hostile reserves.

- b. Approach march.

Paratroops that are to attack a fortified position usually move to their attack positions by night. The movement is covered by other troops already in contact with the enemy. The advancing troops are conducted by guides furnished by paratroops in position or by guides of their own units who have received adequate detailed instructions. Every precaution must be taken to avoid detection by the enemy. Careless exposure will promptly bring down organized fires and disclose the operation.

c. Plan of attack.

- 1) A higher commander prescribes the initial phase of an attack against a fortified position in greater detail than for attacks against hastily organized positions.
- 2) When a preparation by artillery or combat aviation is to precede the attack, paratroop commanders must know the artillery and aviation plans for their zones, particularly the plans for destroying wire, anti-tank obstacles, and mines. They ask for the creation of gaps required by their plan of attack, or when necessary adapt their maneuver to the plan for removing obstacles.
- 3) Paratroop commanders plan, as far as they can, the phases of the attack right after the first assault, when the closely coordinated massive support of artillery is lacking. They acquire all possible information from maps and other sources concerning the terrain in their zone of action. Success, and also the avoidance of unnecessary losses, may depend upon a thorough knowledge of small details.

d. Carrying out the attack.

The attacking paratroops in the preliminary operations receive the closest cooperation from chemical troops which lay smoke and open lanes through ground contaminated with enemy gas, from engineers with demolition equipment who destroy mine fields, obstacles, and hostile emplacements, and from anti-tank and anti-aircraft gun units. Paratroops with flame throwers and other means of destruction, tanks, and combat aviation may also take part in the fight. These different units are usually formed in special assault detachments, often trained carefully for a particular attack task.

39. Attacking in jungle.

a. Characteristics.

Fighting in jungle areas cuts down the effectiveness of all fire and of mechanized forces. The importance of close combat and surprise are heightened. In jungle fighting it is hard to keep direction and control and main communication. Concealment is easier and ambushes are more effective. The effect of chemicals is increased. Special training is necessary for jungle fighting.

b. Attack.

1) General.

The jungle attack usually consists of an advance over open ground to the edge of the jungle, an advance through the jungle and an advance out into the open again on the far side. The forward and rear edges, crossroads, and important lateral routes of communications within the woods are usually intermediate objectives.

2) Attack of the forward edge.

The forward edge is taken by methods similar to those used against any terrain objective. The defender observes the advancing troops from his own concealed position. Smoke can be used to offset this advantage, or the approach to the edge of the jungle may be made at night. The advance continues after reorganization just within the jungle.

3) Advance within jungle.

The advance within the jungle is organized to maintain close contact between attacking units. Precautions are used to prevent loss of direction. Compass directions are always given. Movement is made by bounds with periodic halts to restore contact and cohesion. The halts are made on predetermined lines or at prescribed periods. Paths or roads perpendicular to the direction of advance are especially useful for coordinating the advance. The formations used depend on the difficulty of movement and the visibility within the jungle. In sparse jungle, the leading elements are in line of skirmishers. In dense jungle, they advance in line of small columns. Scouts precede and reconnoiter to the front and flanks, usually staying within sight of their units. As soon as the scouts have indicated that all is clear, the troops advance and the scouts move forward. When the scouts report an obstacle across the line of advance, further reconnaissance is made to find out whether there are any hostile posts located to sweep the obstacle with fire.

Troops keep silent during the advance. The advance is a series of maneuvers to gain local objectives such as trail crossings and clearings. Upon encountering resistance, leading units usually seek to envelop its flanks, while units in the rear and supporting weapons prepare to support the action. Strong columns, echeloned in depth, are usually employed to advance along the side of the jungle.

4) Advancing out of the jungle.

The troops advance by surprise out of the far side of a jungle under the protection of a strong base of fire after a reconnaissance has been made to the front. Before thus advancing, units halt and re-form far enough within the jungle to be out of hostile view. If heavy fire from artillery on the edge of the jungle may be expected as the units begin to leave it, the movement of the leading section may be carried out in a single rush. When danger is greater from close combat weapons than from artillery fire, troops may instead leave the jungle by infiltration.

5) Small jungle.

Small jungles are usually neutralized by fire, outflanked, and later mopped up by reserve units.

40. Night attacks.

a. Object.

The object of night operations may be to concentrate secretly before an attack; to approach a hostile position for an attack at daybreak; to cross a zone made impassable by hostile fire by day; to withdraw; to attack; to reconnoiter; to make a relief; to execute defensive works; or to bring up supplies.

b. Characteristics.

1) Decrease in effectiveness of aimed fire.

With poor observation, the effectiveness of aimed fire is greatly decreased. The importance of the defensive fire of fixed weapons that can be laid on a definite line of fire by day is correspondingly increased.

2) Difficulty of movement.

Maintenance of direction, control, contact, and communication between units is extremely difficult. However, the decrease in the effectiveness of enemy fire permits denser formations.

3) Sensitive morale.

Troops are impressionable at night. The importance of surprise by the offense and of the preparation of ambushes by the defense is consequently increased.

c. Marches.

Night marches must be carefully prepared for. Whenever possible, the route is reconnoitered and marked before the march begins. Columns are kept well closed up, distances are greatly reduced, guides are stationed at cross roads to keep troops from taking the wrong routes, and numerous connecting files are provided. Lights and noise are particularly avoided. Daybreak should find the troops in position or in concealed localities. When it is important to avoid observation by hostile aircraft, troops march as far as possible in small units and avoid main routes.

d. Cross-country movements.

- 1) In movements off roads at night, the route should be plotted and the march directed by the compass. A roundabout route that follows easily distinguishable terrain features is better than a more direct but less clearly marked one.
- 2) An advance to end in an assault at daybreak should be so timed that the paratroops arrive just before the assault is to be made.

e. Attack.

1) General.

Although night attacks are difficult and hazardous, they are most effective when well carried out. They are particularly effective against an inferior or demoralized enemy.

2) Preliminary considerations.

Paratroops for a night attack should be well trained and disciplined, in good physical condition, fresh, and under complete control initially. Open terrain favors control and movement and should be selected for the attack. A well-defined line of departure near the objective and directly opposite it is desirable. The objective should be recognizable in the dark. Usually, only short advances are practical. Some visibility is desirable. A wind blowing from the direction of the defender helps keep the attack secret. The time of the attack depends upon the object sought. If the operation precedes a daylight attack which will exploit the success gained by the night attack, it is launched shortly before daylight. The hour depends upon the time needed to capture the objective and reorganize. If capture and consolidation of the objective are not to be followed shortly by a further advance, the attack should be launched before midnight so that a defense can be organized by daylight.

3) Order.

A night attack order goes into greater detail than an order for an attack by day. The order specifies routes of approach, assembly positions, lines of departure, formations, compass direction of the attack, objective, means of identification of friendly troops, means of preserving secrecy and maintaining contact action of the artillery and other supporting weapons,

action to be taken upon capture of the objective, rallying points if the attack is checked, location of the reserve and its action, prearranged signals and communications.

4) Preparation by subordinate units.

Commanders of units receiving orders for a night attack promptly warn their subordinate commanders so that they can make all daylight preparations not prohibited in the interests of secrecy. Daylight reconnaissance is essential. The line of departure is selected, and marked when possible. Routes of advance are located and identified. Compass bearings are taken and direction points are chosen which can be identified at night. Features such as streams, fences, ravines, ridges, road, or telegraph lines running in desired directions are noted. Plans are made to avoid or remove any obstacles that might impede or confuse the advancing troops. Troops are given as much rest as possible before the attack. Hot food shortly before the attack is desirable.

5) Cooperation of other arms.

Artillery fires supporting a night attack must be prearranged. Aviation may drop flares behind the hostile lines to guide attacking troops, and when the attack succeeds, may illuminate terrain over which hostile counterattacks might be launched. Engineers demolish obstacles and help organize captured ground. Chemical warfare units may interdict likely avenues of approach after the position has been captured, or screen the position at daylight by smoke.

6) Maneuver.

Only the simplest maneuvers are likely to succeed in a night attack. Units must attack straight to the front. Detours of a few meters are permissible for individuals or small parties.

7) Advance.

The advance is made in compact columns until close to the enemy. Partial deployment in group columns with reduced intervals and distances is made by the leading elements at selected points before coming within assaulting distance. The leading unit of each column acts as a covering detachment. An officer moves ahead, preceded at the limit of visibility by scouts. The officer is followed closely by a selected group, including men speaking the native language. The advance is made by short bounds and at each halt the scouts reconnoiter for the next advance. Halts are of the shortest possible duration. If a hostile sentinel challenges, answer is made in the enemy's language, and the scouts and the group at the head of the column close in without firing. The rest of the troops lie down. Similar action is taken if the enemy fires one or two shots. Precautions must be taken to prevent a little firing by the enemy from bringing on a premature assault.

Officers with compasses constantly check the direction of advance. An officer or noncommissioned officer marches at the rear of each column to prevent straggling and enforce silence. A silent, stealthy advance is necessary for surprise. Talking and rifle fire are prohibited. Units which lose contact with adjacent units continue to press forward toward their own objectives. The rate of advance varies with the terrain. Far from the enemy and over favorable terrain, it may be a kilometer an hour. Closer to the enemy, the care necessary for secrecy should limit the rate of advance to 100 meters in from 60 to ten minutes.

8) Assault.

The assault is delivered with semiautomatic fire when the attacking force is near enough to the hostile position or the enemy opens fire at close range. Hostile firing should not induce the troops to launch an assault from too far off. Aggressive leadership by officers and noncommissioned officers is required.

9) Reorganization.

Reorganization begins as soon as the objective is captured. Confusion and intermingling of units are corrected. Officers and noncommissioned officers form groups of men and place them in the more decisive localities. Losses are replaced or units combined as necessary.

41. Attack of a river line.

a. Military importance.

River lines are important military obstacles. Their protection against mechanized vehicles frequently determines the location of the enemy's defensive or delaying positions. The military importance of a river depends upon its width, depth of water, current, stream bed, banks, and facilities available for crossing.

b. Hasty crossing.

1) In an exploitation or a pursuit, attacking forces may come upon a stream before the defender has time to utilize it as a barrier. Advance guards and pursuing detachments frequently have occasion to cross a river by surprise, making use of any means at hand, and under the direction of the subordinate commanders on the ground. Such crossings are often made without any assistance from engineers or special equipment. Commanders of leading units cross small detachments at selected points to seize a bridgehead on the enemy bank.

2) Crossing is accomplished by improvised means--boats found in the neighborhood, imperfectly destroyed bridges--any way to get across. When no means are immediately available, paratroops cross by swimming or with rafts made from their own equipment. All the combat equipment of a para company can be crossed with swimmers as follows:

A two-man rifle float can be prepared by ten men in seven minutes. The two shelter halves (one on top of the other) are placed on the ground, and the rest of the two packs and the clothing of two soldiers are placed in the center of the canvas. The rifles (crossed to give stiffness) are placed on top of the packs and clothing. The float is completed by binding the four corners of the outside shelter half to the four ends of the two rifles with the shelter tent ropes. In a similar manner, using two three-foot sticks or two shelter tent poles instead of rifles, an A.A.-52 machine gun, a 60mm mortar, or two automatic rifles can be floated in a shelter tent. Ammunition and other supplies vital to the initial stage of the operation on the enemy side are apportioned to the two-men teams and ferried across.

3) In a hasty crossing, control is left initially to the subordinate commanders on whose initiative the crossing was effected. Higher commanders release additional units or weapons to their control until enough troops are across and the situation is clarified by each higher commander in turn.

a) A rapid exploitation of the hasty crossing by groups and sections is necessary to prevent the enemy from concentrating against the isolated leading elements and destroying them. Detachments which have gained a footing on the far bank are reinforced at once. Company

commanders of the leading units, once across, push forward and seize a bridgehead to cover a crossing point for additional troops.

- b) Higher commanders organize the crossing force behind the most successful leading elements. Combat aviation is called upon to attack enemy forces concentrating against the bridgehead troops. Leading companies hold their positions regardless of losses until reinforcements can reach their positions.
- c) Battalion commanders push heavy weapons forward promptly to reinforce the bridgehead elements. Fire support from the friendly bank is rarely possible owing to lack of observation and liaison with the troops on the hostile bank.
- d) Control is usually in the hands of company commanders, until enough troops have been crossed over to build up a battalion defense area on each bridgehead position. Regimental and higher commanders send anti-tank guns forward to points where they can be crossed quickly to protect the bridgehead troops from mechanized attack as soon as their advance takes them into terrain where conditions for enemy mechanized attack are favorable.
- e) As the leading battalions establish themselves, it may be necessary to fight toward the flanks in order to join initial battalion defense areas, enlarge the bridgehead, and protect the construction of bridges for crossing the main body.

c. Forced crossing.

- 1) A forced crossing is one made against alert enemy opposition. Such crossings are usually made at night, preferably shortly before daybreak. Every effort is made to ensure surprise at the point of crossing. Fog and smoke may be used to screen a crossing at daybreak.
- 2) The initial crossing force (bridgehead troops) is given the mission of seizing a bridgehead for the crossing of the main body. The bridgehead must extend far enough beyond the river to protect bridging operations from hostile ground observation and the rest of the command from undue interruption by hostile artillery fire.
- 3) The first troops usually cross by assault boats or on foot bridges. The plan of crossing requires the leading paratroop units to gain a foothold on the hostile bank by surprise. Fire support by combat aviation or artillery is employed only after the enemy has discovered the crossing.
- 4) If the enemy has organized the opposite bank and holds it in force, an aviation or artillery preparation may be used to dislodge him and to protect engineering operations and the crossing of the leading companies. This base of fire deals chiefly with hostile automatic weapons covering the crossing points.
- 5) Engineers may be attached to parachute battalions and at times to companies to assist them in crossing streams. If the stream is wide, deep, or swift, the embarkation and crossing of the paratroops are usually under the direction of the engineers.
- 6) The leading battalions select as their initial objectives the points on their front from which the enemy can place observed small arms fire on the crossing. These are the objectives of the leading companies and serve as assembly areas for continuing the attack to reach the bridgehead objective. The company objectives should be easily recognizable by clearly defined features, such as a road, railroad, houses, and they finally reach to the top of the slopes immediately dominating the stream.
- 7) The leading battalions cross on a broad front. Para sections cross simultaneously, land, and push forward to their company objectives.
- 8) Section leaders select prominent features of the terrain on which rally the boatloads of their men as they land. They clear the river bank promptly of hostile troops. When paratroops land in darkness they hold their fire, allow the enemy groups near the bank to disclose themselves by firing.
- 9) Company commanders usually move with a composite group of their weapons section and a few selected fighters as protection. This group attacks directly to the company objective, placing company weapons to repel a counterattack or to serve as a base of fire for further

advance toward the bridgehead objective. The battalion commander sends his heavy weapons forward to reinforce his leading companies, personally crossing as soon as any of his leading companies have seized their objectives. He organizes the attack from assembly areas on the initial objective, using any available elements of his para companies to form the spearhead of the attack toward the next objective. The regimental commander attaches regimental weapons to leading battalions which have been successful and utilizes his reserve to extend the attack and secure the bridgehead position.

d. Coordination of paratroops and engineers.

1) General.

A river crossing is an operation requiring close coordination of the leading paratroop units and engineer troops charged with the supervision of the crossing. Success requires careful planning and a thorough understanding of the detailed arrangements by the subordinate officers who lead the troops in the initial waves and the subordinate engineer officers who put the boats into the water.

2) Reconnaissance.

A ground, air, and map reconnaissance of the area is made by the commander or his representative and the engineer officer in charge to determine the points of crossing. Both tactical and technical considerations should be considered in selecting the site, but tactical considerations govern. When time and concealment permit, company commanders of the leading paratroop companies reconnoiter. Reconnaissance parties must avoid detection from the air and by ground troops.

3) Crossing or reserves.

Reserves of paratroop regiments often cross in pontoon boats or ferries, which have greater capacity than the assault boats used by leading battalions.

4) Anti-aircraft security.

Anti-aircraft weapons usually keep silent until the crossing is discovered by the enemy. After that, the neutralization of all hostile air operations over the crossing area is vital. The plan of anti-aircraft defense includes the protection of the engineer bridging detachments in the assembly areas, and during their advance to the river and their construction and operation of the bridges, and protection of the paras covering troops in the assembly areas, during ferrying operations, and during their construction and use of footbridges. Weapons of para units supporting and reserve units may assist anti-aircraft units, or be employed in place of them, in anti-aircraft fire missions.

5) Anti-tank security.

Bridgehead troops must be prepared for counterattacks, particularly by tanks, soon after their crossing. It is of utmost importance for anti-tank weapons to be sent across with the leading companies so that they can reach the initial objective soon after the leading para sections. Regimental anti-tank guns are attached to the bridgehead battalions.

e. Assembly areas.

1) Initial assembly areas.

Para battalions are moved to initial assembly areas for the crossing as close to the river line as is consistent with the general tactical plan. To avoid discovery of the crossing front by the enemy, initial battalion assembly areas are usually located within easy night marching distance of the river line.

2) Final.

Final assembly areas are selected for each battalion to cross in the leading units. Often, final assembly areas are assigned to each leading para company and the companies of each battalion march directly from the battalion initial assembly area to their company final assembly areas. The final assembly areas are the points where the assault boats are placed in readiness for the final carry by hand to the launching area on the river bank. Here the engineer crews are assigned to individual boats and wait for the paratroops of the bridgehead force to come forward from their initial assembly areas. The assault boats are brought to the final assembly areas by truck when precautions for the terrain, the road net, and secrecy permit. Engineer troops unload the boats and distribute them along the foot routes to the river so that they can be readily picked up by the carrying parties.

f. Movement to final assembly areas.

1) Plans and orders.

Plans for the movement are made to ensure as little delay as possible in final assembly areas and no delay at the river bank. Detailed orders for the crossing are issued in the initial assembly areas for each infantry unit crossing in the first wave.

Orders for the movement to the river cover the following points:

- a) Location of the final assembly position for each company, routes to this position, and the hour of arrival of each infantry unit at its own final assembly area.
- b) Method of control of march to final assembly areas (guides, control points, etc.)
- c) Number of boats assigned to each unit and capacity of each.
- d) The point where each para company is to make contact with the engineer in charge of boats (either at the initial or final assembly area).

2) Movement.

The troops move to the final assembly area under control of their section leaders. When the units reach the final assembly area, engineer guides meet them and conduct them to the boats. Subsequent movement to the river is under control of the engineer troops.

Before leaving the initial assembly area, units are divided into boat assignments. Tactical unity is maintained and adapted to the capacity of the boats. March dispositions are taken which permit the troops to pick up their boats without changing formation. Orders or directions other than the identification of units should not be necessary upon arriving at the final assembly area. The engineer guides lead the units to the boats, the units pick up their boats, and move on in silence.

g) Movement from final assembly area to river.

The paratroops of the first assault wave carry their boats from the forward assembly area to the water under the direction of the engineer crew. Not more than ten men attempt to carry the boat at any one time, and not less than four are used for even a short carry. From the time of its departure from the final assembly area until the moment when the far river bank is reached, the forward movement of each assault boat should be generally uninterrupted. Momentary halts may be made en route to permit the changing of handholds and to avoid detection through movement when flares are dropped, but such stops should be few and brief. A short pause must be made at the near edge of the water for the loading of paratroops and weapons.

Movement should be by the most direct possible route to the crossing front. Movements along the near bank, or in the water and parallel to the shore, are dangerous and therefore avoided. All suitable routes forward from the final assembly area are used. Dispersion is essential—the bunching of columns on a few easily traversed routes may be disastrous. Route markings and guides (furnished by the engineers) are indispensable. Movement from the various final assembly areas is timed by the engineer leaders so as to ensure that all boats of the first wave are launched at approximately the same moment without delay by any boat at the bank of the river.

The sounds of objects striking the sides or bottoms of the light, hollow hull resound loudly. Great care must be taken to preserve silence. Nothing whatsoever should be placed in the boat during the hand carry. Rifles are slung on the shoulders away from the boat side and rifle butts or other equipment are not allowed to strike against the boat. At the most convenient carrying height, the clearance between the bottom of the boat and the ground is not great. Hence, every precaution must be taken to avoid striking stumps, rocks, and other obstructions with the boat, and to keep the bottom from being dropped or dragged on the ground.

h) Crossing the river.

1) Launching and loading.

Immediately upon arrival at the river bank and without change in the carrying formation, the boat is carried bow first into the water until the water is deep enough to float the fully loaded boat. Ammunitions, machine guns, and any similar weapons or equipment are quietly placed in it. And then, and not until then, the men get in, keeping the boat in balance and avoiding noise from striking any part of the boat with heavy footgear, weapons, or paddles. In shallow water, care must be taken to keep from grounding the boat, which makes noise and causes delay and is particularly dangerous at this moment. One engineer soldier stations himself with a paddle at the bow. The other, who commands the boat, ascertains that the boat is in balance and that paddlers are properly distributed before climbing aboard himself at the stern. Then he gives a low command to shove off.

Paddlers, with rifles slung, kneel on the knee which is toward his side of the boat, three paddlers on each side. The others crouch low in the boat, holding their rifles upright against the floor. If the water is deep at the bank, the boat may be soundlessly lowered or slid in mud from the bank to the water. The boat is then held parallel to the bank at bow and stern by the engineer crew and loaded directly from the bank.

2) Crossing the water.

Each boat starts across as soon as it is loaded and moves as fast as possible by the most direct route to the opposite bank. No attempt is made to keep any kind of formation while on the water, although boats should be kept far enough apart to prevent interference. Nor should any effort be made to paddle somewhat upstream in order to counteract drift, unless the relative

positions of landing and embarkation points and the speed of the current have led to explicit orders to that effect for the crossing. In complete darkness or heavy fog or smoke, the proper direction of the boat can best be kept by using the luminous compass. Paddlers hold their paddles away from the carrying rail along the gunwales to avoid scraping or striking the hull and avoid splashing. Men do not move about in the boat. Firing from the boat is rarely attempted and is expressly prohibited at night.

3) Landing.

a) During darkness.

The Legionnaires try to ground the boat in shallow, quiet water and allow the infantrymen to disembark quietly. The infantry leader in the boat instructs his men how and when to get out. Unless the boat is under fire, all men keep silent. The leader orders his men to leave the boat and join him ashore at a designated place such as a tree, stump, bank, or other easily recognized point. Here, unless attacked or under direct fire, the leader checks to see that all his men are there, and then selects an objective for his next movement. He then organizes his men into a patrol formation and moves toward the point designated by the section of the company commander. If he runs into enemy parties, he attacks at once. He is careful to lead his patrol in such a way as to avoid collision with friendly troops. Senior leaders present organize the patrols to form a section organization as soon as it is possible.

b) During daylight.

In daylight, landing is made under protection of combat aviation and artillery fires. Troops get out of their boats rapidly. Each boatload moves immediately to join its section leader. Once troops are ashore, the procedure is generally the same as in any other attack.

42. Attack of villages.

a. General.

- 1) If it can be done, a village is first enveloped and isolated by capturing its near edge and its flank edges. Mopping up the interior defenses is normally postponed until attacking troops are in position to keep reinforcements from reaching the defenders. When the village forms part of a main defensive line, reduction of exterior defenses by troops which advance past the flanks of the village makes it easier to occupy the flank edges. Depending upon the situation, the outflanking action may be launched at the same time as the direct attack on the village or may precede it.
- 2) When possible, a single unit makes the attack. This unit should be given a zone of action which includes good routes for outflanking the village and locations from which hostile weapons can place flanking fire in front of the village. A boundary between units should seldom pass along the edge of a village.

b. Outflanking action.

Attacking troops advance past the flanks of the village to a location from which they can place close-range fire upon the outflanked edge and the rear defenses, and any hostile troops to the rear of the village. Commanders seek routes of approach extending to within 300 or 400 meters of the flank or rear of the locality.

c. Capture of flank edges.

A flank edge of the village may be captured at the same time as the near edge, when the situation and terrain favor a converging attack. Otherwise the para units charged with the capture of the flank edges reach positions adjacent to the near edge of the village about the same time as the unit charged with the capture of the near edge. The exterior units then move forward along the flank edges. Exterior attacking units are disposed in considerable depth and echeloned so as to converge upon the flank of the village. Entrances to the village are the successive objectives. As each is captured, a para unit is detailed to hold it.

d. Action within the village.

- 1) The action within the village is carried out with minimum forces. These troops first gain a foothold on the forward edge. The advance through the village should be organized to maintain cohesion between units and consists of a series of bounds, usually in a single general direction. The principal cross streets constitute objectives near which halts are made to restore contact and cohesion.
- 2) Mopping-up troops are usually divided into street and searching detachments, and sometimes also into detachments to advance along roofs. Street detachments advance in single file by small units on both sides of a street. The men on one side watch the windows, cellar gratings, and roofs on the other side. When resistance is encountered, the hostile fire is avoided while detachments seek to reach the enemy's flank and rear. It may be necessary to break passageways through the walls of houses and enclosures. Defenders of cellars are attacked by chemicals or incendiary grenades. Houses from which particularly stubborn resistance is offered may be demolished by close-range fire of cannon. Troops moving along roofs clear out hostile snipers and machine guns and take hostile defenses under fire. Searching parties examine all houses. If night falls before the mopping-up can be completed, it is resumed at daybreak.

e. Fire support.

In the initial stages of the attack, artillery fire is directed against the near and flank edges of the village, particularly against the region of the entrance and against the weapons outside the village which flank the locality. Groups of houses around central squares or important street crossings are also suitable targets. Tanks are used to neutralize hostile weapons located outside the village and at the edges of the village. They accompany the advance along the flank edges.

A strong base of fire supports the initial attack: Fire support during the combat within the village is limited. Mortars and guns may be employed effectively against barricades. The artillery action during this period consists principally of incendiary fires and fires on hostile reserves in rear of the village.

Chapter 6

Defensive Combat

1. Nature of defensive action.

a. Object.

In the preceding chapter, it was emphasized that offensive action is the ultimate objective of all military operations. Nevertheless, it is sometimes necessary for a commander to resort to defensive action. Paratroop units must always be aware of such because through history, para units have mostly been used to assault a larger enemy force or objective and hold until reinforced. In general, the object of undertaking defensive action is either to gain time pending the development of more favorable conditions for undertaking the offensive, or to economize forces on one front for the purpose of concentrating superior forces to gain a decisive success against the enemy somewhere else.

b. Forms of defensive action.

The objective of a given defensive action may be to stop the enemy at a certain place or simply to delay his advance. In the first, the commander of the defending forces establishes a battle position to hold the enemy at all costs in a sustained defense; in the second, he uses delaying action to delay and disorganize the advance of the enemy to slow down his progress. In both, the chief aims are to develop the maximum firepower against the advancing enemy; to reduce our own losses through a better use and knowledge of the terrain; and to create a situation which favors a successful counterattack.

c. Mission of paratroops in defensive combat.

In defensive combat, the para unit uses its full firepower with that of supporting combat arms to stop the attacking enemy before he reaches the main defensive position. If the enemy does succeed in reaching this position, the paratroops repel him by close combat; if the enemy penetrates the main defenses, they drive him out of those defenses by vigorous counterattack.

2. General method of paratroops defense.

- a. Action of the enemy may force a commander to assume the defensive. Or he may do so deliberately and go on the defensive with a view to resuming the offensive later when conditions are more favorable for it. He may direct one fraction of his unit to act defensively, while he masses the rest of his unit—usually the greater part of it—for offensive action in another locality. Thus, in any situation in which a unit acts defensively, the opposing enemy is usually stronger. But regardless of this, all units

on the defensive employ an intensive screening and concealment of their dispositions, seek to gain a thorough knowledge of the terrain they are to defend, and plan and organize their defensive fires methodically upon that terrain.

- b. The commander of a para unit on the defensive acts by surprise and often varies his method of defense. Since the enemy is most likely to quickly neutralize, if not destroy, a defensive position once clearly disclosed to him, the commander makes every effort to keep the enemy in doubt as to the location of his main line of resistance and his main defensive position on and in rear of that line. Through skillful screening by his security detachments, misleading activity by contact detachments out and beyond his main defensive position, changes in his arrangements for defense, and the use of dummy works and camouflages through all these means—a defending commander induces the enemy to adopt faulty attack dispositions which expose him to the full effect of surprise defensive fires.
- c. Fire is the primary means of defensive action. The stopping power of paratroop weapons, increased by organizations of the ground, enables a commander to occupy his actual defenses with a part of his unit and hold out another part (as much as half) as maneuver units in reserve. These he can shift to meet the most determined blows of the attacking enemy, and he can use them to strike in counterattack at points of weakness in the hostile attack.

3. Selection of a defensive position.

- a. The general location of the main line of resistance for any paratroop unit is given in the orders of a higher commander. The commanders of paratroop battalions and companies which prepare positions on the main line of resistance for occupation determine its precise location. The principal things which influence commanders in fixing the exact location of their parts of the main line of resistance are good observation of the enemy, poor observation by the enemy, and the available natural obstacles.
- b. A defense seeks to see while not being seen, hence a main line of resistance should be in front of, and thus protect, high ground and other features of the terrain from which the ground to the front of the main line of resistance can be observed. At the same time, a main line of resistance should deny to the enemy any similar observations, especially of the natural approaches to the defensive position, although it will sometimes be impossible to prevent this on the particular area of ground within the limits of which the main line of resistance must be placed. Sometimes concealment afforded by the ground may make it desirable to put the main line of resistance where fields of fire are not as good as they are from more exposed locations that are available. When this is done on a reverse slope with an adequate field of fire, outposts, with machine guns for long-range firing missions, are established on the crest of the hill to the front.
- c. A commander must also take full advantage of natural tank obstacles. Any unfordable water, marshes, areas strewn with boulders, thick woods with trees of large diameter, steep-sided gullies, steep banks and cuts, broken ground, ground containing many tree stumps big enough to belly a tank—all of these give protection against tanks, though improvements may often be necessary.

When a main line of resistance must be placed where no obstacles offer themselves, there must at least be good fields of fire for anti-tank guns. If satisfying this requirement exposes his position to hostile observation and fire, the para commander can offset this in several ways. He can send out a strong outpost to hold a hill or other terrain feature to screen the position from observation. He can make much use of dummy anti-tank emplacements and obstacles. Above all, his units must utilize the minor irregularities and other ground features which will help conceal the dispositions of his defense.

- d. The exact location of a defensive position is greatly influenced by the suitability of the terrain for the development of fire, particularly the flanking fires of machine guns. Accordingly, the main line

of resistance is given an irregular shape so that it includes salients and re-entrants. Ease of communication within the position and along the approaches from the rear increases the effectiveness of the defense. Absence of obstacles to the movement of reserves within the position is also important.

4. Distribution of defending troops.

- a. A defensive position is seldom, if ever, occupied in uniform strength in width or depth. Instead, within the whole defensive sector of any unit the defending troops actually hold only the keypoints of the position and other suitable defensive ground. The keypoints are the hills and other terrain features which are not only good defensive ground in themselves but the capture of which would be especially sought by an attacking enemy because these keypoints afford extensive observations over the position and control the communications within it.

The other, minor localities occupied by troops are any terrain features that afford cover or concealment and good fields of fire to the front and flanks. The ground between all such areas is protected by the fire of infantry's weapons from the areas actually occupied, and if the enemy succeeds in entering this ground in spite of these fires, he is driven out by counterattacks planned beforehand to that end.

- b. Troops of the defense are disposed in depth in accordance with the particular tactical situation. They are thus disposed in order to provide for security and gain time for manning the defenses of the battle position, to screen the battle position and keep the enemy in doubt as to its location, to facilitate resistance to the flanks and rear as well as to the front, to avoid offering the enemy a vulnerable concentrated target, and to provide suitable positions in readiness for reserves.
- c. For the accomplishment of these purposes, paratroop units are generally distributed into a security element, combat element, and reserves.

5. Security in defense.

Security detachments protect the battle positions from surprise ground attack and screen them from hostile observation and investigation. Fully organized outposts are established by regiments and larger units. These are ordinarily located out beyond the range of paratroop weapons. But when outposts are not established by higher units, companies and battalions establish their own combat outposts. Combat outposts consist of outguards of a size depending on their location and mission. When the security position lies within close range of the battle position, combat outposts are established by companies of the combat element. These usually consist of one or more equips posted as outguards under a commander designated by the company commander. Beyond the close-range zone, combat outposts are, as a rule, made up of one or more sections usually selected from the battalion reserve, under a commander designated by the battalion commander.

Fully organized outposts are usually essential when the battle position is located on a reverse slope, or when an attack by mechanized forces must be reckoned upon and a strong natural obstacle does not lie in the immediate front.

6. The battle position.

- a. The main line of resistance.

The main line of resistance is the line along which the fire action of all elements of the front-line defenses is coordinated. The main line of resistance also forms the rear boundary of a lateral strip of ground on which the whole firepower of the defense can be concentrated to stop the enemy. Thus all commanders coordinate their defensive fires by reference to the main line of resistance, and

b. The two elements of a defensive position.

- 1) Paratroop regimental, battalion, and company commanders usually establish their troops in two units in a defensive position. They place a holding garrison in a part of the organized defenses with the mission of immediate defense upon any hostile attack. The rest of their units--a substantial part--are held in reserve, ready to move to any occupied or unoccupied part of the position.
- 2) In general, holding garrisons consist of a series of small groups of paratroops usually built up around machine guns. These groups are mutually supporting. Thus a forward element battalion forms a closed defensive work capable of defending against attack from any direction and of controlling the vacant areas lying between the defenses of the battalion and those of battalions adjacent to it. Where the holding groups are placed depends, of course, on the tactical situation and the shape of the ground. They are normally distributed in width and depth in each battalion area so that fires from any one group cross the fronts or flanks of other groups adjacent or more advanced.

c. The use of reserves.

- 1) A commander holds out reserves for two chief purposes: to reinforce a holding outpost in order to meet the expected main effort of the enemy, or to counterattack in order to eject or limit a hostile penetration. Units in reserve prepare positions for possible occupation in emergencies, but when this work is done they stay in assigned areas ready to move wherever they may be needed. Their positions in readiness should have good routes to all positions designated as lines of departure for counterattacks. The commanders of the reserve units reconnoiter these routes. Commanders of flank units dispose their reserves to meet attempted hostile envelopments.
- 2) The fraction of his troops a commander holds in reserve for use in counterattacks naturally depends on the terrain his unit is defending and on the width of his area as compared to the actual strength of his unit. On any particularly good defensive ground, a company may hold out a reserve, especially where the area is wide for the strength of the unit. A line designated for the purpose of coordinating the locations and actions of the reserves of a regiment is called the regimental reserve line.

7. Depth of defensive areas.

The depth of a regimental area usually runs from 1,500 to 2,000 meters depending on the terrain; that of battalion areas, from 700 to 1,200; and that of companies, from 400 to 600. A company or battalion area should include a mask from in rear of which mortars and anti-aircraft weapons can operate. Section areas are not more than 200 meters deep. The regimental reserve line is usually well toward the rear of a regimental area.

8. Frontages.

- a. The frontage any unit can adequately defend depends upon many things, including the effective strength of the unit, the terrain to be defended, the amount of supporting fire and, of course, the kind of force which the enemy can direct against the defense. In the following table, general limits are given for paratroop units operating at combat strength as forward elements of a division with their flanks protected by other para units.

Unit	Frontage (in meters)
Section	200-400
Company	400-600
Battalion	800-1,500
Regiment	2,000-3,000
Brigade (with regiments abreast)	4,000-6,000

- b. A commander assigns narrower frontages to units occupying the parts of a defensive position where the enemy can approach along covered terrain to points within close range of the position where the enemy must advance over exposed ground or where he must cross obstacles under fire. When a commander must use troops sparingly at one part of his front in order to gain strength for some more important purpose at another, he may assign unusually wide fronts to certain units, but only where a possible loss of ground would not be a threat to his defense as a whole. Consequently, no unit should be given a frontage beyond its maximum capabilities. The holding outpost of a unit defending a front wide for its effective strength is usually deployed less deeply than on a more normal frontage.

9. Boundaries between units.

In the defense, commanders place the boundaries between their units so that each principal route of hostile approach and important defensive locality within the position falls, as closely as possible, within the area for which a single unit is responsible. Boundaries are usually specified to extend out beyond the flanks of the units only to the effective range of the weapons of each unit.

10. Observation.

During periods of active operations, all units from the group/equipe to the regiment post one or more observers for the purpose of keeping the unit defensive area and its approaches under constant daylight observation. Companies and larger units establish regularly organized observation posts. In front-line sections covered by outguards, this observation may be carried out by reliefs of section observers instead of group observers.

11. Defensive fires.

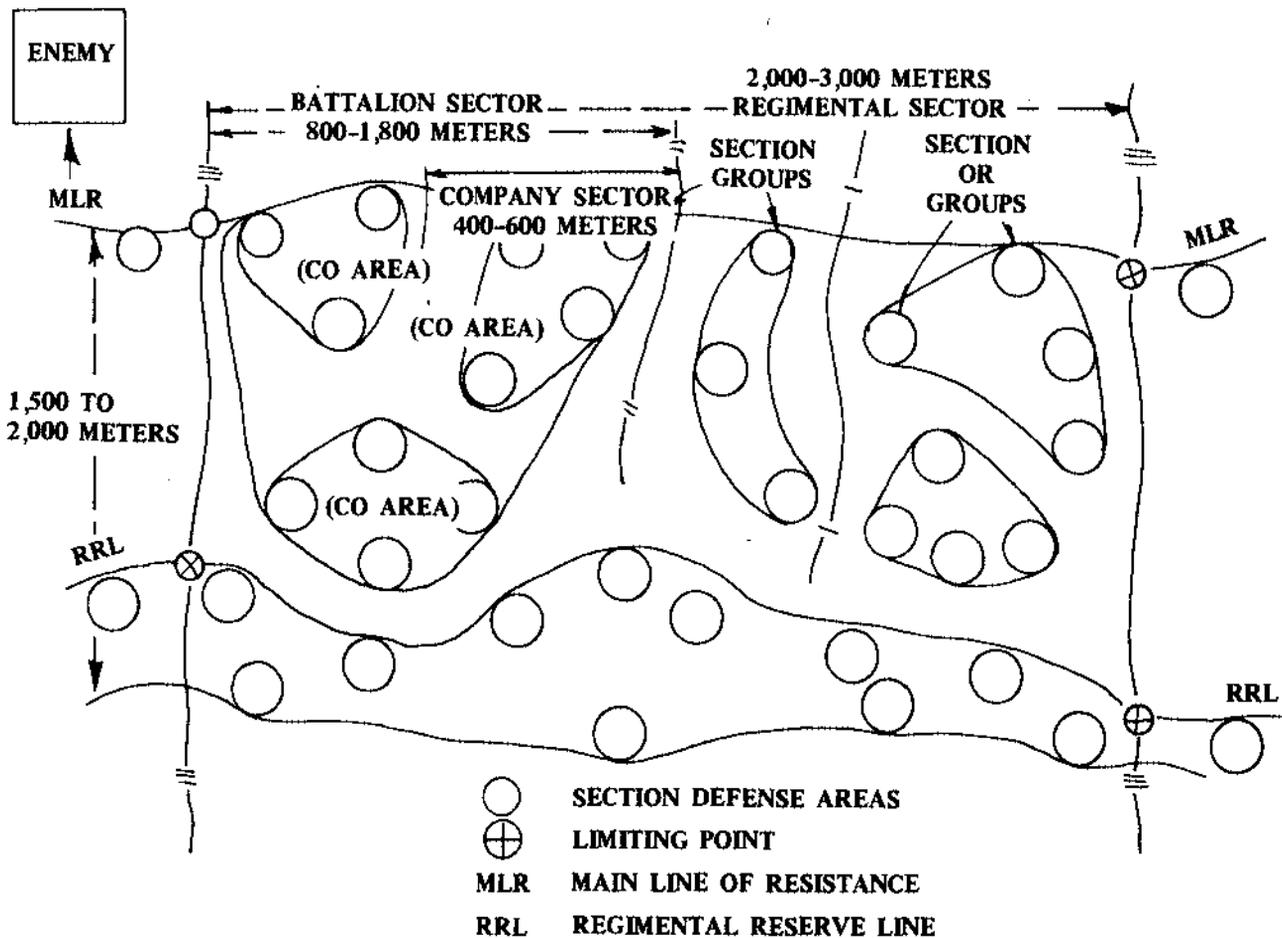
- a. In his fire plan a commander combines into a single coordinated system the fires of all weapons at his disposal. These fires are his means to one main end—breaking the attack of the enemy before it can reach the main line of resistance. The commander must, however, provide also for fires to place upon the enemy at long range, fires to cover the unoccupied areas within his defensive position itself, fires to support his planned counterattacks, and fires against the aircraft of the enemy.
- b. The crossing fires of machine guns form the basis of the close defense along the front, flanks, and rear of a defensive position. Along the main line of resistance in particular, machine guns with sectors of fire at a sharp angle to the main line of resistance rather than generally at right angles to it can readily be concealed from frontal observation by the enemy and protected from his direct frontal fires. Machine guns so placed have the additional advantage of being able to bring surprise flanking fires to bear on attacking troops. Machine guns are also protected, however, by groups of Legionnaires especially placed so that they can fire in the directions in which the machine guns they are protecting cannot fire, and in other directions.
- c. In fact, the commander of a defensive position uses the fires of all weapons which will usually fire at right angles to the main line of resistance—mortar and artillery fires, as well as rifle fires—to complement those of his machine guns firing almost parallel to the main line of resistance. The

same thing is broadly true of the fires with which he plans to protect the flanks or rear of his position in case either becomes an actual fighting "front."

- d. If points open fire prematurely from positions in the main line of resistance, the main defensive dispositions are apt to be disclosed so that the enemy can open upon them with intense artillery fire or air bombardment. Hence machine guns with long-range missions deliver their fires from positions not in the main line of resistance.

12. Anti-tank defense.

- a. The means at the disposal of para units are chiefly employed for the defense of the main line of resistance. Where a combat outpost is established by a paratroop battalion, some of the battalion anti-tank weapons may be temporarily attached to it for the purpose of dealing with hostile reconnaissance vehicles. Regimental outposts may be reinforced by anti-tank weapons when additional AT units have been placed at the disposal of the regiment.
- b. Anti-tank defense includes active and passive means. The active means of paratroop anti-tank defense comprise anti-tank weapons and anti-tank mines. Other paratroop weapons firing armor-piercing ammunition are effective against certain types of tanks. The passive means include anti-tank trenches and tank traps, and barricades (road blocks).
- c. The distribution of the means of anti-tank defense is based upon a reconnaissance in which it is sought to determine the following:



APPROXIMATE DISTANCES BETWEEN PARACHUTE UNITS

- 1) The zones of hostile advance that obstacles make difficult for tanks to travel over.
- 2) The areas that may be effectively interdicted by the passive means of anti-tank defense.
- 3) The zones that must be covered by the fire of anti-tank weapons and mines in which the advance of hostile tanks can be channeled.

d. Battalion anti-tank weapons are usually placed in firing positions near the main line of resistance. Regimental weapons are preferably placed near a mask in rear of the main line of resistance, or else held in positions of readiness from which they can move to alternate firing positions covering the main line of resistance, or to positions from which they can support planned counterattacks in the areas of the leading battalions.

13. Anti-aircraft defense.

- a. The combat unit depends in large measure for its anti-aircraft protection on the concealment and cover afforded by natural features of the ground, or by entrenchments, and on the dispersion of its elements, and the anti-aircraft fires of the automatic weapons of the supports and reserves.
- b. Commanders give some of their weapons specific anti-aircraft missions. Such weapons occupy positions that give them cover against ground fires. The distribution of fire against airplanes is arranged in advance.
- c. Conditions under which anti-aircraft fires are opened are regulated by specific instructions. Such fires are withheld where the opening of fire would disclose defensive dispositions, particularly those near the main line of resistance. But troops whose positions are known to have been already located by the enemy open fire on all low-flying hostile planes when possible.
- d. Where weapons are given both ground and anti-aircraft missions, the ground mission is primary. They do not turn from their ground missions to fire at attacking planes.

14. Organization of the ground.

a. General.

The process of improving and utilizing the terrain, by which the defender provides protection against enemy fire and observation, and by which he increases the effectiveness of his own fire, is called organization of the ground. In the simplest case, the ground is organized when the troops occupy the key localities, and "dig in" hastily. At the other extreme is a position fully organized with trenches, emplacements, shelters, obstacles, and cleared fields of fire. The full organization of a position requires considerable labor and time. But the work should be carried out as a continuing task, so that the troops are able at any moment to profit from the work already accomplished.

- b. Organization of the ground facilitates communication and control, and gives the defending troops better protection from the enemy's fire, making their own fire more effective. The elements of the defensive system which cannot readily be concealed or camouflaged, such as communication trenches, must not be dug near any combat emplacement.
- c. Artificial obstacles and accessory defenses placed where they slow up the enemy's troops or tanks as they come under the heaviest fires from the main defenses much increase the effectiveness of those fires. Wire entanglements are in general coordinated with the fire of automatic weapons, and anti-tank obstacles with the fire of anti-tank guns. The placement of obstacles must not, however, indicate to the enemy where the main line of the resistance is located. This is avoided by using many obstacles placed irregularly and in considerable depth. Placing wire in front of the outpost, using discontinuous and irregular stretches of wire, concealing or camouflaging wire near the main line of resistance (putting it in high vegetation or streambeds, for example), using low wire, and wire installed like ordinary wire fences—all help to prevent obstacles from disclosing the main disposition.

- d. In general, anti-tank mines are concealed and used in front of the main wire entanglements rather than behind them. Otherwise the hostile tanks would open gaps in the wire before striking the mined areas.

15. Plan for organization of the ground.

- a. A commander's plan for organization of the ground covers the areas where work is to be done, the uses to be made of camouflage and dummy emplacements, and the priority of work to be followed. The priority of work must be such that the defending troops can profit from what has thus far been accomplished at any moment during the course of completing the defensive works.
- b. If there is only a short time to make ready for defensive combat, observation and local security are first ensured. The main elements of the system of defensive fires are next established.

Units site and camouflage their weapons, find ranges to various possible target areas, and clear fields of fire where this is needed. Dummy emplacements and concealed obstacles are put in concurrently with the other defensive works, which consist of concealed emplacements for crew-served weapons, individual foxholes (consisting of deep, narrow pits), observation and command posts, aid stations, and concealed or camouflaged obstacles.

- c. If contact or expected contact with the enemy continues, a strongly fortified defensive system is usually developed. Further defensive installations include communication trenches, overhead cover for emplacements, additional obstacles such as more extensive wire entanglements, anti-tank mine fields, and tank traps.

16. Reconnaissance by commanders.

- a. After receiving instructions from higher authority, a para unit commander reconnoiters the terrain with which his part of the defense is concerned, decides upon his plan of defense, and then issues his own orders. He makes his reconnaissance, as detailed as time permits, in order to determine the facilities for observation, concealment, and communication, the obstacles and exposed ground the enemy must cross to reach his position, and the routes of hostile approach most dangerous to the defense. These indicate his best dispositions.
- b. If combat appears imminent, commanders issue fragmentary orders to begin defensive action, but issue full orders whenever there is time to do so. Orders should designate the main line of resistance, the strength and location of security detachments, the distribution and missions of para units and supporting weapons, and the areas to be defended by the units of the combat element. The orders also give boundaries, reserve locations, entrenchments, obstacles, and field works to be constructed, and the location of observation posts and command posts. It may also be desirable to specify the locality in which a given unit is to make its main defensive effort. Complete defense plans include a fire plan, plans for counterattacks, and a plan of defensive works.

17. Fire plan.

The commander, in his fire plan, combines into one coordinated defense system the fire and action of all weapons at his disposal. The main basis of his plan must be the establishment of a dense band of fire to the front of the main line of resistance, in which the fires of all supporting weapons are combined with those of the combat unit itself and with those of the artillery. He must also establish long-range fires which are to be opened on the enemy at the earliest possible moment as he approaches the position.

18. Counterattack plans.

Commanders of regiments and battalions include in their orders plans for counterattacks to meet a number of possible partial successes by the attacking hostile troops. The commander of the reserve usually prepares the details of these plans.

For each counterattack, the following are covered: the units that are to carry out the counterattack, the direction and objective of the attack, the line of departure, the route of movement to that line, the supporting fires, and the methods of coordinating counterattacks. Counterattacks are directed against enemy objectives outside of the defense area of a unit only on orders of a higher commander.

19. Entry into defensive combat.

Paratroops may enter directly into defensive combat from an approach march, from an assembly position, or from any other type of combat. When combat appears to be imminent, commanders move their paratroops rapidly into position, and if necessary wait to make any changes in their dispositions when the opportunity to do so comes. But always, when there is time, commanders reconnoiter thoroughly and prepare complete orders before deploying their troops on their defensive positions.

20. Dispositions on a battle position.

- a. A para unit assigned to the defense of the battle positions is distributed in groups which hold defense areas selected with a view to the most effective defense of the area as a whole.
- b. Heavy machine guns are distributed throughout the positions. At least half of them are sited for the close defense of the main line of resistance. These weapons are usually located from 50 to 200 meters in the rear of that line.
- c. Light anti-tank weapons are sited for close-range defense of the main line of resistance. When they are available in sufficient numbers, it is usually best to cover oblique fields of fire from emplacements that are masked from observation by the enemy from the front. These fires should be overlapping. The guns may be given supplementary positions in the outpost zone.
- d. Anti-tank guns are located to place fire on their targets from the moment they come within effective range. They may be assigned positions in readiness near the regimental reserve, or they may occupy firing and cover positions behind the first mask in rear of the main line of resistance.
- e. The 81mm mortars are located close enough to the front to have good observation of their targets, and never more than 800 meters in rear of the main line of resistance. They are preferably located in rear of the first mask behind the main line of resistance.
- f. As a rule, weapon and ammunition carriers do not stay in the forward part of the position. Regimental reserves keep their tactical transportation as close at hand as the terrain permits.

21. Outpost dispositions.

- a. The occupation of the battle position is ordinarily covered by a completely organized outpost sent out by each front-line battalion. The outpost may be withdrawn on orders of higher commanders. Whenever it is withdrawn, the security mission is carried out by combat outpost sent out by companies or battalions of the combat unit.
- b. An outpost must ordinarily be strong in machine guns and include some anti-tank weapons. In general, an outpost consists of section or company groups occupying localities to the front of the main defensive position a ready possession of which would give the enemy an extensive observation of the forward part of the main position. Their groups are often widely separated. They cover the intervals between groups by heavy fire from automatic weapons, or when this is impractical, by outguards and patrols. Outguards are sent forward to furnish local security, observing and patrolling the ground to the front. An outpost gains information through observation posts and reconnaissance detachments and patrols. The reconnoitering elements keep contact with hostile forces, watching them from high ground to the front of the outpost.

22. Construction of defenses.

In general, the paratroop leader is responsible for planning and constructing its own defenses including obstacles. Material and technical assistance is furnished by the engineers when necessary. As far as possible, working parties for special tasks are formed of complete tactical units. Camouflage is indispensable and must be undertaken before beginning the other work. All camouflage must be kept in harmony with the nearby terrain.

23. Night dispositions.

It is usually necessary to make changes in a defensive position when visibility is low. Machine guns and mortars are then laid to deliver prearranged final protective fires. Preparations are made for illuminating the foreground and a special schedule of night signals is arranged for beforehand. It is often necessary to hold the front lines in greater density by putting additional combat elements in intervals not adequately covered by final protective fires. A rearrangement of security elements and an increase in their density may be required. Where possible, outguards take positions that give them good observation of the skyline or they establish listening posts.

24. Defense in fog or smoke.

a. Fog or smoke are similar to night.

But their duration is uncertain, and the defense must therefore determine in each situation whether night dispositions are to be adopted, and to what extent. Fogs may cover a wide or small area, they may be heavy or light, or of short or long duration. Illumination by artificial means is not as effective in dense fogs as at night. The usual duration of fogs in the locality, the time they come down during the day, activities and capabilities of the enemy and the degree of density of the fog, are all things that influence this decision.

b. When used by the attacker, smoke blinds the defender's observation and reduces the effect of his fire, thus allowing the attackers to advance with reduced losses and at a faster rate. Tests have shown that when smoke is placed on, or immediately in front of, a position, the effectiveness of rifle fire from that position was about eight percent of that obtained without smoke. Although smoke does not affect the fire of machine guns when these guns are laid and clamped on predetermined lines, and then fired later on, it has about the same effect on observed machine gun fire as it has on rifle fire. Fire from the mortar is not affected when predetermined firing data is used, except for corrections which must be obtained by observation.

An attacking force may also, by screening observation posts with smoke, deny to a defending force important information of the tactical situation. Consequently, the particular advantages that the attacker can hope to gain by smoke are: denial to the defense of observed fire, thus permitting a more rapid advance with fewer casualties; and doubt on the part of the defense as to the direction of the attack. Even though a smoke screen can be controlled to an extent, a change in wind direction may shift the cloud of smoke upon the attacker, thereby seriously interfering with the control and movement of the attacking units. Also, a smoke screen attracts the attention of the defenders and places them on the alert.

25. Conduct of defensive battle.

a. The first fires from the main defensive position to strike the enemy are usually those of the supporting artillery and the mortars. If our troops are able to discover any of the attack assembly

areas are within their range, the mortars add their fires.

- b. If the enemy comes out of his assembly areas at long range, part of our machine guns open fire from emplacements that are not near the main line of resistance. The best targets for our mortars are usually covered routes of approach, areas defiladed from artillery and machine guns and hostile machine guns in masked positions. Machine guns assigned to long-range missions usually take as their best targets any unarmored vehicles of the enemy that come in range, and para groups and machine guns that the gunners detect within effective range.
- c. Machine guns covering the main line of resistance, and also the paratroops company weapons open fire as soon as the enemy arrives within ranges that compel him to lift the fire of his artillery to areas farther to our rear. If the enemy does succeed in getting close to the main line of resistance, all of our close-in prearranged fires are then let go. Forward machine guns cover arcs of fire limited by their final protective lines. Rear machine guns fire overhead fires. And mortars and artillery lay down prearranged final protective fires or barrages, in accordance with the commander's general defensive fire plan. The rear machine gun and mortar and artillery fires may be opened up on pyrotechnic signals sent up by front-line company commanders, on telephone notice, or on orders of higher commanders. These fires can be delivered no matter what the visibility. If these fires are made on call from the front line, they are delivered only in the sector for which the call is made and not along the entire line. If the enemy finally delivers an assault, our troops meet him with rifle fire, hand grenades, and counterassault.
- d. When tanks lead the hostile attack, the long-range anti-tank guns, usually sited in positions to the rear of the main line of resistance, open fire as soon as their targets come within effective range. The battalion anti-tank weapons, in or near the main line of resistance, withhold their fire until the hostile tanks come within close range of the main line of resistance. Against heavily armored tanks their fire is principally directed against the track assemblies. It is coordinated with other close-in defensive fires. Troops not equipped with anti-tank weapons take cover against attack of tanks and open fire with armor-piercing ammunition against any lightly armored vehicles. Certain para groups may be designated to attack track assemblies with prepared high explosives. Other Legionnaires and paratroops in the main line of resistance stay concealed until the appearance at close range of the enemy troops.
- e. If, despite these concentrated fires, hostile troops do finally react and enter the main defenses at any point, the commander strengthens the troops on the flanks of the penetration thus formed and counterattacks, usually in accordance with a plan already made. He is seldom justified in attempting to close a gap by throwing troops across it instead of delivering a vigorous counterattack, from a flank, whenever he can. Commanders, of course, shift their reserves beforehand as necessary toward threatened parts of their defenses.

26. Defense in a stabilized situation.

a. General.

A defense in a stabilized situation is simply a more intensively organized defense than one of open warfare. All of the defensive works are extensively developed and improved. Vast amounts of ammunition, supporting artillery, and other materiel are usually accumulated, not only by the defending troops but by the enemy. Observation and signal communication become highly organized and detailed. Thus commanders of defense sectors can place heavier supporting fires more accurately and shift them more readily than in mobile situations. Through careful adjustments, fires covering forward units can be placed closer to those units, and commanders can often perfect and verify their fire plans to the point where no gaps whatever exist in the defensive fires.

There is also, in a stabilized defense, a much more complete and effective service of information. And every measure is taken to conceal all defenses. Indeed, all activities and possible actions are organized and planned in much detail.

b. Strength of holding garrison.

As defensive organization becomes perfected, the number of effectives occupying a given sector can usually be reduced, or the frontages of forward units can be increased, without impairing the defense. Minimum forces may be kept in sectors not threatened by an attack so long as agencies of information continue fully active and every unit occupying a defensive sector has detailed arrangements for its rapid reinforcement.

c. Distribution of troops.

Higher commanders direct where the principal resistance is to be made when the enemy attacks in force. It is usually desirable to hold the outpost position against all but attacks in force. Accordingly, complete parachute battalions reinforced by anti-tank units and supported by artillery often compose an outpost. The commanders of these battalions organize close-in defensive fires in much the same manner as battalion commanders along the main line of resistance. Battalions in the outposts of a stabilized defense ordinarily cover frontages of from 2,000 to 2,500 meters. Withdrawal is usually made on order of the division or higher commander.

d. Location of defenses.

A stabilized defense is based upon the assumption that the enemy will subject all occupied parts of the defensive position to a heavy preparatory bombardment before and as he attacks. In consequence, trenches cannot be used as combat emplacements. The emplacements of the main line of resistance, in particular, must not be near any trenches, nor should any others. Trenches are mainly important as routes of communication and shelters from weather in quiet periods.

e. Dugouts and shelters.

Dugouts and concrete shelters are the only forms of protection against fire which are fully effective and of lasting value. They are essential for conserving the fighting capacity of troops. Deep dugouts in the front part of a position do not permit troops to reach their defensive emplacements rapidly, and may thus become mere traps in case the enemy attacks. Accordingly, concrete shelters are preferable near the main line of resistance. Such shelters, however, must be constructed both in the forward part of the defensive position, and farther back to form skeletons for other main lines of resistance possibly to be used.

f. Keeping ready for action.

Whenever there are indications that the enemy is going to attack, commanders increase their readiness for action. They order the troops of the outpost and main positions to occupy their combat emplacements in full strength, and their reserves to be ready to move. Thus all men temporarily detached or engaged on special tasks report to their units, and all work ceases which requires working parties to leave the vicinity of their combat posts. Commanders direct all means of communication to be tested and redouble their observation, sending out patrols more often and ordering frequent raids. Special care must be taken to maintain continuous contact with the enemy.

27. Delaying action.

a. General.

The methods employed by paratroops in delaying action depend on the situation and vary from the activity of small detachments making use of road blocks and demolitions to the defense of a

position for a limited period. In general, the enemy is forced to deploy as far out as possible from each delaying position so that he is forced to prepare to attack each time. The defending forces execute successive withdrawals and seek to avoid becoming closely engaged. The dangers and difficulties of making a daylight withdrawal, however, especially when the enemy has strong mechanized elements, often make it best for a delaying force to remain in position, in whole or in part, until nightfall, even if close engagement with the enemy results. Combat aviation may assist in delaying the enemy as well as artillery and tanks.

b. Selection of position.

Delaying positions should offer favorable observation to the front and flanks, long-range fields of fire, covered routes of withdrawal, and flanks that are secure. These requirements are usually best met by positions on crests that afford distant observation and long-range fields of fire, and that mask the terrain in rear of the position. But some effective obstacle may often be of more importance than commanding terrain where a considerable delay must be effected on any single line or when enemy tanks press closely. Successive delaying positions should be far enough apart to prevent hostile artillery from taking two positions under fire from the same emplacements at the same time. Paratroop units, however, may have to occupy positions that are closer together in order to be able to cover the withdrawal of the forward units.

c. Distribution of troops.

In delaying action para units cover wide frontages. Under favorable conditions the frontages may be approximately double those permissible in a sustained defense. These greater frontages are held by employing a larger part of the troops in the forward part of the position, reducing the strength of reserves, and increasing the intervals between occupied localities. Weapons carriers are held in defiladed areas, as close as possible to their weapons, ready to move to the rear over routes already reconnoitered.

d. Fire plan.

Para units prepare two general series of delaying action fires: long-range and close-in defensive fires. The first constitute the principal mission unless close protection missions are contemplated. The long-range fires are carried out by the mortars and heavy machine guns, which are given positions from which they can readily withdraw by carrier. Each machine gun section is usually assigned a wide sector for observed fire. The greater tactical mobility of A.A.-52 machine guns favors their use in close combat situations. The action of anti-tank weapons is similar to their action in a sustained defense. Automatic riflemen and riflemen are used mainly to protect other weapons and to carry out reconnaissances. In close country, paratroops form the principal elements of delaying action.

e. Withdrawal.

Withdrawals are preferably made by night. Advance planning usually makes it possible to carry out a withdrawal under relatively favorable conditions. Withdrawals are begun under conditions fixed by higher commanders and may begin at a designated hour, or when hostile forces reach a certain terrain line, or when adjacent units have effected a withdrawal. Close touch with the enemy's pursuing forces is maintained by aggressive patrolling. Defiladed routes must be kept under constant watch.

28. Defense of jungle.

a. Value.

- 1) Isolated small jungles usually attract artillery fire. They do, however, afford some protection against tanks if the trees are large. Whether to occupy such a jungle depends on the probable effect of the enemy's artillery fire, or on the likelihood of attack by the enemy's mechanized elements.
- 2) Large jungle areas in rear of a defensive or offensive position are of value for concealing reserves and communications, and in covering withdrawals.

b. Location of the main line of resistance.

- 1) A jungle area may be defended by locating the main line of resistance either in front of the jungle, along the forward edge, within the jungle, or in rear of the jungle. Tactical or terrain considerations are the determining factors.
- 2) The main line of resistance will usually be within the jungle, with the forward edge of the jungle held by security detachments. If the main line of resistance within the jungle is established oblique to an outpost position located outside the jungle, it permits flanking fires and deceives the enemy.

c. Fire plan.

- 1) The defense of the main line of resistance within a jungle is organized to surprise the attack with a dense system of close-in defensive fires. Machine gun crews and Legionnaires enfilade roads, paths, and trails. Cleared spaces and the forward edges of concealed obstacles are swept by flanking fires.
- 2) Lanes are cut for machine gun fires along the front and flanks of all organized areas. Merely thinning the trees and undergrowth is better than clearing them completely away. The lack of observation for the control of fires frequently limits effectiveness of artillery and of mortars. Artillery usually covers the intersections of roads and trails, defiles through which the hostile attacking infantry will have to pass, and all likely hostile assembly areas. The high-angle fire of mortars permits 81mm section to be placed in small, cleared areas. Their plunging fire is affected only a little by the trees the projectiles happen to strike. The 60mm mortars are usually attached to para sections so that their fire can be directed by the section leader.
- 3) Concealment of two to three good snipers in trees often adds to the effectiveness of the defense.

d. Organization of defense.

- 1) The flanks of jungle are strongly defended in order to prevent outflanking action.
- 2) A small holding garrison may be located in rear of a shallow jungle to enfilade enveloping attacks, support counterattacks, and prevent the enemy from coming out of the jungle in case he gets through it.
- 3) Obstacles are erected to protect the main line of resistance, prevent the use of paths and trails, turn the hostile advance into areas swept by the fire of concealed automatic weapons, and cause the attack to lose direction and impetus. Routes are reconnoitered and marked.

e. Distribution of troops.

- 1) Limited fields of view and fire require distances and intervals between groups and individuals to be made smaller. Hence the depth and frontages of units are smaller. The number of troops required to hold a jungle may be reduced after it has been thoroughly organized.

- 2) Areas held by front-line sections are elongated and usually approach a line formation. Local reserves, prepared for immediate counterattack, are disposed in smaller and more numerous groups than in open terrain.
- 3) As far as practical, the defense avoids occupying points that can easily be identified on maps or accurately located by the enemy's ground or air observation.
- 4) When the defensive position is within the jungle or in rear of it, the forward edge is usually occupied by small detachments to observe and delay the enemy and screen the main line of resistance.

f. Chemicals.

Chemicals are highly effective in the jungle. Areas susceptible to concentrations of highly persistent gas should be evacuated.

29. Defense against night attack.

- a. The principal means of defense against night attack are the fires of fixed weapons, obstacles, illumination of the foreground, patrols and outguards, and counterassaults.
- b. These defensive means are combined to take the attacking forces by surprise. Ambushes are prepared by constructing concealed obstacles along the most probable routes of hostile advance by night and siting fixed weapons to sweep them with fire. Outguards provide security for the command, preparing ambushes in advanced positions to break any night attack before it reaches the defensive positions, or to capture hostile patrols. Commanders post local reserves to recapture any parts of the position that may be taken. Larger reserves must be able to form rapidly at designated assembly positions and then move along previously reconnoitered routes to any part of the front where they may have to help out. Large-scale counterattacks are usually postponed until daylight.

30. Defense of stream lines.

- a. The action of paratroops occupying a defensive position a few thousand yards in rear of a stream, or of paratroops held in readiness with outpost on the river line is generally similar to any defensive combat.
- b. Paratroop units defending near the river bank locate their principal holding garrisons opposite favorable crossing places and at points affording good observation over the valley. They are supported by local reserves held close in rear ready for immediate counterattack.
- c. Defensive fires are prepared covering routes of approach and favorable assembly places on the far bank, on the stream itself, on likely routes of enemy advance on the near bank, and those points on the near bank offering the best observation over the stream. The principal close-in defensive fires are usually placed right along the river when the river is a big one.
- d. The more likely crossing places are covered by several weapons. In addition to normal defensive organization, the defending troops may dam the stream at selected points, destroy or mine fords and approaches to them, and obstruct good landing places. They also erect wire on the banks of the river and place obstacles in the water. Mines may be placed at landing points. A deep and narrow valley may be filled with gas to stop the enemy.
- e. Where the stream is an effective barrier to tanks, the best anti-tank defense is to prevent a crossing of the hostile infantry and to locate anti-tank weapons for fire upon hostile tanks which may attempt to cross or ferry. Anti-tank guns should seek long fields of fire up and down stream as well as on approaches to the river, and should particularly cover salients in the river line. Most of the anti-tank weapons are initially held in readiness under cover until enemy tanks approach. When hostile tanks are able to ford the stream or are amphibious, weapons are emplaced to take them under fire before and during the crossing.
- f. Methods of anti-aircraft defense applicable to ordinary defensive situations generally apply. The

defending forces at a river line are, however, disposed over a broader front and in greater depth. The greater part of the defending ground forces are held concentrated in mobile reserve. The important consideration in anti-aircraft defense is the protection of the reserve while it is concentrated and during its movement to the area where it is to be used.

31. Defense of villages.

a. Military value of villages.

- 1) The military value of small towns and villages depends upon their size and topographical location, their construction, and their relation to the general situation. They control routes of communication, offer shelter from the elements, afford and facilitate certain services, and may also provide some protection against mechanized elements and artillery fire. Towns and villages of flimsy or inflammable construction are easily destroyed by artillery or bombing and have a very brief influence on operations.
- 2) More solidly built villages, particularly those in which the houses are not widely spaced, have many of the military features of woods. They are easily defended and present a considerable obstacle to offensive action. The distribution of troops in them in the defense is generally similar to those of combat in woods.
- 3) Cellars offer ready-made shelter and require careful organization of mopping-up operations by an attacker. Streets offer means of communication but constitute lanes readily swept by fire.

b. Defense of villages.

1) Location of main line of resistance.

Houses on the edge of a building area will usually get the most artillery fire initially. Hence the main line of resistance is usually located in front of the village when houses offer relatively slight protection against artillery fire and do not materially obstruct the advance of tanks. If houses are of extremely solid construction, a defense along the forward edge of a village may be advisable in the early stages of campaign, when systematic destructive fires by masses of heavy artillery are not to be expected. Putting main line of resistance in the interior of the village limits the fire of the defender to that at close ranges and lets the enemy gain a foothold within the village. It is, however, often the best thing to do when the hostile artillery has excellent observation on the edge of the village or the fires of strong hostile artillery are to be expected.

2) Organization for defense.

Commanders assign each of their combat units to the defense of groups of adjacent houses. Main streets are unsuitable boundaries, and units should be definitely charged with defending these. Each unit should cover an entrance to the village or a favorable route of hostile advance. Each unit should hold out a reserve for immediate counterattack. In the interior of the village solidly built houses are organized to command the streets leading toward the center of the village. Trenches and barricades can usually be located to advantage at street intersections and in open squares to take advantage of good fields of fire.

Re-entrants of edges of the village offer particularly favorable emplacements for machine guns giving mutual support to adjacent elements. Other machine guns are sited in rear of the village to fire along the flank edges and prevent their envelopment. A redoubt is located at the rear exit to ensure all-around defense.

Facilities for several tiers of fire are fully utilized, particularly in the interior defenses. Loop-holes are cut in the walls of the houses, and firing emplacements are protected by sandbags inside the houses. If time permits, cellars are strengthened to resist artillery bombardments, and additional exits from them are cut. Measures are taken for protection against gas. Protected communications are established to facilitate command. Walls of adjacent houses are pierced to make passageways when necessary. Wire is erected in front of the village and in open parts of its interior. Entrances of the village are barricaded and mined against tanks. A generous supply of tools, sandbags, and munitions, including grenades, is provided.

Chapter 7

The Para Section in the Attack

THE PARA SECTION IN THE ATTACK

1. General description of the attack.

- a. A general description of the offensive combat of the para section, as contained in Chapter 5, should be reviewed by the Legionnaire before he studies this chapter. Every leader of a section in battle against the enemy must be completely familiar with how his sections operate.
- b. Tanks and fighting airplanes are often in action on and over the parts of a combat area where a para section will be fighting. The battle duties of a para section are mainly concerned with action against the enemy's own units except for brief periods of fire against attacking planes and direct action against hostile tanks on ground where this is feasible, as it often is. The greater part of the action against the enemy's planes is generally taken up higher units than the para section. The Legionnaires should constantly remember also, in studying this chapter and the ones that follow it, that our own tanks and combat planes will, in many situations, be there in the battle assisting our own paratroop units in their fighting and that those of the enemy may be expected to take part in combat also. The Legionnaires should not, however, gain the impression that a unit as small as a section often has tanks and planes to give it direct support. Such support is given to the larger units of which the section is a part, and thus any para section will often benefit directly by that support.

2. Organization of the section.

A para section comprises a section headquarters (command group) and three para groups. The command group consists of:

1 Lieutenant (Adjutant or Adjutant chef)

1 Legionnaire carries the command radio and one Legionnaire is assigned to the Lieutenant.

1 Legionnaire carries backup command radio and one Legionnaire (protection) assigned to adjutant Corporal and 7 Legionnaires

1 machine gunner AA-52 and 1 Legionnaire (sniper)

There are 3 groups in each section: each para group (equipe) has 2 corporals plus 6 Legionnaires. Command group has commander plus 5 Legionnaires, plus 2 anti-tank Legionnaires.

3. The advance in route column.

During an advance in route column a section leader sees that his section keeps proper march discipline.

He sees that his section maintains the intervals and distances ordered by the company commander. He prevents straggling. When his section is moving by motor he sees that his men entruck and detruck promptly. He designates two or more men as anti-aircraft lookouts and sees that these lookouts are frequently relieved. The section develops for an approach march upon the orders of the company commander.

4. Section in an approach march.

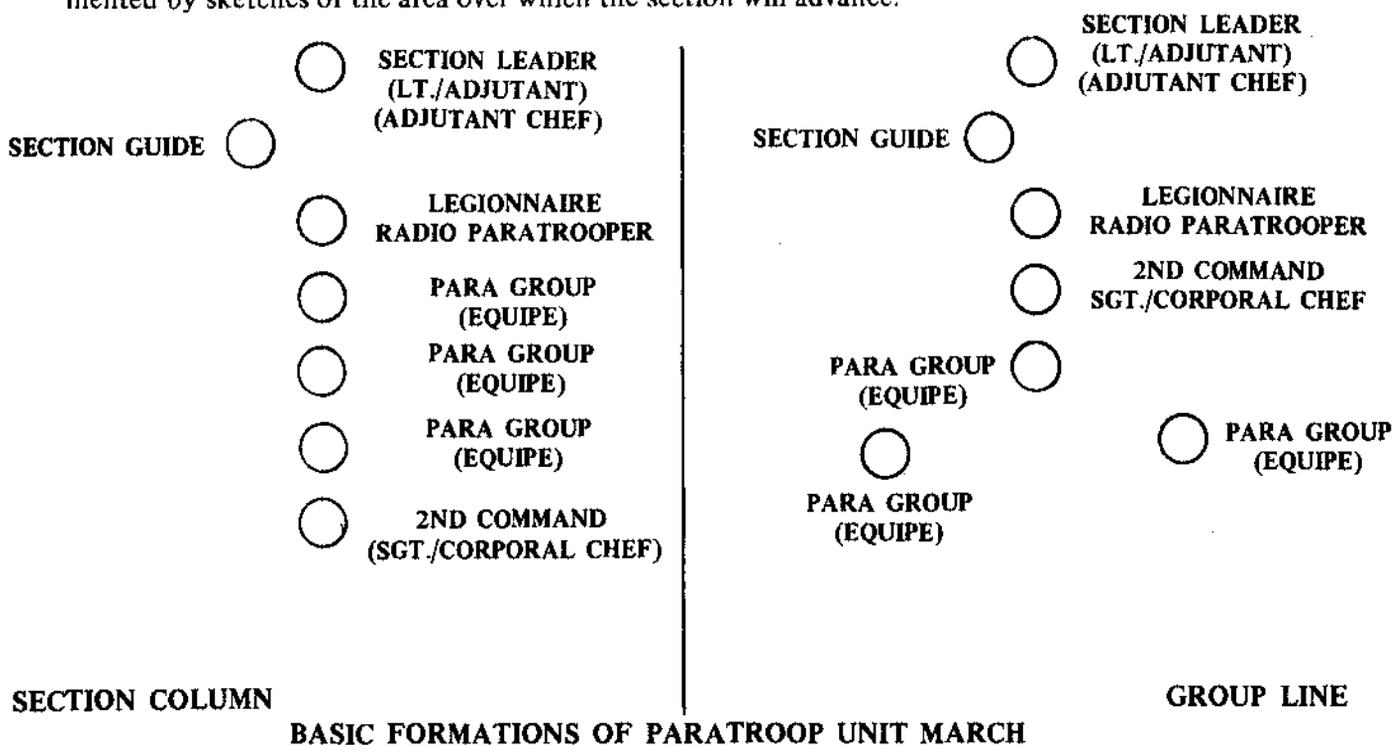
- a. During an approach march, a section leader can either give his base squad a direction of march, or give it the order: "Follow me." The other groups advance as the base section does. The leader uses the section formations which fit the ground best. Usually the group leads and the other two are in second echelon. AA-52 machine gun is kept constantly ready for anti-aircraft action. When the section leader is away on reconnaissance, the section sergeant leads the section and keeps in sight of his section leader or else keeps contact through a connecting file.
- b. Before an attack objective has been assigned, a section advances with its group, disposed in a manner best adapted to the terrain to be crossed. The section leader orders the initial distribution and studies the ground to determine how he can advance his groups by routes least exposed to observation from enemy localities and how he can best keep control of his unit as it advances. He must seek to determine at all times what areas are visible from enemy terrain.
- c. According to the situation and the terrain, a para section may be distributed in one, two, or three echelons, and these may be one in rear of another or abreast. The distribution of the section anti-aircraft fires is carried out as prearranged by the section leader. The section leader designates lookouts to observe in all directions from which air attack may come, which is usually from any direction.
- d. The mission, terrain, and enemy fire are the principal things which determine what dispositions of his troop the leader will adopt at any given time. Dispositions are varied by command or order throughout the approach march as required by the situation. The leader seeks to screen his unit from hostile observation, move it so as to evade or minimize hostile fire effect, and retain the greatest possible degree of control over all the elements of his section.
- e. The section moves by bounds. The leader points out to his section sergeant the first objective and then goes forward to reconnoiter the best route of advance. The section sergeant may designate some nearer objective to the base group and gain the objective pointed out by the leader in two or more bounds. Objectives are naturally places that afford cover, but avoid exposed, gassed, and shelled ground.
- f. The section sergeant usually moves just behind the leading point group. The section sergeant controls the advance of the whole section whenever the leader is off on reconnaissance, and he is responsible for anti-aircraft protection. The section guide stays in rear of the whole section and watches the progress of adjacent units, checks straggling, and otherwise ensures a quiet and orderly advance. If his section is guiding on another, he keeps the base group generally abreast of the base section. If he sees anything unusual to a flank or to the rear of the section as it advances, he at once informs the section leader or the section sergeant.
- g. A section messenger accompanies the section leader.
- h. In an uncovered advance of the section, the section leader covers his advance by scouts and regulates their movement by assigning successive objectives. The scouts keep far enough ahead of the section to ensure its protection against enemy fire within midrange. When the situation indicates that the enemy will soon be met, the section leader holds his section under cover and waits for the scouts to reconnoiter the assigned objective. When they have reached the objective, the section leader moves the section to the line of the scouts and sends them forward again to the next objective. During these movements of the scouts, he posts himself where he can watch them and at the same time keep control over his section.

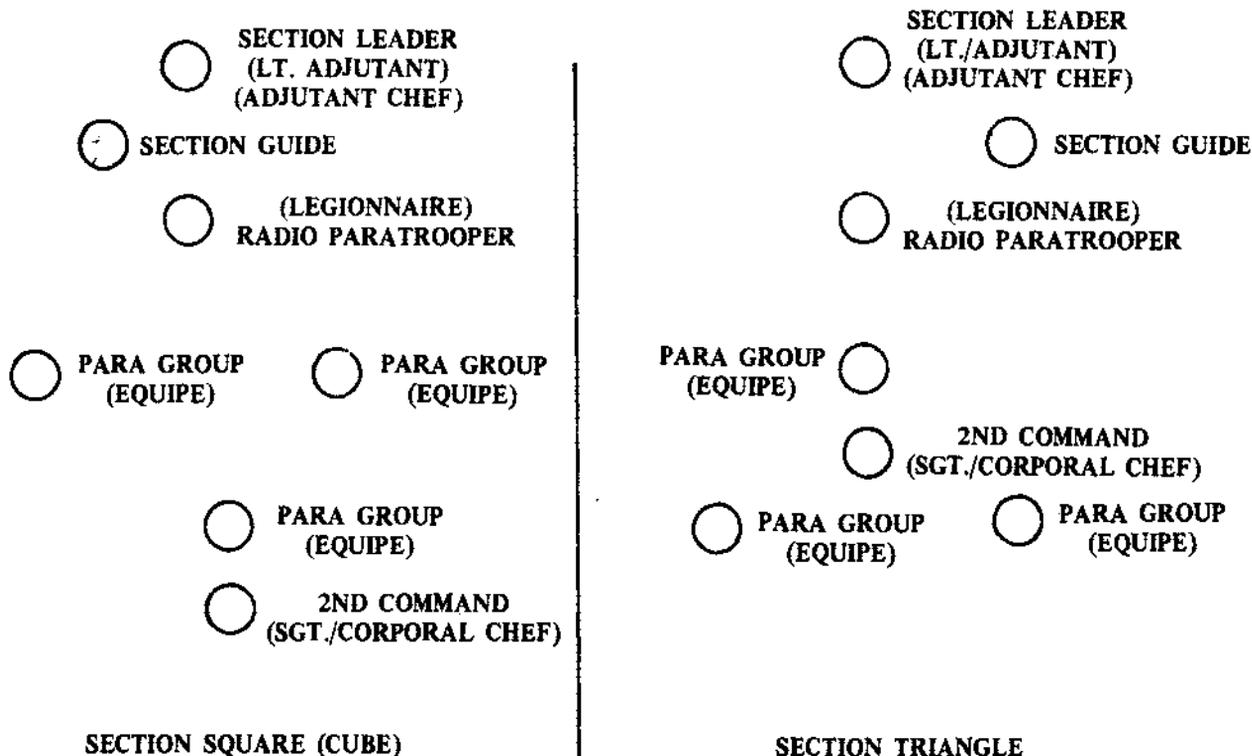
When his section must pass through small jungle, villages, or fire zones, the section leader designates the far edge of the jungle or the exit of the villages or fire zones as the next objective. The method of advance that the section leader adopts varies in accordance with the need for rapidity of movement and for security against hostile surprise fire.

- i. When some of the scouts are caught under fire in unfavorable terrain, the section leader pushes men forward to reconnoiter other parts of the section zone of advance in order to clear up the situation before involving the bulk of his unit in the firefight. He designates group positions for the attack without regard to the positions of the scouts of the groups. As the whole section gets into the firefight, scouts join the group nearest to them unless the section leader otherwise directs. If one or both of the flanks of the section are open, he provides for flank security by means of small patrols.
- j. The company commander usually informs the section leader whether the conditions of movement are to be regarded as covered or uncovered. In case of doubt, dispositions for uncovered movement are taken.
- k. A para section ordinarily has a zone of attack from 100 to 200 meters wide.
- l. A para section in the leading echelon is often reinforced by a para company mortar group.
- m. A second echelon section advances behind the leading section or sections in such a way as to furnish protection against possible enemy attack from the most dangerous flank direction. Its leader covers any exposed flank by a security patrol.

5. Section in assembly area.

The approach march may be interrupted by occupation of an assembly area, or the attack may be launched with only a brief halt for the issue of extra ammunition. An assembly area, when designated, is usually located in the last available covered position in rear of the line of departure. If halted in the assembly area the section leader disperses his section to minimize the effect of possible enemy artillery fire or air attack. There may be opportunity to rest the men, issue extra ammunition, drop rolls if carried, reconnoiter, and issue attack orders. While waiting for orders the section leader orients his non-commissioned officers and gives them all available information of the situation. This may be supplemented by sketches of the area over which the section will advance.





BASIC FORMATIONS OF PARATROOP UNIT MARCH

6. The company order.

The initial company order for the attack is usually brief. In fact, such an order is often given in fragments from time to time over a considerable period, with the result that in the end the company commander merely has to give the objective and the hour of attack to complete his order for the attack.

In addition to information of the situation, the order, whether given as a whole or in fragments, will include the line of departure, or place from which the attack starts, the hour for crossing the line of departure, the zone of action, the direction of attack, the mission, and the section objective and assembly area. It will also include the support to be given by artillery and heavy weapons, the missions of the company's AA-52 machine guns and light mortars, and the support to be expected from combat air units and tanks. It will also include the post of the company commander, and sometimes, his intended movements. It will rarely cover the formations the sections are to take up, since that is left to the judgment of the section commander. The company order is issued when possible from a point from which the assembled section leaders can see the terrain over which the attack will take place. Often, however, by force of circumstances the company commander will have to issue his order from a map, sketch, or aerial photograph.

7. The section order.

When he receives the company order the section leader makes such reconnaissance as time and the situation permit. While doing so, he estimates his own situation and makes his plan. Under favorable conditions, the section leader assembles his section sergeant, section guide, and group leaders at some covered position from which the terrain over which the section will advance can be seen and issue his attack order. Such an order might be as follows:

"The enemy holds that line of low hills (pointing). Our first battalion is on our right. Company 1 is on

the left of our company. Company 3 is behind us, in those woods.

"Our company, with our section on our right and the second section on our left, will capture that hill (pointing).

"Supporting air units will bomb the main enemy positions on the hill as our battalion advances toward it. No tanks will be operating in our zone. Our supporting artillery and heavy mortars will fire on the hill for a short time before and after we begin our attack. A light mortar group is attached to this section and will fire on such targets as I direct during the course of the attack.

"This section will advance with its right initially at the edge of jungle to our immediate front and capture the right (east) spur of the company objective.

"Time of attack, 6:00 A.M.

"Line of departure, crest of this ridge.

"Formation, center group forward.

"I will be with the center group.

"It is now 5:30 A.M.

"Any questions?"

"Sergeant Oties (a new group leader), repeat my order as to the section mission and time of attack."

Complete orders, however, are often impractical. Orders may have to be issued in darkness or at points from which the terrain over which the advance is to be made cannot be seen. Company orders may be received in fragmentary form as the situation develops. In these cases a map, aerial photograph, or sketch must take the place of the actual terrain, and the section leader must use his ingenuity to keep his subordinates fully informed of the situation and his plan of attack. It must be remembered that the initial attack order by no means covers the entire attack of the section. The situation will change as the advance progresses. Unforeseen resistance will develop which requires changes in orders and new dispositions. Subsequent orders will be issued, as described later, with the development of the situation. It is to be expected that, if not already under fire, the section will be fired on soon after crossing the line of departure.

8. Attack situations.

The action of a para section in an attack differs according to whether it is attacking with supported flanks or has open flanks without support within midrange from adjacent units. The first type of situation is normal in an initial attack against a continuous resistance. Situations of the second kind often occur in the service of security and reconnaissance and in the combat which develops after the break-up of a continuous resistance. Such situations occur where a leading company in an advance guard has developed and extended over the front of the advance guard; when a section is a leading element of a company in an uncovered movement; and where, in the attack of a continuous resistance, open flanks are created by an advance of the section ahead of adjacent units.

9. Attack with supported flanks.

- a. For an attack against continuous resistance, a section ordinarily forms in a company assembly area. Sections in the leading echelon are assigned assembly areas and objectives, and given the direction of attack and the line of departure.
- b. Upon receipt of the company attack order, the leader of a section in the attack element observes the ground over which his section is to attack and determines his plan of action. Where there is a terrain feature affording cover, such as a rise of ground, lying between the assembly area and the

section objective assigned by the company commander, the section leader selects this terrain feature as his first objective. Otherwise the objective assigned by the company commander is the first objective of the section.

- c. The section leader assembles his noncommissioned officers in a covered position from which the section objective can be seen and issues his order. Upon receiving these instructions, the group leaders return to their group and the section moves directly to the attack at the appointed hour or prearranged signal.
- d. When the company attack order is issued at a distance from the attack objective, it may be necessary to cover the movement of the section by scouts, and to control the advance by designating successive objectives as in an approach march.
- e. The section organizes its attack either in the company assembly area or on a terrain feature affording cover in advance of that assembly area.
- f. The groups of the section are employed generally as follows:
 - 1) When its attack is over open, level ground, a section usually attacks straight to the front with all groups in one element. This method of attack quickly develops the full firepower of the section. It has the disadvantage of leaving no force available to the section leader for reinforcement, flank protection, or maneuver. Such an attack requires the heaviest of supporting fire from ground and air supporting weapons.
 - 2) When cover permits, a deployment with two groups in the leading and one in support generally offers the most advantageous distribution in an attack by a section with its company. A distribution with one group in the leading element and two in second element is especially adapted to an attack by a para section when there are no other para units closer than midrange from both flanks.
 - 3) A para group in support advances as directed by the section leader. He puts it into action where enemy resistance seems to be weakening, uses it to envelop hostile resistance, or sends it in to fill a gap between the groups of the attacking element.
- g. The section leader observes the development of the enemy fire and the location of their main groups. He notes the point where most progress is being made by his attacking element with a view to putting his support group in at that point. When the enemy puts up little resistance, he drives his section rapidly ahead regardless of the lack of progress of the section on his flanks.

10. Assault.

- a. The assault may take place either on the initiative of the section leader or as part of a general assault of larger units. In either case, the assaulting section follows the supporting fires of mortars, artillery, or combat aviation at the closest possible distance. If the section leader begins the assault, the signal for the lifting of supporting fires is given by the section leader as prearranged. A general assault is delivered at an hour fixed by higher commanders, or on prearranged signal.
- b. Against an entrenched enemy a grenade volley precedes the final rush of the assault. Paratroops and support sections open assault fire as necessary.
- c. On penetrating into the enemy position, the section reorganizes as rapidly as possible for further advance. The section does not delay its further movement to clean up remaining enemy resistances but leaves them for the following element to attend to. The leader makes every effort to press the attack without pause for rest or other purpose on through the full depth of the enemy's position.

11. Isolated attack.

- a. A section attacking with unsupported flanks will normally leave a 60mm mortar group supporting it.
- b. Most often, a section acting alone will be attacking an isolated hostile resistance such as a nest of

weapons, or a small hill or other piece of ground that forms a good fire position or observation post for the enemy, a hedge, a cluster of buildings, or similar locality. Before making his plan of attack, the section leader reconnoiters the ground in person. His plan will usually involve pinning the enemy in place by frontal and flanking fires delivered by a part of his section so that another part can carry out an envelopment. He must usually bring up part or all of his second element to give fire support or to close with the enemy from one or both flanks. If possible, he directs his frontal and flanking elements to begin their actions against the enemy at the same time.

- c. If flanking fire from other enemy units makes it impossible to envelop the particular hostile resistance his section is to attack, the leader builds up an assaulting force at close range under the protection of supporting fires and the fires of the section itself. In this situation, the section leader can often have his group leaders use their AA-52 machine guns to neutralize the cross fires of the hostile flanking elements.
- d. During the attack, the section sergeant assists the section leader in controlling the section. He usually stays near the groups in second element until they are engaged. When the entire section is engaged, the section sergeant usually posts himself behind that portion of the attacking section most distant from, or most difficult to control by, the section leader. From this position he observes the section leader and sees that the section leader's plan is being carried out.
- e. The section guide watches the ammunition expenditure and takes every opportunity to have the ammunition replenished. He has the special duty of observing the situation on the flanks and rear. He checks straggling and performs any other duties the section leader or the section sergeant directs.

12. Support section.

- a. A support section advances in an attack in accordance with instructions of the company commander, making its displacements at his direction or following the attacking element by bounds. A support section usually leaves cover only after the leading section has left the next cover ahead. The section leader keeps his unit from merging with the leading element.
- b. During the advance, the leader of a support section constantly observes the action of the leading element and the situation on the flanks of the company. He stays ready to put his section in action wherever it may be required, and he continually makes tentative plans for doing this.
- c. It is the special duty of the support section to provide anti-aircraft protection for the company. Group leaders place their AA-52 machine guns in position for anti-aircraft fire at every halt.
- d. When its company is making an isolated attack, the support section is put into action on the flank of the leading element. Scouts precede the section in its movement to a designated departure position. The scouts locate and reconnoiter the first objective of the section advance. This will often be a line from which the section launches a flank attack against some hostile resistance which has held up the leading echelon.

Chapter 8

The Para Section in Defense and Security

1. General.

- a. A description of the defensive combat of the para group in Chapter 6 should be reviewed by the Legionnaire before he studies this chapter.
- b. The defensive is assumed under varying conditions, and from the point of view of a section leader there are three general situations. These are:
 - 1) when the enemy is distant and ample time is available for the organization of the position.
 - 2) when in contact with the enemy; and
 - 3) when the defensive position is already well established and organized, and the section is ordered to occupy part of it.

These different conditions require different methods.

- c. When ample time is available, each step in organizing a position is methodical. A careful reconnaissance and planning precede the actual locating of men on the position. A careful coordination of all of the fires of the unit results. In contact with the enemy it is essential that fire be developed immediately. Commanders are prevented by hostile fire from moving about to any great extent. There is little opportunity for reconnaissance and for effecting the coordination of fires. Men frequently cannot be shifted into positions that permit coordination until a later time.

2. Actions of the section leader.

- a. Having received a defense order from his company commander, a section leader:

Arranges for the movement of his section to the area assigned.

Makes a reconnaissance of his area.

Formulates his plan for the defense.

Directs his section to occupy the position and supervises the occupation and the organization of the area for defense.

Conducts the defense.

- b. If his section is to take over an occupied sector in which the defenses are already well organized, the section leader goes about this promptly.

3. Movement of the section to the area.

Upon receiving orders from his company commander to take up a defensive position, a section leader immediately arranges to meet his section sergeant and group leaders on or within sight of the section defensive area in order to issue his own orders for the defense. He also takes steps to have his section conducted to or near the position if it is not already there, sending a runner back with word to the non-commissioned officer in charge of the section to bring it up.

4. Reconnaissance of the section area.

The section leader makes as detailed a reconnaissance of the area assigned his section as the situation permits in order to determine:

What approaches are available to the attacker and their relative danger to the defense of his area;
What the fields of fire area;
What available cover and concealment there is;
What routes from the rear are available;
Where supporting machine guns or other weapons are to be placed within his area; and
Where the supporting fires of artillery, battalion, and company mortar fires are to fall near his area.

He also locates the dead spaces in the bands of machine gun fire that may be placed across the front of his position. He considers the natural obstacles to the approach both of hostile foot troops and tanks, and how these obstacles may be strengthened. He determines the exact location of neighboring units.

5. Plan of defense.

The section leader bases his plan of defense upon the mission of his section, the information received from the company commander and gained during his own reconnaissance, and his knowledge of the principles of defensive combat.

6. Section defense order.

Generally a section leader's directions to his group leaders about occupying and organizing a defensive area will have to consist of a number of brief orders given at different times. Often he will merely place his attached weapons and his para groups in the positions selected for them and direct them to begin their work. While the work is going on he gives his subordinates additional information and instructions as necessary.

7. Reinforcements.

A front-line section in defense is often reinforced by a light mortar group.

8. Section defensive mission.

The defensive mission assigned to a section leader by his company commander covers the following points:

- a. Exact course of the main line of resistance.
- b. Section defense area and sector of fire assigned to his section.
- c. Emplacements and sector of fire of supporting machine guns and dead spaces in bands of machine gun fire in his section's sector.
- d. Instructions about the development of the position (camouflage, combat emplacements, accessory defenses, clearing of the field of fire, dummy works, anti-tank defenses).

- e. Instructions as to mortar and automatic rifle fires in accordance with the battalion fire plan (when required by the situation).
- f. Arrangements for mutual support by fire with adjacent sections.
- g. Emplacements and missions of supporting anti-tank weapons.
- h. Artillery fires in the section fire sector.
- i. Information as to location and activity of detachments which may be operating out in front of the main line of resistance.
- j. Conditions under which fire is to be opened if the enemy attacks.
- k. Commanders who are authorized to call for final protective fires from the supporting weapons, units, and artillery.
- l. Prearranged signals.
- m. Ammunition supply.

9. Occupation of the position.

- a. The section leader distributes to his group the fire sector assigned to his section by the company commander. He adjusts the location of AA-52 machine gun emplacements so as to cover their group fire sectors and provide mutual flanking support. He assigns fire and cover positions to his groups. He checks the arrangements of his group leaders for observation and command and makes sure they understand what the limits of their fire sectors are. He assigns a firing position and targets to the 60mm mortar so that it covers dead spaces in the bands of machine gun fire and so that it can drop fire into any protected ground within midrange behind which hostile forces can assemble for attack. He designates alternate positions for his mortar and his para groups. He selects a place for his command post which gives him effective observation over his section area and its sector of fire and the areas of adjacent sections, and which will facilitate his movement to any part of his section area where he may be needed. He posts an observer at or near his command post and provides relief for constant observation by day and night.
- b. The section leader uses runners to send and bring messages from his company commander.

10. Support section.

The section leader takes the necessary measures to keep the foreground of his position under continuous observation and sees to the distribution of his units into reliefs. He uses his support groups to extend in depth the dispositions of his leading groups. Groups are usually disposed with one or more alternate positions so as to offer resistance toward a flank and so that they can fire upon and counter-assault enemy elements if they should succeed in penetrating the front line.

AA-52 machine gun units take anti-aircraft fire positions affording the best available fire zones. They are assigned alternate positions for ground fires. In close terrain, a support section or part of it may be held mobile for counterattack. The section leader makes counterattack plans for one or more lines of action.

11. General conduct of a defense.

- a. The fire of front-line sections is held until the enemy comes within close range and the enemy's artillery lifts or ceases fire or his planes stop bombing. If the forward troops open fire prematurely, they will reveal their defensive dispositions and thus make it easier for the enemy's artillery and combat planes to neutralize our defenses before the enemy attacks. Grenadiers open fire on suitable targets as they come into range.
- b. Any enemy elements which succeed in breaking into the section position are attacked by fire or

counterassault by para groups and destroyed or thrown back out of the position in hand-to-hand combat.

- c. If the enemy penetrates the area of an adjacent section, group or part of sections shift to their alternate emplacements and form a line of resistance toward the exposed flank. The section holds its own area against a flank attack but does not move any of its elements into the adjacent area.
- d. The section sergeant and the section guide take post where they can best assist the section leader. Usually one of them takes a secondary observation post, and the other watches the section leader's signals to the groups and sees that they are understood and carried out.

12. A para section in a position defense.

- a. A para section may be given the mission of occupying and defending part of an established defensive sector, which has been occupied for some time by defending troops and organized to an extensive degree by them for defensive resistance.
- b. Preparations for relief.

When a section is notified that it is to be called for duty in such a defensive position, the leader assures himself by inspection that the arms, clothing, and equipment of his men are in proper condition and that each man has the ammunition, reserve rations, and equipment prescribed by orders and regulations.

- c. Reconnaissance.

A relief of troops holding part of a defensive position usually takes place at night. The section leader makes a personal reconnaissance by daylight of the position to be held by his section. Accompanied by a messenger, he goes with his company commander to the command post of the company to be relieved, where the plan of defense of the company area is studied. He then goes with his messenger and a guide furnished by the outgoing company to the command post of the section he is to relieve. He sends the messenger back to join the incoming company commander and releases the guide.

- d. Plan.

From the section leader he is to relieve, he obtains the following information on the plan of defense for the area:

- 1) The mission of the section and each group (for example—to cover a given sector of fire or to flank an adjacent element with fire, or to occupy a combat position in case of alarm, together with contemplated future action).
- 2) Detailed sketches of the section dispositions and enemy front.
- 3) The missions of adjacent sections' means of communication with them and with the company commander.
- 4) The plan of work.

- e. Inspection.

The two section leaders then make an inspection of the position and arrange for such transfer of supplies and equipment as may be authorized. The incoming section leader obtains information concerning:

- 1) The conduct and habits of the enemy, strength and location of hostile obstacles, gaps in hostile

wire, location of hostile posts, machine guns, and mortars, mining activities, hostile patrols.

- 2) The lay of hostile close-in defensive fires, both artillery and machine gun, and any gaps in them.
- 3) The points in our own lines exposed to fire of hostile snipers.
- 4) The location of friendly machine guns, their sectors of fire and the gaps in their final protective lines.
- 5) The location of supporting mortars and their fires.
- 6) The location of anti-tank weapons and their sectors of fire.
- 7) The location of artillery barrages in front of the position.
- 8) The signals for starting and stopping close-in defensive fires.
- 9) The location, kind, and capacity of shelters.
- 10) The defensive measures against gas and the system of giving gas alarm.
- 11) Any accessory defenses and hidden passages through the wire.
- 12) The location of the nearest aid station and the route to it.
- 13) Arrangements for supply of water, ammunition (including grenades), sandbags, wire, pyrotechnics, and other supplies.

f. Point of assembly.

A point of assembly for guides who are to lead incoming sections is usually designated.

g. Preparations of the outgoing sections.

The outgoing sections make preparations for departure before the hour of relief and take with it only its own equipment. Grenades and cartridges in excess of the number prescribed to be carried by each man are left in the position. A list is prepared of trench stores on hand which the incoming section leader is to check and sign. Trenches, shelters, and latrines are left clean.

h. Arrival of incoming section.

The guide meets the incoming section at the assembly point at the designated hour and conducts it to a designated part of the section area. The groups of the incoming section are then assigned to their positions. They are conducted to those positions by guides furnished by the corresponding groups of the outgoing section. Individual observers and sentries are then relieved. The leader of the outgoing section is responsible that no man of his section leaves his place until the member of the incoming section who is to relieve him is posted and is thoroughly familiar with all of his new duties.

i. Instructions to incoming section.

At a convenient time the incoming section leader informs his men of their firing or assembly positions and duties in case of attack, the parts of the position exposed to the fire of hostile snipers, the location of ammunition niches and latrines, and the location of the nearest aid station and the section, company, and battalion command posts, and the routes to them.

j. Completion of relief.

As soon as he has taken over his position, the incoming section leader reports that fact to his company commander. The outgoing section leader marches his section out of the company area as soon as his company commander directs him to. In case of attack while the relief is in progress, the outgoing section leader retains command regardless of rank.

k. Inspection by incoming section leader.

The incoming section leader inspects the position of each of his groups as soon as the section area has been occupied in order to ensure that each group leader understands his orders and that all parts of his section are ready to meet the enemy.

l. Dispositions.

Unless strong reasons for changes are apparent, the plan of defense in force at the time of relief continues in force during the first night the section occupies the area. The routine of this plan differs considerably with different positions, depending on the kind of ground defended and the location of the section in the whole defense system.

m. Daily routing.

- 1) A parachute section occupying an area in a stabilized defensive position follows a daily routine which resembles, in a number of ways, the peacetime succession of company duties on an army post. The section sergeant keeps a duty roster so that details for carrying and working parties and other tasks are fairly spread among the men. Each group, however, details its own sentries, except when the whole section is sheltered close enough together for this to be handled better by the section staff. Men going on any duty are told beforehand what the duty is and when it begins. Bulletin boards can often be set up for posting section orders.
- 2) All officers and men go to their proper posts at an hour before daylight and at dusk, or at other times of day as directed. At the morning formation ammunition is issued to replace whatever has been fired during the night. At the afternoon formation, weapons, ammunition, and equipment are inspected for serviceability, and each man's firing position is checked over to see whether it is still suitable. At this time also, the section leader inspects all-around defense measures and camouflage.
- 3) The leader holds practice alerts and alarms and gives his troops practice in reaching their firing or assembly positions rapidly from their shelters. Preparations for all planned counterattacks are also practiced.
- 4) The leader sees to it that his men have all the food that fighting troops should have, and finds out why if meals are delayed or inadequate, making a full report to his company commander. If necessary and practical, he gets them charcoal or solidified alcohol for reheating soup and coffee. He sees to it that mail is promptly and carefully distributed, and in every way possible under the circumstances looks after the comfort and welfare of his men. He sees that ration parties carry back unserviceable materiel and the weapons of the killed and wounded.

You are now on Juane HILL, near the second "L" in "HILL." You have a messenger in the woods nearby. You have just listened to your company commander issue the following orders:

"Make notes.

"Hostile troops are advancing from the south, but no enemy attack is expected before daylight tomorrow.

"Here is a map (drawing on page 138) showing our own defensive locations and the locations of adjacent units.

"The 1st Section will organize and defend the southeastern section defensive area.

"The 2nd Section will organize and defend the southwestern section defensive area. One heavy machine gun section will be located in its area as shown on the map.

"The 3rd Section will organize and defend the northeastern section area. It will detail one-half equipe for local security to observe from Youberd HILL.

"Priority of organization: clearing fields of fire, construction and camouflage of individual shell holes, construction of connecting trenches.

"Engineer tools and materials will be dumped near here at 10:30 A.M.

"Other details later.

"I will locate my command post in the 3rd Section area.

"It is now 10:00 A.M.

"Are there any questions?"

"That is all for now."

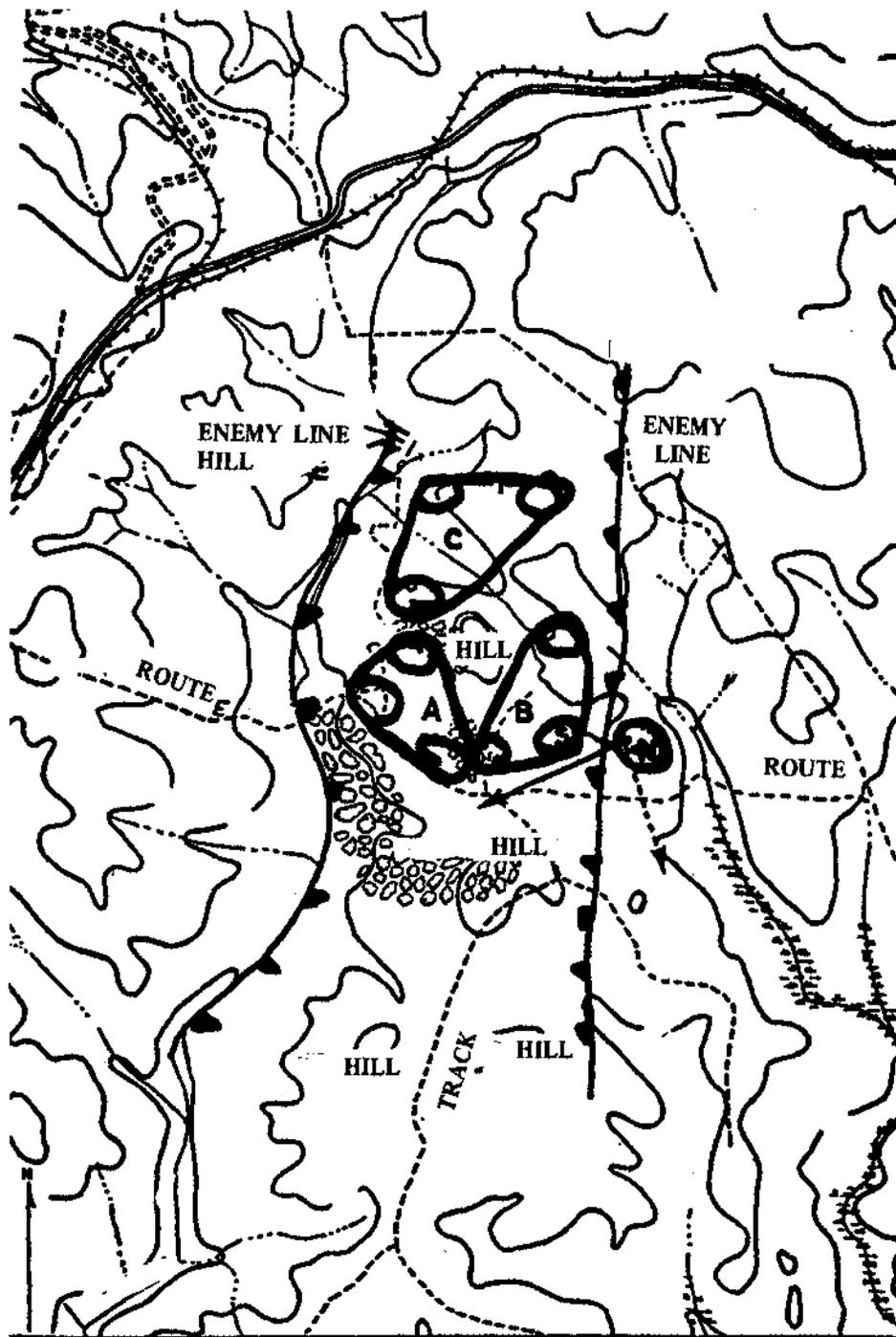
THE PARA SECTION IN SECURITY

1. Security missions.

- a. A parasection may be detailed as a part of a combat outpost in advance of the main line of resistance. When a regular outpost is established, a parasection may be used as a support; or when an important point to be secured lies outside of the sectors of the supports, the parasection may be used to establish a detached post at that point. When it is operating as a part of an advance (rear) guard a parasection may be the advance (rear) party or the support, depending on the size of the advance (rear) guard.
- b. Advanced posts conduct delaying action against enemy attack. They hold positions giving long-range view over the foreground of the position. They place a heavy volume of fire on the enemy advance, and by their action mislead him as to the dispositions of the principal defending forces. They withdraw along routes determined beforehand, and they carry out their withdrawal in such a way that they do not mask the fire of troops to their rear.
- c. A section may also act as a flank security group for its company or battalion in an attack.

2. Security in combat.

A section acting as a flank security group conforms, in general, to the principles governing the employment of a group as a flank combat patrol. The section leader will be told to go to a certain place or simply to move out as a flank combat patrol. He protects his flanks, if necessary, by small patrols, of two or more men. When the section halts, he sends observers out to watch the front, flanks, and rear. These should go in pairs. He holds the rest of the section under cover ready to resist in any direction. The section commander or guide studies the ground constantly. The section maintains communication with the unit it is protecting.



- A-PARA EQUIPE-3, 2 PARA TEAMS; 6 LEGIONNAIRES
- B-PARA EQUIPE-3, 2 PARA TEAMS; 6 LEGIONNAIRES
- C-PARA EQUIPE, COMMAND GROUP; 6 LEGIONNAIRES
- N-OBSERVATION, 1 PARA TEAM; 2 LEGIONNAIRES

PARA SECTION IN DEFENSE

Chapter 9

Weapons: Organization and Tactical Employment

1. Introduction.

The supporting weapons within a parachute company are the three 60mm mortars and three HB AA-52 machine guns in the weapons section which is commanded by a lieutenant, adjutant, or adjutant chief. The duties of the adjutant leading a weapons section are given in this chapter, and he has plenty to learn if he is going to fight most efficiently against enemies. The weapons section is actually a grouping of two differently armed sections which do not usually fight together in combat. Noncommissioned officers of the section are, however, trained to take charge of both the mortar and the AA-52 machine gun units and conduct movement and fire of both.

2. Organization.

A para company weapons section consists of a section headquarters, a 60mm mortar section, and a machine gun section. In the section headquarters, in addition to the first lieutenant who commands the section, there is a section sergeant, second-in-command, who, like the section commander, is armed with the Famas 5.56mm, a transport corporal and two messengers armed with Famas 5.56mm, and two chauffeurs, also armed with Famas 5.56mm rifles.

3. Equipment and transport.

The equipment of the mortar and machine gun sections is given in the chapters on the combat principles of those sections. There is one weapons carrier in the section and one 1/4-ton truck.

4. Duties of personnel of command group.

- a. The section leader leads the section and controls the two company weapons carriers as a unit during a route march and an approach march. During combat he takes personal charge of the mortar section.
- b. The section sergeant, second in command, assists the section leader in control of the section and weapons carriers during a route march and an approach march. When directed to do so he joins the company commander and acts as agent for the section leader.
- c. In combat the transport corporal conducts carriers to off-carrier positions as the section leader directs, moves the carriers as the battalion transport officer directs when they are released by the section leader, displaces the carriers to new positions when directed to do so, and supervises concealment or camouflage of the carriers in off-carrier positions and at all halts.
- d. When a para company develops for approach march, one weapons section messenger accompanies

- the section leader and one reports to the company commander.
- e. The chauffeurs drive the weapons carrier and the 1/4-ton truck.

5. Route march.

- a. In route march, a weapons section marches under command of its section leader in the same way as a para section. The company commander designates its place in the column. It is usually assigned a position following the rearmost para section.
- b. The weapons carrier moves with the battalion transport. The section leader designates a gunner to ride the carrier and man a machine gun mounted on it for anti-aircraft fire.

6. Method of movement in approach march.

The development order of the company commander prescribes how the section will move during the approach march—whether the section will march assembled as a unit or whether it will move distributed to para sections or to elements of the company in order to carry out tactical missions. If it is to march assembled, the company commander will give its initial location, its initial march objective, and direction of advance in his order. If it is to march distributed for the execution of tactical missions, the company commander will give the mission of the machine gun and mortar sections, the attachment of groups or sections to para sections or their place in the several company sections, and the missions of each in his order. The company commander will also direct whether the section transport will move with the section or assemble with the battalion transport.

7. Covered approach march.

- a. In a covered approach march of its company, the weapons section usually advances assembled in the rear elements of the company. The section leader assigns the direction of advance and designates one of the sections as a base section. When the section leader desires to control the advance personally, he orders the base section, "Follow me." (Suivre Moi)
- b. The section advances with sections disposed in a manner best adapted to the terrain to be crossed. The section leader orders the initial distribution of his section and studies the ground with a view to advancing his section by routes least exposed to observation from enemy localities and to keeping it under control during the advance. He must seek to determine at all times what areas are visible from enemy terrain.
- c. According to the situation and the terrain, the section may be in one or two elements with sections abreast or in successive groups. Distribution with sections abreast is generally best for a rapid movement over open terrain. Distribution in depth is indicated when it is desired to take advantage of covered routes of advance or avoid obstacles. Dispositions are varied throughout the approach in accordance with changes in the terrain and the situation.
- d. Where rough ground does not permit rapid movement by carriers, the foot elements and the carriers may move together. On level ground it is generally best to have the carrier follow the foot elements by bounds in order to take best advantage of its speed. The carrier halts for anti-aircraft action and its anti-aircraft weapon is kept manned at all times and ready for action.
- e. The section leader or, in his absence, the section sergeant, accompanied by the command group, precedes the section along the route of march to locate good crossing points or detours for the carriers to cross or get around obstacles. He seeks to keep his unit hidden from hostile observation, move it so as to evade or minimize hostile fire effect, and retain the greatest possible degree of control over all parts of his section.
- f. Movement in an approach march is made in a series of bounds. The company commander assigns to the section an initial movement objective, and the section leader designates a section objective to the leader of the base section. This objective is not necessarily the same one designated by the company commander but may be some intermediate terrain feature. The section leader normally goes

ahead of his section far enough to reconnoiter its section line of advance and to locate well in advance all dead areas and shelled areas and areas exposed to hostile observation. On approaching a heavily shelled area, he detours his section around it, or takes advantage of lulls in the hostile fire to send it to its next objective by individual rushes controlled by the section leaders. When the section leader is away on reconnaissance, the section sergeant maintains contact with him by keeping him in sight or by using a connecting file.

8. Uncovered approach march.

- a. In an uncovered approach march of the company, where two para sections of the company are in the leading elements, it is usually best to attach a mortar group to each section and march the weapons section (less detachments) with the other weapons on the carriers. The foot elements march near the rear of the interval between the two sections, the carrier following by bounds behind the second echelon. At all halts, the carrier machine gun is manned for anti-aircraft fire.
- b. Where only one para section--this is exceptional--is employed in the leading elements, all elements of the weapons section not attached to para sections may march as sections. A mortar group may be attached to the leading section.
- c. When it looks as if the section would soon go into action, the leader goes with the company command group to reconnoiter the zone toward the next objective designated by the company commander, so that he will be ready to put his weapons effectively into action from suitable positions. The weapons section leader looks particularly for good firing positions for his machine guns on the flanks of the company zone, and for cover positions near these where men and guns can await orders to move into firing positions. He also notes covered off-carrier positions for the carrier, and selects, if necessary, a covered position for his section to stay in until he orders his units to move their weapons up to the firing position areas. He also makes note of all ground to the front of the para section positions which they will not be able to reach with their own fire. These areas all may become targets for his mortar section.
- d. On arrival at their objectives the sections halt in their cover positions. Carriers are concealed or camouflaged.

9. Initial reconnaissance.

- a. The leader of the weapons section goes with the company commander when action appears imminent and receives his instructions about reconnoitering positions for firing and off-carrier positions. The company commander gives him instructions relative to these first off-carrier positions and the general area for his firing positions.
- b. The section leader directs the movement of the carrier to the off-carrier position or other rendezvous and tells the section leaders where the position area or areas are. The section leaders move their sections with their weapons to the vicinity of the position area and inform the group leaders as to the approximate position of each piece. The group leaders pick the exact location of their firing positions. Section leaders reconnoiter and establish their observation posts.

10. Attack.

a. Machine guns.

In attack, the machine gun section is detached from the section and operates at some distance from the mortar section. The section leader receives his orders directly from the company commander. The mortar section is directly controlled by the section leader.

b. Mortars.

- 1) When tanks lead the attack, the mortars take positions in readiness to support the advance of the para assault in areas where the tank advance has been stopped or where the tanks have cleared the hostile position.
- 2) When a para company attacks without the initial support of tanks, the mortars are usually the principal elements of the company base of fire. Where the distance from the final company assembly position to the enemy resistance greatly exceeds midrange, or when conditions of visibility make observation impossible, it is impractical to establish a company base of fire. When this is true, the mortars prepare to follow the advance of the attacking echelon in order to reach positions within effective range of their targets.
- 3) As the attack progresses, the section leader closely observes the action of the leading para assault and coordinates the fire action of his mortars with the fire and movement of the para units.
- 4) When it becomes necessary, as on flat terrain, for the mortars to occupy positions in the open, immediate fire direction by the section or company leader becomes impractical. Sectors of fire are then assigned to the mortar group leaders. Each group leader takes as his primary target enemy elements that come into sight in his sector. As secondary targets, he takes targets located in adjacent sectors. He regulates his fire action so as to support the general plan of action of the company as given to him by the section leader and as he sees it develop during the course of the action.

11. Displacement in the attack.

- a. Displacement is carried out so as to cause as little break as possible in the continuous mortar support. In particular, displacement is avoided during any period when the leading para assault unit is in movement.
- b. The situation determines whether the section makes a displacement by section or group element. The group method is necessary when continuous mortar support would otherwise be interrupted. It is best to make displacements during lulls in the action when movement and fire attack are not immediately contemplated. And naturally when his section can no longer observe the attacking unit or the target, the section leader orders his mortars to displace forward.
- c. Before moving his mortars from a masked to an open position, the section leader makes sure his mortar groups have a full supply of ammunition. If they do not have enough, it is generally best to wait till more is brought up before moving them into an open position. The section leader moves his unit by bounds, making the best of the ground as cover, until the new firing positions are reached. Where possible, the carrier displaces to a new cover position close to the new positions of the mortars.
- d. Then enemy resistance weakens and bases of fire are no longer organized, the light mortars are assigned to the support of para sections. Group leaders follow and receive further fire orders from para section leaders.

12. Defense.

a. Mortars.

- 1) The mortars are employed to cover dead spaces in the bands of machine gun fire in accordance with the battalion commander's plan of fire, and to fire on killing areas within midrange where hostile forces might be assembling for their attack. The execution of these missions may require the preparation of one or more supplementary emplacements.
- 2) In his orders for a defense, the company commander designates the mortar units to be attached to para sections and those to be held under his own control. Usually one group is attached to each front-line para section.
- 3) When a mortar is attached to a para section, the para section leader directs its fire. The section

leader supervises the preparation for fire missions assigned by the company commander to mortar groups held under company control. The weapons section leader prepares fire data for any special fire orders which require the concentration of the fires of more than two mortars. He sees to the supply of ammunition of mortars attached to para sections.

b. Machine guns.

The machine guns are assigned missions and positions in the battalion commander's plan of defensive fire in order to coordinate the fires of all heavy and AA-52 machine guns of the battalion. The light machine guns are not detached from their companies to carry out these missions.

13. Security.

When a para company has a mission of security, the elements of its weapons section are given missions which they carry out in accordance with the principles given for the weapons section in defense. In other words, a weapons section by itself is not assigned any specific security missions but supports the other units of the company to which it belongs when it carries out such attacks.

THE LIGHT MACHINE GUN SECTION AND GROUP (AA-52-HEAVY BARREL)

1. Composition of light machine gun section.

A light machine gun section consists of a section leader (sergeant), one messenger, and two machine gun groups. Two basic Legionnaires may be provided. A light machine gun group consists of a corporal and four Legionnaires (one gunner, one assistant gunner, two ammunition bearers).

2. Armament and equipment.

All members of a light machine gun section are armed with the Famas 5.56mm rifle including the gunner and assistant gunner. Each group is equipped with AA-52 7.62mm machine gun, heavy barrel and accessories. When moving off carrier, the normal ammunition supply per gun is 1,250 rounds (five ammunition chests). The assistant gunner carries one chest (250 rounds) and each ammunition bearer two chests (500 rounds).

Company weapons carriers carry additional ammunition for each gun. The section leader carries wire cutters, field glass, and compass; each group leader, an ax, field glass, and compass; one man, a pick; three men, each a shovel.

3. Characteristics and missions.

- a. The light machine gun is a direct fire weapon designed to deliver automatic fire at close and mid-ranges against troops and unarmored vehicles, and it is primarily an offensive weapon. Its high mobility and low relief make it a good weapon for missions close up to the front line and enable its crew to follow closely behind the attacking echelon with it.
- b. The primary mission of light machine guns is to deliver flanking or oblique fire in support of the attacking units. Hence they are maneuvered in combat so as to get them to positions from which this mission can be carried out. The light machine gun shares with the heavy machine gun the mission of direct fire support of tank attacks.
- c. The characteristics of the mount, the normal location of the weapon with respect to the leading para unit, and the fact that other weapons are more adaptable to anti-aircraft missions make the use

of light machine guns for anti-aircraft fires exceptional. In defense, the light machine gun performs missions on the main line of resistance similar to those of heavy machine guns.

4. Duties of section and group leaders.

The light machine gun section leader leads his section as a unit during an approach march in much the same manner in which a para group leader leads his group. In combat, he selects position areas for his group and gives them their targets or sectors of fire and directs the fire of his section as a whole. He also regulates the displacement of his unit. The light-machine-gun group leader supervises his men as they move to, prepare, and occupy a position area, and camouflage it. He controls the fire of his weapons in battle and the discipline of his group.

5. Offensive fire order.

- a. When a para company organizes a zone of fire, its light machine gun section is assigned either a sector of fire, a target or targets, and an initial position area. Or it is given positions in which it will prepare to advance with the attacking unit.
- b. If tanks lead the attack, the section is emplaced and assigned a sector of fire in accordance with the battalion plan of supporting fires.
- c. If there is an open field of fire on a flank of the company base of fire, the company commander usually gives his light machine gun section one or more targets on that flank, or directs it to watch a sector on that flank and be ready to take any targets under fire that appear. If the position of the company is somewhat to the rear of either adjacent company, the company commander assigns an initial position to his light machine gun section in the zone of one of the more advanced adjacent units. From such a position the section places flanking or oblique fire on any assigned enemy targets, or on targets which appear as the para section of its own company advance.
- d. In some situations there may be no suitable task to give the light machine-gun section at first. In this case, the company commander gives it a route of advance in accordance with his attack plan, or holds it in reserve until a good opportunity develops to use it for oblique or flanking fire.

6. Firing positions.

- a. The positions selected for AA-52 machine guns are such that their equips can place direct fire on the target or targets assigned to them, or cover an assigned sector of fire. The gunner must be able to see not only his target or sector of fire but also the front-line paratroops. There should be cover available, when possible, in rear of the firing position for the shelter of the gun crews. Such cover also makes it easier to bring up ammunition. Guns must also have a clear field of fire.

When alternate positions are selected, the cover position should have easy access to both primary and alternate positions. The different gun positions are separated far enough so that more than one gun crew will not suffer casualties from the same bomb or shell—say, 30 to 50 meters apart. They should, however, be within arm- and hand-signalling distance. The distance from other troops nearby must also be considered. Positions may be occupied in the zone of an adjacent unit so long as this doesn't interfere with the operations of that unit. This will only be when the adjacent troops are farther ahead.

- b. The section leader ordinarily designates the general position area. Group leaders pick the exact locations for their gun emplacements and the routes of approach to them.
- c. Positions good for delivering flanking fire are often exposed to attack from the front. Hence these positions should in general be toward the rear of the area from which the section can carry out its fire mission. It is also often necessary to provide artificial protection before occupying such a position.

7. Initial reconnaissance.

- a. When light machine guns are to be employed on an initial base of fire in support of tanks, the company commander himself reconnoiters for their positions. But when a base of fire is to be organized in support of a para unit advance, the company commander usually indicates only the general initial position area—this after considering the recommendations of the section leader.
- b. The company commander tells his weapons section leader as early as possible what use he plans to make of the light machine gun section. Whenever it is apparent that the company will soon be in action, the weapons section leader joins his company commander to receive instructions regarding his own reconnaissance of firing positions for the light machine guns and the off-carrier position for the weapons carrier.
- c. In reconnoitering, the weapons section commander precedes his light machine gun section to see the location of the front-line paratroops, and to note the positions and fields of fire which will be most suitable for flanking light machine gun fire in support of the company commander's plan of attack. He also looks especially for actual or suspected locations of hostile machine guns which might take the friendly para units under cross fire as they attack. He selects an initial cover position for his light machine gun section close to its firing positions. He then signals back or returns to direct the movements of his groups from their off-carrier position to the cover position.

8. Occupation of position.

- a. Whenever practical, each light machine gun group stops in the cover position while the group leader observes his sector of fire and prepares firing data. The gunner and assistant gunner move the gun into position on orders of the group leader as soon as the section leader directs, and the rest of the group stays in the cover position. On completing a firing mission, the gunner and assistant gunners take the gun back to the cover position until the next mission.

9. Fire direction and control.

- a. As a general rule, a light-machine-gun section gets the most effective results if both guns open a heavy surprise fire on a single target. The section leader designates the target or targets, gives the number of rounds, and commands or signals: Commence firing. He watches the leading para assault echelon closely and helps its units with his heaviest fire whenever they try to gain ground. If he can, he establishes contact with the para unit leaders nearest to him and keeps informed of where their units are and what they plan to do next.
- b. Group leaders move their guns into position as soon as the section leader says to and open fire at his direction. They keep him informed of their ammunition supply.
- c. In a situation where the section leader cannot control the fire of his section, he gives each group leader a sector of fire and also shows him the sector of the other group. Each group leader takes as his primary targets suitable enemy men or weapons that appear in his own sector, and as his secondary targets those which appear in the other group's sector. Whenever a group leader finds himself on his own, he leads his group and directs its fire in the best way to support the general plan of the company.

10. Displacement.

- a. The mission given to a light machine gun section in an attack generally requires it to advance along a route near a flank of the company zone and to occupy successive positions from which it can fire either across the front of an adjacent unit or that of its own company. As the action develops, it may become necessary for the section to shift laterally to reach the best positions and fields of fire for continuing its supporting missions. An effective use of light machine guns demands that the section leader keep constantly in touch with what is happening on the flanks of his company.

- b. As soon as an occupied position no longer affords a suitable field of fire, and it otherwise becomes practical to move, the section leader moves his section to a new position. Here the amount of ammunition left to fire has an important bearing. If ammunition is low, it is better for the section to wait until more can be brought up before advancing to a new position where hostile fire may make it difficult or impossible for ammunition to reach it.
- c. The section leader, accompanied by the messenger, moves forward to reconnoiter the new position and the situation in the forward area. After locating the general position area, he selects a cover position as close as possible to it. He then signals or otherwise directs his groups to move up to the new cover position.
- d. Group leaders move their groups forward, following covered routes where they are available. The section leader gives his further orders in the cover position.
- e. Displacement is generally effected by group elements as prearranged by the section leader.

11. Light machine gun section in defense.

- a. When a para company occupies a defensive position at the end of an attack or an approach march, the company commander places his light machine gun section on the company base of fire and assigns it sectors of fire covering the front of the company position. The company commander assigns the fire missions and the section opens fire on his orders.
- b. But when a battalion defense area is organized, the battalion commander's order assigns the positions, sectors of fire, and final protective lines to all AA-52 machine guns of the forward assault companies. No distinction is made between the missions of light and heavy machine guns covering the main line of resistance. It requires an order of the battalion commander to change the positions or missions of AA-52 machine gun units in this situation. They occupy and organize their positions and deliver their fire just as heavy machine gun units do, except that AA-52 machine gun units are seldom given missions outside the areas of their own companies.

12. Defensive positions.

- a. In the defense, AA-52 machine guns may occupy primary positions, alternate positions, or supplementary positions.
- b. Primary positions are the positions selected for occupation at first. If one position is better than any other available place, it is usually taken as the primary position. An alternate position is simply a position to move a gun to when for any reason the primary position should no longer be occupied, as when the primary position comes under heavy enemy fire because the enemy has discovered it. An alternate position should, whenever possible, be as good as its primary position, and from it the gunner must be able to cover the same targets or sector of fire. When the ground permits, it should always be possible to shift a weapon from its primary to its alternate position under cover.
- c. A supplementary position is one from which a gun crew can accomplish some other fire missions than its mission at its primary or alternate positions. Ordinarily, a supplementary position should not be more than 200 meters from a primary position.
- d. The following govern the selection of primary positions:
 - 1) The mission assigned the group/section.
 - 2) The zone of fire.
 - 3) Safety for the men and groups/equipes (cover and concealment, availability of cover position).
 - 4) The time available.
 - 5) Route of approach for the occupation of the position and for the supply of the position after occupation.

- 6) Availability of alternate positions.
- 7) Availability of supplementary position.

13. Occupation and preparation of positions.

- a. The occupation and preparation of a gun position consists of digging the emplacement for the primary position, clearing the field of fire as may be necessary, preparing a range card, and supplying the position with ammunition and other necessary supplies. All of these things may be done simultaneously, by different members of the groups. The rapidity and thoroughness with which the things can be done depend upon the nearness and activity of the enemy.
- b. After the initial work has progressed to include a standing type emplacement for the primary position, alternate and supplementary positions should be prepared. Covered routes between all positions should be selected. Existing trenches and natural cover are utilized for this purpose as far as practical. While the primary position is being prepared, the weapon should be mounted and kept ready to fire if the enemy attacks.

14. Conduct of the defense.

- a. AA-52 machine guns do not open fire until renumerative targets appear.
- b. AA-52 machine guns do not fire against low-flying aircraft. By so doing, the accomplishment of their principal fire order is jeopardized.

15. Ammunition supply.

The weapons section leader, under the supervision of the paratroop company commander, is responsible for the supply of the section. The section leader may combine the ammunition carriers of both groups into a single system of supply, then move readily to bring the ammunition forward from the weapon and ammunition carrier or other designated location to a point convenient to both groups.

THE 60mm MORTAR SECTION AND GROUP

1. Composition of 60mm mortar section.

A 60mm mortar section comprises one sergeant (section leader), one messenger, three 60mm groups; two Legionnaires may be provided. A 60mm group comprises: one corporal (group leader), one gunner, one assistant gunner, and two ammunition Legionnaires.

2. Armament and equipment.

In the 60mm mortar section all paratroops are armed with Famas 5.56mm rifles. Each is equipped with one 60mm mortar. The section leader carries wire cutters, field glasses, and compass; the messenger, a shovel; each group leader, an ax, field glass, and compass; two men, each a pick; two men, each a shovel.

When the mortar is transported by hand, loads are carried as follows:

	Load	Weight (English)
Corporal	Base plate, sight, field glass, compass, and cleaning brush	23.6 pounds

No. 1 (Gunner)	Mortar and bipod	27.87 pounds
No. 2 (Asst. Gunner)	10 round shell	34.8 pounds
No. 3	10 round shell	34.8 pounds
No. 4	10 round shell	34.8 pounds

3. Characteristics and missions.

- a. The 60mm mortar itself has a maximum range of about 1,000 meters, and the effective bursting radius of its high-explosive shell is around 15 meters, though some casualty-producing fragments carry much farther. Its high trajectory enables it to be emplaced in deep defilade, hence there is a wide choice of positions for it on most terrain. It has a low relief, hence small irregularities of the ground give good cover for the mortar and its crew.
- b. At the same time, ammunition for the mortar is heavy, and the weapon itself must often be moved by hand from one position to another during battle. Consequently, the amount of ammunition on hand and the possibilities of bringing up a further supply often determine its combat use. The mortar shell weighs about 3 1/2 pounds. For a weapon of its size, the 60mm mortar has a terrific punch.
- c. The principal attack of a 60mm mortar section is against targets which cannot be reached by rifles or machine guns. It is also used as a para company signal projector. It fires a single-star signal bomb which bursts about 600 feet above the ground and burns about 30 seconds. This signal can be seen with the naked eye 1,500 meters away. Certain other bombs are provided for special signals.
- d. It is possible for the mortar to fire at the rate of more than 30 rounds per minute for short periods. Necessity for conserving the limited supply of ammunition, and of making each available round count, will greatly reduce this rate in combat.

4. Firing positions.

- a. Many things must be considered in locating mortar firing positions. Cover, observation, the targets themselves, the location of friendly front-line troops, the requirements of control by the company or section commander, and the feasibility of supplying ammunition—all affect the choice of positions. There must always be observation of the target and the front-line troops. The maximum range to the target is 1,000 meters. The paratroops should not be over 500 meters away and preferably closer, for accuracy of fire falls off rapidly beyond this range. Here, of course, the ground will usually be a main consideration. If there is no fire zone to be found—shell holes, ditches, hillocks, small rises—within the limitations of range to hostile targets and distance to front-line troops, then open positions must be used.
- b. After the main considerations just given are met, it is also desirable for mortar emplacements to be within distance of hailing, or arm-and-hand signalling, from the company command post. Positions with covered approaches from the rear make ammunition supply much easier and thus add greatly to the supporting value of small mortars. This consideration, however, must not be allowed to interfere with the proper location of the mortar with reference to the target and the front-line troops.
- c. In locating a mortar position, the crew takes advantage of natural vegetation to conceal the mortar from observation and uses natural or artificial means to camouflage the weapon and its emplacement. Where the situation indicates that the mortar will be in the position for some length of time, the leader selects alternate emplacements for his mortar.

5. Fire direction and control.

- a. The mortar group is the basic unit of fire control. The group leader controls the fire of his mortar from an observation post at or near the firing position of the piece. The section leader exercises

immediate fire direction and concentrates or distributes the fire by assigning targets or sectors of fire to his groups.

- b. Usually the group fires on separate targets. Fire is adjusted by bracketing, with careful observation to save ammunition. Fire for effect is delivered in bursts of five rounds. If the target is not neutralized by the initial burst of five rounds, it may be necessary to repeat such a fire, or fire may be continued by single rounds at a slow rate in the effort to keep down the enemy fire.
- c. As the assault units approach assaulting distance the mortars become more and more important. Their high trajectory enables them to render effective support almost up to the moment of closing with the enemy. When the para units assault, the section and group leaders keep alert to locate hidden machine guns that may open surprise fire on the advancing paras. The mortar group leader engages such targets without order.

6. Duties of leaders.

- a. The section leader.

The section leader reconnoiters the position area assigned to his section and indicates to his group the approximate position for each mortar emplacement. He may also locate observation posts from which each group leader can observe the target areas or sector of fire for his mortar. Where there is no good observation near the mortar positions, the section leader may find it best to control the fire of the section himself and establish an observation post from which to control both mortars.

- b. The group leader.

The group leader exercises fire control over his group and may establish an observation post from which he can observe fire on the target and transmit his commands to his crew by voice or arm-and-hand signals. During action he supervises the members of his group in their duties and maintains fire discipline. When given an approximate position for his mortar by his section leader, he picks the exact location for it and directs the preparation of the emplacement (camouflage and entrenchment where required) and the movement of the mortar into position by his men. When the section leader conducts the fire of the group, each group leader is responsible for carrying out his section leader's orders properly.

- c. The nearness of mortars to the front line in an attack usually permits observation of fire from some point near them and makes unnecessary and impractical fire control from a section observation post. The main duty of the section leader is to observe the paratroops closely and regulate the movement and positions of his groups in accordance with the action and changing situation of the paratroops. Where the company establishes a base of fire, the section leader gives the command or signal for opening fire on a target and specifies the number of rounds for each mission. Before a displacement, a sector of fire or target area is assigned to each group. The group leaders take as primary targets those included in their assigned target areas or sectors, and as secondary targets those appearing outside their sectors or target areas. They regulate their fires in accordance with the situation and the needs of the attacking echelon for their supporting fire.
- d. The mortars are distributed to give best support to the para sections and to facilitate the fire of the section as a unit.

7. Mortar section in defense.

- a. In defense, a 60mm mortar group is assigned a primary target area and may be assigned secondary target areas. Target areas are usually about 50 by 50 meters. They cover gaps in the final protective lines of machine guns in the company defensive sector, or defiladed approaches to the positions not

covered by artillery or the battalion supporting weapons. The group opens fire on a signal prescribed by the company commander, or on the orders of the para section leader to which the group is attached. On signal for the opening of final protective fires, mortar crews fire on their primary target areas. When not actually engaged in firing or in preparing to fire on another target, the mortar crew keeps its weapon laid to fire on its primary target area.

- b. Mortar emplacements should be within arm-and-hand signalling distance of the post of the commander under whose direction the mortars are operating (the para section, if the group is attached to a para section, otherwise, the weapons section commander).

8. Ammunition supply.

The ammunition for the mortars is carried on the section carrier, and there is also a reserve on the combat train of the next higher unit. The ammunition immediately available is carried as far forward as possible by the weapons carrier. From this point the ammunition carriers of the mortar group carry it forward by hand. The weapons carrier follows the company far enough back to prevent its exposure to aimed small arms fire, moving from one covered position to another as the company advances. As mortar ammunition is expended, the ammunition carriers return to the weapons carrier to get more as directed by the section sergeant. At best, the supply of mortar ammunition in combat is difficult. Consequently, mortars do not participate in preparatory fire, nor do they fire long concentrations.

In the defense, a supply of mortar ammunition is usually dumped in a covered location convenient to the mortar position. From here the ammunition carriers of the group carry it up to the mortar. If there has not been time to accumulate a supply of shells at the position, the ammunition has to be brought up by hand as in the attack.

9. The 60mm mortar group and section in security.

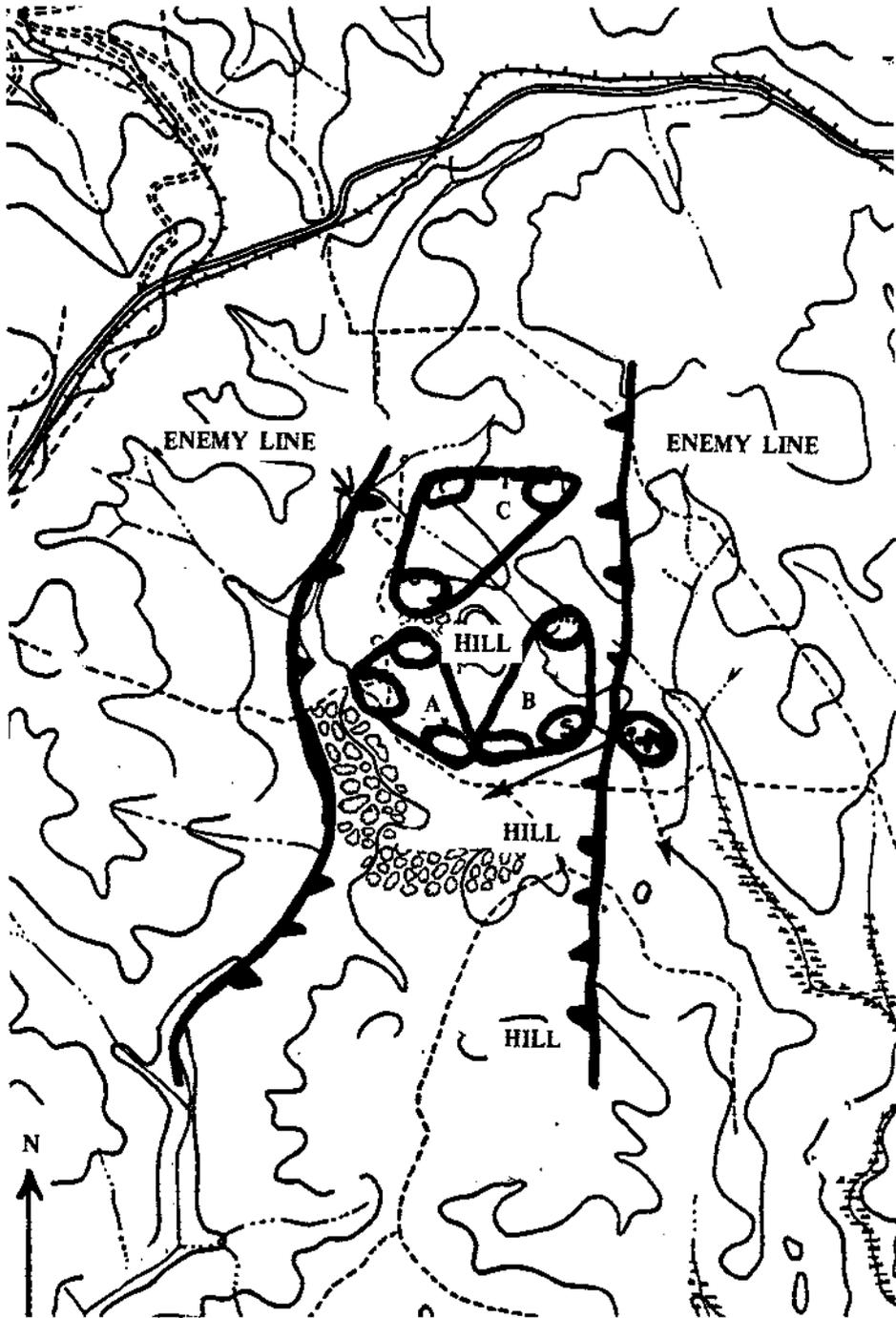
a. General.

The mortar group and section are often employed with para units engaged on missions of security. While so employed they are used for fires in support of these para units. Consequently, the action of the mortar unit is the same as described for attack and defense, depending upon whether the para unit being supported is attacking or defending.

- b. Units engaged on missions of security are either in motion, as in advance, flank, and rear guards, or are covering defensively a greatly extended front, as in an outpost. These conditions require rapid, accurate, and continuous reconnaissance by mortar group and section leaders. They must keep constantly in touch with the situation and anticipate the probable future employment of their mortars.

c. Positions in security.

The requirements for positions are similar to those described for attack and defense. In an advance guard, the primary requirement is speed in entering action. Consequently, other favorable characteristics may be sacrificed for a position which is immediately available and which will permit the mortars to open fire with the least possible delay. In a rear guard action, an extended field of fire and a covered route of withdrawal are of primary importance. In an outpost covering an extended front, it may be necessary to select several positions. The exact direction of advance of an enemy can seldom be anticipated. Routes to each of the positions selected are reconnoitered and marked, and range cards prepared for each. The mortar groups may occupy primary positions continuously, or the section leader may keep them in a central location, as with one of the supports or the reserve ready to occupy any of the previously reconnoitered positions whenever the enemy attacks.



500 0 500 1000 METERS

- A-PARA EQUIPE, LIGHT MACHINE GUN-AA-52; 6 LEGIONNAIRES
- B-PARA EQUIPE, LIGHT MACHINE GUN-AA-52; 6 LEGIONNAIRES
- C-PARA EQUIPE PLUS COMMAND GROUP, 60mm MORTAR; 8 LEGIONNAIRES

**LIGHT-MACHINE-GUN SECTION AND GROUP,
60mm MORTAR SECTION IN DEFENSE**

Chapter 10

Heavy Machine Gun

1. Introduction.

The heavy machine gun is a powerful weapon. It is used in airplanes both for fighting other airplanes and for attacking troops on the ground. It is used from tanks and trucks against airplanes, and on the ground it is fired against air targets and against the enemy on the ground.

The heavy machine gun has an outstanding influence on paratroop tactics and on the outcome of battle. All armies have them by the thousands. The heavy machine gun, moreover, is not a single weapon, nor is its use merely a matter of pulling the trigger and spraying hundreds of bullets out of the gun in the general direction of the enemy. Instead, it is a somewhat complicated, interesting and accurate weapon, the proper battle use of which requires a good deal of training and study. It is necessary to have a good grasp of the following things.

2. Paratroop supporting weapon.

The job of the paratroop in attack is to close with the enemy and capture or destroy him. In defense, it is the task of the paratroop to hold its positions and repel the hostile attack. The heavy machine gun, as a powerful supporting weapon, contributes much to carrying out both of these missions.

Paratroops fight by combining fire and movement. Fire is furnished by the weapons of the individual Legionnaires, AA-52 machine gunners and grenadiers, and the paratroop supporting weapons, and by artillery, tanks, and combat airplanes when their support is needed and available. The element of movement is obtained through maneuver on the battlefield.

The heavy machine gun is used with other supporting weapons to form the base of fire of the paratroop battalion in the attack, and to form a main part of the combination of weapons in the defense.

3. Heavy machine gun.

- a. Its limit of useful range is about 3,500 meters, but effective, aimed fire is limited by observation to shorter ranges. Effective indirect fire is limited only by the maximum range of the gun and the conditions for securing firing data. The heavy machine gun lacks the mobility of the lighter AA-52, but its more stable mount gives it greater accuracy at long ranges. It is capable of overhead and indirect fire and has a great capacity for sustained fire. Over level or uniformly sloping ground, the danger space is continuous for a distance of 750 meters from the muzzle of the gun.
- b. The heavy machine gun uses the same ammunition and has the same flat trajectory as the rifle. The

Legionnaire thinks in terms of a single shot. The heavy machine gunner thinks in terms of a cone of fire. The weight of the heavy machine gun makes it necessary to use a motor weapons carrier to keep it up with the troops in advances over long distances. Although the heavy machine gun does not fire the same ammunition as the AA-52 machine gun, the heavy machine gun has a much higher possible rate of fire over longer periods.

4. Methods of use in combat.

The heavy machine gun acts through firepower. The heavy machine gun has little power of destruction against materiel. It is generally employed, therefore, to keep down the fire of hostile infantry and machine guns, destroy personnel in the open, protect the flanks of advancing para elements, cover the front and flanks of defensive areas with fire, immobilize personnel under cover, and deny the use of certain areas to hostile troops. In all of these battle tasks the uses of machine guns is coordinated with that of other weapons. All of them have tasks and targets in combat best suited to their powers and limitations. The heavy machine gun is effective against low-flying planes that do not have armor thick enough to protect their pilots and engines and other vulnerable parts against such fire. When our troops are making an attack, heavy machine guns fire upon enemy planes within range without waiting for order, unless they are already engaged upon more important targets, or unless by firing they will disclose gun positions that should be kept concealed. Heavy machine guns in marching columns, whether the paratroops are moving in trucks or on foot, are mounted and kept ready for instant firing at air-planes. Heavy machine guns of reserve units may be given anti-aircraft tasks of protecting important installations. Units in camp or fire bases are protected by heavy machine guns specifically designated for that purpose.

5. The heavy machine gun mount.

- a. Machine guns have fixed mounts which are especially desirable in firing them against ground targets. Such a mount permits the gun to be clamped both in elevation and direction. This reduces the human error in firing, even when the firer is under the strain of battle excitement or fatigue. Moreover, it permits overhead fire to be used, within certain limits, without danger to friendly troops. This ability to keep the weapon firmly in the same direction and elevation with only small corrections to keep its fire on the target makes it possible to fire it at unseen targets through "indirect laying." The fixed mount also gives a small dispersion and thus a close grouping of shots.
- b. By virtue of this type of mount effective fire can be placed upon a given area under all conditions of visibility, provided only that the irregularities of the ground and the safety of friendly troops do not prevent the fire from being placed upon the target, and that accurate firing data can first be obtained. This capability of the heavy machine gun is particularly useful in night firing, or when the target is masked by rain, fog, or smoke. Its use in outposts or in defense, where guns are laid to cover avenues of approach or sweep areas or lines through which the enemy must pass, is an example of its use in this respect.
- c. Accuracy and close grouping of shots can be obtained at long ranges. Thus, the machine gun can be fired effectively at targets beyond the range of effective rifle fire. In an attack, heavy machine guns can begin the firefight and cover the advance of Legionnaire paratroops until they are within effective rifle and mortar support range of the enemy. In the defense they can, in fairly open country, force the enemy to deploy at ranges so distant that his own small arms fire will have little effect. Finally, heavy machine gun fire can be adjusted, when conditions permit, by observing the strike of the bullets on the ground (they raise a small cloud of dust or dirt) and then making necessary corrections by traversing and elevating the gun.

6. Firepower.

- a. By merely pulling the trigger, 400 to 525 shots per minute can be fired. This is the "cyclic rate,"

and must be distinguished from the "usable rate" of fire. The maximum usable rate of fire is about 250 rounds per minute. If any more shots than that are fired per minute, the barrel of the gun gets so hot that it softens and the gun at once loses its high accuracy. Hence the firing is done in bursts, usually of from six to 20 rounds, with a pause after each burst to check the aim or re-lay on the same or other parts of the target as desired. But during each burst the gun fires at top speed (at its cyclic rate).

- b. The number of rifles equivalent to one heavy machine gun is variable, depending upon the range of the direction of fire with respect to the target. It is ordinarily assumed that the fire effect of a single heavy machine gun is equivalent to that of a dozen or so semiautomatic rifles. Its rapidity of producing and applying a large volume of accurate fire favors the use of machine guns, where possible, for surprise effect.
- c. Because of its better cooling system and heavier mechanical construction, the heavy machine gun is capable of maintaining a high rate of fire for a considerable period of time—a valuable asset in firing on areas that must be kept under fire for long periods.
- d. Machine guns consume large amounts of ammunition. Therefore, the ammunition supply must be well organized and its expenditure carefully regulated. This is not as difficult in the defense as in the attack where ammunition can be carried forward in limited quantities only.
- e. Stoppages of fire (mechanical failures, most of which can be corrected by a trained machine gunner in a few seconds) constitute an unfavorable characteristic which must be noted in connection with the firepower of the heavy machine gun. This liability to stoppage, together with tactical considerations, make it advisable to use these guns in pairs. Both guns of a section should be assigned the same target or sector so that in case one gun has a stoppage the other gun can continue to fire.

7. Cone of fire and beaten zone.

- a. Small dispersion, a high rate of fire, and a rather flat trajectory give a narrow, dense cone, with a resulting long, narrow, beaten zone. In firing over level or uniformly sloping ground at a range of 750 meters, the height of the cone above the ground does not exceed the height of a man.
- b. As the range increases the trajectory becomes higher so that fire over masks (such as hills, jungle, and houses) by indirect laying can be employed. With certain limitations for safety, it is possible to fire over the heads of friendly troops.
- c. The heavy machine gun can be used to fire on points or areas where the enemy is known to be or believed to be. It is not a suitable weapon for sniping or similar firing.
- d. The small dispersion of the cone of fire has a direct bearing upon the accuracy with which the range must be determined. At the longer ranges only a slight error in range or direction will throw the beaten zone (the area struck by the bullets) off the target. Machine gunners must be highly trained in estimating ranges and in operating the range-finding instruments with which heavy machine gun units are equipped.

8. Control of fire.

- a. The heavy machine gun can be turned in any direction without moving its mount. The ease with which the direction of fire can be changed justifies the statement that the gun has an all-around traverse. This capability makes for flexibility of fire. Counterattacks from a flank, or unexpected targets in any direction, can be quickly engaged without movement, or with only slight movement, of the gun and crew. Guns located on the flanks are able to cover gaps between adjacent units or protect the flanks when one element advances farther than another. This flexibility of the heavy machine gun, and its great firepower, make it particularly valuable for use in defense, on outposts, and in rear guards.
- b. The great firepower of the heavy machine gun is in the hands of one man, the gunner, who is able to turn the gun in any direction. Control, therefore, is simple. Fire orders are easily transmitted to this single man.

9. Mobility.

a. Methods used.

The methods used to move heavy machine guns and their ammunition are: by motor transportation, packed on animals, and by hand.

b. By motors.

When carried in motors, machine gun units are more mobile than rifle units on foot.

c. By pack animals.

When they are carried by pack animals, heavy machine guns are slightly more mobile than rifle units on foot.

d. By hand.

When gun crews have to carry the guns and equipment, their mobility is less than that of rifle units. To offset this disadvantage leaders must be resolute, and the Legionnaires must consist of robust men thoroughly trained in carrying their full equipment. Leaders must be taught to select easy assault routes of advance which permit the use of transport to the fullest extent possible. During action it is often necessary to move by hand because guns will not be able to get to their positions on transport.

e. Heavy machine gun crews cannot open fire quickly, except when their gun is already mounted in firing position. In an attack, the establishment of firing positions on the base of fire requires time. Careful reconnaissance by section leaders, in advance of their commands, ensures prompt forward movement by the gun groups and close support of the rifle companies.

f. Motor carriers are furnished to move guns and equipment fast and to prevent unnecessary fatigue. The guns should be transported as close to the gun positions selected as reasonable safety of the carriers will permit. From that point they are moved forward by hand. Skillful selection of covered routes for the carriers to use decreases the amount of movement by hand, and thus reduces the fatigue from carrying the heavy equipment.

10. Weapons carriers.

Each heavy machine gun group has 30 ammunition chests, each chest containing a belt of 250 rounds. Ammunition is carried on the group's weapons carrier and by hand as needed when close to the enemy.

11. Ease of concealment.

The small area occupied by the heavy machine gun and the men who serve it make possible the effective use of the slightest cover. Such features as folds in the ground, weeds, brush, and debris will conceal a machine gun and its crew from view. On the other hand, the distinctive noise of the gun, the dust from the muzzle blast, the steam, and the flash (at night) tend to disclose its position. Much can be done to lessen these disadvantages. When time permits, all of these unfavorable characteristics, except noise, can be effectively guarded against. Emplacements, either hasty or permanent, are small and not difficult to conceal. In cramped localities, a heavy machine gun can often be placed where an equivalent number of Legionnaires could not find room.

12. Morale and physical effects of heavy machine gun fire.

The moral and physical effects of heavy machine gun fire are greatest when the fire is delivered with volume at close range, and with surprise effect from a flank. The physical effect can often be increased by anticipating the probable actions of the enemy after the opening of fire. For example, if fire is placed on an enemy group near cover, such as the edge of a jungle, it is to be expected that the enemy will seek this cover. If the machine gunner foresees the jungle, he will get still more of the enemy as they attempt to gain cover. The moral effect of the fire is greatest when it causes great losses in a short space of time, or is so accurate and heavy as to make the enemy think of little else.

13. Favorable heavy machine gun targets.

Favorable heavy machine gun targets are deep and dense. Groups of the enemy that bunch together, and any columns or lines caught in the fire zone, present the most favorable targets. It is ordinarily the position of the target with respect to the gun, rather than the shape of the target, that determines its vulnerability to fire.

14. Unfavorable heavy machine gun targets.

The heavy machine gun has little or no destructive effect against materiel except that within close ranges it will badly damage unarmored motor vehicles and most airplanes. It is usually ineffective against tanks or emplaced artillery but may, under favorable circumstances, immobilize materiel which is animal-drawn, or served by men not protected by armored shields. Hostile machine guns, although not the best of targets, may be effectively engaged and put out of action, or at least compelled to change position. Fire should be directed preferably against troops, or areas to be denied to the enemy. When enemy forces assume any formation that presents a frontal target with wide intervals between individuals, he is least vulnerable to machine gun fire but it is still worth firing at him. In combat, the heavy machine gunner is often forced to engage unfavorable targets.

ORGANIZATION AND EQUIPMENT OF A HEAVY MACHINE GUN

1. Light machine gun equipte and section.

a. Composition.

The AA-52 7.62mm heavy barrel gun section consists of a section leader and two groups. Each group consists of: one corporal (group leader), one gunner, one assistant gunner, four ammunition bearers, and one chauffeur.

b. Armament and equipment.

- 1) Each group is equipped with one .30-caliber water-cooled machine gun, one weapons carrier, 27 ammunition chests, four water chests, and other necessary accessories.
- 2) The section leader is armed with a Famas 5.56mm rifle and equipped with a compass, wire cutter and field glasses. The group leaders, the ammunition bearers, the chauffeur of the second squad, the gunner and assistant gunner are armed with 5.56mm rifles. The following equipment is distributed around the members of the group.

One ax, entrenching.

Two pick mattocks, entrenching.

Four shovels, entrenching.

One compass, one pair field glasses—group leader.

2. Heavy machine gun sections.

a. Composition.

The heavy machine gun section comprises two sections and a command group, consisting of the section leader, one agent corporal, one instrument corporal, one transport corporal, one chauffeur (for the section command car), two messengers and three Legionnaires.

b. Armament and equipment.

All members of the command group are armed with the Famas 5.56mm rifle. The section leader and the section sergeant carry watches. The section leader, the section sergeant and the instrument corporals are equipped with field glasses. One messenger carries an entrenching pick, the other an entrenching shovel.

3. Supplying the heavy machine gun section.

The supply of the section is supervised by the section leader. With the assistance of the section and group leaders, he is responsible that the orders of the heavy weapons company commander with regard to the use of food, clothing, and equipment are properly enforced and no unnecessary waste or damage occurs.

4. Duties of command group and leaders.

a. Section leader.

The lieutenant section leader leads his section as a unit or by section element in an approach march. He directs the fire of his section by assigning targets, target areas, or sectors of fire, and firing position areas. When his section is in a masked position he controls its fire by designating targets, fixing the number of rounds for each fire, and giving commands or signal for opening fire. He directs the movement of guns into alternate or supplementary positions and he controls the displacement of his section in combat.

b. Section sergeant.

The section sergeant is second-in-command and assistant to the section leader. In movement he brings up the rear of the section, checks straggling, and follows the foot elements of the rearmost units to the rear and on the flanks of the section.

c. Corporal chef.

In combat, the agent corporal acts as the liaison agent or representative of his section commander when the section is supporting a para unit. He stays with the commander of the rifle unit to observe and learn the supporting fires desired and transmit this information back to his own unit. He may also carry out the duties of instrument corporal.

d. Instrument corporal.

The instrument corporal has charge of fire-control equipment, assists the section leader in setting up firing data, installs the section observation post and supervises its operation, and serves as a member of the reconnaissance detail in reconnaissance of positions and in displacements.

e. Transport corporal.

The transport corporal conducts the carriers in combat to the off-carrier position designated by the section leader, moves the carriers as directed by the transport officer when they are released by the section leader, displaces the carriers to new positions when so directed, and supervises concealment or camouflage of the carriers in position and at all halts.

f. Chauffeur.

The chauffeur drives the 1/4-ton truck as directed by section leader, conceals and camouflages the truck at all halts, and carries out the instruction of the transport corporal when released by the section leader.

g. Two messengers.

One messenger assists the instrument corporal and mans the observation post; one accompanies the section leader as communication agent.

h. Section leader.

The section leader is the instructor of his section. He conducts his section in the approach march and in a displacement in much the same way as the leader of a para group does. In combat, he directly controls the fire of his guns whenever the section leader assigns a sector of fire to the section and does not himself control the fire of the whole section.

i. Group leader.

- 1) The group leader is responsible for the execution of the fire orders of the section leader and the fire discipline of his group. When assigned an approximate position for his gun by the section leader, he fixes its exact location and directs his group as it prepares and occupies the gun position. He also directs camouflage and entrenchment where required, and the movement of his gun into position.
- 2) He instructs the members of his group in their duties and supervises their conduct in combat. In defense he supervises the preparation of the emplacement for his gun, its camouflage, and the dispositions of members of his group. Before beginning the construction of an emplacement, he places the gun in an emergency firing position prepared to cover the assigned sector of fire. He details one member of his group to keep close watch out over his fire sector and to man the gun if emergency requires.
- 3) When the emplacement is finished and the field of fire has been cleared, the corporal has his group mount the gun so that the firing mission of the group can be carried out.

THE HEAVY MACHINE GUN SECTION IN ATTACK

1. General.

The section is the heavy machine gun combat unit. As such, it may be given tactical missions involving the employment of its guns in support of para units. Fire missions are either carried out by the section as a whole, or they are given to sections and carried out under the control of the separate section leaders. The section is the machine gun fire unit. In the attack separate missions are seldom given to individual gun groups and this should generally be avoided. The section is usually employed as part of the heavy weapons company on the battalion base of fire.

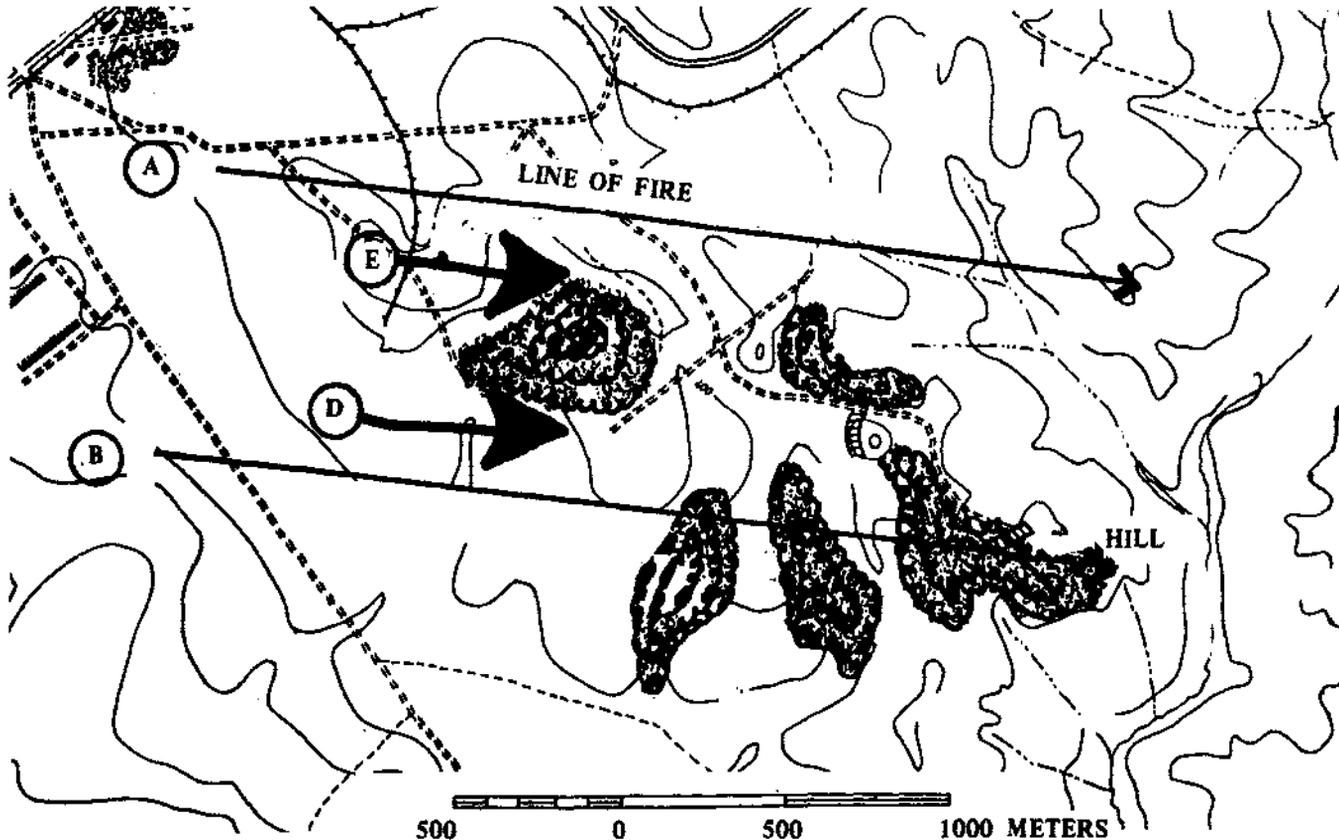
2. Approach march.

a. Company development order.

The development order of the heavy weapons company commander assigns each heavy machine gun section its initial location and march objective. It also gives the direction of the advance, the general protective ground missions and specific anti-aircraft missions of the section, and states whether dispositions should be taken for uncovered approach.

b. Dispositions for the approach.

The section may be disposed with sections roughly abreast or in depth. Advance with sections abreast is generally best for rapid movement over open terrain. Distribution in depth is used when the section should take advantage of covered routes of advance or needs to avoid obstacles. Dispositions are varied throughout the approach in accordance with changes in the terrain and in the situation. Where the terrain is not open enough to permit rapid movement of the carriers, the foot elements and the carriers may move along together. On good terrain, it is best to have the carriers follow the foot elements by bounds in order to take advantage of their speed of movement.



- A. HEAVY M.G. (.50 CAL.), 3 PARA TEAMS; 6 LEGIONNAIRES
- B. HEAVY M.G. (.50 CAL.), 3 PARA TEAMS; 6 LEGIONNAIRES
- C. COMMAND GROUP, 1 EQUIPE; 4 LEGIONNAIRES
- D. ASSAULT GROUP, 3 PARA TEAMS; 6 LEGIONNAIRES
- E. ASSAULT GROUP, 3 PARA TEAMS; 6 LEGIONNAIRES

HEAVY MACHINE GUN SECTION IN ASSAULT

c. Anti-aircraft action.

Carriers halt for anti-aircraft action. Anti-aircraft carrier weapons are at all times manned and alert for action.

d. Movement by bounds.

In critical situations, especially when the section is advancing with an exposed flank, it will often be necessary for it to advance by section elements and by bounds, ready at a moment's notice for action. Carriers stay within arm-and-hand signalling distance of their units at all times.

e. Para unit advance.

During a para unit advance, the section leader, by personal observation and the use of the men of his command group, watches constantly the route of advance and all areas from which the enemy may come into action. He stays where he can observe and direct the movement of his leading element. When necessary, he posts observers in key observation points so as to cover the entire zone of advance of his section and the terrain on the flanks.

f. The section leader usually controls the direction of advance of his section by designating the command group as the base unit and directing its movements. He reconnoiters especially for crossings over terrain features which are obstacles for his section transport. He details two men as anti-aircraft and anti-tank lookouts. When obstacles prevent the carriers from following over the same general route as the section and require them to make a considerable detour, the movement of the section is usually made under company control, but the section leader decides whether to have his guns carried by hand while the carriers detour or whether the detour will permit his men and guns to rejoin in a short enough time to risk separating them. Measures are taken for the passage of a defile as the company commander directs.

3. Initial reconnaissance.

Upon being summoned by the company commander for reconnaissance or orders, the section leader directs his section sergeant to move the section to the approach objective already designated for it or to a position in readiness. Then, accompanied by the instrument corporal and a messenger, he joins the company command group. Upon receipt of instructions fixing the off-carrier position and the firing-position area, the section sergeant moves the carriers to the off-carrier position. The section leader reconnoiters the firing position area assigned to his section by the company commander, and selects an observation post affording a good field of view over his target area for fire sector. He identifies points occupied by the enemy, or if no enemy activity has been observed, points where the enemy may be, or is likely to be later on. He also notes the dispositions of friendly para elements. On the basis of this reconnaissance, he decides how his section can best occupy its position area. He locates the approximate gun position for each gun, or else assigns position areas to his sections, and directs them to move into position.

4. Fire direction and control.

a. Whenever possible, the section leader controls the fire of all his guns. He locates the approximate gun positions for them, assigns them targets, fixes their ammunition expenditures, and gives them commands or signals for opening fire. Otherwise he directs their fire simply to the extent of assigning target areas or fire sectors to the section leaders who then control the fire of their two guns.

1) In a masked position, the section leader can usually exercise fire-control himself. However, wide

separation of the sections or difficulty of communications may require him to turn the control of fire over to his section leaders.

2) In open positions, it is usually necessary to do this. However, crest positions affording ample cover in their immediate rear may make section fire control possible as in masked positions. In this case, gun crews and weapons stay in their cover positions until the section leader orders them to occupy their firing positions.

- b. As a general rule, most effective results are obtained by opening a sudden heavy fire of all the section guns on a single target or area. Where time is available, fires on the various targets included in the section target areas or sectors of fire are, where possible, arranged beforehand and executed on order of the section leader. The section leader fixes the number of rounds to be fired on each target.
- c. Observers posted from the section command group keep continuously observing the section sector or target area. They select key terrain features as reference points and determine the range and other firing data so that targets of opportunity appearing in the field of fire can be speedily fired upon,

5. Section observation post.

The section observation post should be close enough to the gun positions for easy transmission of orders by arm-and-hand signals. Where the section occupies masked positions, the observation post is ordinarily on the crest or other commanding terrain feature which forms the mask, or on some other nearby commanding feature. The site of the observation post should permit a continuous observation of the location and movements of the attacking element and the fire sector or target areas assigned to the section. Supplementary posts may be established from which the situation on the flanks can better be watched. Anti-aircraft warning missions may be established under the direction of the section sergeant.

6. Company attack order.

Before an attack, a heavy machine gun section leader will receive instructions from his company commander covering the following:

- a. Information of the enemy and our own troops, including the battalion plan of attack; assembly positions, objectives, and lines of departure assigned to the leading para companies, and whether tanks are to lead the attack.
- b. Battalion base of fire, including position areas and missions of mortars; and the mission and position area of the heavy machine guns.
- c. Primary and secondary fire missions assigned to his section, general position area, sector of fire or target areas, priorities of fire, and time, signal, or other arrangements for opening fire, especially when machine gun preparation fires are to be conducted.
- d. Allotments of ammunition for specific missions, general arrangements for ammunition and water replenishment.
- e. Communications within the company (whether or not a central company control station is to be set up), location of the company and battalion command posts.

7. Attack with tanks leading.

Where tanks lead the attack of his battalion the section leader assigns positions and sectors of fire to each of his sections. He also assigns firing positions to be occupied in accordance with the directions of his company commander when the advance of the rifle unit begins.

8. Duties of section leader.

The section leader surveys the proposed zone of advance of the para units of his battalion and seeks to establish an initial safety limit for fire for engaging targets that oppose the advance of the leading element. Overhead fire can seldom be placed closer than 400 meters in front of advancing paratroops. As soon as he can, the section leader establishes a second safety limit for his fires, to become effective when the para units have become closely engaged. He fixes a danger zone in front of his machine guns and, when necessary, posts sentinels or takes other measures to prevent messengers or other personnel from getting into the fire of his guns. Where the attack of para units is launched within midrange of the hostile position, the initial machine gun targets are normally rear elements which might endanger the attacking element, such as heavy weapons, unarmored vehicles and counterattacking troops that appear within the machine gun fields of fire. Reverse slopes in the immediate rear of the initial attack objective, known or suspected to be occupied by hostile reserves, may be subjected to searching fire.

9. Method of fire direction and control.

The section leader habitually employs his section as a fire unit. He has it fire either overhead fire against targets in the initial attack objective or in the depth of the enemy dispositions, or long-range fires against targets in the zone of one of the adjacent units. Data are prepared for each key point or enemy area visible from the section observation post and suspected of containing hostile supports, either weapons or troops. The section opens fire on targets disclosed by enemy movements or fire.

10. Flank protection missions.

A heavy machine gun section habitually carries out flank protection missions from its supplementary direct fire positions. These missions become of exceptional importance when the advance of the battalion, as a whole, exposes one or both of its flanks. The section leader keeps constant watch of the situation on the flank of the battalion--the flank his unit can best support and watches constantly also the successive locations of the attacking element. He reconnoiters positions for flank protection fires whenever the battalion has an exposed flank, with special regard to the enemy areas especially favorable for launching a possible counterattack.

11. Emergency supplementary positions.

Whenever a heavy machine gun section occupies a masked primary position, the section leader selects for use in a possible emergency open supplementary positions with sectors of fire which cover approaches toward the primary gun positions. He informs his section leaders where these supplementary positions are, and gives them the signal for their sections to occupy these positions and the method by which they are to keep these sectors under observation. Usually one observer in the section observation post is assigned this duty. If this is impractical, section leaders may be directed to have a member of their own sections watch these emergency sectors.

12. Fire data.

- a. Ranges to the targets, or to key positions, may be secured from nearby para units, by estimation, by section command personnel, or by firing for adjustment (using the gun as its own range finder). The last method should not be used when it will forfeit surprise fire. Regardless of the method employed, the section leader, the group leaders, and the gunners observe the initial bursts and adjust the fire to compensate for errors in range determination.
- b. When the target is obscure and time is available, the section leader in person should align the sights on the target to prevent any possibility of misunderstanding. If the need for fire is urgent he may designate the target by firing a burst at each flank. When the strike of ball ammunitions cannot be

seen, tracer ammunition is a valuable aid in designating targets, provided their use will not give away the location of the gun positions. Oral designation is appropriate when the targets are obvious, or easily designated.

- c. After determining the width and depth of the target, the section leader decides upon the method of fire distribution to be used and prescribes the amount of traverse and search.
- d. The safety of friendly troops must always be considered. The "gunner's" and "leader's" rules for checking safety are applied by using the inverted sight leaf in the field glasses. Safety should also be checked by having the gunners use the machine gun sights, and an exact spot determined on the ground to mark the limit of advance of the friendly troops while fire is being delivered at the target.
- e. The rate of fire depends upon the nature of the target, the duration of the fire, and the state of the ammunition supply. Long sustained fire may require different rates at different stages of the attack. The section and section leaders may guard against wasting or running out of ammunition by prescribing the amount to be fired at a given time; for example, a chest, or half a chest, allotting additional amounts as necessary. The degree of coolness demonstrated by the gunners will soon indicate whether this needs to be done.
- f. Fire is opened simultaneously by all guns to secure surprise fire as well as high initial volume. When the need for fire is urgent, each gun may open fire as soon as it is in position.

13. Supervision of fire.

Section leaders must be alert to see that fire is opened as ordered; that it is directed at the proper targets; that it is correctly adjusted and properly distributed; and that it ceases promptly when ordered. They must be prompt to correct errors in the control of fire which are not corrected by the group leaders. Errors may result from a failure to understand fire orders. When this happens the section leaders should crawl to the gun positions to make the corrections. If his guns are not firing at a target already the section leader engages suitable new targets without waiting for orders from his section leader. All leaders must constantly observe the enemy position to pick up new targets that are offering resistance to the advancing paratroops.

14. Displacement.

- a. Before a displacement the battalion commander usually designates a new base of fire, or if he does not, he announces the general areas to be occupied by heavy machine gun and mortar units to support para units, protect the flanks of the battalion, or deliver other protective fires as the attack progresses.
- b. Displacement is begun on order of the company commander early enough to ensure continuous protection of para companies and timely occupation of positions on the next base of fire. Section leaders notify the company commander when their gunners or observers can no longer see the targets, when it is unsafe for the paratroops if their guns fire any longer, or when displacement is necessary in order to occupy gun positions for the protection of an exposed battalion flank. At the same time, they recommend new positions from which their assigned battle missions can be further carried out.
- c. Displacement of heavy machine guns is effected as a unit, by section, with each unit covering the other unit. Element displacement usually permits fire to be continuous. The unit remaining in place takes over temporarily the fire missions of the moving element. Displacement by section element favors a prompt reestablishment of fire control and a unified action of the section. However, need for battalion flank protection may make it necessary to displace by section.

THE HEAVY MACHINE GUN SECTION IN DEFENSE

1. General.

Heavy machine guns are assigned to locations within the battalion defensive sector in accordance with a defense plan approved by the battalion commander. The battalion commander so coordinates the fire of his defensive weapons that the enemy will meet with heavy machine gun fire throughout the width and depth of the defended area. Some guns are placed on the main line of resistance, some in other parts of the battalion sector.

The defense is conducted in strict accordance with a prearranged plan. However, some guns will be destroyed, there will be casualties, and the enemy will seek to take advantage of the unexpected. These things all bring about emergencies that cannot be foreseen. When such an emergency occurs, section leaders employ their guns in the best way to maintain the integrity of the defense.

2. Organization of fires.

- a. Machine guns form the skeleton of the main defensive position. The battalion defense order prescribes the missions and general disposition of heavy machine gun units. It apportions the number of units to be emplaced in forward positions for firing out to the front of the main line of resistance, or in rear positions to fire long-range overhead fires and to limit local penetration or envelopment by hostile attacking forces. Guns emplaced in the battle position are assigned positions and missions by section. Fire sectors and final protective lines of the heavy machine guns are combined with the para company AA-52 machine guns so as to cover the front of the main line of resistance with continuous bands of fire.
- b. Mortars are emplaced so as to cover dead spaces in the banks of machine-gun fire and bring fire on any fire zone spaces within midrange of the position.

3. Fire positions.

- a. In the defense, heavy machine guns occupy primary, alternate, or supplementary gun positions.
- b. Supplementary positions for long-range fire by heavy machine guns assigned to the main line of resistance must only be put in locations which assure covered routes along which the gun crews can readily return to their primary positions on the main line of resistance in time to carry out their principal fire missions. Ordinarily, reverse slope positions must be sought for this.
- c. Long-range heavy machine gun fires from positions in the main line of resistance are likely to give away the principal defensive dispositions to the enemy and thus bring down upon them the concentrated fire of hostile combat aviation and artillery.

4. Distribution of heavy machine guns.

- a. Heavy machine guns in a defensive sector are sometimes distributed between positions in the main line of resistance and positions of long-range fire farther back. One section may be assigned to each of these tasks when such a distribution is made.
- b. But where the main line of resistance is on a reverse slope, as it sometimes must be to take best advantage of the ground for defense, it is often practical to move all machine guns to the crest in front for long-range fire and from there inflict maximum losses on the enemy during his advance until the guns must be brought back to their primary positions. They must be withdrawn from such forward positions in plenty of time.
- c. When the main line lies upon a forward slope, one unit frequently occupies firing positions on the crest in rear for the long-range fires. These guns also have the missions of stopping any enemy troops who succeed in breaking through the main line of resistance; they also provide anti-aircraft

defense. Where necessary, they occupy their primary positions for covering the long-range fields of fire, and their supplementary positions for the close-range missions. The long-range fires may also be delivered from masked positions. Initially, this element may be out on the line of combat outposts if covered routes of withdrawal are available for getting back to primary positions.

5. Section missions.

A heavy machine gun section in defense may be assigned fire sectors in the main line of resistance or long-range fire missions from positions which are not on the main line of resistance. Where a section occupies positions removed from, and to the rear of, the main line of resistance, all or part of its guns may be kept in these positions to deal with any hostile troops who succeed in effecting a penetration of the main line. These are often called break-through guns. Guns assigned to these positions deliver long-range overhead fires, either direct or indirect. Guns sited in advance of the main line of resistance for long-range fires ordinarily fire from open positions. The section leader makes provision for timely withdrawal to positions in or in rear of the main line of resistance, by covered routes whenever possible.

6. Section leader's orders.

The section leader points out to his group and section leaders the course of the main line of resistance, indicates the gun positions and sectors of fire, and prescribes the field works to be constructed (entrenchments and other defenses). He checks arrangements for final protective fires. He makes certain that all men in the section understand the signal for bringing down such fires. He checks arrangements for supply of the guns. He checks to see that alternate positions have been established for each gun, and that each group leader has made full arrangements for occupying his alternate positions when the enemy fire makes it necessary to do so.

7. Coordination with para company AA-52 machine guns.

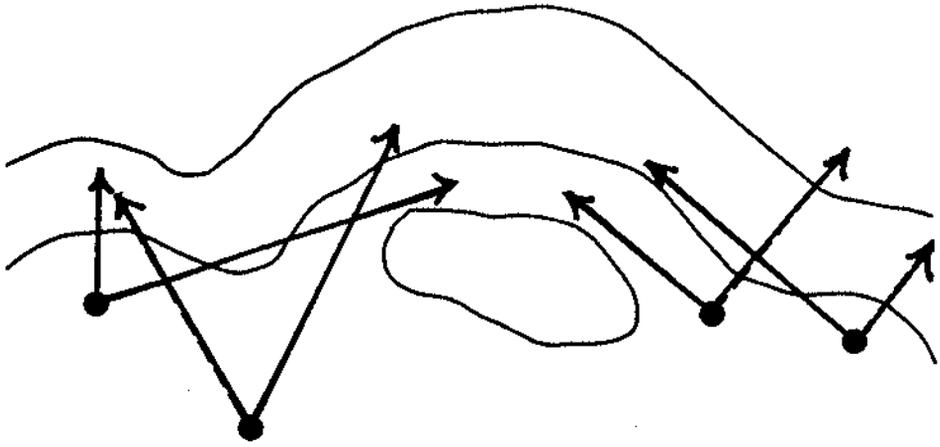
The section leader visits the positions of para company AA-52 machine guns, which are grouped with his heavy machine guns on the main line of resistance, and makes certain that the sectors of fire of the AA-52 guns are fully coordinated with the battalion plan of defensive fire.

8. Primary gun positions.

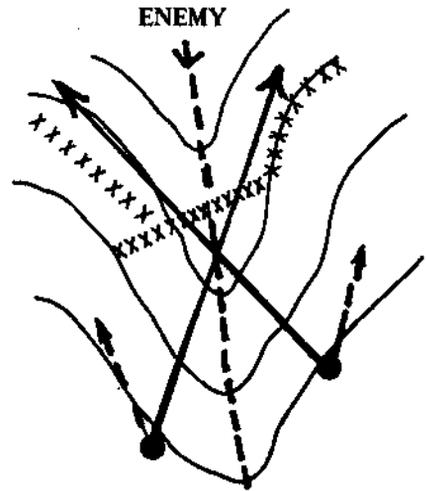
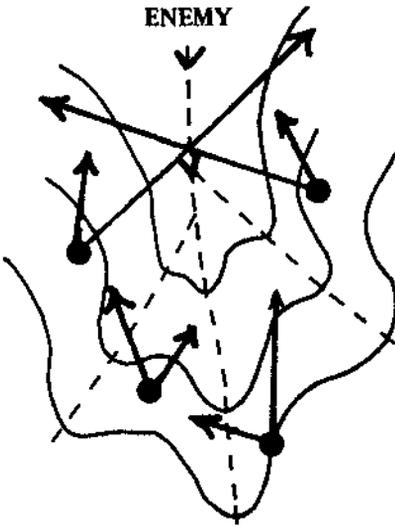
Heavy machine gun positions should provide cover from enemy fire and concealment from enemy air and groups observation and should have covered approaches so that they can be occupied and vacated without being discovered by the enemy. Gun positions are concealed by the skill with which they are sited and camouflaged and by the absence of movement around them which might attract the attention of the enemy. Guns must be protected from aerial as well as ground observation. Guns in position of fire zones are difficult to locate and have a maximum of protection. Tall grass, brush, hedges, and growing crops give effective natural concealment. Dug-in gun emplacements with overhead cover and camouflage give excellent protection as well as concealment. Once a position has been selected and occupied, section leaders must constantly see to it that their position is not carelessly disclosed by unnecessary activity or movement.

9. Alternate gun positions.

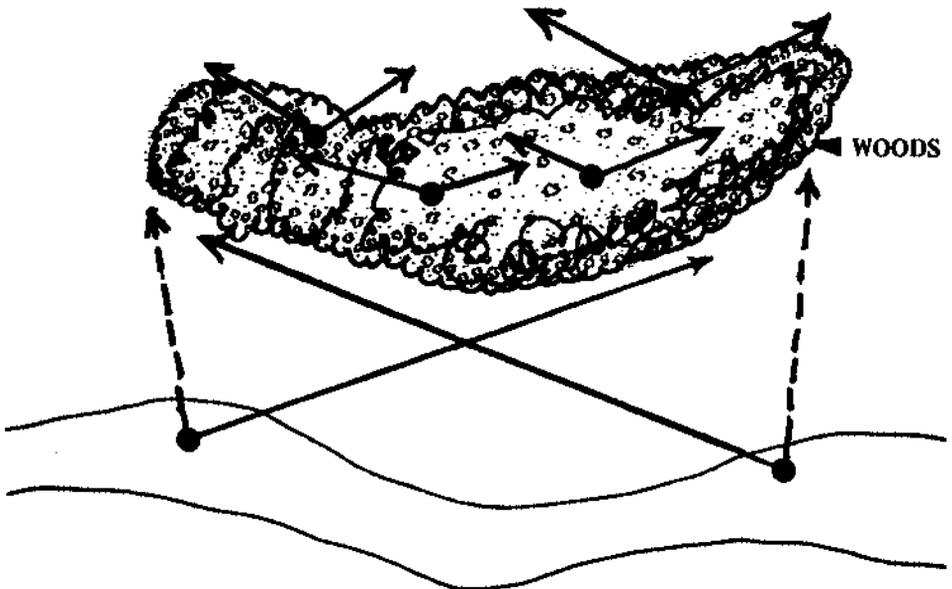
Guns that fire repeatedly from the same position will eventually be located by the enemy. Other positions must be selected as alternate places from which the guns can cover their same assigned sectors of fire as from the principal position. These are called alternate positions. They should be at least 50 meters from the principal positions. Alternate positions may be occupied from time to time, so as to



DEFENSE OF A HILL (4 GUNS)



DEFENSE OF A RAVINE (4 GUNS/2 GUNS)



DEFENSE OF WOODS/JUNGLE

DEFENSE OF AA-52 GROUPE (EQUIPE) MACHINE GUNS

deceive the enemy as to the location of the primary positions. When heavy fire is being received and it seems apparent that the enemy has spotted the gun, it is time to be shifting to the alternate positions.

Alternate gun positions should be prepared as carefully as primary positions because they may be used as long or even longer.

10. Dummy positions.

Dummy positions often mislead the enemy as to the organization of a defensive position. They should be far enough from the principal positions so that fire directed at them will not endanger the principal positions - about 100 meters to each flank, or about 200 meters if the dummy positions must be in front or rear of the primary positions, unless the slope of the ground permits them to be placed closer.

11. Priority of tasks.

- a. As soon as a heavy machine gun unit arrives at the area it is to occupy, work is commenced in accordance with a definite plan. If the troops are in close contact with the enemy, the work must be executed while taking cover and at night. If the forces are not in close contact, the work will progress more rapidly and systematically.
- b. Tasks should be begun in accordance with the following priority.
 - 1) Bringing up of an adequate amount of ammunition and other supplies.
 - 2) Constructing the principal gun emplacements.
 - 3) Preparing range cards.
 - 4) Clearing fields of fire.
 - 5) Preparing ammo for those not manning the guns.
- c. The work on these assignments should proceed simultaneously. Initially, the gun emplacements will be of the shallow type, with camouflage. Later they must be deepened to the standing type emplacement. Eventually, if time permits, they are made splinter-proof and bomb-proof. The task of clearing essential fields of fire will depend entirely upon how much clearing is necessary. Clearing is limited to cutting bushes and low limbs of trees. The trees themselves are left standing for they interfere less with the field of fire in this position. The clearing must not disclose the gun positions. Care must be used that straight lines do not show the limits of clearings.

Initially, the shelter for the higher numbered members of the group will take the form of kneeling shell pits, and these are improved as time permits.

- d. The construction of range cards is given the third priority because, even though darkness may still be some time away, the enemy may attack at any time under cover of smoke, or during periods of low visibility. Consequently, priorities one and two must be attended to by all means.
- e. After the work on the first five priorities has progressed to include standing emplacements for the guns and a reasonable amount of clearing and shelters, work is begun on the alternate gun emplacements, and routes to them from the principal gun emplacements. Next in priority are the supplementary emplacements and routes to them.
- f. Dummy emplacements, if used, should be constructed at the same time actual emplacements are being dug.
- g. Any position not well concealed should be camouflaged. Dug positions must be camouflaged because of the exposed soil. A position is skillfully camouflaged when it so closely resembles the surrounding terrain that no difference can be detected. Every possible means of deceiving the enemy regarding the location of the gun positions must be utilized.

- h. If the gun is fired during the hours of darkness the position will be disclosed unless steps are taken to screen the flash. The flash hider reduces the size as well as the brilliance of the flash. A burlap screen placed several feet in front of the gun, through which the fire will pass, provides effective concealment for a time.
- i. When materials are available, obstacles may be constructed. Few men, if any, will be available for work on obstacles. This task is generally performed by reserve, or front-line para units. Machine gun units, however, are vitally interested in the location of the tactical wire because it should be so placed that it can be covered by the final protective line fire of the forward guns. In every case where wire is used, the heavy weapons company commander or some of his officers should be consulted with reference to its location.

12. Sectors of fire.

- a. The width of a sector of fire should be governed by the number of machine guns available, the type of terrain to be covered by fire, and the facilities for observation over this terrain.
- b. In the defense there is always the temptation to assign separate missions to each gun of a section because of the large number of areas that should be covered by fire. The objection to this is the danger that some guns will go out of action thus leaving their areas without any fire. It also reduces the volume of fire that can be placed upon a target. However, when there are numerous routes of approach, and the sector is large and the available guns few, separate missions may be assigned to each gun.
- c. The combined sectors of fire of the machine guns defending a sector should cover, as nearly as possible, the front and flanks of the defended position. Coordination with machine gun units of adjacent sectors will increase the efficiency of the defense. This coordination is arranged by the battalion and company commanders.
- d. Sectors of fire for sections occupying positions in the rear part of the defense sector are restricted initially to the areas between occupied combat groups to their front. Flank units can, of course, be assigned sectors outside of the defended positions so as to protect the flanks. Where overhead fire is possible, additional fire missions may be assigned.

13. Final protective line fire.

- a. In addition to a sector of fire, each front line gun or section is sited to deliver a band of grazing fire across the front of flanks of the defensive position. This barrier of fire is called a final protective line. Final protective line fire is delivered in accordance with instructions in the fire plan. Except when they are firing on other missions, and especially at night or during periods of low visibility, all machine guns located in forward combat groups are kept laid on their final protective lines so that final protective line fire can be delivered instantly upon call. There will usually be gaps in the final protective lines which must be covered by the fire of other weapons.
- b. When final protective line fire is called for it is continued until definite orders are received to cease firing. Guns of a section alternate in firing bursts. The size of each burst and the interval between bursts is determined by the urgency of the need and the state of the ammunition supply. Normally bursts of from six to 20 rounds should be fired. The interval between the bursts of one gun is covered by the firing of another gun of the section.
- c. Final protective line fire is delivered upon pyrotechnic signal, upon oral orders from the section leader, upon request of the para commanders of the defended areas, or by individual gunners on their own initiative when they observe assaulting enemy troops approaching the location to be covered by the final protective line fire of their guns. The rate of fire is rapid unless otherwise ordered.

14. Withdrawal.

- a. Heavy machine guns are especially valuable in operations following the unsuccessful defense of a position. They then are used to delay the enemy and keep him from fully exploiting his success. A section only withdraws on orders from a higher authority.
- b. The orders to effect such withdrawals prescribe the manner, the time, and the route to be followed.
- c. Delaying action and the action following an unsuccessful defense may make it necessary to abandon some guns. When this happens, the guns must be destroyed by damaging other parts of the gun. The working parts should also be thrown away and ammo destroyed.

15. The section in delaying action.

- a. Whether delaying action is required by a deliberate mission of delaying the enemy or results from an unsuccessful attempt to defend a position, the purpose of such action is to provide a screen to hold the enemy in check, delay his progress, and permit the withdrawing force to move to the rear without being interrupted by the enemy. The heavy machine gun is one of the weapons well suited for this purpose because its gunner can deliver a large volume of fire suddenly, fire his gun at long range, and easily conceal it. A few heavy machine guns supported by paratroops can delay a sizable force of foot troops for some time.
- b. The section leader maneuvers his sections by withdrawing first one and then the other. He seeks to keep putting his guns on commanding ground with long and side fields of fire so that he can engage the enemy at long range. Positions covering defiles, stream crossings, passages through swamps, and similar restricted places over which the enemy must pass, are particularly good. Positions should also be such that gun crews can leave them quickly and safely under enemy observation. The carriers must be kept close at hand. Positions on the reverse slope of commanding ground are especially good.

THE HEAVY MACHINE GUN SECTION IN SECURITY

1. General.

The use of heavy machine guns with advance guards, flank guards, rear guards and outposts follows generally the principles already discussed for their use in attack and defense.

2. Heavy machine guns with advance guards.

- a. There are two types of advance guards, a deployed advance guard, simply a leading para unit in an approach march, and the advance guard of a route column moving on a road. It will be seldom in modern warfare that a para unit will be called upon to act as an advance guard of a route column, but since this type of security may sometimes be used, it will be explained in detail.
- b. The location of heavy machine guns in the column is determined by the safety for the guns, the terrain, and the probable necessity of using the guns during the advance. When the enemy is encountered, the machine guns should be close enough to the head of the column to place them in action quickly. Ordinarily, the entire heavy weapons company in a battalion acting as advance guard will be some distance back in the column usually in rear of the third para company, with its weapons carriers just in rear of the foot elements of the company.
- c. Heavy machine gun units with advance guards furnish anti-aircraft protection to the marching column while the advance guard is passing through a defile. Machine guns on carriers are constantly manned.
- d. Heavy machine guns with advance guards are used in accordance with the principles of attack or defense, depending upon whether the mission of the advance guard is offensive or defensive. All

missions which machine guns perform in advance guard action require speed.

- e. During the advance, the machine gun unit commander remains close to the commander of the advance guard. He thus obtains early information and plans and by constant reconnaissance and studying the map and the ground is able to place his heavy machine guns rapidly in positions where they can fire in support of the paratroops of the advance guard.

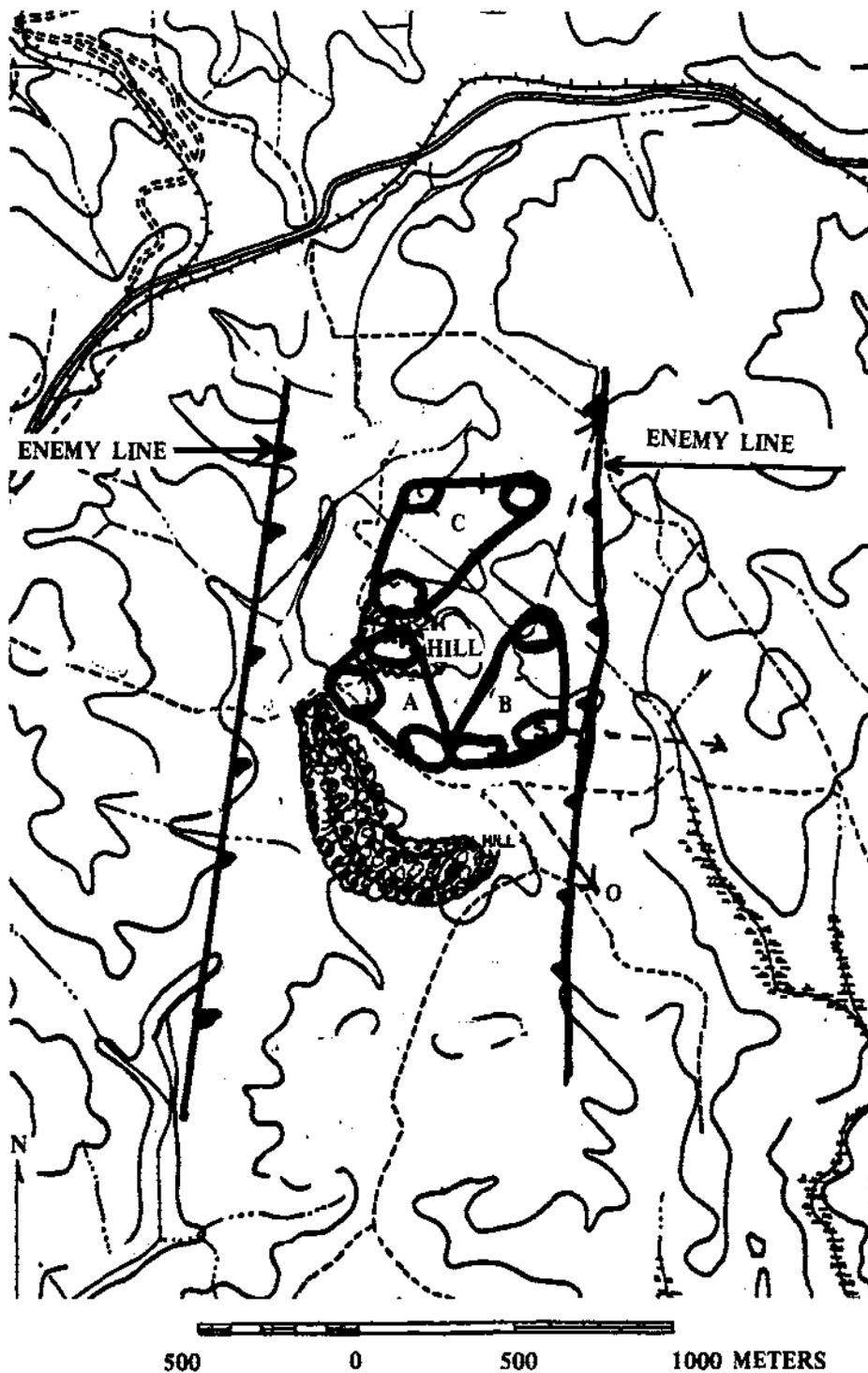
3. Heavy machine guns with rear guards.

- a. A rear guard is like an advance guard reversed. In a rear guard, the heavy machine guns should be on the side away from the enemy in any subdivision of the formation.
- b. Gun positions for use in rear guard action should be well concealed, especially with respect to background and routes of withdrawal. Much of the delay to the enemy accomplished by a temporary stand can be nullified by not having covered routes of withdrawal. Time is gained by a rear guard because of the enemy's uncertainty as to the exact moment of the withdrawal from a position. But if the enemy sees the heavy machine guns withdrawing, even if he has not located them before then, he will probably press forward immediately, realizing that a withdrawal is beginning.
- c. Positions in partial fire zones may leave some dead space at short ranges, but as a rear guard does not usually engage in close combat this is not objectionable. Ideal positions for delaying an enemy are at defiles such as bridges and road crossings over swamps. Positions somewhat to a flank allow the bulk of the rear guard to retire under cover of machine gun fire. There must always be some paratroops at hand to cover the machine guns' withdrawal.
- d. The transport should be kept close to the position in order to permit rapid withdrawal.
- e. When the enemy appears, the heavy machine guns open fire at long range. Throughout the action close touch must be maintained with the para elements. The order to withdraw is normally issued by the para company commander. When ordered to, the heavy machine guns withdraw quickly. They may have to stay in place to protect the withdrawal of other units, for sometimes guns and gun crews are left in a position with orders to hold to the last man to keep the enemy from crossing a bridge, a ford, a mountain pass, or some other place. This may mean a sacrifice of guns and gun crews. Heavy machine guns with their great firepower and ease of concealment are ideal weapons for such missions.
- f. Another type of rear guard action is the one in which the rear guard must hold a position only for a certain length of time, for example, where the main body is delayed until a destroyed bridge can be repaired. This type of rear-guard action is conducted in a similar manner to the defense.

4. Heavy machine guns on outpost.

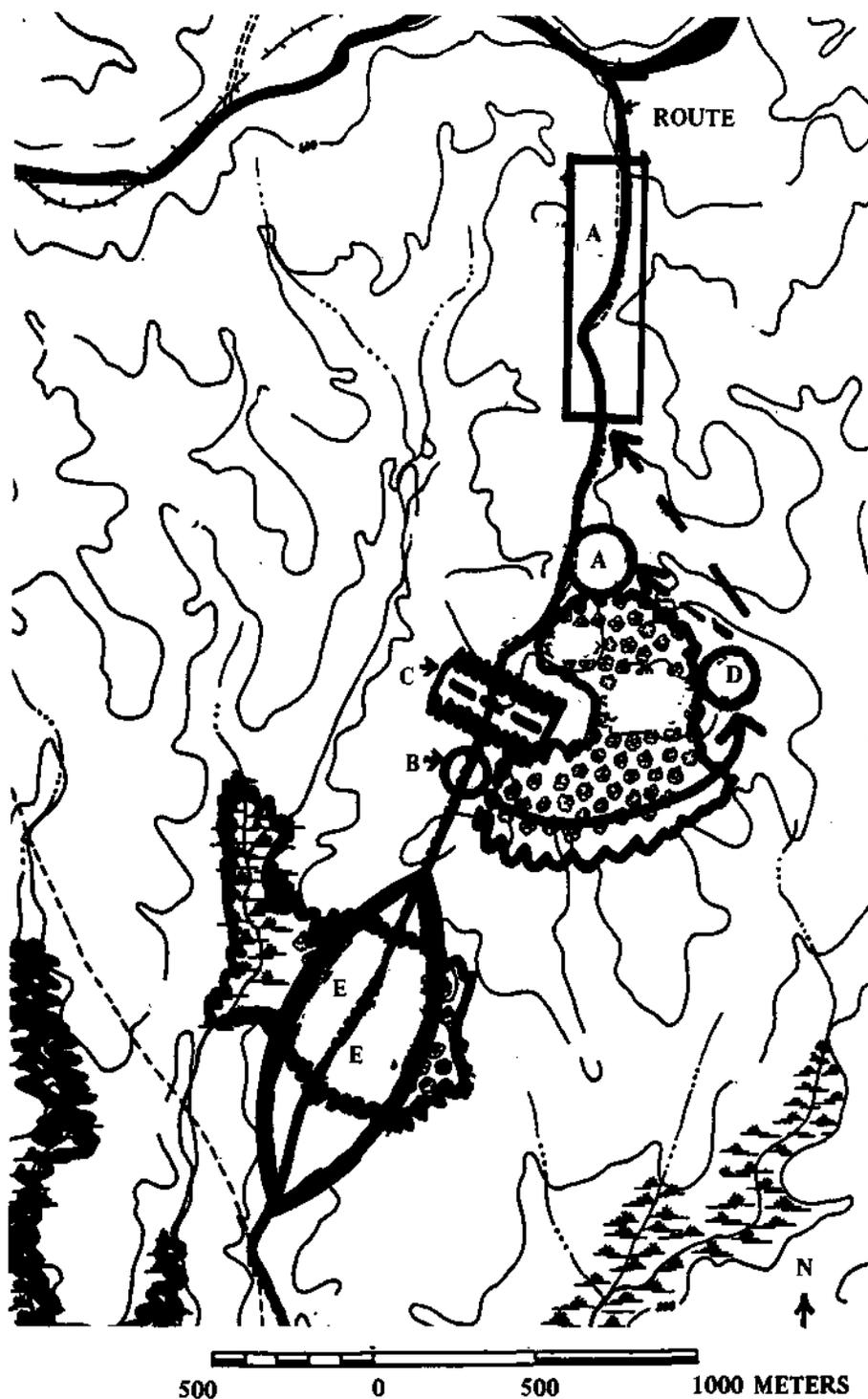
- a. The principal function of an outpost is to protect the main body from a surprise attack. The general principles of employment of machine guns in defense govern their use in outposts. Heavy machine gun units are usually attached to subdivisions of an outpost and fight under those commanders.
- b. Machine guns with an outpost are not ordinarily sited for as complete a defense of the whole front as in a full defense. This is because fewer guns are usually available for a large frontage. A separate mission for each gun may, in emergencies, be necessary. In the defense of an outpost heavy machine guns may be moved to meet possible enemy attacks much more often than in a full defense.

Positions occupied to defend an outpost are sited to resist an enemy whose actions can be observed and who is at liberty to advance across country. During daylight heavy machine guns should have wide fields of fire and their crews should be able to fire on the enemy at long ranges.



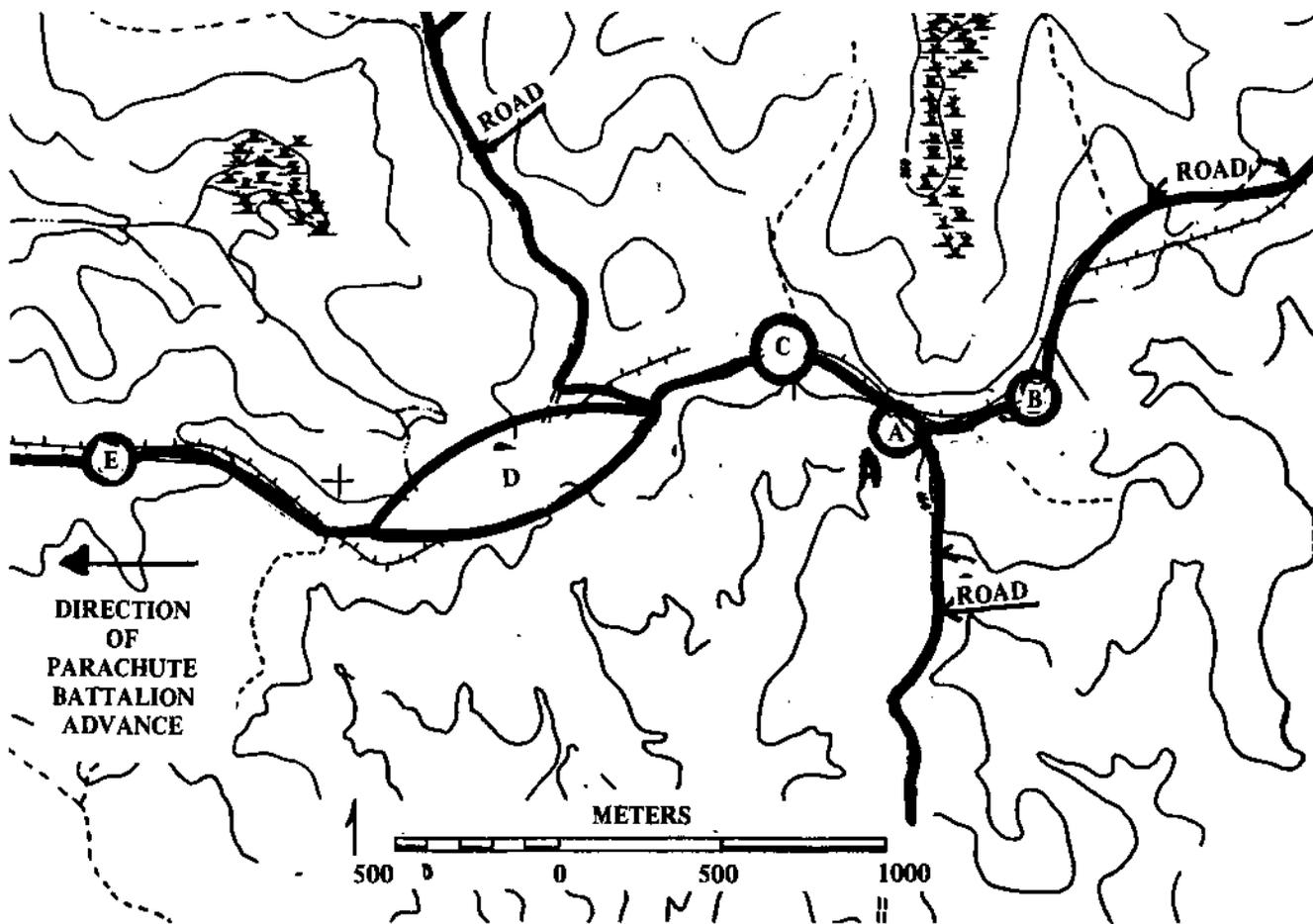
- A: PARA EQUIPE, THREE 2 PARA TEAMS (.50 CAL. M.G.); 6 LEGIONNAIRES**
B: PARA EQUIPE, THREE 2 PARA TEAMS (.50 CAL. M.G.); 6 LEGIONNAIRES
C: PARA EQUIPE, 2 PARA TEAMS, COMMAND GROUP; 4 LEGIONNAIRES

HEAVY MACHINE GUN SECTION IN DEFENSE POSITION



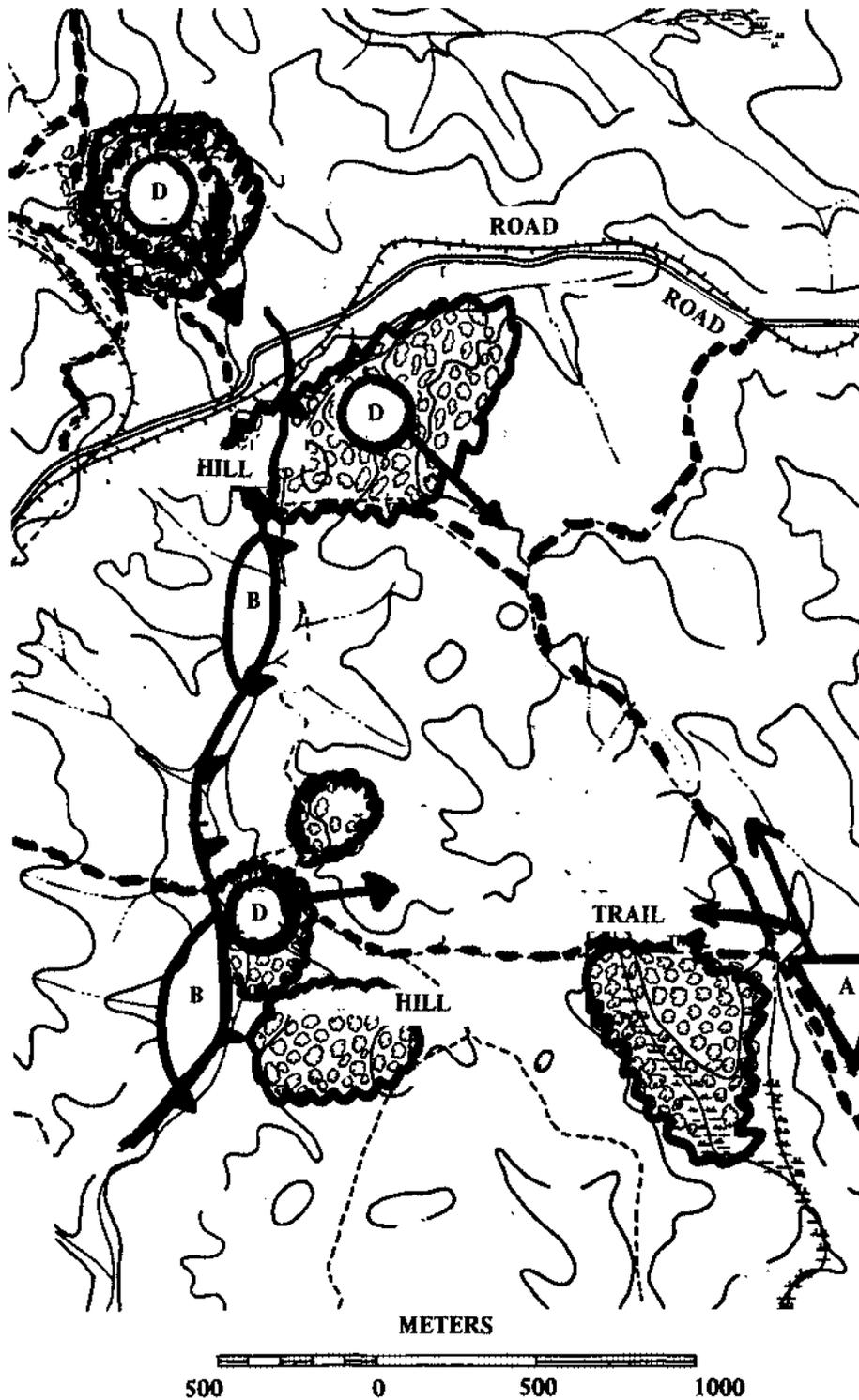
- A. ENEMY FORCE AND AMBUSH
- B. PARACHUTE BATTALION POINT SECTION WITH HEAVY M.G. IN SUPPORT
- C. ON ENEMY CONTACT POINT SECTION ENGAGES AND H.M.G. FLANKS
- D. HEAVY MACHINE GUN SECTION FLANKS AND PROVIDES FLANKING FIRE FOR ASSAULT.
- E. PARACHUTE BATTALION--MAIN BODY

HEAVY MACHINE GUN SECTION IN ADVANCE GUARD



- A. HEAVY MACHINE GUN SECTION MANS REAR GUARD AT ROAD JUNCTION.
- B. REAR SECURITY GROUP ADVANCES PAST A-GROUP AND SECURES NEW POINT.
- C. BATTALION HEAVY WEAPONS SUPPORT SECTION.
- D. BATTALION MAIN BODY—INCLUDING FLANK SECURITY.
- E. POINT SECTION OF BATTALION IN ADVANCE.

HEAVY MACHINE GUN SECTION IN REAR GUARD



- A. ENEMY ADVANCE
- B. PARACHUTE BATTALION ON DEFENSE IN OUTPOST
- C. 2 POSSIBLE TRAILS FOR ENEMY ADVANCE
- D. 3 OUTPOSTS OF HEAVY MACHINE GUN SECTION, 3 EQUIPE

HEAVY MACHINE GUN SECTION ON OUTPOST

Chapter 11

The Para Battalion Anti-tank

1. Introduction.

In view of the constant improvements and developments in light anti-tank weapons for infantry battalion uses, this chapter does not specify the tactical use of any particular anti-tank weapon (the .50-caliber machine gun and the ACCP [Anti-char covete Portee]).

2. General characteristics of light anti-tank weapons.

a. Anti-tank weapons of the lighter class have the following general characteristics:

Weight of individual load, not in excess of 25 kilos.
Number of loads, two to three.
Armor penetration, 250mm-600mm at 500 meters.
Rate of fire, automatic or semiautomatic.

b. Anti-tank weapons in the lighter class are mobile enough to keep pace with the leading troops. They are also capable of being carried by hand over considerable distances.

3. .50-caliber machine gun.

a. The .50-caliber machine gun is recoil operated, belt fed, and air cooled. The weight of the gun and tripod is about 60 kilos. It is capable of firing from 400 to 500 rounds per minute, but this cyclic rate must be distinguished from its actual usable rate for fire against armored vehicles. No machine gun can be fired at top speed for more than a fraction of a minute without seriously over-heating. Hence, as with the fire of other machine guns, the fire of the .50-caliber machine gun is delivered in bursts. The length of the burst depends upon the condition of the gun and the range and speed of the target. In general, the cooler the gun, the slower the speed of the target and the shorter the range, the larger the bursts of fire.

English Measure

Length of barrel	78 inches
Weight of barrel	191 pounds
Muzzle velocity	2,600 feet per second
Terminal velocity at 1,000	2,088 feet per second
Maximum ordinate at 1,000	6.5 feet
Weight of one, AP projectile	3.41 pounds
Weight of standard projectile	1.92 pounds
Normal recoil	20 inches

b. Rate of fire.

The rate of fire will be determined by the number, range, and visibility of the hostile tanks. At more distant ranges, the fire will necessarily be slow due to the difficulty in accurately tracking the target. At close range, tanks must be fired on with great rapidity to prevent a break-through. The ammunitions supply may prove the determining factor in deciding upon the rate of fire.

COMPOSITION, EQUIPMENT, TRANSPORTATION AND DUTIES OF LEADERS

1. Composition.

The battalion anti-tank section of battalion headquarters company consists of a section headquarters, two anti-tank sections, and a para group. The section headquarters consists of the section leader (a second lieutenant), the section sergeant, the agent, reconnaissance and transport corporals, and four Legionnaires. The anti-tank section consists of a section headquarters and two anti-tank groups. In section headquarters are the section leader (a sergeant), and one chauffeur. In each anti-tank group are the group leader (corporal), a gunner, an assistant gunner, an ammunition bearer, two chauffeurs, and one Legionnaire leader (a corporal), 10 Legionnaires and two drivers.

2. Armament and vehicles.

a. Section headquarters.

All men carry Famas 5.56mm rifles. There are two 1/4-ton trucks.

b. Section headquarters.

The section leader carries a Famas 5.56mm rifle. There is one 1/4-ton truck.

c. Anti-tank groups.

All men carry Famas 5.56mm rifles. There are two 1/4-ton trucks and 1/4-ton trailer.

d. Para group.

All men have Famas 5.56mm rifles. There are two 3/4-ton weapons carriers.

3. Characteristics and missions.

a. The battalion anti-tank weapon has the following characteristics:

- 1) A high initial velocity.
- 2) An adequate armor penetration at close and midrange.
- 3) A high rate of fire.
- 4) A high mobility and low relief as compared to other anti-tank weapons which permits the gun to be carried by hand for considerable distances and which makes it easier for the group to put the weapon into a firing position without being seen by the enemy. The weapon and crew occupy a small area and are easily concealed.

b. The characteristics of this weapon are such that it is employed to best advantage close to the troops to be defended. The crew of the weapon use direct fire and engage ground targets only.

4. Duties of command group.

a. Lieutenant.

The lieutenant is the section leader.

b. Section sergeant.

The section sergeant is the second-in-command and assistant to the section leader. In off-carrier movement he brings up in the rear of the section, checks straggling, and follows the foot elements of the rearmost element to new locations. He keeps constantly in touch with the situation to the rear and on the flanks of the section.

c. Corporal chef.

The corporal chef acts as the representative of the section leader at the command post of the unit the section is supporting, and transmits to him information from the commander of the supported unit regarding the need for support.

d. Reconnaissance corporal.

The reconnaissance corporal has charge of fire-control equipment. He also assists the section leader in getting up firing data, and installs the section observation post and supervises its operation. He assists the section leader in his reconnaissance.

e. Transport corporal.

The transport corporal conducts the carriers to the off-carrier positions designated by section leader, moves the carriers as directed by the the transport officer when they are released by the section leader; displaces the carriers to new positions when he is directed to and supervises the concealment or camouflage of the carriers in positions and at all halts.

f. Chauffeur.

The chauffeur drives the command car, moves as directed by the section leader, and conceals and camouflages the car at all halts.

g. One messenger.

One of the two messengers stays with the section leader as communication agent.

5. Crew requirements.

It takes three men to keep one weapon in operation. But all men of a group are trained to handle the weapon, and in combat to replace automatically any gunner who becomes a casualty.

6. Duties of personnel.

a. Section leader.

1) The section leader acts directly under the command of the heavy weapons company commander

until he is detached by the assignment of a tactical missions to him by the battalion commander. Further coordination by the company commander is then limited to arrangements for rationing and other administrative matters.

- 2) In approach march, the section leader controls the movement of his section on its carriers in accordance with the instructions of the battalion commander. He selects routes for his section and successive locations of off-carrier positions with a view to keeping his section constantly ready for the anti-tank defense of the battalion. When his section moves as a unit off-carrier, the section leader leads the section in accordance with extended order drill.
- 3) In combat, the section leader assigns sectors of fire and firing position areas to his guns. But where his section must cover an extensive front, he gives his sections missions of providing anti-tank security for designated para companies.

b. Section leader.

The section leader is the instructor of his section. He conducts his section in approach march in generally the same way as the leader of a para group handles his group. In combat, he usually exercises fire control whenever his section is given a sector of fire or ordered to protect a designated para company by the section leader. When the section leader assigns a sector of fire to each of his guns the section leaders supervise the operation of both their groups, if possible, or accompany the group given the more important or more difficult mission.

c. Anti-tank group leader.

- 1) The group leader is responsible for carrying out the fire orders given by his section leader and for the fire discipline of his group. When he is given an approximate firing position by his section leader, he fixes the exact location of his gun and directs the preparation and occupation of the gun position. He also orders camouflage and entrenchment where required, and supervises the movement of the gun into position.
- 2) He instructs the members of his group in their duties and supervises their conduct in combat. In defense, he supervises the preparation of the emplacement, its camouflage, and the dispositions of the members of his group. Before beginning the construction of an emplacement, he puts his gun in an emergency firing position, ready to cover the assigned sector of fire. He details one member of his group to keep close watch over his fire sector and to man the gun if emergency requires.
- 3) When his group has finished preparing the emplacement and clearing the field of fire, the corporal has his gun mounted to carry out its assigned mission.
- 4) When his gun is assigned an independent mission, the group leader exercises fire control and often has charge of the group carrier also.

d. Para group leader.

The para group leader operates his group in carrying out the missions the section leader directs, which are generally missions of section security. The tactical principles followed are, in general, those of the para group of the para company in defensive combat.

THE BATTALION ANTI-TANK SECTION IN ATTACK

1. Disposition during approach march.

The development order of the battalion commander usually detaches the anti-tank section to carry out missions of anti-tank protection. In carrying out such missions the section leader moves his section so as to give protection to the para echelon which is the main combat element of the battalion or which

may be expected to be the base for the deployment of the battalion. The extent of front over which enemy tanks may attack determines whether an anti-tank section moves as a unit or as separate groups. When anti-tank groups move separately, they are ordinarily distributed among the para companies in second echelon to protect these units. When the section moves as a unit, it generally stays near the center of that part of the battalion front it is to cover. This, of course, may be the whole front. If there is clear danger of a hostile mechanized attack from the flank, the section stays on that flank. However, regimental anti-tank units are the main agencies for anti-tank protection of the flanks, and the battalion weapons ordinarily attend to the frontal protection of the battalion. Throughout an approach march, there may be numerous changes in the distribution of anti-tank weapons.

2. Section leader's reconnaissance during approach march.

- a. The anti-tank section leader reconnoiters suitable routes of advance for his carriers, locates obstacles, gassed and shelled areas, and routes for detours. He must always remember that the main consideration is the protection of the para units, and not the security of his own section for its ease of advance. Consequently, a detour of any length will almost always require that the guns be carried by hand to the next objective or to the point of joining the carriers again.
- b. The section leader moves with the leading para company and reconnoiters anti-tank firing positions on each battalion objective. He must be ready to put his weapons in position just as soon as his carriers come up. Unless the battalion is to move immediately toward its next objective, he directs his section to occupy cover or firing positions during the halt.
- c. It is important for an anti-tank section leader to keep far enough ahead of his units for him to make sure they get early instructions for any change in dispositions that may become necessary. He keeps them informed as to the next bound of the battalion, the dispositions of the battalion for the move, and other plans of the battalion commander.

3. Principal mission in approach march.

Anti-tank units must habitually be ready to meet a surprise tank attack. Groups must be trained to mount their weapons for fire in any direction in the shortest possible time. The anti-aircraft machine guns on the carriers must at all times be manned and alerted for action.

4. Preparation for action.

a. Initial reconnaissance.

The battalion commander's order to assemble for action is the basis for an anti-tank section leader's reconnaissance of firing, cover, and off-carrier positions. He receives further information as to the disposition of his guns from the battalion order for the organization of a base of fire or the occupation of a defensive position. Naturally, the position areas of the anti-tank weapons are governed entirely by the location of the rifle units and of the best fields of fire to protect them from hostile tanks. Determining this area as early as possible and promptly moving the guns to it from the off-carrier position is essential to the anti-tank security of the battalion.

b. Instructions to section leader.

The battalion commander's instructions to the section leader cover the following:

- 1) Information of the enemy, especially regarding the types of hostile tanks operating in the vicinity, the last time they were seen, and likely assembly areas for hostile tank attack.
- 2) Information of friendly supporting troops operating in the battalion zone of operations, especially tanks; the proposed movements of such tanks and their plan of action, identification

marks, and identifying signals. Also, the concentrations of supporting artillery.

- 3) Information of the terrain (result of reconnaissance, aerial photographs, etc.), especially about natural anti-tank obstacles and ground favorable to hostile tank action.
- 4) Details of the battalion plan of action insofar as they indicate:
 - a) The initial location and objectives of para companies.
 - b) The location of the battalion base of fire, and the prearranged fires of heavy weapons units.
 - c) The location of the battalion command post and observation post (where messages can reach the battalion commander via the shortest route).
 - d) The mission of the section, sectors of fire and frontages to be covered or para units to be protected, general position areas.
 - e) Liaison with para units (where messages can reach leading para company commanders).
 - f) Any general instructions as to displacement.
 - g) The location of the battalion ammunition point and any general instructions as to the routing of carriers going there to get more ammunition.

5. Mission of battalion anti-tank section in attack.

In an attack, when the battalion assembly area is being occupied, the battalion anti-tank weapons are ordinarily given the mission of protecting the battalion from frontal tank attack. The front is ordinarily divided between the two sections, which are given overlapping sectors. The section leader establishes an observation post at the point from which he can best observe to the front and flanks over the whole zone of the battalion. When emplacements are widely separated, he directs group leaders to open fire as targets appear. Every man in an anti-tank section must at all times know about the location and numbers of friendly tanks in the general area around them. They must also be informed of identification and warning signals, and must know how to recognize the enemy's tanks.

6. Anti-tank positions.

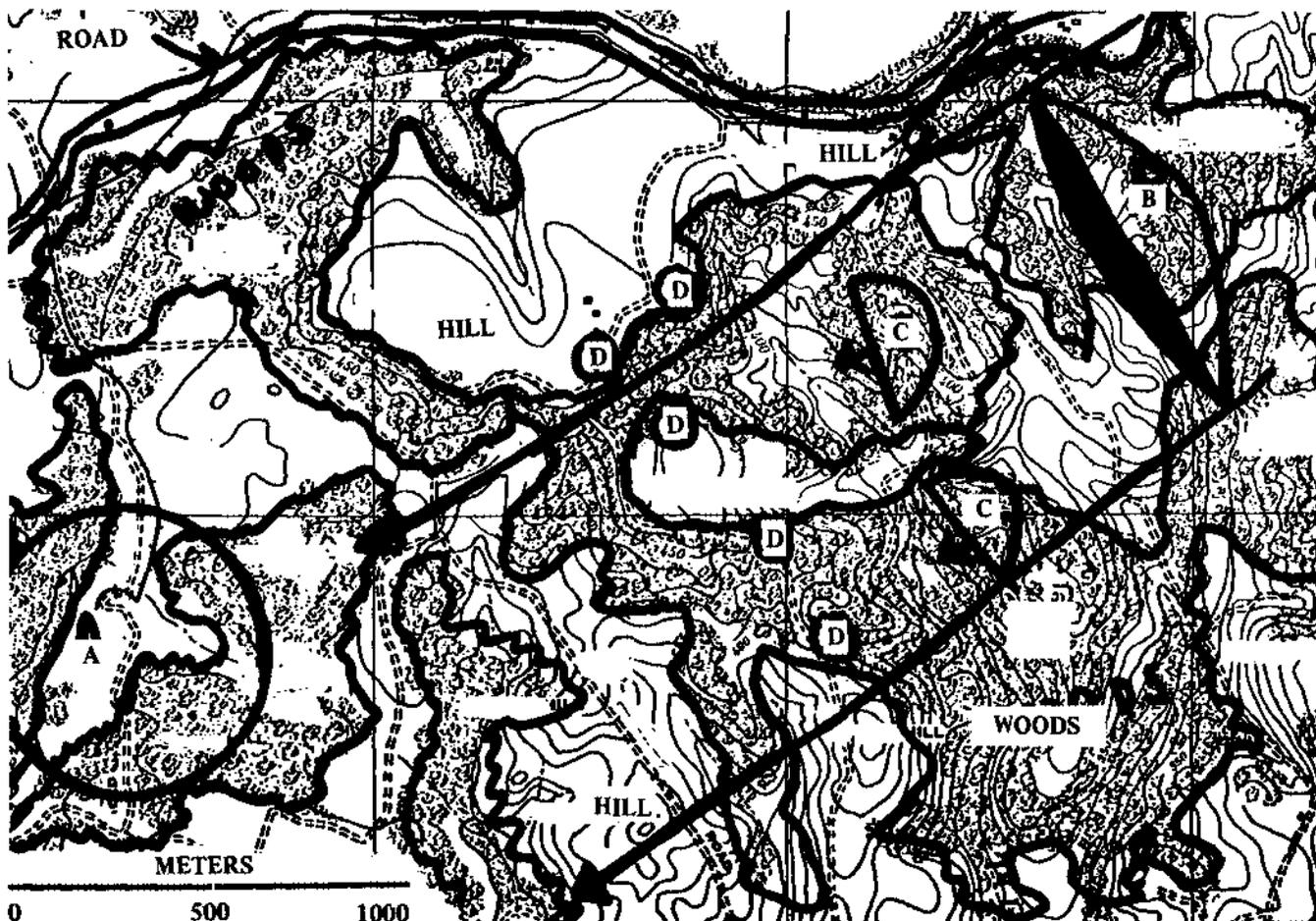
- a. Anti-tank weapons always occupy open firing positions. When they are employed by section, each weapon must be emplaced so that it can cover the sector assigned to the other gun as well as its own. Weapons should be emplaced when possible near the center of their own fire sectors.
- b. The fields of fire within close range, both to front and flanks, should be cleared whenever time permits. There should be good cover just in rear of each firing position for the group and its weapons to occupy before opening fire. Artificial cover should be constructed if there is no natural cover. In any hastily occupied position it is best for carriers to occupy cover positions a short distance from the firing positions of the weapons, for this makes ammunition supply much easier.
- c. When the anti-tank weapons are employed in pairs their emplacements must be far enough apart to keep a single shell from destroying both but close enough for effective control.
- d. It is seldom possible for anti-tank groups to move their weapons to alternate positions during the course of a hostile attack. This has to be done in lulls during the attack. It is also seldom practical for anti-tank weapons to occupy supplementary position any distance from their primary emplacements.

7. Occupying positions.

- a. In view of the fact that troops must have anti-tank security close to them, it is seldom practical for anti-tank guns to occupy supplementary positions beyond the immediate vicinity of the primary emplacement. With this limitation in mind, supplementary emplacements for firing toward both flanks or toward either flank from one position, where the terrain permits, are selected, prepared, and camouflaged after the primary positions are made ready. In occupying positions an anti-tank section leader gives his group leaders the approximate positions of their weapons. The group leaders

then pick the exact location, prepare the firing position and the cover position, camouflage their weapon emplacements, and clear the field of fire if this is needed. Enough ammunition for probable fires is brought up to the emplacement.

- b. Whenever it is practical, an anti-tank group occupies a cover position while the group leader is observing and preparing firing data. The gunner and assistant gunner move the weapon into position on the group leader's orders but the rest of the group stays in the cover position. All members of the group and their weapon stay in the cover position when not actually firing. Group leaders organize observation to cover the whole field of fire. This means not only the front, but the flanks and the rear too.



- A. ENEMY FORCE
- B. 2 PARA SECTION IN ASSAULT FORMATION
- C. PARA COMPANY, 81mm MORTAR SECTION IN SUPPORT
- D. PARA SECTION OF ANTI-TANK ROCKETS IN SUPPORT, 4 TEAMS

BATTALION ANTI-TANK SECTION/81mm MORTAR IN THE ATTACK

8. Fire direction and control.

- a. The section is the fire unit in most situations. The main things that determine which element of command will exercise fire direction and control over anti-tank units are the frontage to be defended, the kind of terrain to be defended, and the extent to which the position is covered by anti-tank obstacles, both natural and artificial. Theoretically, a pair of anti-tank weapons is capable of defending from emplacements near each other a front along which there are no obstacles at all out to the effective range of the anti-tank weapons. But if two weapons must defend a greater frontage, naturally the emplacements must be separated by some distance. When this is done, group leaders control the fire of their guns. Section leaders direct the fire of the guns by assigning appropriate positions and sectors of fire.
- b. It is always best to use anti-tank weapons in pairs if the frontage they must cover will permit this. Their use in pairs ensures that the loss or malfunctioning of one weapon will not deprive the sector completely of its anti-tank defense. The anti-tank section leader assigns to his weapons primary and secondary sectors of fire. He designates the off-carrier positions and directs under what circumstances they will open fire. However, when there are obstructions of some size in the fields of anti-tank fire, it will often be necessary to separate the emplacements considerable, and to place fire control in the hands of group leaders--this even when the actual frontage is no greater than could be defended by the machine guns in a pair except for the obstructions out to the front.
- c. The particular leader who is exercising fire control at a given time locates enough reference points to cover his whole sector. These mark the limits of effective fire of his weapons. These limits of range should be remembered and are variable, depending on the type of tank the enemy may be expected to use. Thus, the reference points selected mark a strip beyond which the anti-tank weapons will not take enemy tanks under fire. In an attack and in delaying action, armored or scout cars or other similarly armored vehicles may be taken under fire at greater range.

9. Displacement.

- a. Battalion anti-tank weapons displace to new positions either as the battalion commander directs or upon the initiative of the section leader in accordance with previous general instructions of the battalion commander. Displacement in the course of an attack often consists simply of moving from one position of readiness to another. At each position of readiness the leaders prepare their weapons to go into firing positions in the zone of the attacking units of foot troops and as close as possible to them.
- b. The battalion commander may direct his anti-tank section to displace to one or more general areas where they will occupy positions to protect the attacking element from possible tank attack by the enemy. Or he may simply direct the section to follow the attacking units by bounds. He may specify whether the section will move as a unit or by groups, and he may assign one or more routes for the move. He may also give the anti-tank section leader the mission of general support of the attacking elements, or he may attach sections or groups to the para companies or place sections or groups in support of different para companies.
- c. The limited range of battalion anti-tank weapons requires that they be kept as close to the attacking para units as the ground and the situation of combat will permit. The anti-tank section leader advances his section as a unit whenever this is practical and consistent with his mission. Otherwise he moves both sections independently under the control of the section leaders.
- d. In his instructions for a displacement, an anti-tank section leader covers the following: the mission of the section usually to occupy designated firing positions, or positions in readiness from which to give anti-tank protection to the attacking unit; the method by which the section will displace, whether by section and whether the displacement will be simultaneous or by section/group; the mission of each section, usually to cover a designated sector or to protect a specified para company; the route or routes to be followed in making the displacement; the method of movement, whether by carrier or off-carrier; whether carrier will move under section control or will be released to the

battalion transport officer; the location of the next carrier position, and whether the weapons will be kept on carriers or be moved to covered positions; where the section leader now plans to go and the next place where the section leaders can get in touch with him for further orders.

- e. The displacement of an anti-tank section to advanced positions becomes necessary when the para units leave their initial assembly position and advance beyond close range from those positions, keeping in touch with the commanders of the para companies in the attacking element. The anti-tank commanders make early provision for displacement to positions which are as close as possible to the leading para units. The leaders of anti-tank units follow close behind the leading para companies so that they can reconnoiter the new positions. They try to find cover positions within close range of the attacking units from which the anti-tank weapons can be moved into firing positions. Where the ground offers a covered approach, good cover positions may be found in the attacking element or close behind it. This is almost always true when the attacking unit occupies a crest position or a position a little in advance of a crest or other continuous line of cover.
- f. Where hostile fire across an exposed terrain has made it necessary for the carriers to be separated from the anti-tank section itself, the carriers follow the section by long bounds from one terrain mask to the next as the attack progresses. The carriers expedite the movement of any heavy weapons that may have fallen behind because of the rapid advance of the attacking echelon.
- g. When the time is nearly at hand for the rifle units to begin their assault, the battalion anti-tank weapons should be well forward, usually within close range of the hostile position. Displacement to these positions must usually be made by hand. As soon as it is plain that the assault of the para units is successful, the anti-tank weapons move into the line with the para units and are made ready for defense against hostile mechanized counterattacks by the enemy. As soon as the para units have an objective well in hand, the anti-tank units at once establish anti-tank security on the new base of fire.

THE BATTALION ANTI-TANK SECTION IN DEFENSE AND SECURITY

1. General.

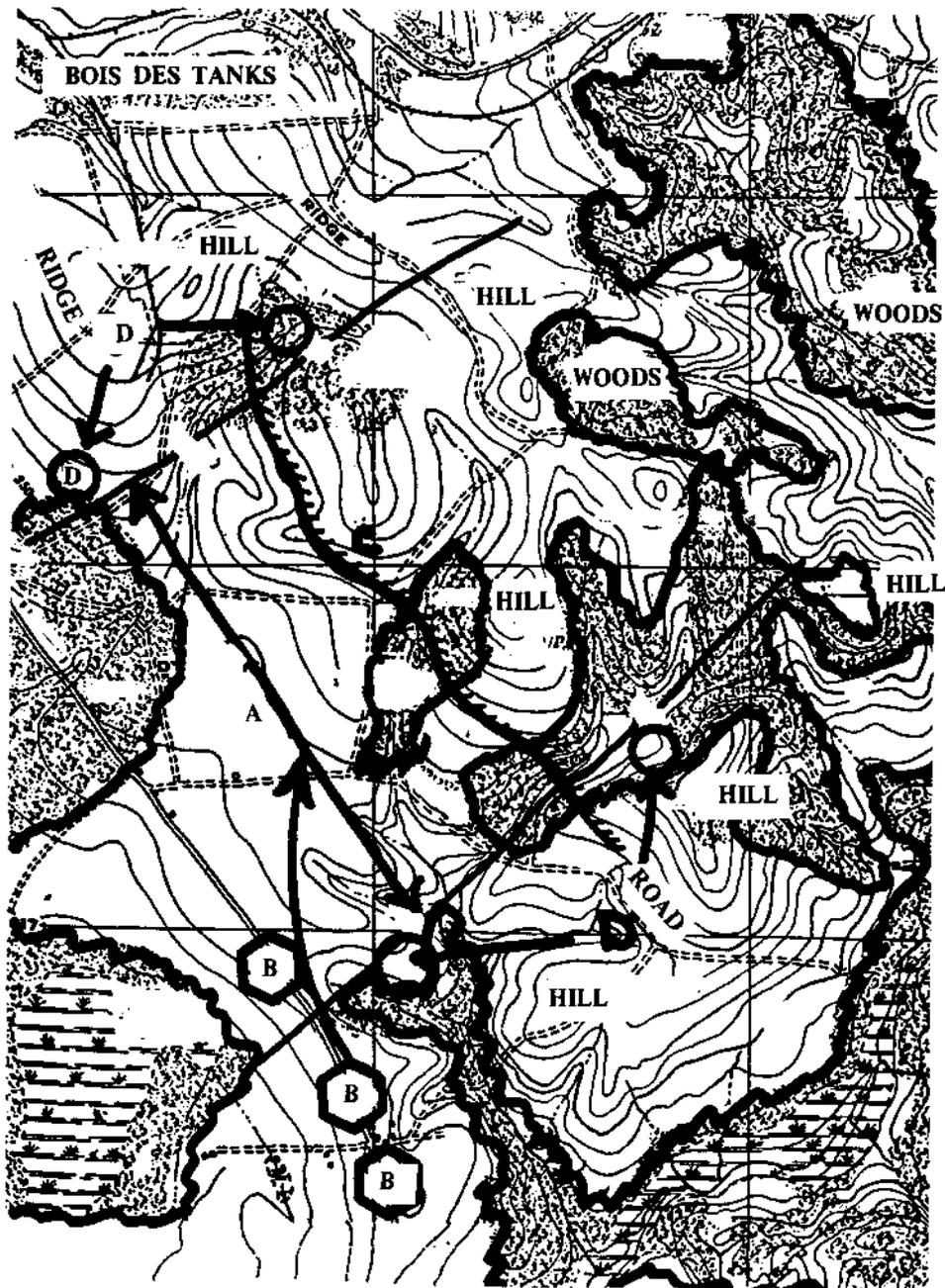
The battalion anti-tank section operates in security and defense along the same general principles that govern its operations in an attack.

2. Battalion anti-tank section in defense.

- a. Battalion anti-tank weapons are usually emplaced in firing positions close to the main line of resistance. Regimental weapons are preferably emplaced near a mask in rear of the main line of resistance or held in positions of readiness from which they can move to alternate firing positions covering the main line of resistance, or to positions for support of counterattacks in the areas of the leading battalions.
- b. Anti-tank weapons are located so as to bring fire on their targets from the moment they come within effective range. When tanks lead the hostile attack, the long-range anti-tank guns, usually sited in positions to the rear of the main line of resistance, open fire as soon as their targets arrive within effective range. The battalion anti-tank weapons, sited in or near the main line of resistance, withhold their fire until the hostile tanks arrive within close range of the main line of resistance. Against heavily armored tanks, their fire is principally directed against the track assemblies. It is coordinated with other close-in defensive fires.

3. Battalion anti-tank section in advance, flank or rear guard units.

When a regiment or battalion forms an advance flank or rear guard, the battalion anti-tank sections operate according to the principles of their use in attack or defense.



- A. ENEMY FIRE ZONE
- B. ENEMY ARMOR
ADVANCE
- C. PARATROOP
DEFENSE LINE
- D. ANTI-TANK UNIT
IN DEFENSE

BATTALION ANTI-TANK SECTION IN DEFENSE

4. Outposts.

A battalion anti-tank section may be employed to protect an outpost. The following are true when the section has such a mission:

- a. It may be necessary to place the weapons farther apart than in a defensive situation.
- b. Weapons should be emplaced to cover the greatest number of important routes of approach of armored vehicles. Several supplementary positions should be selected and all preparations made to occupy them quickly.
- c. The section must be familiar with the plan of holding the position and for withdrawal. Routes for withdrawal are reconnoitered and are made known to all.

Chapter 12

The 81mm Mortar

1. General.

The powerful 81mm mortar, or some very similar weapon, is found in almost every large army fighting in today's great war.

2. Characteristics of the 81mm mortar.

- a. The 81mm mortar is a smooth-bore, muzzle-loading, high-angle-fire, light weapon. The mortar itself is assembled into a single unit. Its mount consists of two units--the bipod and the base plate. The mortar, bipod, and base plate form separate loads, each light enough to be carried by one Legionnaire.
- b. The 81mm mortar combines mobility and power in greater degree than any other supporting paratrooper weapon. Its shells have an explosive effect comparable to 75mm shells. The mortar can be manhandled for considerable distances without excessive fatigue to the crew. The mortar crew usually fires it from masked positions. Under battalion control, mortars are normally used in a zone extending from 300 to 800 meters in rear of the leading troops.

3. Mobility.

There are two ways of carrying the 81mm mortar. The barrel, bipod, base plate, accessories and ammunition are either carried on a truck or by hand. They are carried on trucks as long as the situation, hostile fire, and terrain permit, following covered routes so that the mortars can get as close to their firing positions as possible without exposing the trucks to the aimed fire of machine guns. Then the crew carries its weapon and the ammunition for it by hand. When their weapon and its ammunition are on the truck, the mortar group has no difficulty in keeping up with para units on the march. Moving the mortar by hand, the group can keep up with paratroops only if the progress is slow. A combination of the two methods will usually keep the mortar within supporting distance of the para units all during an attack.

4. Ammunition.

a. Types.

The 81mm mortar fires three types of shells in combat. There are:

- 1) High-explosive light shell, weight: approximately 7.0 pounds.
- 2) High-explosive heavy shell, weight: approximately 10.5 pounds.
- 3) Smoke shell, weight: 11.4 pounds.

b. Range.

- 1) The maximum useful range of the high-explosive light and heavy shells is 2,000 meters.
- 2) The range of the smoke shell is about the same as that of the high-explosive heavy shell.

c. Effectiveness.

- 1) The high-explosive light shell has an effective bursting radius of about 15 meters, although casualty-producing fragments may strike as far as 400 meters from the point of impact. Its effect is comparable to that of a 75mm light artillery shell, which means that if it is plunked accurately over a hill into the enemy, it will get most of them.
- 2) The high-explosive heavy shell has an effective bursting radius of about 35 meters. Its effect is comparable to that of a 105mm medium artillery shell. Such a shell will badly cut down a deployed enemy unit if it lands squarely in the middle of it.

5. Rapidity of fire.

A mortar crew can fire from 30 to 35 rounds per minute for short periods. The rate for sustained fire is approximately 18 rounds per minute. In battle, the rate of fire is often governed by the ammunition supply. Adjustment of mortar fire is somewhat slow because of the long time of flight of the projectile at the longer ranges.

6. Angles of traverse and elevation.

From one base plate position the mortar is limited to a traverse of approximately 125 degrees. Additional traverse is obtained by moving the bipod. The mortar fires from an angle of elevation from 40 to 85 degrees.

7. Targets.

The high trajectory of mortar fire makes it especially useful for covering areas behind defilade occupied by troops of one of our enemies, which, of course, cannot be reached by flat-trajectory weapons. Ravines, stream lines, heavily-wooded areas, field works, and reverse slopes can usually be reached by this fire. The large bursting radius of this mortar makes it suitable for searching an occupied area in which the targets are so well concealed by natural cover that they cannot be definitely located. Thus, it is especially good against enemy troops in jungle areas. Its precision enables its crew to fire on definitely located machine guns and anti-tank guns. It is particularly effective against enemy soldiers, and the moral effect of its fire is great. It is capable of being fired accurately at night with data obtained during daylight.

Because of its high trajectory, mortar fire is not restricted by the safety precautions imposed upon flat-trajectory weapons when the troops using them are firing over the heads of friendly troops. Mortar crews can continue to support an advance until our para units are as close as 200 meters to the hostile position. The mortar loses much of its high accuracy at ranges beyond 2,000 meters.

8. Signal communications.

- a. Fire control of mortar units is normally effected by command or by arm-and-hand and conventional signals.
- b. Sound power telephones, each with 400 meters of wire, are furnished for communication between the observation posts and the mortar emplacements and are used whenever the terrain requires observation posts to be established so far from the emplacements as to make fire control impractical by voice or signals.

9. Organization and equipment of 81mm mortar group.

- a. The 81mm mortar group consists of a corporal, who is group leader, and seven Legionnaires. No. 1 is the gunner, No. 2 is the assistant gunner, Nos. 3, 4, 5, and 6 are ammunition carriers. No. 7 is the chauffeur of the group truck. When the mortar is transported by hand, only Nos. 4, 5 and 6 are available to handle ammunition, because the mortar, mount and accessories provide loads for the remainder of the group. Each ammunition carrier can carry six rounds of light or four rounds of heavy shell.
- b. The group is equipped with one mortar with its mount, the necessary accessories to keep it in operation, telephones, and one 3/4-ton truck which carries the mortar, mount, accessories, and ammunition. The group leader, the ammunition bearers, the chauffeur of the first squad, the chauffeur of the second group, the gunner and assistant gunner are armed with a Famas 5.56mm rifle.
- c. When the men of the group are with the truck, the chauffeur and one other member of the group ride on it. The others march on foot. If, however, the truck and equipment are separated from the group, at least two members of the group, besides the chauffeur, go with him on the truck in order to ensure at all times the presence of the minimum crew necessary to put the mortar in action.

10. Organization of the 81mm mortar section.

An 81mm mortar section consists of a sergeant, section leader and two mortar groups.

a. Organization.

- 1) The 81mm mortar section consists of a section command group and three mortar sections.
- 2) The section command group consists of a lieutenant who is the section leader, a section sergeant, one agent corporal, one instrument corporal, one transport corporal, and six Legionnaires. One private or private first class is a chauffeur, two are messengers, and the others are basic. The section leader, the section sergeant, the agent and instrument corporals and the messengers are armed with the Famas 5.56mm rifle.

b. Equipment.

The equipment of the section consists of six 81mm mortars with the necessary accessories and fire-control equipment to keep the weapons in action and six 3/4-ton trucks (weapons carriers) and one 1/4-ton truck.

11. Duties of command groups.

a. Lieutenant.

Section leader.

b. Section sergeant.

The section sergeant is second-in-command and assistant to section leader. He conducts the section in the approach march when the section leader goes forward to join his battalion commander for instructions and reconnaissance prior to combat.

c. Corporal chef.

The corporal chef acts as a representative of the section commander when the section is supporting a para unit. He stays with the para unit commander to observe the fight and see what supporting fires are needed, and get word back to his own mortar unit of these needs.

d. Instrument corporal.

The instrument corporal has charge of fire-control equipment, assists his section leader in reconnoitering positions and in setting up fire data. He installs the section observation post and supervises its operation.

e. Transport corporal.

The transport corporal conducts the carriers to the off-carrier position designated by section leaders, moves them as directed by the transport officer of the heavy weapons company after the carriers have been released by the section leader, displaces the carriers to new positions when directed and supervises the concealment or camouflage of carriers in position and at all halts.

f. Chauffeur.

The chauffeur drives the 1/4-ton truck, moves as directed by the section leader, and conceals and camouflages his truck at all halts in approach march and combat.

g. Messenger.

The messenger accompanies the section leader.

h. Armament and equipment.

The section sergeant and the instrument corporals are armed with the Famas 5.56mm rifle and equipped with field glasses and compass. The transport corporal, chauffeurs, and the messengers are armed with the Famas 5.56mm rifle. The command group is equipped with a command car and fire-control instruments.

12. Duties of leaders.

a. Section leader.

The section leader maintains contact with the company commander at all times in combat, receives his fire missions from him, and when required to, makes recommendation for the employment of the mortars in combat. He distributes the missions to section leaders, and reconnoiters and selects position areas when time permits, or directs reconnaissance by section leaders.

b. Section leaders.

The section leader reconnoiters the positions area assigned to his section and indicates the approximate position for each mortar placement. He locates observation points which will permit each group leader to observe the enemies in his target areas or his sector of fire. The section leader will usually be able to use one of the target areas or his sector of fire. The section leader will usually be able to use one of the group observation posts rather than establish a separate one for himself. If there is no good observation point near the mortar positions, the section leader may control the fire of his section himself, instead of having the group leaders control it. If so, he does establish his own observation posts.

c. Corporal, group leader.

1) He commands and instructs his group and conducts its march.

- 2) He selects the observation post and the position for his mortar.
- 3) He determines the exact position to be occupied by his mortar before it is brought up.
- 4) He directs the mounting and laying of his mortar.
- 5) He prepares the fire data and conducts the fire of his mortar against the enemy, unless directed otherwise.
- 6) In any emergency he engages suitable targets if no orders come from the section leader.
- 7) He keeps the section leader informed on the state of his ammunition supply.

THE 81mm MORTAR GROUP AND SECTION IN ACTION

1. Route march.

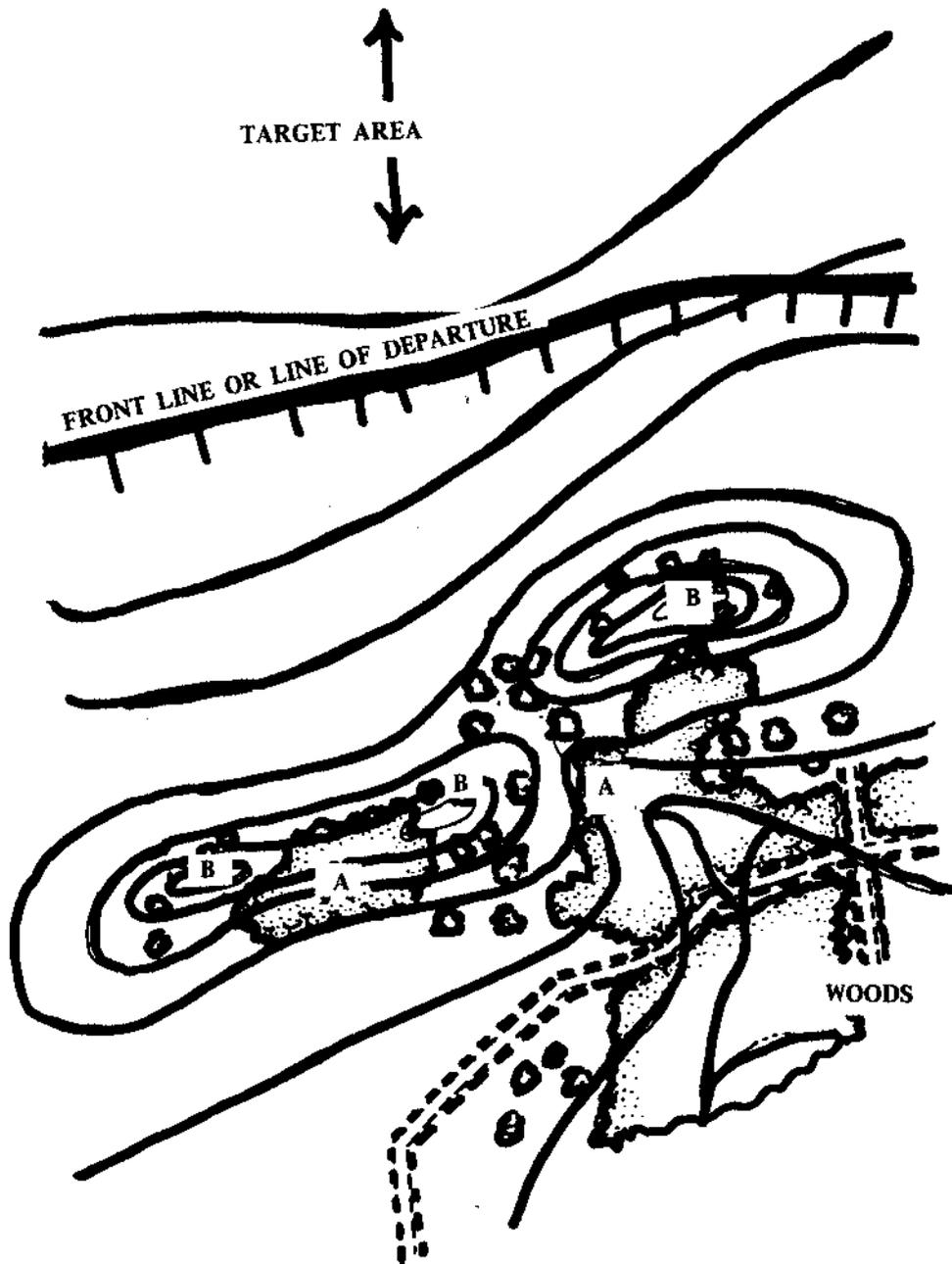
During a route march, if the mortars of a battalion are moving in separate units from the paratroops, the section leader of the 81mm mortar section stays with his para elements. The section usually moves, during route march, as a part of the heavy weapons company to which it belongs.

2. Approach march.

- a. The 81mm mortar section leader commands his section as a unit during approach march. The development order of the company commander gives the section leader his initial location, initial march objectives, and direction of advance.
- b. The section may be disposed, at different times during an approach march, with sections abreast or distributed in depth. Distribution with sections abreast is generally best for rapid movement over open terrain or for passing over crests or other conspicuous terrain lines. Distribution in depth is best when the section leader wants to take advantage of covered routes of advance or avoid obstacles. The leader varies the disposition of his section throughout the approach in accordance with changes in the terrain and the situation. Where the terrain does not permit rapid movement of the carriers, the foot elements and the carriers move together. On more favorable terrain, it is generally better to have the carriers follow the foot elements by bounds.
- c. When, during the advance, the section leader encounters obstacles to the movement of his motor transport, he then reconnoiters for good detours, directs the motor movement accordingly, and goes on himself directly to the assigned objective. Usually, where a wide detour has to be made, it will be carried out under the direction of higher commanders. Throughout the approach march, the section leader examines the ground ahead to find any gassed and shelled areas and leads his section around them by minor detours. At heavily shelled areas he directs his sections to move by individual rushes to an assigned objective, taking advantage of lulls in hostile fire.

3. Initial reconnaissance.

- a. When a mortar section leader receives orders from the heavy weapons company commander to report for instructions on the reconnaissance to be made, the section leader directs the sergeant to move the section to the march objective already given to it, or else to a position in readiness. Then with the instrument corporal, the section leader joins the company commander's group. He carries out whatever reconnaissance the company commander directs him to make, or whatever reconnaissance is required as a basis for the organization of the battalion base of fire. He notes all points where troops of the enemy are known or suspected to be, all areas defiladed from the fire of flat-trajectory weapons, and dispositions of friendly para elements. On the basis of this reconnaissance, he determines how he will occupy his position area and fixes the off-carrier position for his section.
- b. Upon receipt of instructions fixing the off-carrier position and the firing position area, the section sergeant moves the carriers to the off-carrier position. The section leaders reconnoiter their assigned firing position areas and select an observation post with a field of view over the foreground of the



NORMAL MORTAR POSITIONS.

Good mortar positions: Reverse slope AAA provides cover for high points BBB. Good observation of the target area within communicating distance of mortar positions. Road is for covered approach of weapons and ammo to position. There is ample field of fire.

- c. position within midrange of the line of departure.
- c. On finishing their reconnaissance, the section leaders spot the approximate positions for their mortars and call the mortar groups forward to these positions.
- d. The group leaders determine the exact locations for their mortar emplacements.

4. Firing positions.

- a. The most important things to be considered in locating firing positions for mortars are the following: The location of the enemy to be fired on and of our own front-line troops, the requirements of cover and observation, the requirements of fire direction by the heavy-weapons company commander and the section leader, and the facilities for supplying ammunition. Mortar positions must always be within effective range of their targets. They should also be near good observation of the targets and friendly troops. The observation post must be within arm-and-hand signalling distance of the guns. In the exceptional case, the observation post can be farther away when, for defensive reasons, it is best to cover the mortar positions. When this is done the section leaders control the fire of their mortars by radio.
- b. The limiting range of mortar targets is 2,000 meters. Mortars should not be emplaced more than 800 meters in rear of front-line paratroops and their fire should be at least 200 meters from friendly troops. Targets at which mortars normally fire are usually within the strip of ground from 200 to 600 meters in front of the front-line troops. However, targets on which smoke is to be placed may be at much greater range. Mortar emplacements should also be near enough to the heavy weapons company command post for rapid and easy communication. They should only be advanced beyond a distance that permits company direction when the ground seriously restricts the visibility of the enemy to be fired at and our own front-line troops. When this is done, mortars should be placed under the direction of the parachute company commanders nearest to them.
- c. As a general rule mortars fire from fully defiladed positions—seldom from open positions. As with other heavy weapons, mortar emplacements must be separated far enough from each other and from other installations, such as observation and command posts and other emplacements of heavy weapons, to ensure that a single shell cannot destroy more than one mortar and its crews. Whenever possible, mortar emplacements are also located beyond the zone of dispersion of hostile shells directed at other troops of our own.

5. Fire missions.

- a. In an attack, the mortar crews place their fire on hostile point targets which have been definitely located and which are protected from the fire of flat-trajectory weapons. Area targets that require zone fires are targets for artillery rather than for mortars. Suitable mortar targets must be carefully picked from among all possible targets for the simple reason that the ammunition supply for mortars is limited. The shells available must be placed squarely on the enemy for good effect.
- b. Among targets particularly suited to mortar fire are enemy troops in road cuts or railroad embankments or on reverse slopes and the enemy crews of entrenched heavy weapons. Mortars are seldom used to support the advance of tanks since the enemy's anti-tank weapons are usually better targets for flat-trajectory automatic fire. Mortar fires against enemy troops firing anti-tank weapons are ordinarily limited to preparatory fires in conjunction with artillery, and then only when there is ample ammunition at hand. Actually, mortar fires are for the most part fires against enemy troops in sizable groups. Against hostile shelters and against accessory defenses, the heavy mortar shell is used. Mortar crews fire smoke shells in order to lay down a screen or blind observation on some particular area in the enemy dispositions. Missions supplementing artillery in preparatory fires can be assigned to mortars, this also when ample ammunition is available.

6. Occupying a mortar position.

- a. In occupying a mortar position the group leader directs the installation of his mortar, its camouflage and emplacement, and the adaptation or construction of suitable cover for the mortar and for his Legionnaires.
- b. It is important in occupying mortar observation posts to avoid movement and exposure that might attract the attention and fire of the enemy. Moreover, when a defensive position is occupied for a long time, the forming of paths to mortar emplacements and observation posts must be avoided

as far as possible. Where it is difficult to avoid making paths, they should be carried on beyond each emplacement.

7. Fire direction and control.

- a. As a general rule, the most effective results are obtained by concentrating a sudden fire of both mortars of a section at the same time on a single target. In some situations it may be best to prepare data for the concentration of the fires of the section on certain targets. Usually the requirements of cover and the necessity for providing mortar support at different places in the battalion zone make concentrations by a whole section impractical. Mortars are not emplaced in battery to fire like artillery.
- b. Whenever he can, the heavy weapons company commander designates the target areas and fixes conditions for opening fire. When restricted visibility or some unusual extension of the battalion front prevents the heavy weapons company commander from directing the control of the mortar fires, the battalion commander attaches the mortars either singly or by section to one or more companies of his leading element. When this is done the para company commander directs the fire of the 81mm mortar in the same way he does the fire of a 60mm mortar.
- c. The mortar section leader must keep close touch with artillery observers in the zone of his battalion. He tries whenever possible to combine the fires of his own weapons with those of the supporting artillery to assist the action of the leading attack element.
- d. When the mortars of a section are separated so far that section control is impractical, each group leader controls the fires of his weapons. The section leader assigns fire sectors or target areas and indicates to the group leaders the order or priority of fires. He gives these instructions while his section is still assembled. Group leaders direct the fire of their mortars so as to support the general plan of action of the battalion.
- e. In a situation where a battalion is making an attack against some weak enemy resistance, or against enemy troops already dispersed by an attack, and battalion fire bases are not organized, mortar groups are usually attached to para companies or given missions directly in support of those companies.

8. Displacement.

- a. Mortar crews displace their mortars in such a way as to cause the least interruption possible in the continuity of their fire. Mortar crews avoid displacing while the leading attack element is in movement. Each situation determines whether a mortar section can best be displaced as a unit or by group/equipe. Naturally, displacement by section avoids interruption of mortar support. In general, displacements are best carried out during lulls in the battle, and when further movement and fire attack by paratroops against the enemy forces is not soon expected. The whole section may displace at the same time when all sections have been given identical fire orders, or when a continuous fire support is not needed.
- b. Mortars may be displaced in a general displacement of the battalion fire base, or independently. They are displaced regardless of whether other weapons on the battalion base of fire displace, as soon as mortar crews can no longer carry out their own missions without moving.
- c. When mortar units displace with the rest of the battalion fire base, the heavy weapons company commander regulates the movement. He directs a reconnaissance of the new base to be made by his reconnaissance officer and other men of his command group. The company commander then gives his mortar section a new position area. He may order his mortar units to displace independently as soon as the section leader notifies him that the enemy or the attacking paratroops can no longer be observed.
- d. In either type of displacement, the company commander indicates the new position area the mortars are to occupy and, whenever he can do so, the fire missions to be executed by his mortars.

The section leader then checks the ammunition supply, arranges for the groups to move forward, and with his instrument corporal and a messenger, goes ahead to reconnoiter the new position area and a suitable route for the mortars to follow in reaching it. He decides upon the approximate positions for the mortars and then sends back the messenger to bring them up. He then prepares data for fires with the help of the instrument corporal.

The ground and the particular situation at the time will determine whether the mortars should be displaced on their carriers or by hand, or by a combination of both. The section leader locates the new off-carrier position, or when necessary releases the carriers to the control of the transport officer. The carriers may detour into the zones of adjacent battalions in order to take the best advantage of cover and camouflage as protection against enemy fire.

9. Coordination of mortar fire with front-line para units.

- a. When heavy mortars are emplaced in the areas of front-line para companies, the section leader or the group leaders at once make contact with local para unit commanders and find out the situation and what they intend to do. From then on they conduct the mortar fires in accordance with the situation as it develops with particular attention to the action of the para units. It is most important for them to increase their mortar fires at the moment the paratroops assault the enemy, or troops are discovered assembling for an attack or counterattack.
- b. They cease or lift the fires of their mortars either at a pre-arranged signal or at a designated hour, and, of course, when it can be seen that further fire will endanger the friendly troops. When the fires are lifted they are placed on the hostile enemy areas in rear of the leading enemy troops wherever heavy weapons of the enemy might be emplaced, or enemy troops might be expected to assemble for the coming attack.

10. Use of weapons carriers during the attack.

The carriers are used to transport the mortars whenever the ground and the situation of battle permit. As a general rule they are kept on carriers up to the time the initial base of fire is organized. During an attack, the mortar carriers are used whenever there are good covered lines of advance available and when a cover position for the carrier is available. Mortars are carried into their firing positions by hand. Off-carrier positions should be selected as far forward as there is cover available for the carrier which can be reached without exposure to heavy fire. It will nearly always be necessary to carry the mortars some distance by hand. At all times during an attack the carriers must be close enough at hand to pick up mortars which have lost ground because of slow progress in carrying by hand or because the attacking echelon has moved forward so rapidly.

11. Ammunition supply.

- a. Ammunition supply is as follows:

On prime mover—100 rounds for each mortar.

In combat train—50 rounds for each mortar.

In combat train of next higher unit—150 rounds for each mortar.

Of this ammunition, 70 percent is HE Light, 10 percent HE Heavy, and 20 percent Smoke.

THE 81mm MORTAR GROUP AND SECTION IN DEFENSE

1. Defense missions.

- a. In a defense, the main uses of mortars are to cover dead spaces in the bands of machine-gun fire

in accordance with the battalion plan of fires, and to place fires upon areas where enemy troops may be assembling for their attack. Both of these fires are coordinated with the barrage and counter-preparation fires of artillery.

- b. Every mortar crew is given a primary and a secondary target. There may be several secondary targets. These are given numbers in accordance with a desired priority but are also fired on command or signal. The secondary targets may include targets within the battalion section or in the sectors of adjacent battalions. Targets not of high priority may, of course, be engaged without signal in any emergency requiring it, if no target of high priority is being fired at.
 - c. The primary target is usually an area about 100 by 100 meters within which is an important gap in the final protective line of the machine guns of the battalion, or an important area in the battalion sector that cannot be reached by the fire of flat-trajectory weapons, such as a jungle, a ravine, or a stream line through or along which the enemy may try to approach your own position.
2. Selection of positions.
- a. The mortar section is assigned a general location within the area to be occupied. The section leader then selects a position for each mortar and assigns appropriate fire missions to the groups.
 - b. In general, the same factors enter into the selection of positions as for the attack. First, areas are selected from which the enemy targets assigned can be hit, considering the range and observation. Then, from among these possible areas, the section leader selects those which have the best combination of cover, concealment, concealed routes, and protection by para units. Usually, however, it is best to locate the mortars farther to the rear in a defense than in an attack. They should not be so far forward that possible capture by the enemy of one of our own section defense areas on the main line of resistance will make it necessary for the crews to displace their mortars to the rear in order to fire on the captured combat group. At such critical moments supporting mortar fire is needed and effective.
 - c. Alternate and supplementary positions are chosen by the section leader and emplacements are prepared by the groups.
3. Improvement of positions.

All positions must be improved by digging and camouflage to increase the safety and concealment of the crews and their mortars. Positions are improved in their order of importance. Duplicate range cards are prepared, one to be sent to the next higher commander, the other to be used by the group leader in conducting fire.

4. Ammunition supply.
- a. In the defense, time is usually available in which to supply mortar positions with ammunition. Trucks may dump their loads at or near the weapons. The carriers are then used to keep an adequate supply of ammunition at the nearest cover in rear of the mortar positions by working between this cover and the battalion ammunition distributing point.
5. Conduct of the defense.

During an attack by the enemy the defense is conducted according to a prearranged plan. When emergencies occur, mortar crews get their weapons into action without wasting a second. Group and section leaders keep alert to spot good targets, at which they fire the minute they appear.

6. Reorganization.

During lulls in the action, the section leader checks casualties, replaces leaders, directs any needed

repairs and replacement of the equipment, and orders more ammunition brought up if needed. Damage to emplacements and shelters must be repaired. Positions of the weapons may have to be changed because the positions have become known to the enemy. Orders for any withdrawals of the section are given by the battalion commander.

THE 81mm MORTAR SECTION IN SECURITY

1. General.

The principles governing the employment of the mortar section in the service of security are those governing offensive or defensive operations, depending upon whether the mission of the unit with which it is operating requires aggressive or defensive action.

2. Advance guards.

- a. Mortars are valuable in advance guards for supplying the immediate, powerful fire and close support necessary in this kind of action.
- b. The employment of the mortar section in an advance guard action follows the general principles laid down for their employment in the offensive or defensive, depending upon the mission of the advance guard to which they are attached.
- c. Speed in going into action is essential. To ensure this speed, arrangements must be made to give the section leader timely information of the situation and missions of his section. In small advance guards the section leader may stay with the advance guard commander. Speed is also gained by a continuous reconnaissance and study of the ground during the march.
- d. A mortar section in an advance guard may move abreast of or follow the machine gun section of its company.

3. Rear guards.

- a. The purpose of a rear guard is to protect the main body from attack from the rear. It checks hostile pursuit and enables the main body to increase the distance between it and the enemy and to reform if disorganized. It is important to offer not only the necessary opposition but also to make good its retreat. As a rear guard is usually required to hold a position with a minimum number of men, support by weapons other than rifles becomes important. Interdicting routes of approach will gain the time necessary to accomplish the mission. The mortar, because of its accuracy, range, and power, is a fine weapon for supporting this type of action.
- b. An important thing in rear guard action is to prevent the enemy from detecting the exact time of withdrawal. Since mortars occupy positions in defilade they can easily be withdrawn without disclosing the movement to the enemy.
- c. The employment of the mortar section is a rear guard action that follows the general principles laid down for delaying action.

4. Outposts.

- a. An outpost is a covering detachment detailed to secure a camp, bivouac, or defensive position against surprise ground attack, to prevent an attack upon it before the troops can prepare to resist, or to deny to the enemy observation of dispositions and movements. Mortar units can assist in performing these duties and are attached to outposts whose size is sufficient to protect them from being overrun and captured by small bodies of the enemy.
- b. In general, the principles governing in defense and delaying action apply to outposts.

Chapter 13

Anti-aircraft Defense by Paratroop Units

1. Air operations against paratroops.

With respect to hostile aviation, infantry is principally concerned with defense against observation and attack from the air. Paratroops anti-aircraft measures ensure that the troops may carry out their primary ground missions. In campaign, all armies use observation aviation to obtain information of hostile ground forces. All armies have combat aviation suitable for attacking ground troops, such as the light bombing planes our own army uses.

As far as paratroops are concerned, any low-flying plane that attacks them with machine-gun fire, fragmentation bombs or gas, is a light bomber or "attack" plane. Employment of combat aviation against ground troops, especially paratroops with light support weapons, is found in all recent warfare, particularly when sufficient artillery was lacking. Concentrated ground forces, untrained in anti-aircraft defense and without available means for such defense are highly vulnerable to air attack. Consequently, such troops offer a profitable and tempting target to hostile aviation. On the other hand, paratroops highly trained and well equipped for anti-aircraft measures can direct a great volume of fire toward low-flying enemy planes and can cause heavy losses to the enemy's air units.

2. The low-flight air attack.

a. Armament.

Airplanes suitable for employment against ground troops have as many as twelve fixed machine guns, each firing up to 1,200 rounds per minute and carrying several hundred rounds of ammunition per gun. A number of fragmentation or chemical bombs can also be carried, or an equivalent weight of liquid chemicals may be carried in tanks. Light bombardment planes generally have a flight range of 600 miles or more.

b. Low-flight machine gun fire.

Light bombardment planes may launch their attacks against ground troops flying as low as possible at speeds of 300 miles per hour (about 150 meters per second) or more. The machine guns open fire at ranges up to 1,000 meters or over from the ground target. The ground target is raked with grazing fire, the area of impact moving along the ground with the speed of the plane. The machine guns can fire continuously for 30 or more seconds, covering a target 4,000 meters or more in length. This fire can be placed on a succession of short targets having the same combined length. To cover longer targets, such as long troop columns, planes must attack in column formations, or by planes approaching abreast from a flank and then suddenly turning over the target.

The machine guns of light bombardment planes are set at fixed lateral angles before leaving the airdromes. The fire from a single plane must be placed within narrow strips of ground for best results. An area of any dimensions can be covered by varying the number, formation, and tactics of the attacking planes accordingly. For a given fixed setting, the width of the machine gun fire varies with the altitude of the plane. A single plane with eight machine guns fires a maximum of 4,800 rounds in 30 seconds. Under ideal conditions of flight over perfectly flat ground, these are distributed over about 125,000 square meters, or one bullet for each 25 cubic meters. The bullets strike the ground, however, at a flat angle which creates a danger space of some length.

A number of factors may contribute to reduce the maximum effect of this fire. Ground irregularities cause the fire to lift and scatter over a wide area. The minimum turning radius of a light bombardment plane is several hundred yards, therefore sharp bends in the route being followed by ground troops cause the machine gun fire to spread or the attacker to interrupt firing. Strong crosswinds make the plane fly with its axis at an angle to the route. Irregularities of the ground afford some cover to the troops attacked. When troops are scattered over an area wider than that of the attack, those outside of the zone of attack are not under fire. Stoppages of the machine guns often reduce the quantity of fire.

c. Low-flight bombardment.

Fragmentation bombs dropped from light bombardment planes fall to the ground directly under the plane's path. In order to escape hits from their own bomb fragments, low-flying planes use bombs with delaying fuses or with parachutes attached. Bombs will be the primary weapon of the low-flight attack, unless the enemy uses gas. The bombs may be dropped singly, in pairs, or in groups. Each bomb breaks into many hundred fragments upon detonation, highly effective within a radius of about 25 yards. A single fragment may be effective up to several hundred yards.

A single plane can cover an area with the fragmentation effect of bombs up to about 100 meters broad and 2,500 meters long, with maximum effect in an area 50 by 1,000 meters. In the area of maximum effect, there is an average of one fragment for each one cubic meter of area. The parachute type of bomb may be equally effective with less weight, as the majority of fragments fly out with flat trajectories from the point of detonation. The parachute bomb is plainly visible and takes about three seconds to fall 25 meters.

The same factors that reduce the effect of the machine gun fire, for the most part, reduce the bomb effect also. When bombs are released, troops within the effective radius have a few seconds in which to throw themselves prone and take advantage of any cover available. An accurately laid bomb attack, like a sudden heavy concentration of artillery fire, is bound to cause casualties.

d. Low-flight gas attacks.

In a low-flight gas attack planes use persistent gas, in chemical bombs or sprayed from tanks. The sprayed gas, leaving the plane, may be seen for a short distance under conditions of high visibility. The gas has to be sprayed upwind from the target, the distance depending upon the altitude and wind velocity. Gas sprayed from an airplane can be laid accurately when there is little wind.

In attacking troops, a gas attack by spraying is usually delivered from the lowest possible altitude. The carrying effect of wind on the fine droplets of liquid gas is considerable, and the gas concentration decreases as the distance from the point of release increases. A light bomber can carry enough persistent gas to cover an area a mile or more long and 50 to 600 meters wide, the width depending on the altitude of release and wind velocity.

Hot weather increases the effectiveness of persistent chemicals, while heavy rain is unfavorable. The trunks and foliage of trees in dense woods afford a little protection from the droplets of sprayed gas, but no protection from the vapor, which may be more concentrated in dense woods than in the open. Troops must avoid brushing against contaminated vegetation. Any overhead cover affords some protection from liquid droplets, but not from the vapor. Even a vertical surface will afford some cover, depending on the wind.

e. Dive-bomber attacks.

The enemy may use the dive-bombing attack in which aim at the target is taken by diving the plane at it and then releasing the bombs at a low altitude. This attack is often used in the present war against troops on bridges and in other defiles, and wherever high accuracy is desired. This type of attack is used when it is desirable to return again and again to pound the same limited area from the air. Big bombs can be used as well as small ones, but the large ones weighing hundreds of pounds are used mainly to destroy material things—small ones are used against troops. The effect of a single bomb delivered by diving is similar to one dropped in the low-flight attack. Losses to dive bombers are heavy if they encounter a heavy fire from troops.

f. Day attacks.

Light bombardment planes seek to surprise troops in concentrated formations by flying at altitudes of 10 meters or more, depending upon the irregularity of the terrain and the height of obstacles above the ground, and at speeds of at least 200 miles per hour. At such speeds, no attempt is made to maneuver against small specific targets but areas are attacked which contain remunerative targets.

A light bombardment plane can hold its machine gun fire momentarily on a fast-moving vehicle and drop bombs close to the vehicle. Planned attacks are directed against specific areas known or reasonably expected to be occupied by troops. If troops are in movement, air attack plans are based upon a prediction of where the troops will be when the attack reaches them, or when the troops may be caught in a defile or similar bad spot.

When many planes attack by day, a specific part of an area or column which is the target is usually assigned to each small group of planes. In the present way, dive bombers and low-flight bombers have not often attacked completely deployed troops since it is considered wasteful of ammunition to do so. Moreover, such troops are hard to detect from any fast-moving plane near the ground.

g. Night attacks.

In night operations, a succession of single planes is often used, since at night close formations of planes would run into each other. In general, night attacks by planes are less effective than day attacks because, even when the enemy uses flares, his ground targets are harder for him to see. Night attacks by planes, however, will be used by an enemy whenever he knows of worthwhile targets.

h. High attack.

If enemy air units attack infantry by bombing from above effective machine-gun and rifle anti-aircraft range (about 1,000 meters), ground troops can only use passive measures, except where anti-aircraft artillery guns and our own pursuit planes are at hand to deal with such high attacks.

BASIS OF ANTI-AIRCRAFT DEFENSE

1. Anti-aircraft defense responsibility.

Anti-aircraft measures against combat aviation is not a responsibility of any single area or service. The navy operates against enemy air bases. The air forces support the navy within the radius of land-based aircraft and attacks hostile air bases, depots, manufacturing plants, and planes on the ground or on airplane carriers, and fight enemy planes in the air. Anti-aircraft artillery provides a local defense for certain ground forces and important installations. All troops utilize suitable weapons against enemy planes and various means of passive defense.

In principle, combat arms take all measures they can for their own protection against low-flying aircraft, and the anti-aircraft artillery reinforces these measures especially against aircraft beyond the range of the organic weapons of the other arms. Important defiles and critical areas along routes of march, the forward routes of general reserves, and troops engaged in a main effort in tactical operations, receive direct protection from anti-aircraft artillery to the extent it is available. Such protection does not ensure immunity from observation or attack by hostile aviation, and in no way relieves troops so protected of their own anti-aircraft and defense responsibilities. All means of anti-aircraft defense within a unit and the anti-aircraft defenses of mutually supporting units are coordinated to the maximum extent possible.

2. Air superiority.

Complete control of the air can be gained and maintained only by complete destruction of the enemy's aviation. Since it is seldom possible to accomplish this, observation and attack by hostile aviation must be reckoned with at all times.

3. Vulnerability to air attack.

In general, under any conditions which preclude the use of effective active and passive measures, paratroops are most vulnerable to air attack during movement by air transport, when concentrated on the march except when thoroughly deployed.

4. Matching speed with speed.

Use of motors facilitates anti-aircraft defense. The more mobile a force, the more difficult it is to find; once found, the harder it is to keep under observation, and the less time the force needs to complete a movement. The use of motors often permits greater dispersion and enables machine gun units to move by bounds to successive positions for anti-aircraft defense.

5. Active and passive means of defense.

Anti-aircraft defense is based upon both active and passive measures. Active measures are those intended to destroy, disable, or harass the enemy planes or their occupants. Paratroops' active anti-aircraft measures consist almost entirely of defensive fires. Passive measures are measures taken to reduce the effect of hostile air attack which involve no action against the enemy's planes.

6. Basis of paratroops anti-aircraft defense.

The commander of any para unit makes the utmost use of all suitable means at his disposal, both active and passive, for the defense of his unit against observation and attack by hostile aviation. Paratroops are trained in efficient passive methods of anti-aircraft defense and prepared to deliver the maximum

possible fire at hostile aircraft within range. In some situations, paratroops must rely wholly on passive measures for its protection.

7. Paratroops anti-aircraft fire.

As a general rule, whenever paratroops fire at hostile aircraft they concentrate all possible firepower from every suitable weapon upon the enemy airplanes at maximum effective ranges and maintain this fire until they pass out of range.

Paratroops fire on all types of hostile aviation within range, unless the requirements of secrecy are more important than the expected results of such fire. Ordinarily, troops without protective cover should not attempt to fire while within the effective radius of bursting bombs. The speed with which attack aviation strikes makes it necessary that infantry anti-aircraft fire be simple and capable of rapid and automatic application.

PASSIVE MEASURES

1. General.

Passive anti-aircraft measures are classified under five headings: concealment, cover, dispersion, security and speed.

Certain passive measures may be taken well beforehand. Given a choice of several roads, routes should be selected which afford the greatest protection by the application of passive measures. Ordinarily, a suitable secondary road, with frequent curves over rolling, broken, and wooded ground, is better for concealment, cover, and dispersion than a main highway with long, straight, uniform grades, high fills, and deep cuts. On the other hand, a troop movement by motors may be completed at high speed on main highways before the enemy can discover the movement and launch an air attack against it. In all cases, the requirements of anti-aircraft defense must be considered along with the requirements of other conditions in the situation.

2. Concealment.

Complete concealment avoids detection by hostile aircraft. Partial concealment has considerable value in that it may result in causing a hostile air observer to obtain only incomplete information or cause him to come within the range of ground weapons in order to get needed information. Examples of concealment are camouflage, use of wooded areas, taking advantage of darkness and poor visibility, extinguishing lights, limiting movements, and deception such as false lighting and dummy installations.

3. Cover.

Use is made of cover to minimize the effect of air attack weapons. Cover is provided by the terrain and by foxholes, trenches, shelter and armor and protective clothing and equipment against gas. Ordinarily, when attacked by hostile aircraft, paratroops make the best possible use of cover they can before opening fire on attacking planes.

4. Dispersions.

Dispersion reduces the effect of air attack weapons. Dispersion also facilitates concealment, cover, and security. The effectiveness of air attack increases with the density of the troop formations attacked. In all situations, when enemy air attack is possible, the intervals and distances between individuals, and between units, should be increased to an extent consistent with control and the accomplishment of the ground mission. Irregularity in formation also helps. Marching in several columns increases dispersion.

5. Security.

a. Aircraft information.

The information-gathering agencies of all the higher headquarters disseminate information of hostile aviation to paratroops. This information covers the types, characteristics, appearance, armament, tactics, and probable employment of enemy aircraft. The more complete in the information available regarding the installations, strength, and activities of hostile aviation, the better the probability of hostile air attack can be determined. Information from the aircraft warning service in each theater of operations may come in time to be of some value to ground troops as well as to our own air units, for which it operates primarily.

b. Anti-aircraft lookouts.

The duty of anti-aircraft lookouts is to guard their unit against surprise by enemy airplanes on the march, in shelter, or in combat. They may be stationed at one post, march abreast of a marching unit, or move to successive observation posts by motor transport. Anti-aircraft lookouts observe in every direction, especially that from which attacks are to be expected. The direction of the sun or of hills, woods, or other cover which might screen low-flying attacks is particularly dangerous. Anti-aircraft lookouts usually operate in pairs and relieve each other at intervals of not to exceed 15 minutes. They are equipped with field glasses and sun glasses and instructed as to the alarm signal to be used (by signal projector, if available, or by other prescribed signal). They are trained to recognize hostile airplanes and prearranged identification signals. The alarm is given as soon as low-flying planes not positively identified as friendly are seen. Observers at emplacements of anti-aircraft weapons and at command observation posts watch anti-aircraft lookouts for signals.

c. Identification of aircraft.

The difference in appearance between an approaching air attack and other forms of air activity may be considerable. Friendly planes avoid flying low over their own ground troops, except when warning and recognition signals are arranged. Anti-aircraft lookouts are trained to recognize hostile airplanes by their actions and silhouettes so that false alarms are kept to a minimum.

6. Speed.

Dispatch in operations.

Whenever practical, the utmost use of speed in operations should be made. The sooner an operation is completed, the less the chance of detection by hostile air observation and the less the time available to the enemy in which to plan and launch an air attack. It is not possible to increase the rate of march to avoid detection by enemy air observers. Such activities as preparing and forming for a march, occupying a bivouac area, and entrucking and detrucking must be done with all possible dispatch.

ANTI-AIRCRAFT DEFENSE IN VARIOUS SITUATIONS

1. March formations.

The first step in the anti-aircraft defense of a paratroop unit is the adoption of a formation which gives the greatest protection through active and passive measures and which is appropriate for the road net, terrain, and the ground situation.

A suitable formation which facilitates rapid deployment laterally and the delivery of defensive fires is

the primary consideration. The danger to marching paratroops from enemy light bombers is greatest when paratroops are forced by limited time, a poor road net, terrain preventing cross-country movement, or tactical considerations, to make a daylight march along well-defined roads in route column formations. Marches under such adverse conditions need heavy protection by fighting planes against the enemy aviation and by anti-aircraft artillery. Such marches should be avoided whenever possible, but if necessary should be made in at least partially deployed or extended formations.

Motorized machine gun sections move by bounds from one selected position to another. A formation often feasible is a single file of paratroops on each side of the road, with vehicles which must accompany the paratroops moving by bounds between the following files of paratroops.

2. Action when attacked on the march.

When the air attack alarm is sounded, or an actual attack is launched, all men with shoulder weapons, and other individuals not otherwise engaged, rapidly deploy off the road, seek what cover is immediately available, and open fire on the attacking planes. Ditches, gullies, small depressions, trees, and walls offer some cover from bomb fragments and grazing machine-gun fire. The fire of every suitable weapon in para units, supported by the fire of the machine gun units directed accurately toward low-flying planes, even for the few seconds of time available, will inflict losses on hostile planes and pilots.

When the enemy planes drop their bombs, all men within their effective radius of burst cease firing and quickly throw themselves prone. After the bombs dropped in the close vicinity of a unit have detonated, preparation is made to fire at the planes in case they circle, or to fire at any succeeding elements in the air attack. All commanders down to include group leaders exercise such supervision as may be practical in the time available.

If the enemy has initiated the use of chemicals, paratroops put on their gas masks at the first warning of air attack, and immediately follow with the action as outlined above. Thereafter, the paratroops are promptly moved out of the gassed area and given such first-aid measures as may be directed.

3. Night marches.

Night marches are usually less exposed to observation and para attack from the air than marches made by day. Passive measures alone can be taken by paratroops when they cannot see to fire on the enemy's planes. Even at night, marching paratroops should never remain standing at the halt for any length of time. When attacked at night, marching troops move off the sides of the road and throw themselves flat on the ground. When flares or other sources of illumination make hostile planes visible, all troops within range open fire unless concealment is more important than fire.

4. Movements by motors.

Machine guns are mounted on trucks carrying paratroops. Motorized machine gun sections may be distributed throughout an entrucked troop column. Generally, by day, vehicles of small columns move individually at varying distances up to several hundred meters and at the fastest practical speed. Massing of troops and transportation and the closing up of trucks in one column are kept to the minimum at entrucking and detrucking areas, and during such activities an area machine gun defense is established.

Every effort must be made to avoid traffic jams or the closing up of trucks when halted. Paratroops get out of the trucks and seek cover if there is time. They do not get under the trucks but into the ditch along the road or any other depression. They open fire as the enemy planes approach, if there is time, and take cover when the bombs drop.

5. Defense of bivouac areas.

a. General.

If well dispersed over the terrain with good cover and concealment, bivouacked paratroops will have a minimum of losses. In open terrain, with little or no facilities for natural cover and concealment, the plan for anti-aircraft defense must be based upon defensive fires, dispersion, and the construction of shallow trenches and foxholes for protection against air attack.

b. Selection of bivouac areas.

The anti-aircraft defense of a bivouac area begins with the selection of the area. Terrain with ample concealment, cover, and area for dispersion is best. Paratroops should not be bivouacked too close to landmarks, such as prominent hills, single buildings, or the junction of roads and streams.

An air attack may come from any direction. In some situations, an air attack may be more likely to come from the direction of nearby hills or from the direction of the sun. Probable directions of approach should be taken into consideration in assigning bivouac areas to subordinate units and in establishing the anti-aircraft fire defense.

c. Passive defense measures.

It is generally necessary to use camouflage to supplement natural concealment. The importance of camouflage and other passive measures increases with the length of time an area is to be occupied. Every precaution is taken to avoid discovery. Movement within the area is kept to a minimum, and roads and trails avoided by day. Existing roads and trails are traveled at night in preference to forming new ones. New trails formed during the night are camouflaged by daylight. Paratroops discovered moving into a base area or attacked while in exit, move to a new area, when practical, as soon as the move can be made without the enemy's knowledge.

In locations likely to be attacked by aviation, troops are not bivouacked in the same area for extended periods of time. They make best use of natural cover as protection against air attack. A considerable dispersion of units, and of elements and individuals within units, in bivouac is always desirable, even when ample concealment is available. Anti-aircraft lookouts are posted so as to detect the approach of hostile aircraft from all directions and give warning, particularly to machine gun units. Paratroops must not halt or countermarch during the occupation of the area, and they must not be formed unnecessarily early when moving out of it.

d. Defensive fires.

Provision is made so that elements of a parachute unit are capable of mutually supporting defensive fires. This applies particularly to the establishment of a ring of mutually supporting machine gun units, usually sections, around the bivouac area so that low flying enemy planes approaching from any direction are met by an offensive volume of fire before they arrive within bomb or gas spraying range of the defended area. Machine gun units are emplaced within the bivouac area to fire against diving attacks and at planes which cross the fire zone of the outside ring. To be mutually supporting and to give a uniformly effective firepower around the defended area, the machine gun units should be emplaced so that their all-around fire is not masked by obstacles. They should be close enough together for the fire of adjacent guns to overlap. All weapons suitable for anti-aircraft fire are kept loaded and at hand. Units without weapons for defending themselves are bivouacked so as to receive incidental protection from the fires of other units. The AA-52 machine gun is a powerful weapon for anti-aircraft uses.

6. Anti-aircraft defense in combat.

a. Defense of assembly area.

The defense of troops in assembly areas against enemy aircraft is similar to the defense of bivouac areas.

b. Combat in general.

Units deployed for combat must be prepared to meet air attacks during the progress of a battle. Ordinarily, all weapons not engaged with the enemy on the ground fire at hostile aircraft. Certain weapons are designated for anti-aircraft fire with a prearranged distribution of fire. Paratroops do not fire on enemy planes not attacking them when such fire is less important than secrecy.

c. In the defense.

Paratroops in forward positions never fire on enemy planes not attacking them, if such fire would disclose their positions. Units whose positions have undoubtedly been discovered should fire on all enemy planes within range. Commanders issue specific instructions for opening fire. When authorized, the opening of anti-aircraft fire then becomes the responsibility of local commanders of small units. Reserve units make the utmost use of all practical passive measures and defensive fire.

d. In the attack.

Attacking paratroops direct the fire of all available weapons against attacking planes when this does not interfere with their ground missions. Because of irregularities of terrain, extended troop deployment and difficulties of control, action against hostile aviation is usually the responsibility of small unit leaders.

7. Anti-aircraft defense of motor columns.

a. General considerations.

Paratroop motor columns depend upon concealment, dispersion, and defensive fires, and incidental protection from the fires of combat units, for protection against enemy aircraft. Concealment is secured by the use of overhead cover such as trees and buildings, by camouflage, and by absence of movement during good visibility. The vehicles of motor columns should be dispersed enough so that a single bomb could not destroy more than one of them.

b. Defensive fires.

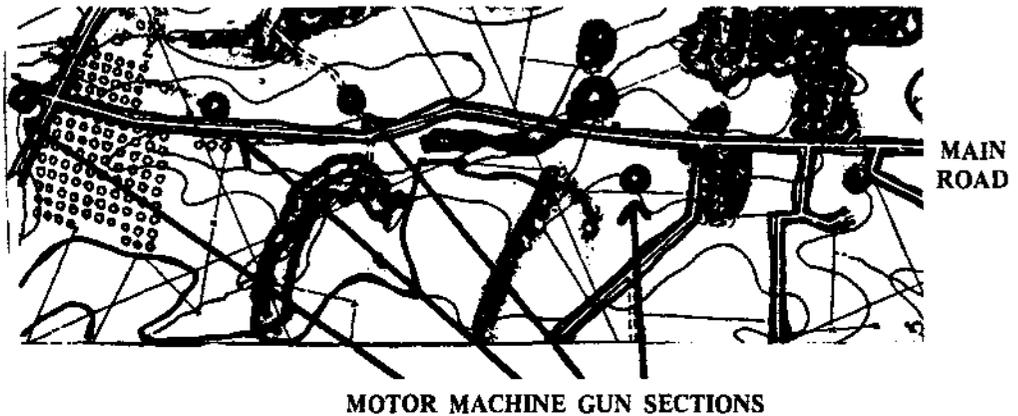
Defensive fires for motor columns may be furnished by organized anti-aircraft troops, by weapons organically a part of the columns and incidentally by fire from units having other missions at the time.

PROTECTION BY HASTY FOXHOLE OR SHELL SCAPE.

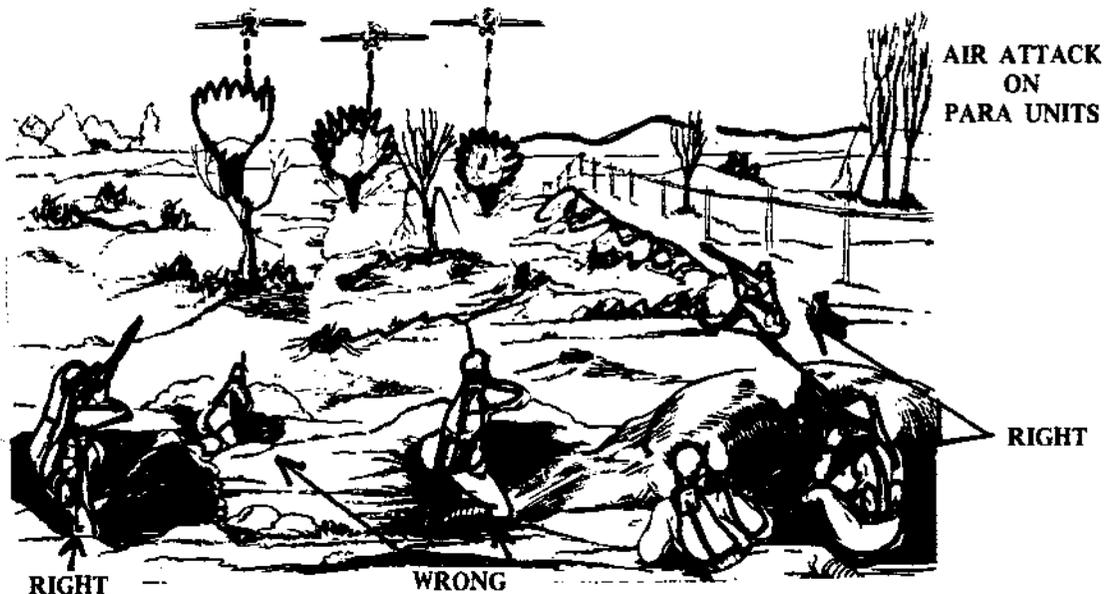
Individual shell scapes, trenches, ditches, and depressions afford protection against the flat trajectory of the aircraft machine gun.

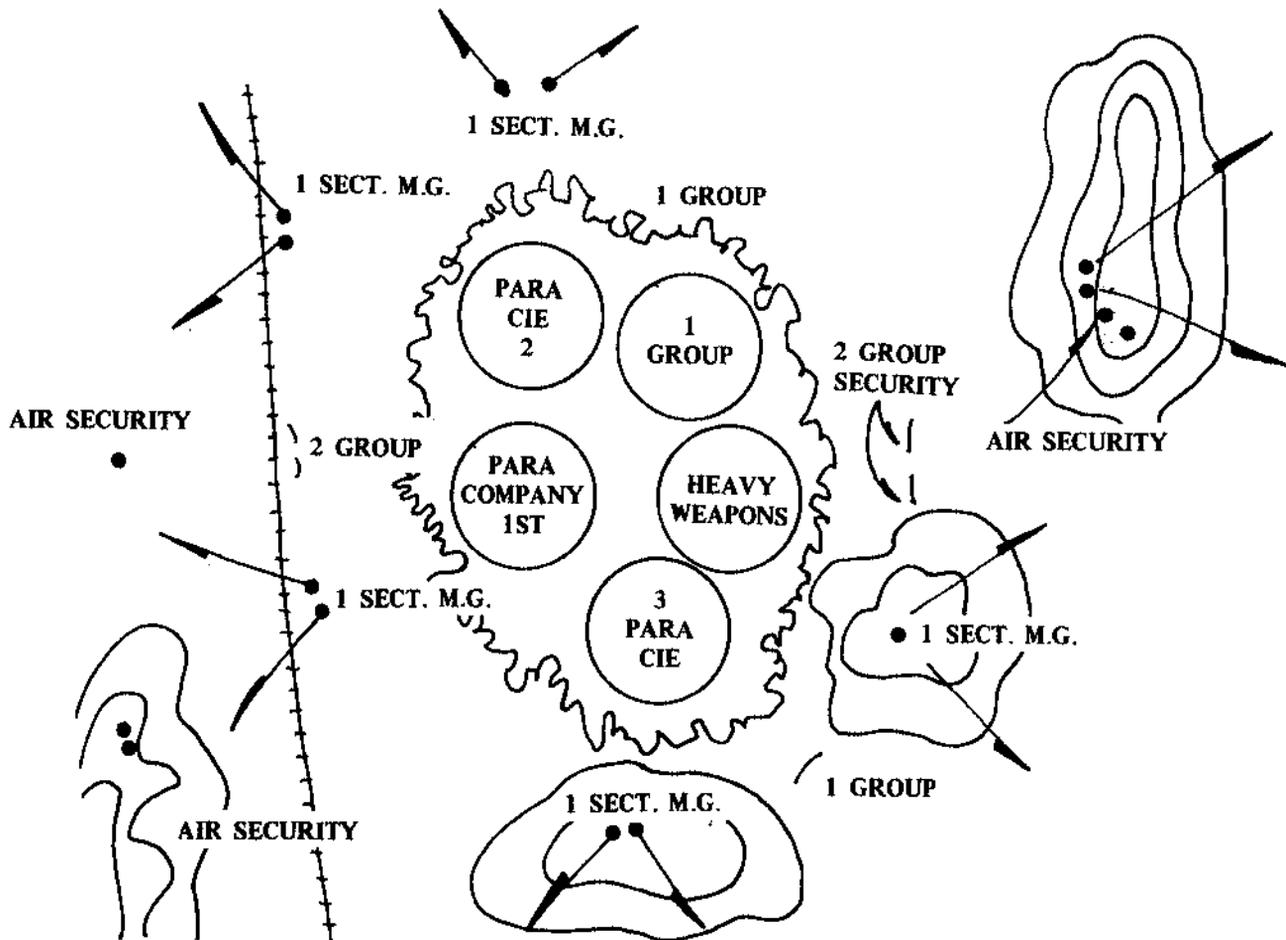


Motor machine gun sections should cover and protect the road as close as possible to the direction of column.



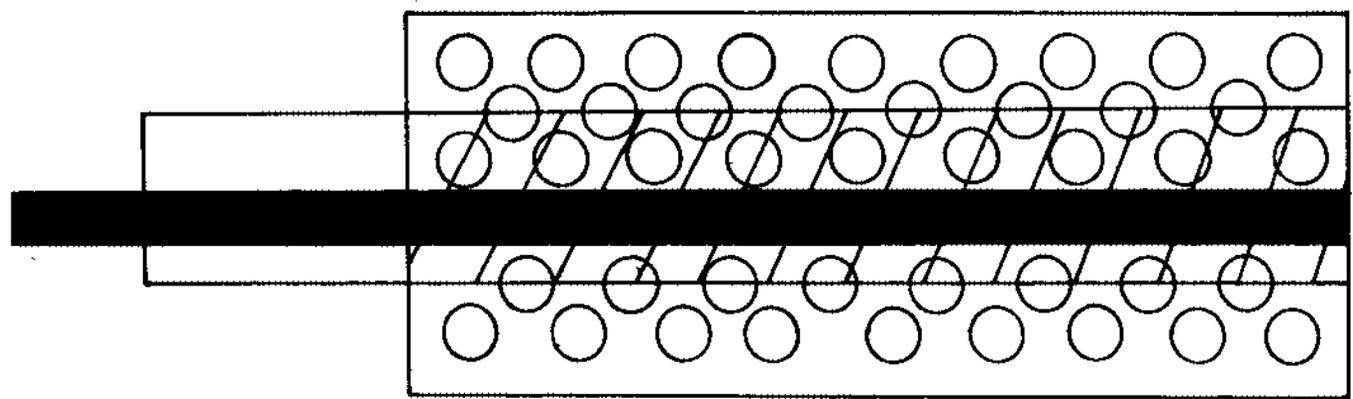
All paratroops other than fixed machine gun positions should take a position 20 to 45 degrees off the aircraft attack run and use burst fire along and in front of the aircraft's line of flight.





BATTALION IN BIVOUAC WITH ALL AROUND DEFENSE AGAINST AIR ATTACK.

This diagram presents a minimum of anti-aircraft defense for such an area. Other machine gun units may enlarge these defenses. Extensive use is made of automatic assault teams or groups, and all weapons of use against planes are kept ready for use if air attack is considered at all probable.



MACHINE GUN FIRE	3,000 x 50 METERS	
20mm/30mm CANNON FIRE	2,000 x 1,000 METERS	
AP/HE/CLUSTER BOMBS	1,800 x 40 x 600 METERS	

APPROXIMATE AREA COVERED BY ATTACK AIRCRAFT AT 250 MPH

AREA COVERED BY AIR ATTACK WEAPONS OF ONE LIGHT PLANE

Chapter 14

Tanks and Heavy Support Weapons in Paratroop Assault Units

1. The relationship between paratroop and other arms.

Paratroops have the hardest task in battle, its losses are also the greatest. While equipped with armament adapted to its role, it is not capable, on the modern battlefield, to deal singlehandedly with highly organized resistance in the attack, particularly when its freedom of maneuver is restricted, nor to cope with the neutralizing effect of enemy artillery fire and air and mechanized attacks on the defensive without assistance from other arms.

TANKS

1. General.

Tanks are powerful weapons when skillfully employed. Their chief asset is their ability to carry highly mobile, protected firepower into the enemy position. Their military characteristics make them basically attack weapons. They are capable of neutralizing and seizing hostile terrain, but they cannot hold it. Therefore, they may give substantial assistance to the parachute assault units but they cannot replace them in combat.

In the attack, tanks help paratroops to overcome definite resistance which might be costly in time and casualties, or even insurmountable. They do their share toward gaining victory but while doing it often need help themselves. Hence, although tanks help other units advance, other arms usually assist or protect them. When employed in close cooperation with the paratroops, the organic and the supporting weapons of the infantry furnish this protection. When employed on independent missions, this protection is furnished by units of other arms which are included organically in large tank organizations, or they may be attached to tanks for a particular operation.

The defensive action of tanks is limited and temporary. They must be quickly replaced by other troops and their strength conserved for the resumption of the offensive. Normally they should not be used as stationary redoubts or emplacements. If so used they will soon be discovered and destroyed. Full use should be made of their speed and mobility, which form an important part of their protection against anti-tank weapons.

2. Organization.

There are two types of tank organizations: the armored divisions, which are large, self-contained tactical units capable of independent action; and the tank battalions, whose primary mission is to render direct support or assistance to the paratroopers. However, the organization of both is sufficiently flex-

ible to permit the employment of tank battalions with the armored divisions or the detachment of tank elements from the division to render direct support to the paratroops. In this chapter we shall discuss only the use of tanks in direct support of the paratroops.

3. Types.

Our present light tank, fully equipped and manned, is armed with 7.62mm machine guns and a heavy machine gun. Its maximum speed is about 45 kilometers per hour. The medium tank weighs about 29 1/2 tons when fully equipped and manned and, in addition to the machine guns and a 20mm cannon is armed with a 105mm cannon. It has a speed of 45 kph. Both types are included in our armored divisions and in the tank battalions. Since many of the specifications of our present tanks come under the restricted or confidential classification, and since their characteristics are subject to change, they will not be given in this text.

4. Tank missions.

Normally, tank battalions are allotted for specific operations to those parachute units requiring the support of tank units to ensure the success of the particular operations. Under exceptional circumstances, tank units may be attached to infantry regiments of the division to operate on missions definitely assigned by the division commander. When tanks are attached to the parachute regiment, they are employed as a unit under the direct control of the regimental commander.

Tank units support paratroops by:

- a. Neutralizing or destroying hostile automatic weapons likely to hold up the advance of paratroops.
- b. Making passages through hostile wire or other obstacles for use of paratroops.
- c. Maintaining neutralization of hostile resistance until the arrival of paratroops on the objective.
- d. Neutralizing or destroying hostile reserve and artillery formations in the battle positions.
- e. Destroying or disorganizing hostile command, communications and supply installations in the battle position.
- f. Breaking up hostile counterattacks.

5. Formations.

The basic formations are column and line. The column is used when passing through a fire zone when utilizing the cover of concealed approaches, and when not under fire. It gives maximum control but the minimum amount of frontal firepower. Its depth permits continuity of attack. The line permits maximum frontal fire but the minimum control. It is suitable for close objectives where routes and assembly points can be pointed out to each tank commander prior to the attack. This formation is usually best for crossing fire-swept areas. Variations of these two basic formations, combining the good points of both, will frequently be used. The wedge, or inverted "V," is an excellent combat formation.

Out of these three formations grow other section formations and the corresponding formations of larger tank units.

Whatever the formation, intervals and distances between tanks within a section are rarely less than 50 meters or greater than 100 meters. Between sections they may vary from 100 to 500 meters, between companies, from 200 to 1,000 meters. These distances and intervals are prescribed to minimize the effect of artillery concentrations and to permit the vehicles and units to maneuver.

6. Allotment.

The number and type of tanks employed in a particular operation will depend on the extent and type of resistance to be expected. The smallest unit normally allotted to a parachute division is a tank battalion. When both light and medium tank battalions are attached to a division, the medium types are used in the foremost echelon because of their thicker armor and heavier armament, which makes them more adaptable to the job of dealing with anti-tank weapons.

When tanks are allotted to the parachute regiment, they are employed as a unit under the direct control of the regimental commander to destroy or neutralize hostile resistance in the regimental zone of action.

7. Objectives.

Tank attacks are planned to strike unexpectedly against definite terrain objectives over ground suitable for tank action. When the tactical plan permits, the combined tank and parachute elements of the attack should be sent through enemy weakness. A frontal attack against a position which is well organized with unreduced anti-tank defenses will result in such losses and disorganization as to neutralize the tank effort. The tank objective coincides with that of the supported troops, with whose action their employment must be coordinated. Tanks are therefore given successive objectives which they attack.

8. Support by other arms.

Tanks should be supported by artillery, infantry weapons and aviation. These supporting weapons neutralize hostile anti-tank guns and artillery which may threaten the tank advance. Whenever the necessity for their services can be foreseen, engineer troops may be attached to tank units to assist their advance.

9. General principles of employment.

The modern tank is confronted with modern anti-tank defensive measures. In order that the tank may take full advantage of its powers and capabilities, there should be coordination and close cooperation among infantry units, tanks, artillery and aviation in each attack in which tanks are used. In spite of this coordination and cooperation, losses must be expected. In order to avoid unnecessary tank losses while accomplishing a given mission, the following principles of employment should be observed:

10. Mass.

Effective support can be rendered by tanks only when they assault in numbers sufficient to overcome the resistance encountered and arrive on the objective with enough strength remaining to accomplish their mission. The sudden appearance of a large group of tanks can be expected usually to weaken the morale of the adversary, which is an essential aid for the full exploitation of the shock action of the tanks.

11. Surprise.

The enemy must be taken by surprise in order to prevent him from readjusting his defense to meet the

attack. The essential requisites for the surprise are secrecy and speed. Therefore, whenever it is practical, movements into positions should be made at night or be screened by natural cover. At times the characteristic tank noises may be lessened by movement at reduced speed, or they may be drowned out by artillery and machine gun fire, or airplanes.

12. Maneuver.

Attacking tank units should have room to maneuver. The zone of action assigned to them should be wide enough to enable them to outflank dangerous areas and seek protection by taking advantage of speed and terrain. Sometimes it is desirable for tanks to depart from the zone of the unit to which they are attached and move into an adjacent zone to reduce resistance or to avoid an obstacle. In such cases precautions must be taken to prevent interference with the movement of troops operating in such zones and to avoid being fired upon by friendly weapons.

13. Preparations prior to the attack.

A tank unit when not actually participating in an attack is normally held in an area beyond the range of hostile artillery fire, in corps, army or reserves. From such positions it can move into a zone of action of the unit to be supported, and, traveling across country if necessary, it can be committed to action within a comparatively short time after leaving its position in reserve. However, in addition to the time required for this movement, there are several essential factors, such as reconnaissance, transmission of instructions, and orientation of officers and crews on the existing situation, that will consume a considerable amount of time.

The preparations for the attack include a reconnaissance of the routes to the attack position, of the terrain over which the tanks are to attack, and of the hostile dispositions and defensive measures. Information about enemy anti-tank means, obstacles, mine positions and plans for the attack must be ascertained and the coordination with the infantry and supporting arms established. This preparation must be made with secrecy so as not to disclose to the enemy the impending tank attack.

14. The attack.

Tank units leave the assault position in time to cross the line of departure at the hour specified for the tank attack. Usually that time is when, or just before, the paratroops cross the line of departure. The movement of the tank echelons may be coordinated by time, or one element may be directed to advance from the line of departure when the preceding element has progressed a certain distance. Usually the foremost tanks should be in or near the hostile position before the succeeding echelons cross the line of departure. In later phases of the attack when artillery supporting fires are less powerful or less organized, the paratroops may be directed to move forward when the tanks are in a position to neutralize the foremost hostile automatic weapons. In any case the tanks advance rapidly on their objective, taking advantage of available cover and concealment. On reaching their objective they destroy or neutralize the hostile resistance. They cruise over and dominate the area until the supported paratroops occupy the objective.

15. Employment on pursuit and exploitation.

Although the normal employment of paratroops supporting tank units is to support closely assaulting paratroop units, there will be opportunities to use the tank characteristics of speed, armor protection, firepower, and shock action to demoralize completely and put to rout a retreating enemy that is already dispirited and disorganized. Such opportunities appear suddenly, often at unexpected times and places, and pass swiftly. A commander must act promptly in order to strike the enemy before he has escaped or has prepared to cover his withdrawal.

Boldness on the part of tank units employed on such missions is necessary in order to retain the initiative. Therefore, the tank action in pursuit and exploitation is characterized by audacious thrusts, presenting a series of local and violent encounters. The risks involved are justified only by the existing disorganization of hostile units and communications.

16. Defensive combat.

Suitable missions upon which tanks may be employed effectively in defensive operations are counterattacks and anti-mechanized defense.

The counterattack is a limited-objective attack. Its purpose is the restoration of the position whose retention is vital to the defender. Tanks may be attached to the counterattacking unit, or they may be employed to support the counterattack under the direction of the higher commander. In general, the principles described for the attack govern the employment of tanks in the counterattack.

In attack or defense, tank units attached to division may be used to break up hostile mechanized formations before the latter launch their attack or before they reach friendly formations.

18. Conclusions.

The principles of tank employment should not be regarded as fixed, inflexible or dogmatic. Undoubtedly, occasions will arise upon the battlefield where irregular procedure will be adopted rightly and unhesitatingly in order to cope with unforeseen emergencies. Moreover, employment methods should be varied in order to prevent perfection of the hostile anti-tank defense against a standard method of attack. The "correct" plan of attack may not be the best plan if the enemy has prepared his anti-tank defenses against it. But whatever the method employed, it should be simple, flexible, and in accordance with sound tactical principles.

FIELD ARTILLERY

1. General.

Field artillery is the principal supporting arm of the paratroops. It is an arm of relatively long-range combat. Fire is its sole means of combat. It contributes to the movement of the entire force through the fire support it renders other arms; its own movement is for the purpose of ensuring this support.

Field artillery has two principal missions:

- a. It supports (assists) the paratroops by fire, engaging those targets which are most dangerous to the supported unit.
- b. It gives depth to combat by counterbattery fire, by attacking hostile reserves, and by dislocating the enemy's communication system and agencies of command.

In order to carry out its two principal missions, the field artillery is ordinarily subdivided for combat so that part is allotted to the support of particular units and the remainder retained under the chief of artillery of the command.

2. Division artillery.

The artillery that normally provides fire support for infantry units is found in the infantry division organization. Division artillery is most effective in firing on personnel. It is also employed to neutralize enemy observation, to interdict hostile movements, and to assist higher division artillery with counter-

battery missions. In general, artillery should not be called upon to deal with small targets within range of paratroop support.

In the infantry division certain field artillery units are assigned to the direct support of specified parachute units and the remainder are retained in general support of the division as a whole.

3. Organization.

The artillery of the parachute division is organized to make available one 105mm Howitzer battalion for the direct support of each parachute regiment. When one of the infantry regiments is in reserve, the 105mm Howitzer battalion which normally furnishes it with direct support, is given, temporarily, a general support mission. It is prepared to support its own parachute regiment when the latter enters into action.

4. Missions.

The division assigns artillery fire missions through the artillery battalion commanders. The firing positions of the 105mm artillery battalions are normally in the zone of action of the unit to be supported. However, the supporting artillery is not given orders by the parachute commander. It remains under centralized control of the division commander, thereby permitting the concentration of all artillery fire of the division on any important target.

Artillery is in general support when given the missions of supporting the entire division. This type of support facilitates the concentration of artillery fire of the division on any important target.

Artillery is in general support when given the mission of supporting the entire division. This type of support facilitates the concentration of artillery fire but does not provide for close cooperation with subordinate infantry units.

An artillery unit, in direct or general support, may also be given the mission of reinforcing the fires of some other artillery unit.

5. Materiel.

The 105mm and 155mm Howitzers have curved trajectories. Their extreme range is slightly in excess of 10,000 meters. However, fires are not normally placed near paratroop units at ranges in excess of 8,000 meters from the observation post nor at ranges in excess of three-fourths of the maximum range from the pieces for the ammunition used. The maximum effective range of these weapons varies from 6,500 to 10,500 meters, depending on the ammunition used.

Two types of projectiles are normally used, the high explosive (HE) shell and shrapnel. Chemical ammunition may also be used. Explosive shells are effective against personnel in the open or slightly sheltered. Against a well-entrenched enemy their effect is principally one of neutralization.

6. Safety limits.

Because of dispersion and effective radius of shell fragments, there is a zone in front of the supported infantry in which the artillery cannot fire without danger to the infantry. Under most favorable firing conditions, unsheltered friendly troops should be at least 350 meters from the fire of 105mm Howitzers and 500 meters from the 155mm Howitzers. These distances are increased under less favorable conditions.

7. Classification of tactical fires.

Artillery fires are classified tactically as follows:

a. As to effect.

- 1) Destruction fire—to render the target useless.
- 2) Neutralization fire—to cause losses and reduce combat efficiency of enemy personnel.

b. As to form.

- 1) Concentration fire—delivered on an area.
- 2) Barrage fire—delivered on a general line.
- 3) Standing barrage—on a general line in front of the supported troops, to bar the advance of the enemy (normal when in the normal zone, emergency when in a contingent zone).
- 4) Rolling barrage—on successive general lines with a definite rate of advance. (Wasteful in ammunition, and its employment is exceptional.)

c. As to prearrangement.

- 1) Scheduled fires—planned fires, executed according to a time schedule, upon signal or on call.
- 2) Fires on targets of opportunity.

d. As to preparation and conduct of fire.

- 1) Observed fires—those which are adjusted upon a target or area by observation.
- 2) Unobserved fires—those which cannot be observed and for which data must be taken from a map or a map substitute.

e. As to purpose.

- 1) Supporting fire—fire delivered while supported troops are engaged.
- 2) Preparation fire—delivered immediately preceding the attack, for the purpose of enabling the supported troops to advance by neutralizing hostile resistance and weapons.
- 3) Counterpreparation fire—in a defensive action, delivered just prior to the hostile attack to break up the enemy formations, disrupt his communication, command, and observation installations, and neutralize his artillery.
- 4) Interdiction fire—fire on localities or areas to prevent the enemy from using them.
- 5) Harassing fire—fire to disturb the rest of the enemy troops and curtail their movements or activities.

8. Standard areas.

In order to ensure a uniform and expeditious system of assigning artillery concentrations, the so-called standard areas system is employed. Standard areas are indicated as circles of 100, 200, 300 and 400 meters in diameter, although the actual pattern of fire approximates a rectangle with the small dimension equal to the diameter of the circle. The area for a given target depends upon the expected accuracy of the firing data. Standard areas permit standard systems for preparation of fire and standard ammunition allotments.

A battery of 105mm Howitzers establishes neutralization of a 200-meter circle in approximately five

minutes, using high explosive shell, by the expenditure of approximately 100 rounds. This is based on fire against average troops without cover or with very slight protection. The 155mm battery is usually assigned a 300-meter area which it neutralizes in seven minutes.

9. Coordination.

It is obvious that if the artillery support is to be effective, close coordination and cooperation must exist between the artillery and the supported paratroop units. This is achieved through the following means:

Use of artillery representatives or liaison officers during the early phases of the paratroop preparations for the operation;

Collaboration between the artillery and paratroop commanders during the planning stage;

Use of liaison officers, ground and aerial observers, and liaison detachments with the infantry during operations;

The establishment of fire direction centers. These are artillery battalion installations, comparable to the telephone central, where calls come in from observers and liaison parties or individuals and are switched to the proper firing units;

The establishment of an effective communication system. Each artillery unit is responsible for the establishment and maintenance of communication from that particular artillery unit to its subordinate units and to the unit it is supporting;

Messages sent by the paratroop commander through the paratroop communication system to the artillery battalion;

By use of prearranged signals;

Adequate provisions for ammunition supply to meet the probable requirements of the various units;

Provisions for shifting of fires within the zone of the supported unit and to adjacent zones;

Provisions for displacing artillery batteries during the progress of operations.

10. Security artillery fire.

The following table indicates in a general manner how paratroop requests for artillery fire may be made.

Nature of request	By whom made	To whom made
Prearranged fire.	Regimental commander generally.	Commander of artillery in direct support.
Call for execution of prearranged fires.	Battalion commander unless otherwise ordered.	Artillery liaison officer.

Signal for execution of prearranged fires.	Battalion commander usually. Company commander is specifically authorized.	Direct to firing unit.
To delay or advance the time of delivery of scheduled fires.	Regimental commander, usually on request of a paratroop battalion commander.	Commander of artillery in direct support.
Requests for fire on areas not covered by prearranged fires.	Company commander. Company commander.	Available artillery observers. Artillery liaison officer.
To initiate the execution of a new series of prearranged fires.	Regimental commander.	Commander of artillery in direct support.

11. Offensive combat.

In offensive situations, artillery fires are prepared so as to furnish support during each phase or period of the operation—the period of first contact, the development of the command for the attack, the period immediately preceding the attack, the attack, and the pursuit.

During the period of first contact, artillery fires in close support of the advance guard. It also delivers long-range fires to force hostile deployment and to retard enemy movement. It neutralizes the hostile artillery. During the development stage the fires listed above are continued. Additional fires are executed to cover the deployment of the command. During the period immediately preceding the attack, artillery preparation may or may not be fired. This is a decision of the force commander and will be dependent on the knowledge of suitable objectives, the availability of ammunition, and the necessity for secrecy and surprise.

Orders for the attack assign an objective for the force as a whole. Usually this objective is a dominating terrain feature. Short of this objective terrain features and tactical localities usually are found which are favorable to the enemy as potential areas of resistance. The locations of the areas are ascertained in advance by each subordinate infantry commander. These localities become immediate objectives for the unit in its advance toward the main objective. The artillery fires are coordinated with the advance of the infantry from objective to objective. As the range limit of the supporting artillery is approached, the artillery displaces forward, usually by batteries, so as to be within a continuous supporting range of the paratroop unit.

During the attack, while the paratroop unit is halted, following the capture of an intermediate area of enemy resistance, the artillery should be prepared to execute fires of a defensive nature. When the objective of the force as a whole has been captured and when no further immediate advance is contemplated, infantry proceeds to organize the captured objective. At this time, the artillery executes defensive fires covering this organization.

The pursuit proper is the act of following a retreating enemy to complete his capture, disorganization, or destruction. In a pursuit, the rapidly changing situation necessitates frequent displacement of artillery. The broad front on which a pursuit is conducted requires considerable dispersion of artillery installations. Therefore, the light artillery of the division may be attached to paratroop units. The usual

targets are enemy covering forces, troop assemblies, road centers, defiles on the routes of retreat, and enemy's artillery.

12. Defensive combat.

The tasks of division artillery in defensive combat are: to prevent the enemy from launching an attack, to assist the para units in stopping an attack, and to assist the para unit in ejecting an enemy from a position, should he have local success.

The defensive fires will consist of:

Long-range fires in support of covering forces;

Counter-preparation fires to defeat the enemy's attack before it is launched by firing on attack formations, on hostile artillery, and on command, observation, and signal communication systems;

Barrages fired by light artillery to bar the advance of the enemy into the battalion position;

Concentrations to thicken and add depth to para unit's weapons;

Fires to limit enemy penetration by concentrating fire on salients made by the enemy into the defensive position;

Fires to support counterattacks;

Fires to cover the withdrawal of the force as a whole or elements thereof.

13. Artillery in anti-tank defense.

The most effective method of employing artillery against tanks is the use of mass fire. Artillery can shift quickly from one area to another and prepare concentrations on probable and possible tank assembly areas and avenues of approach. For local anti-tank protection the artillery of the division has a total of 24 20mm cannons.

14. Coordination of artillery and tank plans.

This coordination is secured through conference between the artillery and the tank unit commanders. Each must know the plan of the other. When tanks are used to support the paratroop attack, the artillery plans must include assistance to tanks. The fires are delivered on located anti-tank guns, artillery, and probable location of such weapons. The speed of tanks requires the most careful consideration of the timing and placing of these fires.

Following the initial artillery support to a tank attack, aerial observation is one of the most important of the means available in continuing this support.

15. Protection for the artillery.

Close-range protection for the field artillery is afforded mainly by troops deployed in front. Special paratroop support may be detailed to protect the artillery on an exposed flank or behind a lightly held line.

AVIATION

1. General.

Division aviation comprises the parachute units attached to an 11th Airborne parachute division for combat operations. Air corps observation units are usually attached to the division by higher headquarters as soon as contact with the enemy has been gained or is imminent. Combat aviation, such as bombardment and pursuit, is not attached or assigned to the division although it may be employed to furnish direct or indirect support to paratroops.

2. Observation aviation.

Based on its tactical mission, observation aviation may be classified as reconnaissance, observation, and liaison aviation. It is organized to conduct air reconnaissance, observe fire, gain military information by visual or photographic means, and transmit instructions and reports in accordance with orders of the supported unit to which assigned or attached. Although armed for its own protection, it is not suitable for air attack or fighting.

3. Organization.

The basic air unit organization is the squadron. The number of aircraft in a squadron varies with the class of aviation. The observation squadron has 13 airplanes.

4. Combat aviation.

When aviation is used for direct support, it furnishes a powerful, close fire support element to the paratroop attack. Attacking airplanes, by bombing and machine gunning hostile front-line troops, supplement artillery fire in support of the attacking infantry. They may also be used in support of airborne infantry operations (Aero-Portee units).

Attacks against battlefield objectives are coordinated with the action of the para units. The attack of hostile ground troops by combat aviation during the battle is exploited promptly by the paratroops. Attack by aircraft on the hostile lines usually results in a lull in the hostile fire. Attempts by hostile elements to reply to the fire of airplanes usually result in disclosing their location to the attacking paratroops. The para units should take advantage of the opportunity to reach assaulting distance and launch its assault as soon as possible after the end of the attack by airplanes.

Chemicals, either smoke or CS, can be put down by airplanes very effectively. Smoke may be used to assist the ground troops by blinding hostile observation or to support air attacks by blinding the hostile anti-aircraft defense.

Indirect support of combat aviation include the destruction of hostile aircraft and the attack of rear ground objective.

An observation airplane can place itself in position to observe any point or locality to the best advantage. No ground areas, except heavily-wooded sections, are defiladed from its vision. It can reach hostile rear areas quickly and return promptly with information. Through radio it can be in constant two-way communication with the ground force. It has simple, reliable communication by drop and pickup messages. It can supplement visual observation by photography. While its activities are curtailed by unfavorable weather and darkness, it can observe limited areas by use of powerful flares.

5. Operation of division aviation.

When necessary and available, the usual assignment of aviation to the division is one observation squadron and one helicopter squadron.

As a means of coordinating the activities of observation aviation, the territory which is to be reconnoitered or observed by division aviation outside the division zone of action is designated by higher headquarters. The forward boundary of the area for air reconnaissance for a division which is part of a corps will include the probable location of hostile division reserves and artillery. This boundary is normally about 10 miles in rear of the hostile front lines. The lateral boundary of the area for air reconnaissance for a division usually coincides with the boundary of ground troops.

When the division is operating alone, the air reconnaissance will be extended so as to include such areas and places from which the commander may desire information. As a minimum, it will be about 25 to 30 kilometers.

6. The paratroop mission of division aviation.

While division aviation performs several types of missions (infantry, artillery, reconnaissance, command and photographic), we shall devote our discussion to the paratroop mission.

The purpose of the paratroop mission is to assist the paratroop during combat by reporting all that takes place in the vicinity of the front line. It is performed by airplanes of the observation squadron assigned to the division. It is usually employed during the period while the para unit is advancing, attacking, or moving to the rear. It includes the following: to report the location, strength, and movement of enemy front-line troops and local reserves; to report the progress of friendly front-line troops and advanced elements.

The airplane observer is usually instructed prior to the take-off to watch particular areas and to report certain information. In addition to such preflight instructions, the observer will frequently receive instructions or requests by radio or panel signal to report desired information during the mission. He also reports, on his own initiative, information of all enemy activities.

7. Means of communication.

The normal means of communication between ground troops and airplanes is by radio, panels, pyrotechnics, pick-up messages, and drop messages.

A two-way radio permits radio communication with the division command post, the airplane squadron ground station, or any other designated command post.

Pyrotechnics are used to send signals according to a prearranged code. Airplanes use a signal projector from which rocket signals may be discharged. Flares may also be used. Ground troops may likewise use rocket signals and flares.

Panels are strips of cloth used in signalling from ground to airplane. They are made in black and white colors; the color which contrasts best with the ground is used. The signalling panels, measuring one meter by two meters by four meters, are used in various combinations to convey messages to the airplane observer. Marking panels, measuring one meter by one meter, are used by troops in forward areas for the purpose of outlining a position on the ground; each para group has three marking panels. They are displayed when signalled for by an airplane using the signals previously prescribed. Ground messages can be picked up by airplanes, by means of hooks, from pick-up devices installed on the ground.

Messages, maps, or overlays may be dropped by the airplane observer when other means are not available. Either cloth bags or metal tubes are used as containers for dropped messages. Streamers are attached to the container so as to assist the ground troops in following its descent and finding it. For direct communication with the observation airplane the following units of the division are provided with suitable radio equipment: division headquarters, field artillery battalions, and tank and cavalry units when present.

CAVALRY

1. Characteristics.

Cavalry is characterized by a high degree of mobility. Its special value is derived from the rapidity and ease with which its firepower can be displaced from one locality to another.

Cavalry finds its most intensive application under conditions which permit complete freedom of maneuver and the exercise of its firepower and mobility; its utility becomes limited as conditions are created tending to restrict freedom of maneuver.

2. Types of cavalry.

The mobility of cavalry is obtained by use of the motor vehicle, and the mechanized vehicle. While its traditional mode of transport is the horse, certain of its elements move entirely by motor and mechanized vehicles. The cavalry therefore may fight on foot, mounted on horse, or from mechanized vehicles. The two distinct types of cavalry organization in our Army use the mechanized cavalry regiment, and the cavalry reconnaissance troop or squadron in the infantry division.

The organization of the regiment in the cavalry division is built around the mounted Legionnaire who is armed with a rifle and a pistol, and who is supported in combat by fire of organic automatic weapons. The basic unit is eight Legionnaires. Three groups are grouped into a section. Three sections and a machine gun section of three groups (six light guns) form a paratroop. The squadron consists of a headquarters and three troops. The regiment is composed of two squadrons, a special weapons troop (two .50-cal. machine gun and one 81mm mortar sections), a machine gun section (three sections of four guns each), and a headquarters and service section.

3. The mechanized cavalry regiments.

The mechanized cavalry regiments are separate units, that is, they are not grouped into brigades and division. Each regiment has a headquarters section, a service section, two squadron headquarters, four reconnaissance sections and two support sections. No standard squadron organization is prescribed. The reconnaissance and support troops may be organized into provisional squadron whose exact composition will be that dictated by the situation.

4. Cavalry reconnaissance troop or squadron, infantry division.

The organic cavalry element of the demi-parachute division is the reconnaissance troop; that of the motorized infantry division, the reconnaissance squadron. The squadron consists of three reconnaissance sections and one support section. These elements perform the reconnaissance missions in advance of other covering forces of the division.

5. Cavalry missions.

The organic cavalry troop of the armor division and cavalry elements that may be attached to the division are designated as the divisional cavalry. The type of cavalry that is attached depends on the mission to be performed, the terrain, and other factors. The usual cavalry missions in operation with the paratroops are reconnaissance, security, and seizing ground in advance of the paratroops. Other missions such as counterreconnaissance, cooperation in battle by combat, exploitation of success, and covering retrograde movements are assigned to cavalry. However, these missions are best suited to larger elements of cavalry than are normally attached to an infantry unit.

6. Employment.

Cavalry operating in support of para units is assigned missions suited to cavalry's high degree of mobility, bearing in mind that cavalry in combat seeks to obtain success through rapidity of attack and delaying action rather than through the sustained effort which is required of paratroops. The cavalry can fight in the same manner as paratroops, but, where space and other conditions permit, it seeks to avail itself of its mobility by rapidly placing and displacing its firepower to achieve tactical success. Cavalry can attack unmounted under conditions that favor this type of action.

ENGINEERS

1. Definition.

The parachute division is the smallest unit to which engineer troops are permanently assigned. Each division includes an engineer combat battalion. Other engineer units may be attached to the parachute division if needed. The term "divisional engineers" is used to designate all engineer troops operating under the orders of the division commander.

2. Duties.

The divisional combat engineer unit is an organization of skilled labor designed to increase the combat capacity of the division through the execution of engineering work that will facilitate the movement of all elements of the division, both combat and supply, to increase its defensive powers, to provide for water supply and shelter; and to impede the movement of enemy forces. We shall limit our discussion to duties of concern to the paratroops.

3. Maintenance of route of communication and movement.

The most important duty of the divisional engineers is to facilitate the movement of the various elements of the division, including the provision of means of crossing water courses in the presence of the enemy. This includes the following major activities: constructing, repairing, and maintaining roads, trails, and bridges; aiding tanks and motor movements; recommending traffic control measures; signposting of routes; removing obstacles, including road blocks; removing anti-tank mines and explosive charges, constructing advance landing fields; procuring, making, correcting, and issuing maps; erection of footbridges and pontoon bridges; and ferrying operations in river-crossing operations.

4. Engineering work designed to increase the defensive power of paratroop unit.

This phase of engineering work includes: providing tools and materials (the actual work of entrenching, clearing, and camouflaging on front-line positions is done by troops which occupy the position); constructing special works such as observation and command posts; laying out and constructing rear defensive positions; supplying camouflage material and supervising its use; demolitions; constructing

obstacles, including road blocks; furnishing anti-tank mines to the para unit protection; and laying anti-tank minefields other than those laid by the para unit.

5. Water supply.

Divisional engineers locate and improve sources of water, signpost routes to them, establish water distributing points when needed, purify the water when necessary, and post signs to guard against use of impure water.

6. Shelter.

In active operations, the divisional engineers seldom provide shelter for the paratroop. Their employment in the construction of shelter usually will be limited to construction of shellproof command posts, observation posts, and similar special works.

7. Organization and equipment.

Considering the variety of work performed by the divisional engineers, the necessity for handling the tasks systematically is apparent. Much of the work can be divided into separate tasks, each of which can be accomplished by one or more groups of approximately the same size. These groups are the engineer sections and are known as the basic work units. Each section is divided into three group units, each consisting of one sergeant, one corporal, and 12 Legionnaires. The section has no provisions for mess or administration and hence cannot support itself in the field on independent missions. Otherwise, the section is a self-contained work unit, as it is provided with the necessary skilled personnel, tools and transportation.

The engineer battalion has three companies. Each engineer company consists of a company and three sections. This organization provides nine basic work units in the division.

Additional transportation and equipment are provided in the company and battalion organization to supplement that of the basic work units. The bridge and ferrying equipment is not provided organically in the divisional engineer organization. The higher headquarters furnish these as needed, together with additional engineer units.

8. Employment in combat.

Although the primary mission of the combat engineer units is the performance of appropriate engineering tasks, nevertheless they may be used for combat purposes in an emergency—hence the designation of combat engineers. Engineer sections are armed and trained as demo-groups. Six AA-52 machine guns are also carried in each company. However, owing to the lack of intensive combat training and relative deficiency in automatic and special weapons, the combat power of the combat engineers is considerably less than that of a similar para unit.

9. Employment on technical duties.

Commanders of para units to which engineers are attached are responsible for the accomplishment of the necessary engineering work. The engineer officer commanding the attached unit makes recommendations as to the most effective use of the engineers. The commander gives the engineers the necessary tactical instructions without interfering in technical details of the task.

There will seldom be enough engineer troops available to accomplish all of the engineering work desired by the various units of the division. Therefore, the division commander must decide upon the tasks to

be accomplished and their order of priority. He is advised in this matter by the division engineer.

Ordinarily, engineer units are employed under the control of the division engineer. However, engineer troops may be attached to subordinate units whenever the task to be accomplished requires close coordination with the tactical operations of the subordinate unit. Examples of such attachments are the advance guard, the rear guard, and in river-crossing operations.

Chapter 15

The Para Battalion Against the Tank Attack

1. General.

a. Principle applies completely to the age old championship "matches" between "Armor versus Armament," or "The Defense versus the Offense." It is the purpose of the following chapter to show how the anti-tank defense can break the tank's "holds."

b. Definitions.

The following definitions, pertaining to this subject, apply in our Legion.

1) Mechanization.

A term used to denote the process of equipping a military force with armed and armored, motor-propelled vehicles.

2) Armored or mechanized unit.

A unit that moves and fights in motor vehicles, the bulk of which are armed and armored.

3) Tanks.

Armed and armored track-laying fighting vehicles.

4) Armored cars.

Armored cars are armored and armed wheeled fighting vehicles.

5) Scout cars.

Scout cars are armored and armed wheeled fighting vehicles, with open turret or top.

6) Anti-tank or anti-mechanized defense.

A defense that embraces all measures for security and defense both active and passive, against mechanized units.

7) For convenience throughout this section, all forms of armored combat vehicles will be referred to as "tanks."

2. Orientation.

The modern, comparatively fast tank of this war is a vastly improved weapon compared to its World War II counterpart. This technical improvement, added to the multiplication in numbers of tanks in all modern armies, is recognized for its great fighting power. However, modern tanks in large numbers give rise, as indicated in the opening paragraph, to a vigorous renewal of the contest, older than history, between offensive weapons and protective means against them. It should be remembered that the development of portable firearms once caused the mobile knight in his cuirass to disappear from the battlefield for three centuries because the weight of the necessary protection exceeded the strength of man and horse to carry it. In time, however, the utilization of the internal combustion engine permitted the movement of much more powerful "cuirasses," giving birth to the modern tank. The tide then turned in favor of the offensive weapons. In this present era the grave threat of tanks is being answered by intensive development of more effective anti-tank means and methods.

3. The mechanized threat.

Under favorable conditions, mechanized units not only can overrun the battle position but have the ability to displace firepower quickly and disrupt command, communication and supply installations in the rear area.

Speed and cross-country ability give mechanized units a decided advantage over slower moving ground forces; they are not limited to frontal attacks or to any particular zone of action. They may be able to avoid anti-tank defenses and difficult terrain and attack from the flanks or rear. They are a constant menace, regardless of whether the opponent is on the offensive or the defensive, or whether his troops are at rest or in movement.

Can our paratroops repel a modern large scale tank attack? There is but one answer to this question. They must be prepared to do so. Such preparation requires that they be equipped with essential materiel with which to oppose mass tank attacks and that the paratroops are trained to the extent that they possess a high degree of confidence in their ability successfully to use these means in battle. Knowledge of the capabilities and limitations of tanks and training in defensive measures against tank attacks are fundamental military requirements.

4. Morale.

One principle of our anti-tank doctrine is that anti-tank rockets are a most important means of anti-tank defense. However, the number of rockets in a defensive position is not the only consideration. The question of morale is a highly important factor in anti-tank defense. The war in Indochina has proven repeatedly that steady paratroops, properly armed, stand their ground, whereas troops that break in the face of a tank charge are soon destroyed. Equipment and armament alone will not win battles. The morale factor must never be forgotten and it is an important duty of all leaders to exercise their imagination and initiative toward inspiring their paratroops with a firm belief that they can defeat any form of tank attack. Our legion has the means and the will to do this.

NATURE OF ANTI-TANK DEFENSE PROBLEMS

1. Need for knowledge of tank limitations and tactical doctrine.

In order to prepare an effective anti-tank defense, it is essential that we have a clear understanding of the limitations of tanks and an accurate visualization of the form and nature of a mass tank attack. Such knowledge allows us to exploit the weaknesses of the tank and to dispose our available means properly to meet the enemy's tank attack.

2. Capabilities.

The tank has the following outstanding capabilities:

a. Maneuverability.

The tank has sufficient mobility to maintain its place in a motorized column on the march. It can go for considerable distances without undue wear on its engine or tracks. Because of its reserve power and modern steering devices it can traverse almost any shell hole, cross trenches and ditches within its spanning ability, climb slopes, dodge obstacles and traverse difficult terrain quickly without undue fatigue to the crew. The relatively low ground pressure (pounds per square inch) of the tracks improves the ability of the tank to move across soft, swampy, or muddy ground. It may use its speed to find a way around hostile positions strong in anti-tank weapons and attack them from the flank or rear.

High battlefield speed can be used to move rapidly from fire to cover or vice versa and to cross open spaces quickly thus avoiding needless exposure. It should be remembered that the faster a tank moves about on the battlefield the harder it is to hit. In brief, speed is protection.

b. Crushing power.

It can crush barbed wire entanglements, brush, tangled undergrowth, small trees, buildings of light construction, thus making paths for paratroops. It can also crush and destroy machine guns and other paratroop weapons, artillery and transport.

c. Protection.

It can withstand bomb fragments, shrapnel and ordinary small arms fire, hence it is a suitable weapon to be used against hostile machine gun nests. The tank crew has more protection against gas and air attacks than other ground troops. In its anti-tank gun it has a means of defending itself against hostile tanks and armored anti-tank weapons. It is armed with 105mm or even larger caliber guns.

d. Shock action.

It has the ability to produce a decidedly adverse morale effect upon the enemy through shock action. This is accomplished by exploitation of fire, weight, ruggedness and mobility. It varies with the number of tanks employed.

3. Limitations.

The tank has the following limitations:

a. Mechanical deterioration.

It has the inherent limitations common to all automotive vehicles. It will deteriorate rapidly without frequent mechanical attention and lubrication. It requires periodic mechanical inspections and it must be overhauled at intervals.

b. Vulnerability.

It is vulnerable to direct hits of aerial bombs, and of artillery and anti-tank rockets.

c. Terrain.

Its speed is greatly retarded by unfavorable terrain, such as steep slopes and areas covered by thick woods, swamps, jungles, stumps or boulders.

d. Observation.

The observation of the crew, when all doors are closed, is somewhat restricted. The pitching and rolling of the tank over uneven terrain also increases the difficulty of observation. Hence hostile resistance may at times be passed unnoticed.

e. Hearing.

The tank is partially "deaf." Engine and track noises prevent its occupants from hearing voices outside the tank. Limitations in vision and hearing have an important bearing on tank communication and control.

f. Visibility.

Due to its size, characteristic noises, and unique shape, it can be recognized easily by both ground and air observers. Moreover, the imprint of its tracks in most kinds of soil is visible from the air. Although it makes use of all cover and concealment possible, it is so bulky that it is usually a highly visible object.

g. Weapons.

As a rule, tank weapons swing freely in their mounts. Hence any movement of the tank, especially over uneven ground, disturbs the aim of the gunner. The gunner controls his fire by observation of the strike of the bullet or by observation of tracer ammunition. Extreme accuracy of fire is difficult to obtain. However, the increased dispersion compensates somewhat for errors to range estimation and faulty holding. Although it is capable of firing while moving, it may halt or slow down, briefly, to obtain more accurate fire. Such action makes it vulnerable to anti-tank fire and subject to destruction. The effectiveness of the guns that are mounted in fixed mounts depends on the ability of the driver to point the tank in the direction of the target. Obviously, the fire of these guns is not effective against point targets.

4. Graphical representation of tank capabilities and limitations.

A valuable method of familiarizing soldiers with the capabilities and limitations of hostile tanks is to prepare training charts from available official material which pictorially portray the characteristics of various types of foreign tanks.

5. Tank attack tactics.

Tactical operations of tank units are characterized by bold maneuvers executed at the maximum speed and by the positive action of the combined fire and movement of combat teams whose characteristics are exploited to create a preponderance of power in the decisive area. Combat action is further characterized by the maximum coordination possible initially, and by decentralization of means and reliance upon the initiative of subordinates after that, until objectives are reached or until the mission is accomplished. Operations are predicated upon deliberate, detailed plans and rapid, aggressive execution.

The attack is usually launched in mass in a decisive direction with such speed and violence that the

opponent is afforded no time or opportunity to organize and coordinate his reaction before the tank attack has broken through the defensive position.

As already pointed out, the mobility of tank units permits great latitude in the choice of direction and method of attack. If the position is strongly organized, the attack will probably be directed at the flanks of the defense. If forced to frontal attack by terrain, the tank attack will endeavor to direct its power against weakness.

The main attack will be deep and sustained. It will be characterized by the employment of the striking echelon in mass and in a series of waves; by rapid concentrations of fire of the supporting artillery, the heavy machine guns and combat aviation on critical objectives; and by the employment of reserves.

In the face of such an attack let us assume the outlook of an officer, a commander of a paratroop anti-tank section. His problem, in face of a hostile tank attack, may take the following form:

The enemy has gained air superiority over a wide front; a mass tank attack is launched suddenly at dawn against our front and flank. Even though anticipated, this enemy concentration forms too rapidly to permit reinforcements of our anti-tank guns. The attack is strongly supported by other arms. Hostile attack aviation and artillery neutralize our position with an intensive bombardment so effective that our troops wisely keep their heads down. Enemy motorized infantry and artillery are prepared to support and exploit the progress of the attacking tanks. There suddenly appears to our front and flanks rapidly advancing waves of tanks in such numbers that over our regimental front of 2,500 meters no less than 140 tanks (approximately three battalions), are approaching so that the section in question is opposed by approximately 50 tanks; and the time limit to combat these 50 tanks may be less than five minutes.

Each tank is zigzagging its way forward, pouring out an inaccurate hail of small-arms fire, supplemented with higher calibered fire from time to time.

Stop here and ponder over this prospective problem for the section commander. It is a future combat possibility which our small unit commanders of paratroops must recognize and for which they must be ready.

AVAILABLE MEANS FOR ANTI-TANK DEFENSE

1. General.

The means available for anti-mechanized defense are active and passive. The active means include anti-tank rockets, artillery, attack aviation, armored vehicles, mines, and any firearms and explosives in the hands of the troops attacked. The passive means include natural barriers, road blocks, wire rolls, demolitions and other artificial obstacles, buildings, and organized localities. Usually, active and passive means are used in combination. A barrier or obstacle loses its defensive value unless protected by fire. An extensive use of passive means on less critical fronts permits an economy of active means in order to concentrate the bulk at the decisive place.

2. Means other than weapons within the parachute regiment.

a. Natural obstacles.

Whenever and wherever possible the enemy should be denied favorable route of approach, or his advance should be materially impeded by maximum use of some or any of the following natural obstacles: unfordable water, marshes, thick jungle with large or strong trees, large boulders closely strewn, tree stumps that might belly a tank, deep steep-sloped gullies, precipitous slopes, and deep mud.

b. Artificial obstacles.

For the reasons just stated, the maximum use should be made of any or all of the following artificial obstacles: anti-tank trenches, large shell craters, canals, walls, tank barriers, tank traps, and mine fields. It is essential to remember that obstacles, both natural or artificial, must be so located with reference to the defensive position that they can be effectively covered by small arms fire.

1) Anti-tank trench.

If trenches are to be specially constructed or adapted for blocking tanks, the type of tank against which they are to form a protection must be considered. Anti-tank trenches should preferably have steep walls, a width somewhat greater than half the length of the tank they are intended to stop, and a sufficient depth.

2) Anti-tank mines.

Anti-tank mines are usually of the contact type. They are buried in the ground or scattered on its surface. To be effective, mines must be placed where enemy tanks can be expected to operate. The ends of underpasses, bridges, culverts, road defiles, fords, and defiladed ravines are places tanks must usually use. In addition, many other areas such as clumps of light woods and ground depressions, will be indicated to the eye of anyone familiar with tank methods.

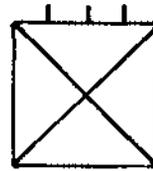
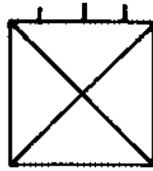
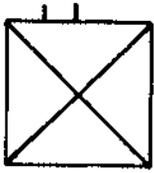
Mine fields should be combined with obstacles so that in avoiding the obstacles, tanks will run over the mines. To prevent the enemy from locating and destroying or avoiding the mines, they must be carefully camouflaged from both ground and air observation. Edges of jungle wire entanglements and shell-torn areas make good places to conceal mines from aerial photography. To form a real barrier, mines are usually laid checkerboard fashion in two or three rows, with rows of mines from one meter to two meters apart.

Oftentimes it is impossible to assemble and plant such a quantity of mines, and an inferior mine field has to be accepted. The more fuses there are, the more effective the mine field. Extensions of fuses are often made. To give a broader danger area, camouflaged timbers may be laid between fuses. A mine containing two kilos of TNT will stop a light or medium tank upon direct contact.

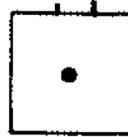
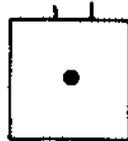
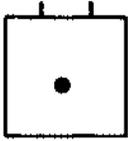
Within a position, it is often possible to do more with mines than can be done in front of it or on its flanks. Finally, the location of mines must be known to all paratroops—particularly those operating any sort of vehicles. All mines must be recovered when our troops advance. Also, warning signs should be taken up from mine fields within the position, if a withdrawal is made.

c. Units other than paratroops assisting in anti-tank defense.

- 1) Divisional artillery may provide gun fire by indirect laying with concentrations on tank areas. Assault positions may be taken in areas through which tanks must pass to reach their objectives and assembly points, and may employ by direct laying with the individual pieces used as anti-tank guns.
- 2) Engineers may prepare demolitions, assist in the preparation of barriers and obstacles or furnish material, and provide anti-tank mines.
- 3) Aviation, mechanized cavalry, and all other reconnaissance agencies are means that may be used to obtain information of hostile mechanized movement. Combat aviation may intervene in emergencies to disrupt the hostile operation by bombing.



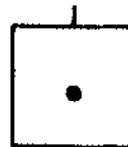
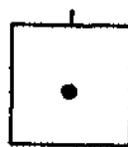
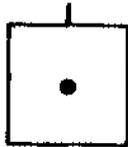
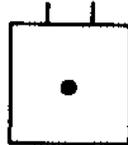
**PARATROOPS
THREE REGIMENTS**



ARTILLERY FOR DIRECT SUPPORT

**THREE BATTALIONS OF
THREE BATTERIES EACH;
EACH BATTERY HAS 4
105mm HOWITZERS**

TOTAL OF 26 HOWITZERS



ARTILLERY FOR GENERAL SUPPORT

**ONE BATTALION OF
THREE BATTERIES
EACH BATTERY HAS 4
155mm HOWITZERS**

TOTAL OF 12 HOWITZERS

ORGANIC FIELD ARTILLERY OF PARACHUTE DIVISION

4) Because tanks are essentially instruments of the attack, our tactical doctrine does not favor the employment of tanks as such in the defense except in counterattacks. However, where our counterattack is of such size as to warrant the use of tanks, they may be of great assistance in expelling the enemy. They may operate effectively against foot troops following hostile tanks, or, under certain conditions, as when our anti-tank defensive means are inadequate they may operate with success against the hostile tanks themselves. Favorable opportunities for this would occur when hostile tanks have broken through our front line but have not yet reached their objective, or have become disorganized. Or they may be used to break up hostile mechanized formations before the latter launch their attack.

5) Tank destroyer battalions.

Defense against tanks requires depth and flexibility in the disposition of anti-tank means. It is not practical to place enough anti-tank rockets in forward defensive positions to stop a mass tank attack. Massed anti-tank guns would be quickly subjected to artillery concentrations or, at best, would account for the most advanced tanks and be rapidly overrun and destroyed by the succeeding echelons.

Thus the disposition of anti-tank rockets in depth is essential for two reasons: first, it increases the length of time tanks are under fire of anti-tank weapons; second, it permits the determination of the location of enemy principal tank efforts so that reserve anti-tank elements can be disposed to meet the attack as it develops.

Anti-tank weapons are found with the elements of the divisional infantry and artillery, but these guns form only the static defense and are primarily for the local protection of these units. The depth in an active defense is secured by the use of tank destroyer battalions, units specially trained and equipped for destroying tanks and provided in numbers adequate to meet any tank attack made in depth.

6) The concept of anti-tank action.

The concept of anti-tank tactics on which the organization of tank destroyer battalions is based is to emplace and conceal the organic anti-tank rockets of the paratroops to meet the shock of a tank attack, and by means of obstacles, anti-tank mines, and gun fire, hold up and delay the tank attack until the nearest tank destroyer battalions can be brought into action.

The tank destroyer battalion action is reinforced in depth by tank destroyer battalions or groups of such battalions committed by still higher commanders as the tank attack develops. The action of tank destroyer battalions and groups is always active and offensive, moving to carefully reconnoitered, concealed positions in front of a tank penetration or on its flanks.

A tank destroyer battalion maintains constant and continuous reconnaissance of the probable zones in which it may be employed. If attacked to a division, it maintains reconnaissance over the division front, flanks and rear, relying on radio to furnish immediate information of a tank attack. The reconnaissance includes areas of probable tank attack, routes, position for guns, and the location of demolitions, mine fields and static anti-tank guns.

Initially, the battalion may be partially committed to action or held more or less centrally in concealed bivouacs in the division zone of action. When committed to action, it will normally execute a previously reconnoitered plan of action. Tank destroyer battalions have similar tasks except that they may be employed in groups and have a more independent mission, involving in certain situations the seeking out and attacking of hostile tank bivouacs, tank parks, the dis-

rupting of enemy lines of supply, and the surrounding and destruction of an enemy tank force that has penetrated the zone of action of our own forces.

The tank destroyer battalion is committed to action with its leading elements developing the situation in order to locate the main tank attack. These reconnaissance and security elements break through the enemy's security and reconnaissance screen that might accompany the tank attack for the purpose of securing information about the enemy on which the larger elements base their action. The latter occupy concealed positions from which effective fire can be brought to bear on the hostile tanks. The weapons of the tank destroyer units are disposed in depth, so as to be mutually supporting within each section, company and battalion. During the action the security elements quickly withdraw to the flanks and protect the tank destroyer units from any attempt by the enemy to outflank them.

After the initial attack, the leading tank destroyer units withdraw to alternate positions and continue the attack. Withdrawal is made under cover of smoke and fire, as the situation demands.

7) Reconnaissance.

Information is the first line of security against any form of attack in any situation. Surprise must be prevented. With adequate provision for reconnaissance and communication, the larger mechanized enemy units should not be able to attack a defending force before it can make the best possible dispositions of its available anti-tank means.

Full use should be made of observation aviation in locating and reporting hostile mechanized concentrations and movements. The reconnaissance is supplemented by motorized parachute detachments and by organic security detachments, such as patrols.

8) Organization of tank destroyer battalions.

The light tank destroyer battalions consist of a headquarters and headquarters company, three tank destroyer companies and a pioneer company.

9) To summarize the general scheme of anti-tank defense, we see that our first effort is to locate the enemy mechanized units, the next step is to canalize the tank attack by proper utilization of terrain and by the use of passive means of anti-tank defense, such as road blocks, barriers and anti-tank mines. Finally comes the disposition of active means of defense in depth, so that as the hostile tanks continue their advance, they meet gradually increasing anti-tank resistance and are subjected to repeated counterattacks by mobile anti-tank weapons until destroyed. Thus it appears that an effective anti-tank defense is practical and that our unfortunate anti-tank section commander, whom we left face to face with 50 hostile tanks, knows that if some of them succeed in overrunning his position, they will be accounted for before they achieve their ultimate goals.

3. Weapons and means within the parachute regiment.

- a. The paratrooper's small arms and machine guns, when loaded with armor piercing ammunition, are effective weapons with which to attack lightly armored vehicles.
- b. .50-caliber machine guns, with their armor-piercing ammunition, are effective against lightly armored vehicles.
- c. The anti-tank rocket is a powerful and effective weapon. It is low silhouetted, easily manipulated, and is capable of penetrating the armor of light and medium tanks.

- d. Other expedients that have been used with minor success in the past are: grenades tied together and thrown at a tank track or under a tank; any sort of destructive steel bar, strong enough not to break, run through a track mechanism to throw it or break it; gasoline or petroleum thrown in glass containers against tanks and ignited by incendiary bombs or grenades; brush or dry grass or grain set afire in order to drive out or destroy attacking vehicles. Such means, however, are crude make-shifts, well worth knowing and using in emergencies but not to be considered in planning organized defense measures. They are last resort measures to be used by troops lacking more effective means.
- e. As the result of the present intensive study of the subject of anti-mechanization, we may look forward to the rapid development of other types of anti-tank weapons for the para units, as well as the improvement of the existing types.

ANTI-TANK TACTICS AND TECHNIQUE OF PARATROOPS

1. Technique of fire at moving vehicles.

a. Rifle and AA-52 machine guns.

1) General.

When tanks lead hostile attacks, paratroops and supporting weapons crews take cover against the attack of tanks but open fire with armor-piercing ammunition against lightly armored vehicles. Para units should be indoctrinated with the principle that it is their mission in the event of tank attack to keep their ground, take cover, and deliver the maximum amount of aimed fire at enemy unarmored troops which may accompany or support the tank action. Men with effective anti-tank weapons, of course, open fire against the types of tanks their weapons can disable.

2) Leads.

The basic principles involved in firing at moving targets are simple. Targets which cross the line of sight at any angle are classified as crossing targets. In firing at targets which cross the line of sight the firer must aim ahead of the target so that the paths of the moving target and bullet will meet. Such aim, taken ahead of the target, is called the lead and is measured in target lengths. In fire directed at targets which cross the line of sight at ranges of 500 down to 100 meters, a lead of two target lengths is used. If the target crosses at ranges of less than 100 meters, aim is taken at the forward edge of the target. Targets which approach directly toward the firer, or recede directly from the firer, will, for all practical purposes, meet the bullet or shell on its path and are classified as no lead targets.

3) The technique of fire for the assault rifle and AA-52 machine gun does not depend upon tracer ammunition or observation of strike. It is necessary for the individual paratrooper to be able to keep his fire on his target without assistance, and the technique contained herein is based on this principle. Individuals are trained to deliver a rapid and accurate fire and to sustain their fire by rapid reloading.

4) The technique of fire for the weapons is as follows:

- a) Fire is opened at ranges of 500 meters or less.
- b) Weapons without a battle sight use a setting of 300 meters.
- c) On approaching or receding targets, the firer holds his aim on the center of the target and squeezes off his shot.
- d) At crossing targets, the firer aligns his sights on the bottom of the target at its rearmost point and swings his aim straight across it to the estimated lead. The rifle is kept swinging

while the shot is squeezed off when the proper lead is reached. If the target is within 100 meters, he maintains his aim on its forward edge.

- e) The defender fires as rapidly as proper aiming will permit.
- f) With the AA-52 machine gun equipped with bipod and hinged buttplate, and when the firer is in the prone position, automatic fire in bursts of 50 to 100 rounds may be used. When the firer is not in the prone position, three rounds of fire bursts should be used.

5) Fire distribution.

In general, paratroops of front line units will engage the leading elements of approaching targets during tank attacks. Unit leaders must be careful to ensure that sufficient fire is also directed on enemy foot troops or weapons which may accompany or support such attack. Leaders will be especially alert to direct fire on new targets appearing in the foreground or on the flanks. Whenever possible, group leaders will designate targets and direct the fire of their units.

Individuals will be trained to open fire on sudden targets without waiting for command. Fire will ordinarily be maintained on the selected target until it is obviously disabled or destroyed, until a more dangerous target appears, or until fire on a new target is ordered.

All men are trained to switch their fire from distant targets to dangerous targets which appear suddenly at close range.

Table of Leads for Moving Target Firing with the Assault Rifle Famas 5.56mm

Speed of target (in kph)	Range of target (in meters)	
	Less than 400	Greater than 400
10	1/2 lead	1 lead
20	1 lead	2 leads

b. AA-52 7.62mm machine guns.

Fire at rapidly moving ground targets with 7.62mm machine guns requires a special technique.

1) Gunner's position.

The gunner sits behind the machine gun in the prescribed manner, except that one hand will habitually grasp the elevating wheel. The other hand grasps the pistol grip, the forefinger on the trigger.

2) Manipulation.

All changes in elevation are made by the use of the handwheel. Rapid traverse is obtained by loosening the traversing clamp until a smooth but "sticky" traverse results. The hand grasping the pistol grip, assisted by the body weight when necessary, moves the gun in traverse as desired.

3) Lead table.

The simple lead table shown below will secure a satisfactory percentage of hits. Group leaders and gunners are trained in its use.

4) Use of the lead table.

The leads shown in the lead table are based on a target approximately the size of a medium tank, crossing the line of fire at right angles, or 90 degrees. If the angle of approach is less than 45 degrees, use one-half of the lead shown in the table. These rules will apply in all cases except when the target is coming directly toward or going directly away from the gun or is at point blank range. In these cases the weapon is pointed directly at the target and is given added elevation only when the range to the target or the slope of the ground demands it.

Table of Leads for Moving Target Firing with the AA-52 Machine Gun

Speed of target (in kph)	Range of target (in meters)	
	Less than 400	Greater than 400
Less than 10	0 lead	1 lead
Greater than 10	1 lead	2 leads

5) Sight setting.

The gunner cannot change the sight setting of the gun with sufficient rapidity to meet the rapid changes in range of moving targets and at the same time maintain an adequate volume of fire. Unless the target appears at very close range, gunners should habitually set the sight at 600 meters upon the appearance of the target or upon command from the group leader. All firing should be done without changing this sight setting.

6) Duties of the gun crews.

The group leader estimates the range and speed of the target and announces the range and lead to the gunner. He observes the effect of the fire on the target and announces corrections in lead when necessary. Cautions such as "behind," "ahead," "high" and "low" may be given. He will switch the gunner to new targets when necessary.

The gunner sets his sight at 600 meters and fires, using the following procedure: The gunner looks through the sight and picks up the target. If the range to the target is less than 400 meters, he lays on the rear end of the target at its lower edge, swings straight through the target to its front and lower edge and then on past the target until he arrive at the announced or estimated lead. Continuing his uniform swing of the gun he then fires a "burst." This procedure is repeated until the target disappears or is disabled. If the range to the target is greater than 400 meters, but less than 600 meters, the gunner does as indicated above, except that he lays on the rear center edge of the target and swings straight through the center of the target out to the front center edge and then on out to the correct lead.

If the range to the target is greater than 600 meters and less than 1,000 meters, the gunner does as indicated above except that he lays on the rear top edge of the target and swings straight across the top of the target and on out to the correct lead.

The assistant gunner observes the feeding and functioning of the gun and watches the group leader for signals and commands.

7) Distribution of fire.

Single guns and sections should engage the leading vehicle of a group. Both sections of a section may engage the two leading vehicles.

c. .50-caliber machine guns.

The technique of fire with .50-caliber machine guns at moving targets is similar to that described for the AA-52 7.62mm machine gun.

d. Other weapons.

The technique of fire of the more powerful anti-tank weapons is also similar.

2. Defensive action of small paratroop units.

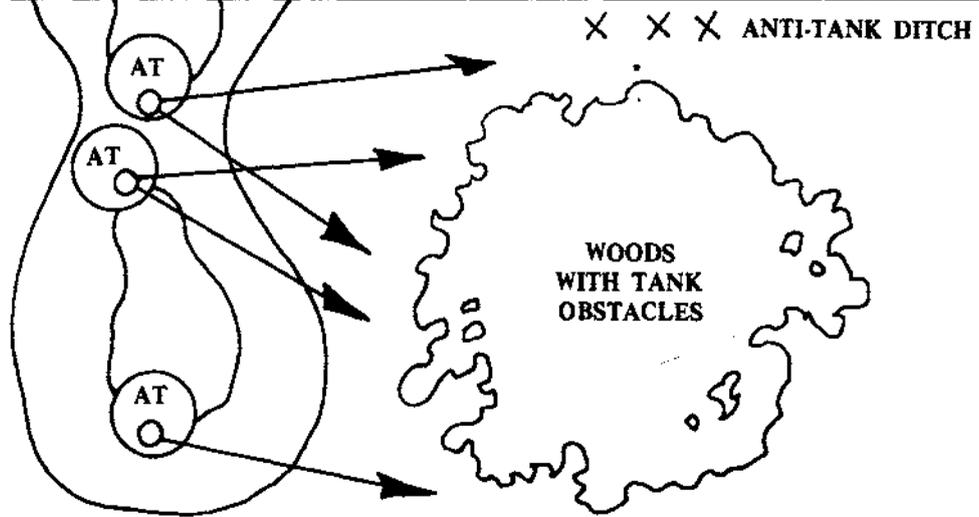
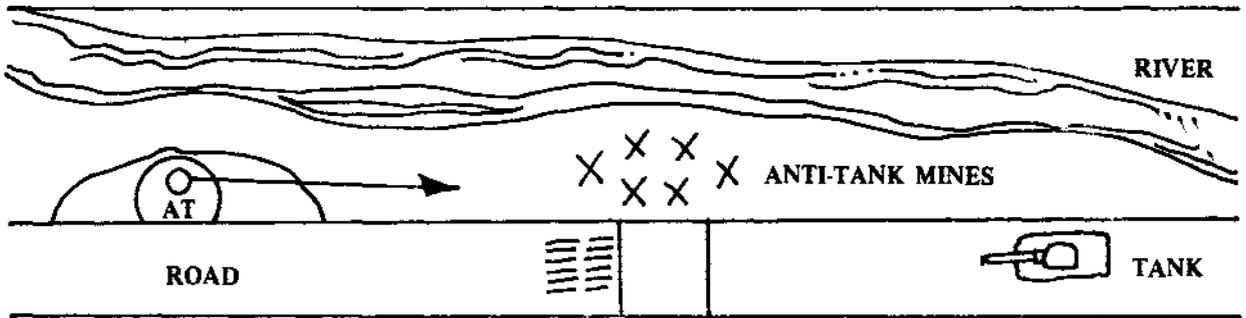
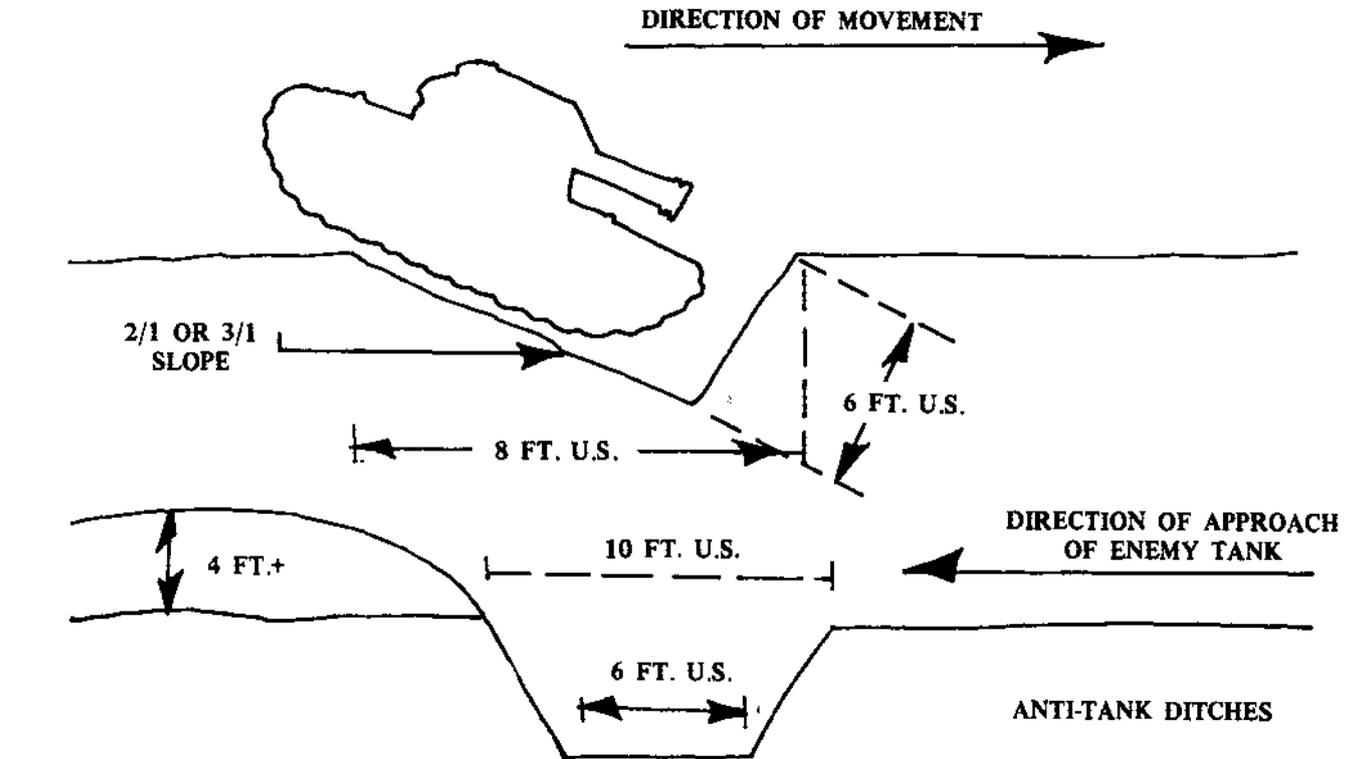
If men are not under cover when the hostile tanks first appear, they should immediately take cover. Cover may be a large tree, ditch, fox hole, trench, building, or other uncrushable shelter.

In most cases in a defensive situation, a prepared gun position is occupied. In such a position, greater safety exists for the crew. More damage is done to the enemy if the crew stays where it is and keeps firing until the tank is close. Then the gun tripod should be knocked flat to protect the gun, and the crew should crouch low to escape being hit by bullets or crushed if the tank runs over the emplacement. Fire is resumed after the tank has passed. Whenever small arms are used against tanks the top and bottom armor, eye slits, ballmount openings, and especially the tracks are the vulnerable points at which to aim.

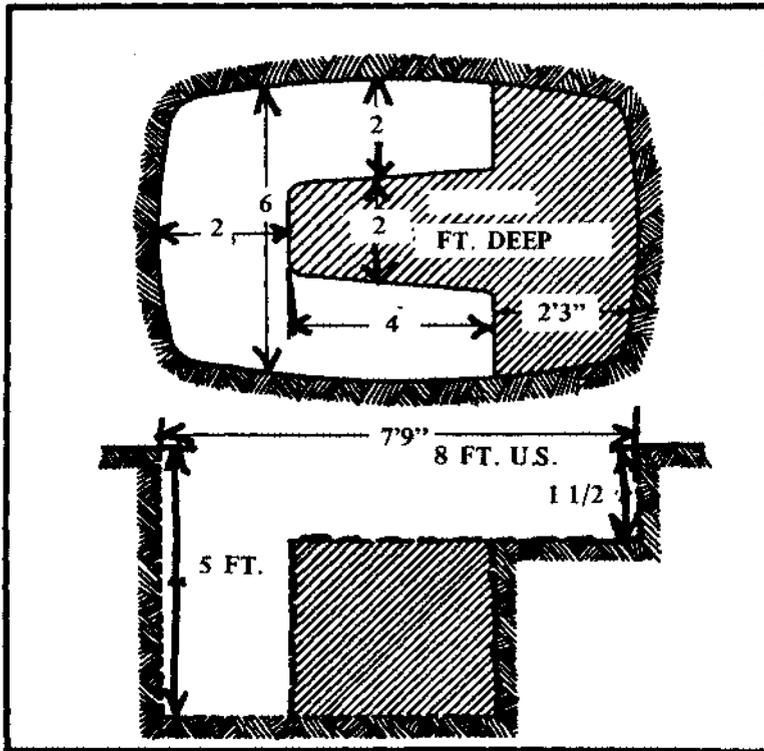
Front line units must not forget that their mission is to stop the infantry following the tanks, as well as to guard themselves against losses by tank action.

3. Tactical employment of the organic anti-tank rockets of the parachute regiment.

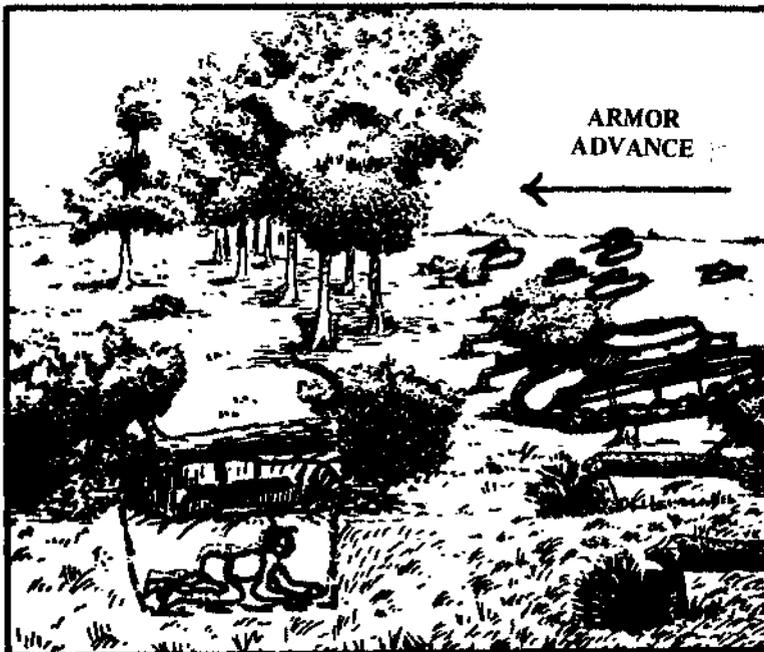
The details of tactical employment of the organic infantry anti-tank rocket are discussed elsewhere in this volume. While in themselves not capable of stopping a determined tank attack, these organic weapons form an important part in the anti-tank defense as a whole by slowing up or canalizing the attack, thus permitting a more effective employment of tank destroyer units.



ANTI-TANK OBSTACLES WITH MINES



OPEN STANDING ANTI-TANK EMPLACEMENT

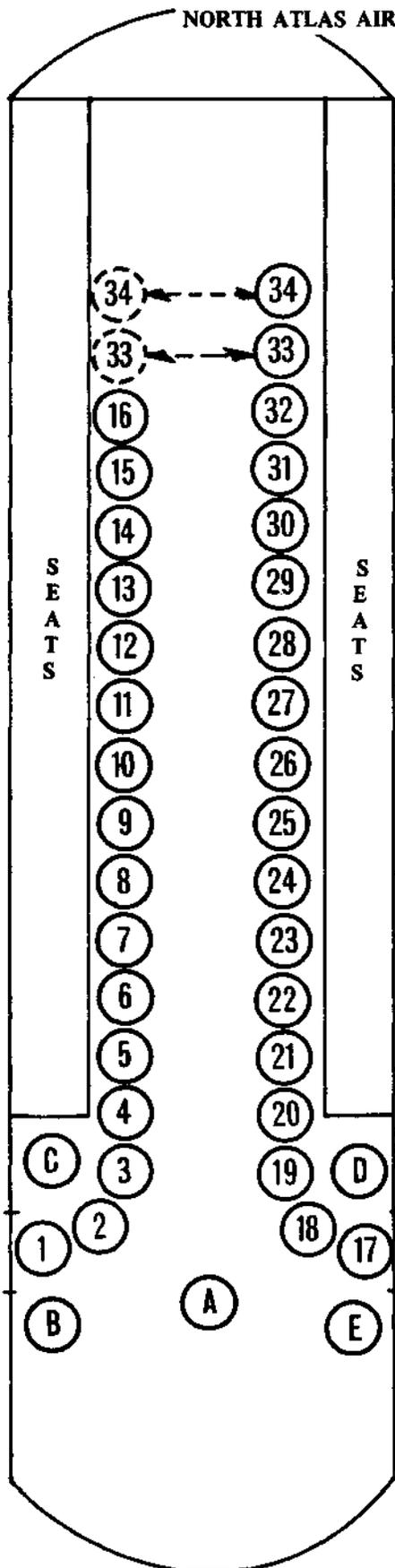


Open-standing anti-tank emplacement obviously requires paratroops of a disposition in the face of armor. Advance requires the Legionnaire to fire and then return to emplacement, waiting until armor passes through defense position. The Legionnaire then turns and fires in armor's rear, and faces enemy infantry at the same time.

PARACHUTE ASSAULT SEC.

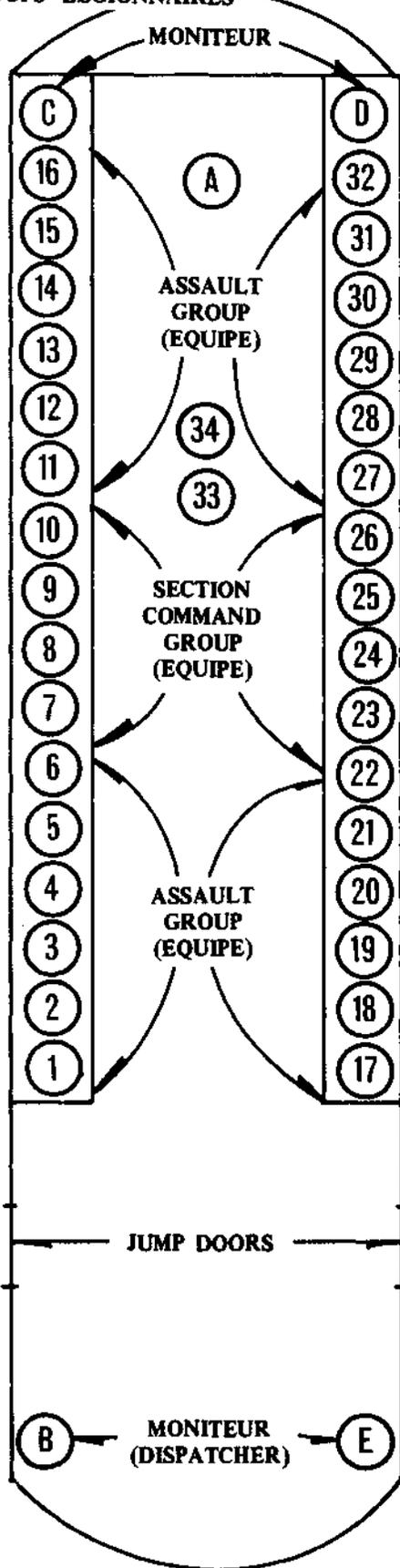
NORTH ATLAS AIRCRAFT-32 PARATROOPS-LEGIIONNAIRES

FLIGHT
DIRECTION



JUMP POSITION

- A. MONITEUR (DISPATCHER)
ADJUTANT
CHEF
- B. MONITEUR
SERGEANT/
SER/CHEF
- C. MONITEUR
SERGEANT/
SGT./CHEF
- D. MONITEUR
SERGEANT
CORPORAL/
CHEF



TAKE-OFF POSITION

Appendix A

Combat Deployment of the Para Battalion

PARACHUTE ASSAULT NORTH ATLAS AIRCRAFT--2501 SECTION--32 LEGIONNAIRES

A. First Assault Groupe (Equipe)

1. Group Leader (Chef de Equipe) Corporal--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
2. Paratrooper Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
3. Paratrooper Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
4. Paratrooper Legionnaire/Premier Class--AA-52 7.62mm machine gun--400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.--PA15), three magazines of 15 rounds each.
5. Paratrooper Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
6. Paratrooper Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

B. Command Assault Groupe (Equipe)

7. Section Commander--Lieutenant--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
8. Paratrooper Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio.
9. Command Sgt./Corporal--Chef--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

10. 2 Commander-Adjutant/Sergeant-Chef-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.

C. Second Assault Groupe (Equipe)

11. Groupe Leader (Chef de Equipe) Corporal-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
12. Paratrooper Legionnaire-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
13. Paratrooper Legionnaire-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
14. Paratrooper Legionnaire/Premier Class-AA-52 7.62mm machine gun-400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.-PA15), three magazines of 15 rounds each.
15. Paratrooper Legionnaire-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
16. Paratrooper Legionnaire-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

D. Third Assault Group (Equipe)

17. Groupe Leader (Chef de Equipe) Corporal-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
18. Paratrooper Legionnaire-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
19. Paratrooper Legionnaire-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
20. Paratrooper Legionnaire/Premier Class-AA-52 7.62mm machine gun-400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.-PA15), three magazines of 15 rounds each.
21. Paratrooper Legionnaire-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
22. Paratrooper Legionnaire-Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

E. Command Assault Group (Equipe)

23. Section Commander—Lieutenant—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
24. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio.
25. Command Sgt./Corporal—Chef—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
26. 2 Commander—Adjutant/Sergeant—Chef—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.

F. Fourth Assault Group (Equipe)

27. Group Leader (Chef de Equipe) Corporal—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
28. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
29. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
30. Paratrooper Legionnaire/Premier Class—AA-52 7.62mm machine gun—400 rounds of belted 7.62mm M.G., 9mm pistol (MAB. —PA15), three magazines of 15 rounds each.
31. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
32. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

G. Anti-Tank Team

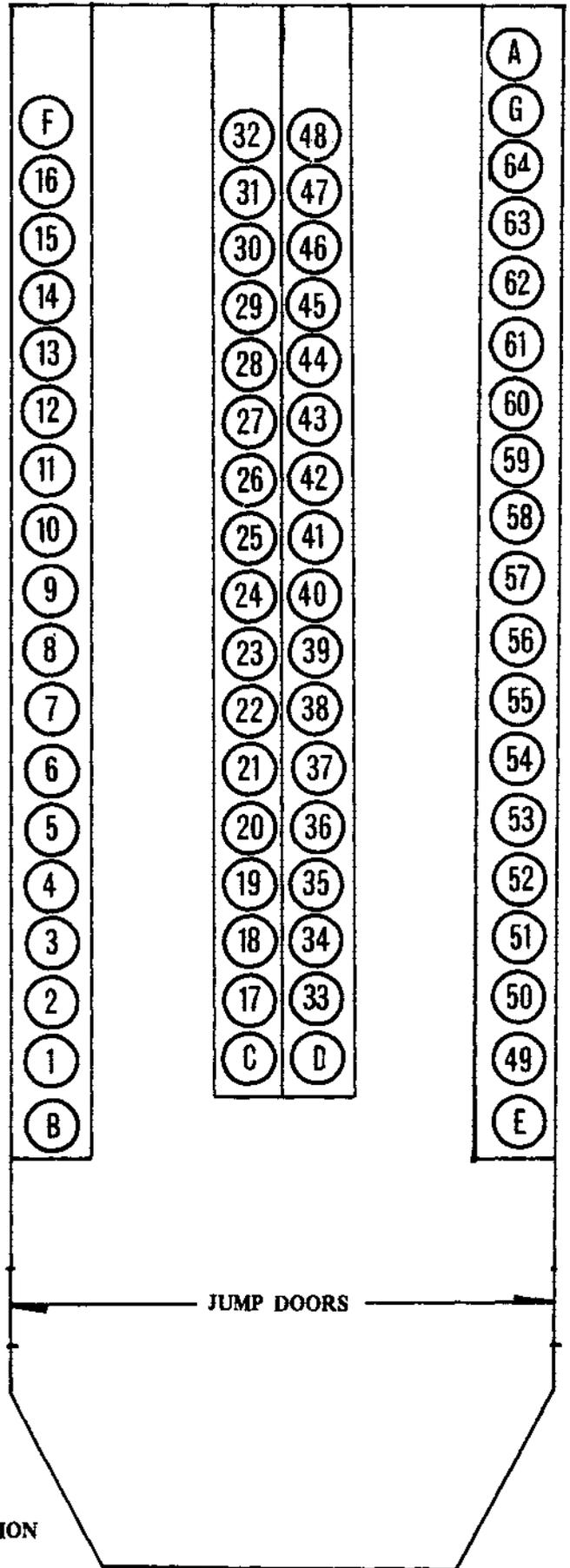
The anti-tank rocket teams can be added onto the second and fourth assault groups respectively at the disposition of the section commander. The addition of the group of the parachute anti-tank team adds weight to the aircraft load and addition crowded space on board. This fact must be taken into consideration.

33. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, anti-tank rocket launcher.
34. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, two replacement rockets for anti-tank rocket launcher.

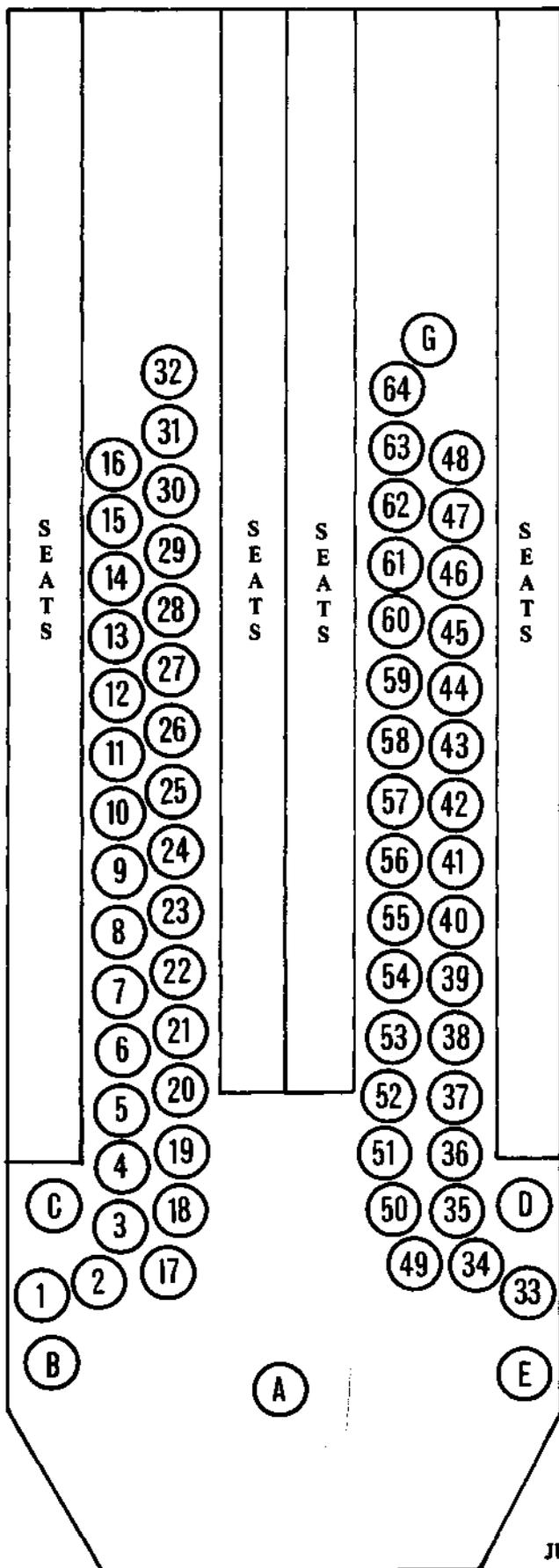
**PARACHUTE ASSAULT CIE
TRANSALL C-160 AIRCRAFT
-64 PARATROOPS-LEIONNAIRES**

- A. CHIEF MONITEUR-2 REP.
HEAD DISPATCHER
ADJUTANT/ADJ. CHEF**
- B.+E. MONITEUR-2 REP.
ADJUTANT/SGT. CHEF**
- C.+D. MONITEUR-2 REP.
SGT./CORPORAL CHEF**
- F.+G. MONITEUR-2 REP.
FLIGHT SGT./SGT.
FRENCH AIR FORCE CREW**

-
- ASSAULT SECTION**
 - LEIONNAIRES 1-16
1ST SECTION**
 - LEIONNAIRES 17-32
2ND SECTION**
 - LEIONNAIRES 33-48
COMPAGNIE COMMAND
SECTION**
 - LEIONNAIRES 49-64
4TH SECTION**



PARACHUTE ASSAULT CIE
TRANSALL AIRCRAFT C-160
-64 PARATROOPS-LEGINNAIRES



- A. "CHEF" MONITEUR-2 REP.
 HEAD DISPATCHER
 ADJUTANT/ADJ. CHEF
- B.+E. MONITEUR-2 REP.
 ADJUTANT/SGT. CHEF
- C.+D. MONITEUR-2 REP.
 SGT./CORPORAL CHEF
- F.+G. MONITEUR-FLIGHT/SGT.
 SGT.-FRENCH AIR FORCE
 CREW

ASSAULT GROUPS

- 1-6 1ST GROUP (EQUIPE)
- 7-10 1ST SECTION
- 7-10 COMMAND GROUP
- 1ST SECTION
- 11-16 2ND GROUP (EQUIPE)
- 1ST SECTION
- 17-22 3RD GROUP (EQUIPE)
- 2ND SECTION
- 23-26 COMMAND GROUP
- 2ND SECTION
- 27-32 4TH GROUPE (EQUIPE)
- 2ND SECTION
- 33-36 COMMAND GROUP
- COMPAGNIE COMMAND GROUP
- 37-42 5TH GROUP (EQUIPE)
- COMMAND SECTION
- 43-48 6TH GROUP (EQUIPE)
- COMMAND SECTION
- 49-54 7TH GROUP (EQUIPE)
- 3RD SECTION
- 55-58 COMMAND GROUP
- 3RD SECTION
- 59-64 8TH GROUP (EQUIPE)
- 3RD SECTION

JUMP POSITION

**PARACHUTE ASSAULT COMPAGNIE
TRANSALL C-160 (64 LEGIONNAIRES)**

A. First Assault Group

1. Group Leader (Chef de Equipe) Corporal—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
2. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
3. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
4. Paratrooper Legionnaire/Premier Class—AA-52 7.62mm machine gun—400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.—PA15), three magazines of 15 rounds each.
5. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
6. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

B. Section Assault

7. Section Commander—Lieutenant—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
8. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio.
9. Command Sgt./Corporal—Chef—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
10. 2 Commander—Adjutant/Sergeant—Chef—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.

C. Second Assault Group

11. Group Leader (Chef de Equipe) Corporal—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
12. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
13. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

14. Paratrooper Legionnaire/Premier Class—AA-52 7.62mm machine gun—400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.—PA15), three magazines of 15 rounds each.
15. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
16. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

D. Third Assault Groupe (Equipe)

17. Groupe Leader (Chef de Equipe) Corporal—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
18. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
19. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
20. Paratrooper Legionnaire/Premier Class—AA-52 7.62mm machine gun—400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.—PA15), three magazines of 15 rounds each.
21. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
22. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

E. Section Assault Groupe (Equipe)

23. Section Commander—Lieutenant—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
24. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio.
25. Command Sgt./Corporal—Chef—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
26. 2 Commander—Adjutant/Sergeant—Chef—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.

F. Fourth Assault Groupe (Equipe)

27. Group Leader (Chef de Equipe) Corporal—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.

28. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
29. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
30. Paratrooper Legionnaire/Premier Class—AA-52 7.62mm machine gun—400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.—PA15), three magazines of 15 rounds each.
31. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
32. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62 for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

G. Parachute Assault Command Company Section

33. Company Commander—Captain—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
34. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio.
35. Company—Adjutant—Chef—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
36. 2 Company—Commander—Senior Lieutenant—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.

H. Fifth Assault Group

37. Group Leader (Chef de Equipe) Corporal—Chef—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
38. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
39. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
40. Paratrooper Legionnaire/Premier Class—AA-52 7.62mm machine gun—400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.—PA15), three magazines of 15 rounds each.
41. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

42. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

I. Sixth Assault Group

43. Group Leader (Chef de Equipe) Command Sergeant—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
44. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
45. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
46. Paratrooper Legionnaire/Premier Class—AA-52 7.62mm machine gun—400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.—PA15), three magazines of 15 rounds each.
47. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
48. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

J. Seventh Assault Group

49. Group Leader—(Chef de Equipe)—Corporal—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
50. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
51. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
52. Paratrooper Legionnaire/Premier Class—AA-52 7.62mm machine gun—400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.—PA15), three magazines of 15 rounds each.
53. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
54. Paratrooper Legionnaire—Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

K. Section Command Assault Group (Equipe)

55. Section Commander--Lieutenant--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
56. Paratrooper Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio.
57. Command Sgt./Corporal--Chef--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
58. 2 Commander--Adjutant/Sergeant--Chef--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.

L. Eighth Assault Group (Equipe)

59. Group Leader (Chef de Equipe) Corporal--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, radio, two offensive grenades.
60. Paratrooper Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
61. Paratrooper Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
62. Paratrooper Legionnaire/Premier Class--AA-52 7.62mm machine gun--400 rounds of belted 7.62mm M.G., 9mm pistol (MAB.--PA 15), three magazines of 15 rounds each.
63. Paratrooper Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.
64. Paratroop Legionnaire--Famas 5.56mm Assault Rifle, six magazines of 30 rounds each, 100 belted rounds of 7.62mm for AA-52 machine gun, two offensive grenades, 100 box rounds of 5.56mm.

Appendix B

Operational Combat Jumps of the Legion Paras

OPERATIONAL COMBAT JUMPS OF THE LEGION PARAS

Unit	Location	Date	Operation
1. INDOCHINA			
Para company/3rd REI	Van-Xa	04/26/48	172 Para jump on Viet Cong camp
Para company/3rd REI	Cao-Bang	06/09/48	Reinforce ground troops
Para company/3rd REI	Nuoc Hai	11/15/48	Secure Loc Bin area
1 BEP	Haiphong	03/18/49	500 Para Assault
2 BEP	Kompong-Trach	03/24/49	Para Assault Viet Cong camp
1 BEP	Phu-To	04/29/49	Raid
2 BEP	Canal Lagrange	06/16/49	2 Cie--Para Operation Jonquille
2 BEP	Bao-Cong	06/16/49	ICIE reinforce ground troops
2 BEP	Phuoc-An	06/30/49	Operation Alpha (1 Cie)
2 BEP	Ap Binhua	09/26/49	Assault on rebel Viet Cong
1 BEP	Lung-Vai	10/14/49	Jump on protection army convoy
2 BEP	Phu-My	11/16/49	Raid
1 BEP	Hoa-Binh	11/27/49	Raid
2 BEP	Hien-Thu	12/26/49	1 Cie Jump on Viet Cong group
1 BEP	Quand N'guyen	04/20/50	1 Cie reinforce raid
2 BEP	My-Trach	05/21/50	2 Cie contact with Viet Cong group
1 BEP	That-Khe	09/17/50	510 Para--reinforce Legion outpost
1 BEP	That-Khe	10/08/50	Reinforce ambush of outpost ground troops
2 BEP	Sin-Ma-Kay	09/23/50	2 para company
2 BEP	Chiep Dong	11/24/50	2 para company
2 BEP	Kon-Tum	08/08/51	Reinforce ground troops
2 BEP	Gia-Hoi	10/04/51	Reinforce ground troops
1 BEP	Cho-Ben	11/10/51	Counter-offensive--Operation Marion
1 BEP + 2 BEP	Pao-Doan	11/09/52	Para assault on Viet Cong camp
2 BEP	Loc-Binh	03/17/53	Para assault on Viet Cong logistics
1 BEP	Dien Bien Phu	11/20/53	Operation Castor--installations D.B.P.
2 BEP	Dien Bien Phu	09/04/54	Night para reinforcement of D.B.P.
2 BEP	Dien Bien Phu	04/10/54	Night para reinforcement of D.B.P.
BEP + 2 BEP	Pao-Doan	11/09/52	Para assault on Viet Cong camp
BEP	Loc-Binh	03/17/53	Para assault on Viet Cong logistics
BEP	Dien Bien Phu	11/20/53	Operation Castor Installations D.B.P.
BEP	Dien Bien Phu	04/09/54	Night para reinforcement of D.B.P.
BEP	Dien Bien Phu	04/10/54	Night para reinforcement of D.B.P.

2. ALGERIA

REP	Djeurf	04/06/56	Para company in counterattack
REP	Chellala	05/18/56	2 para company surround enemy group
REP	Guentis	06/09/56	2 para company perform rebel area sweep
REP	Tamentout	06/11/56	2 + 4 company raid
REP	Douar Tamza	06/11/56	1, 2, 3, 4 para company jump and follow rebel band
REP	Guelma	04/30/58	1 company jump and surround rebel band

3. AFRICA

REP	Ati	2/14/70	1 and 2 companies jump to surround rebel force
REP	Abeche	2/17/70	1 and 2 companies jump to surround police garrison
REP	Largeau	10/21/70	3 companies jump to reinforce 6 CPI Chadian infantry
REP	Kolwezi	05/19/78	1, 2, 3 jump on rebel band; rescue civilians
REP	Kolwezi	05/20/78	4 command companies reinforce 1, 2, 3 para-in operation "Leopard"

Major Combat Parachute Drops by Unit

Indochina
1 Legion Para Company/3 Infantry Regiment--3
1 BEP-10
2 BEP-16

Algeria
1 REP-4
2 REP-2

Africa
2 REP-5