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MILITARY AFFAIRS

PROVISIONAL FIELD REGULATIONS FOR THE RED ARMY

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12 JUNE 1986

USSR REPORT
MILITARY AFFAIRS

PROVISIONAL FIELD REGULATIONS FOR THE RED ARMY

Moscow VREMENNYY POLEVOY USTAV RKKA 1936 (PU 36) in Russian, 1937
pp 1-216

[Book "Provisional Field Regulations of the RKKA 1936 (FR 36)"]

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Order by the People's Commissar for Defense of the USSR No 245.
Moscow, 30 December 1936.

1. The Provisional Field Regulations for the Red Army 1936 (PU 36) are effective herewith. The Provisional Field Regulations for the Red Army 1929 are rescinded.
2. All commanders and superiors of the Red Army are subject to the provisions of the Provisional Field Regulations of the Red Army 1936.
3. This directive does not provide any stereotypes; its provisions will be followed under strict consideration of the prevailing situation.
4. Chemical warfare agents for which this regulation gives directions for use, will be used in the Red Army only if they are first used by our enemies.

The People's Commissar for Defense of the USSR
Marshal of the Soviet Union
K. Voroshilov

Chapter I. General Principles

1. The Red Army serves the protection of the workers' and farmers' socialist state. Its mission is to guarantee the inviolability of the borders and the independence of the USSR under any conditions.

Any attack upon the socialist state will be repelled by the armed forces of the Soviet Union and combat operations will be shifted to the territory of the attacking enemy.

2. Red Army combat operations will always be oriented toward the annihilation of the enemy. Gaining a decisive victory and the total destruction of the enemy are the basic objectives in a war imposed upon the USSR.

The only means to gain that objective is combat. Combat results in:

- a. the destruction of the enemy's animate forces and materiel;
- b. the impairment of his morale and ability to resist.

Any battle--offensive as well as defensive--has the goal of defeating the enemy. But only a resolute attack in the main direction of effort, which leads to irresistible pursuit, results in total destruction of enemy forces and materiel.

A constant urge to fight the enemy with the goal of defeating him, must be the basis of the training and conduct of any leader and soldier of the Red Army. The enemy must be attacked in a resolute and courageous manner wherever he is found, without specific orders being given to that effect.

3. It is impossible to be equally strong on all fronts. To ensure success it is necessary to shift forces and materiel so as to gain a decisive advantage over the enemy in the crucial area. In secondary areas only sufficient forces are needed to hold the enemy down.

4. However, a simple assemblage of superior forces and materiel is not sufficient to defeat the enemy. It is mandatory that cooperation be established between all branches of the service deployed in the same area and at all echelons; the combat operations of troops in different areas must be coordinated.

5. The types of combat operations will depend upon the character of the different phases of the war. The Red Army must be prepared to break up determined enemy counterattacks in fluid as well as in emplaced combat.

6. Surprise paralyzes. That is why all combat actions must be conducted with maximum camouflage and speed. The speed of combat operations, together with appropriate organization, good mobility and good terrain use, while keeping track of enemy air activity, is the basic prerequisite for success in combat. Those troops can always count on being successful who comply

quickly with commands, regroup quickly upon changes in the situation, make a quick transition from a rest period, quickly assume their battle formation and open fire, attack quickly, and pursue the enemy.

Surprise is attained also by using new weapons and new procedures in a manner not expected by the enemy.

For their part, the troops of the Red Army must be prepared at all times to reply to an enemy surprise attack with a lightning counterstrike.

7. The deployment of any branch of the service in combat must be preceded by a consideration of its characteristics and strengths. Any branch will be used in close cooperation with the others, making use of all its capabilities.

The infantry, in close cooperation with the artillery and the armored vehicles, decides the outcome of an engagement by resolute conduct in the attack and by standing its ground in defensive operations. That is why the other branches which operate jointly with the infantry fulfill their tasks in its support by making possible its advance in the attack and its steadfastness in defense.

Mobility and vital assault capability, supported by allied firepower, are the basic concepts of infantry combat.

Among all ground-based branches, the artillery has the greatest firepower. Its fire has destructive force against troops and enemy weapons in open or covered positions, against his artillery and against his armored vehicles; it also serves as defense against enemy airpower. Artillery fire in the attack opens a path for ground troops; in defense, it closes it to the enemy. The artillery is an effective means of destroying permanently fortified installations.

Tanks have great mobility, great firepower, and tremendous assault capability. However, in making use of these valuable combat capabilities, consideration must be given to the technological limitations of the materiel, the physical performance of the crews, and the maintenance and repair facilities.

Artillery and tanks facilitate the infantry's advance while attacking by neutralizing enemy machineguns and other weapons. When tanks are used, the primary task of the artillery is the neutralization of enemy antitank fire. The tanks primarily attack enemy machineguns. If tanks are not available, the primary task for the artillery is the silencing of enemy machineguns and other weapons.

Tanks which support combat teams are used, apart from infantry support, for penetrating the enemy line, with the goal of destroying his reserves, artillery, headquarters, and storage areas; also, to make enemy retreat routes impassable.

In the attack, tanks must be used in massed formations.

In defensive operations, the artillery destroys the enemy's attacking infantry and tanks, conducts a duel with his artillery, his aircraft and other weapons, and supports counterattacks by friendly infantry and tanks.

In defensive operations, tanks are used for counterattacks against enemy tanks, infantry, and cavalry.

The "strategic cavalry" which has great mobility, powerful supporting equipment, and great assault force is capable of independent combat action of any type.

In joint operations with other branches, the cavalry is used in operational and tactical liaison with mixed combat teams, with motorized troops, and with airpower. Cavalry operations are especially useful on the flanks, in following up a penetration, in the rear of the enemy, in raids, and in pursuit.

Cavalry attacks should be made whenever the enemy is unprepared for planned defensive fire and when his fire system is impaired. Cavalry attacks must always be supported by effective artillery and machinegun fire, and, whenever possible, by tank and air operations.

Operations of mounted troops, especially in large concentrations, must always be well protected against threats from the air. Today's great firepower frequently forces the cavalry to fight dismounted. The cavalry must therefore be capable of fighting on foot.

Mechanized combat teams consisting of tanks, self-propelled artillery, and infantry on personnel carriers are capable of accomplishing independent missions either separated from the other branches or in cooperation with them. They have great mobility and massive fire and penetration power. The basic combat procedure for a mechanized combat team is a tank attack which must be supported by planned artillery fire. Movements and assault by the mechanized combat team must have air support.

Air force units, apart from independent missions, act in close operational-tactical coordination with the mixed combat teams. They are used against columns, troop and materiel assembly areas, and against transport facilities of all kinds (fighters and light bombers), against bridges (bombers), against enemy aircraft, on their air bases (interceptors, fighters, and light bombers), as well as for the protection of friendly troops and their accommodations (interceptors).

Reconnaissance aircraft constitute one of the basic command resources for operational and tactical reconnaissance.

Ground support aircraft are used for reconnaissance and observation, for directing artillery fire, and for maintaining liaison between headquarters. They can be used for combat tasks also.

Parachute infantry troops are useful for disrupting the enemy command and rear area services.

In conjunction with troops attacking at the frontline they can play a decisive part in the total defeat of the enemy in the area concerned.

Special Service Troops: engineer, chemical, communications, railroad, transport, motor vehicle transport, and medical service troops support the operations of the combat troops in their special areas. Only if the special service troops perform independently and proficiently, especially the engineer, communications and transport troops (rail and motor vehicle) is it possible to derive maximum benefit from the mobility of modern armed forces.

Fortified areas, intended for long-term resistance by the special troops and mixed combat teams stationed in them, provide the command with freedom of troop movements and permit a powerful assembly of forces for the purpose of dealing the enemy a decisive blow.

Troops which are to engage in combat in fortified areas must have an unbending will to resist, endurance, and toughness.

The navy consists of ships of different classes which operate jointly by maneuvering units, of naval aviation, and the coastal defense system. Apart from missions of its own, the navy can participate also in ground forces operations in coastal areas.

Ground forces which are to act jointly with the navy must be prepared for landing operations and the defense against landings. Ships and naval aviators must be able to support an army group operating adjacent to the sea.

Military river flotillas consisting of different classes of ships and naval aviation must be prepared to operate in close cooperation with ground forces in battles for river sectors, in river barriers, and river crossings.

8. The Red Army's weaponry is in constant process of further development and improvement. Full familiarity with it and proficiency in its use are the most important duties of all leaders and soldiers. Even during combat it is important to explore the effectiveness of a new weapon so as to find the best methods for its use in achieving victory.

In this connection and for accomplishing the combat mission, instruction of the soldiers concerning the combat objective and a critique of the engagement after its conclusion are of great importance.

9. Modern combat materiel makes possible the simultaneous destruction of the enemy at all echelons. There is an increase in the options for reorganization, surprise flanking movements, and occupation of areas behind enemy lines with attacks against his escape routes. When the enemy is attacked, he must be surrounded and completely destroyed.

10. Defenses must be insurmountable to the enemy, no matter the strength of his attack in any direction.

The defense should be based on a deployment in depth of the firing weapons and the troops to be used in counterattacks.

The enemy, weakened by passing through the in-depth defense zone, is to be destroyed by a resolute counterattack by infantry and tanks, supported by aircraft and all available artillery. In this way smaller forces can gain victory over a superior enemy.

11. The variety of modern combat equipment and the difficulties in their coordinated use make for extraordinarily difficult command problems. Well-planned reconnaissance and continuous security are mandatory prerequisites for success in battle. Clearly and precisely expressed tasks are the best guarantee for coordination in the subordinate troop units and branches. Once a decision is made it must be executed resolutely and energetically irrespective of all that may occur in the battle situation. In the course of combat unpredicted difficulties and conditions will always occur. The commander must recognize any change in the situation and must immediately take the appropriate measures. Command must not be interrupted; the commander must retain control of the action at all times. He must see to it that all his subordinates are familiar with his intentions and that they know where the enemy is and what he is doing.

Very important is the personal initiative of lower-level leaders who are the first to experience a sudden change in the combat situation. Every such initiative, if appropriate, must be fully supported by the superior and used in furthering the general combat objective. Appropriate initiative is based on an understanding of the command decision, on the desire to find the best means of implementing it, and finally on making use of every good opportunity in the quickly changing combat situation.

12. Combat security protects the troops against sudden attacks by aircraft, tanks, landing operations of all types, chemical warfare agents, cavalry, and infantry. In addition, combat security serves the offensive and defensive operations by continuous observation of the enemy and by reconnoitering his forces and materiel.

The increase in the power of motors, the increase in the speed of movement of units (chast) of modern troops and equipment, and also the numerous types of weapons make the troop combat support service especially important and require absolute continuity in performing this service in all cases of troop combat activities and life.

13. The complexity and intensity of modern combat have raised the role and importance of the fighting man to a great height. Exceptional demands are placed on his physical and moral strengths. Concern for the fighting man is a commander's paramount responsibility and his direct duty.

Knowing one's subordinates, constant personal interaction with them, attention to their combat life, needs, and exploits, educating them in the spirit of utter selflessness in carrying out a combat mission, and personal example will provide a commander combat cohesiveness of the unit, its political stability, and, consequently, complete combat readiness and success in combat.

In battle, the commander is obliged to demand all-out efforts of subordinates; but he must demonstrate all the more concern for them. Regular nourishment, timely rest as the situation permits, continual attention to the wounded, as well as maintenance of strictest discipline are the most important requirements for troop control.

The commander and the fighting man must be indoctrinated in the spirit of hatred towards the enemy and an unswerving desire to destroy him in combat. All actions of commanders and fighting men are guided by this will alone until the enemy puts down his weapons and surrenders.

Personnel of the Workers' and Peasants' Red Army (RKKA) are generous towards an enemy prisoner and render him all possible assistance in order to keep him alive.

14. Winning the worker and peasant masses of the enemy army and the population of the theaters of military operations over to the side of the proletarian revolution is a most important condition of victory over the enemy. This is achieved through political work conducted within and outside of the Army by all commanders and political bodies of the RKKA.

15. To a considerable extent, modern combat is a fire contest between the belligerents. Therefore, it is necessary to instill in every commander and fighting man of the Red Army an understanding of the strength of modern fire, the ability to employ it, and the knowledge of means of overcoming it. Underestimating the destructiveness of fire and not knowing how to overcome it will lead to excessive losses.

16. The saturation of modern combat with artillery and automatic weapons results in an exceptionally large expenditure of ammunition. Careful regard for every shell and every round in battle must be the absolute rule for all commanders and fighting men of the Red Army. The high degree of fire training of all combat arms during peacetime is the guarantee of a rapid rout of the enemy in battle. Therefore, it is necessary to educate every commander and fighting man in the firm knowledge that accurate, organized, and disciplined fire alone will defeat the enemy; and vice versa, random fire, besides wasting ammunition, is only an expression of one's own nervousness and weakness.

17. Every battle must be supported by the requisite materiel. Even the best tactical decision can meet with failure unless the requisite materiel is on hand. Organizing the materiel support of combat actions is therefore a most important duty of commanders and their staffs.

Today's combat and technological materiel expose rear area communications and troop replacement depots to constant threat from the enemy. Continuous attention to rear area organization, its self-defense and protection are therefore mandatory prerequisites for victory.

The rear area organization must, upon demand by the commander, be prepared to ensure combat resupply of the troops under any and all circumstances.

Chapter II. Operational Support of Combat Actions

18. Operational support has the following mission: continuous reconnaissance of enemy forces and materiel and protection of friendly forces against surprise attacks by aircraft, tanks, different types of landing operations, cavalry, infantry or chemical warfare agents.

Operational support of the troops in the field must be ongoing on a continuous basis.

1. Reconnaissance

19. The collection of information about the enemy and the general situation is the common duty of all large units, staffs, headquarters, and individual soldiers at all times during combat. Information about the enemy can be obtained in the following ways: through combat action of the troops; by air and ground reconnaissance; by observation and message interception; from prisoners and deserters; through radio reconnaissance; by the examination of acquired papers and documents; and from the local population.

Specifically:

- a. Reconnaissance through combat and ground reconnaissance provide the most reliable and complete information about the enemy. It is performed by special reconnaissance personnel, through combat of units specifically deployed for that purpose, and--during combat--by all personnel.
- b. Aerial reconnaissance is the main resource for operational reconnaissance and one of the most important for tactical reconnaissance.
- c. Observation is performed during all types of reconnaissance in aerial, cavalry, motorized, artillery and infantry reconnaissance, and by specially selected observers and staff officers.
- d. Long-distance telephone communications are being monitored; either in the field in close combat with the enemy or by tapping into telephone lines in the enemy's rear area.
- e. Radio reconnaissance (radio monitoring and direction finding of radio stations) is used to obtain information about the enemy as well as to monitor the work of friendly radio transmissions.
- f. Documents are obtained by agents and combat actions, especially in the enemy's rear areas (from dead soldiers and prisoners, in attacks on headquarters, from captured messengers).

g. Local inhabitants can provide valuable information about the enemy; however, such data must be checked against other reconnaissance data.

20. To organize observation during all types of combat, especially in reconnaissance, is one of the basic tasks of staffs. Observation is required to provide the commander with the most complete, accurate, and timely information possible about the manpower, artillery weapons, and activities of the enemy as well as about terrain conditions.

In aerial observation, visual observation is supplemented with photographic interpretation.

21. To determine the disposition of enemy forces, systematic efforts must be made to have the reconnaissance troops take prisoners, reconnaissance penetrations under cover of darkness, and limited attacks.

Prisoners are interrogated briefly immediately upon being brought in. All prisoners of war are immediately relieved of their papers and personal correspondence; the prisoners are sent to headquarters under guard, with soldiers being separated from officers and noncommissioned officers. Prisoners are not permitted to talk to one another.

22. Reconnaissance is performed at all times and without interruption: prior to the combat action, during the action, and during rest periods, in accordance with the general reconnaissance plan of the headquarters.

Information about the enemy acquired through combat or reconnaissance is examined daily and reconfirmed through reconnaissance.

To supplement the enemy situation prior to an attack or when the situation requires it, reconnaissance information is requested also through combat action of detachments specifically used for this purpose.

23. The field commander announces the tasks for reconnaissance activities and determines the personnel required for their implementation. The reconnaissance plan is confirmed by the chief of staff and contains the following:

- a. the reconnaissance objective--what is to be reconnoitered and until what time;
- b. the designation and components of the reconnaissance unit or detachment with data concerning the following: the reconnaissance objective (reconnaissance of the most important objectives is performed twice in two different ways); the front (or direction of main effort); the sector (point location); and the time limit for conducting reconnaissance;
- c. assignment of staff officers (if necessary) to the reconnaissance units;
- d. the method of information transmittal from the reconnaissance units (radio, air, tanks, automobile, motorcycle, mounted or unmounted messenger, message center);

- e. relief of the reconnaissance unit;
- f. reserves of personnel and materiel for supplementary reconnaissance which may become necessary as a result of the combat action (composition, mission).

The plan includes reconnaissance tasks for the special branches, special service troops, and political officials.

As the combat action progresses, the reconnaissance plan is supplemented and further developed.

24. The mission of those involved in reconnaissance activities is established by the chief of staff and includes the following:

- a. enemy data;
- b. data concerning friendly and neighboring reconnaissance troops;
- c. the mission for the reconnaissance unit concerned with specifics on information to be obtained;
- d. to whom, where, when, and how the information is to be transmitted; message center (if one is provided);
- e. aircraft insignia;
- f. password for crossing the frontline.

The mission of the troop unit is told to the leader of the reconnaissance unit only verbally and only to the extent necessary for the accomplishment of the reconnaissance task.

The strength of the reconnaissance unit and the materiel to be used must be appropriate to the task and the situation. Reconnaissance in the main direction of effort must be capable of penetration. It is therefore necessary that it be reinforced as follows: ground reconnaissance with motorized detachments and artillery; air reconnaissance with fighter aircraft (or reconnaissance by a group of aircraft).

25. Aerial reconnaissance for mixed combat teams is performed by the corps squadrons and detached portions of army aviation. Division liaison aircraft, whose main mission is monitoring of the battlefield and liaison with the troop units, are additionally observing the enemy situation, without, however, crossing the friendly frontline. Their normal altitude above the battlefield is up to 500 meters. Liaison aircraft are used for reconnaissance purpose in enemy airspace only in exceptional cases. In the corps air squadrons a single aircraft can conduct observation and reconnaissance: in friendly airspace, in an area measuring 10 by 12 km; in remote reconnaissance, over a strip measuring 5-10 km of front width and 100 km in depth; in reconnaissance of a terrain sector, a strip 100 km in length. Altitude above the battlefield at least 1,000 meters, for remote reconnaissance at least 1,500 meters.

26. Division Reconnaissance Battalions perform remote reconnaissance as well as near reconnaissance in the division combat area.

a. In remote reconnaissance, the division reconnaissance detachment precedes the main force by 25-30 km. It advances scout squads (2-3 armored scout cars supported by infantry in trucks) and mobile officer observation posts.

The distance of scout squads from the main force of the reconnaissance detachment should not exceed the range of heavy machinegun fire. The mobile observation posts follow the scout squads in motor vehicles.

Movement by the cavalry and the motorized bulk of the reconnaissance detachment occurs in sections.

To monitor the combat action of the reconnaissance detachment, the division chief of staff assigns to it a staff officer with communications facilities (motorcycles) and arranges for aerial surveillance of the combat activity.

b. Near reconnaissance of the reconnaissance detachment (during combat engagement of the main force of the division with the main enemy force) is performed according to general combat principles or through reconnaissance sorties in darkness. In reconnaissance of a defense area sector the reconnaissance detachment is reinforced by artillery and occasionally by infantry detachments. A portion of an enemy position is occupied which permits a deep insight into enemy defense installations. Efforts must also be made to take prisoners for confirmation.

Simultaneously, a forceful preparatory artillery bombardment is necessary in other sectors.

The division staff must prepare the organization of officer observation posts in the area of the occupied sector, from the position of the main force and from the air.

Nighttime penetrations are conducted by squads or platoons led by "half-company" commanders, without preparation by artillery or machineguns, so as to ensure surprise.

27. If actual contact is made with the enemy, the division commander can, in addition to the reconnaissance detachment, deploy an infantry battalion out of one of his regiments for reconnaissance of an enemy defensive operation. If possible, this battalion is reinforced by two artillery detachments and tanks (at least one platoon). For an assault the battalion commander will usually use only a limited part of his infantry. Otherwise, paragraph 26 b applies for the organization of reconnaissance activity.

28. Infantry regiments conduct reconnaissance of the enemy by mounted reconnaissance platoons and infantry detachments. The regimental commander conducts reconnaissance of an enemy defense sector with battalion resources by allocating tasks to the infantry battalions, the regimental artillery, the engineers, and the chemical warfare detachments.

29. Infantry battalions usually dispatch a team of selected reconnaissance specialists forward.

Battalion reconnaissance in daylight usually is performed from covered position at minimum distance.

In darkness the battalion reconnaissance advances for the purpose of taking prisoners for "confirmation purposes."

30. In the cavalry, reconnaissance is performed by security troops and mounted or motorized special reconnaissance detachments.

Mounted and motorized scout squads maintain close contact with the enemy.

Reconnaissance on foot is performed as it is in the infantry.

31. In armored units reconnaissance is performed by security forces and by special reconnaissance detachments.

Security provides reconnaissance by scout squads (usually two armored vehicles). The distance of the scout squads from the main force of the unit does not exceed 2 km. The scout squad is followed immediately by a tank which performs the tasks of a mobile observation post.

The brigade usually advances a reconnaissance company for reconnoitering the enemy; it is often supported by special purpose vehicles and motorized brigade infantry detachments. The armored battalion advances a platoon or scout squad (2-3 armored vehicles).

The reconnaissance company, reinforced by artillery, tanks (1-2 platoons), and motorcycle infantrymen, and supported by observation aircraft, can operate while separated from the bulk of the brigade by 25-35 km.

The company advances scout squads and observers as stated above. The bulk of the company moves at an average speed of 10-15 km/hr. During contact with the enemy reconnaissance troops move under the protection of artillery or artillery-carrying tanks allocated to them, which advance by sections from one camouflaged emplacement to the next.

The motorized infantry detachments, the artillery tanks, and the artillery support the attack by the reconnaissance vehicles by machinegun fire directed at enemy antitank guns.

32. Liaison between the troop commander with the reconnaissance troops is provided by radio (in code), by aircraft, command liaison personnel in armored vehicles, small tanks, motorcycles, automobiles, and on horses.

33. Decisionmaking must be preceded by reconnaissance by staff officers, by reconnaissance staffs, by specialists, and by personal observation of the commander, for the purpose of:

a. obtaining a well-rounded picture to supplement the data obtained by other types of reconnaissance;

b. gaining the clearest possible understanding of the conditions under which the forthcoming engagement will be fought.

Reconnaissance is obtained through observation from observation posts, from aircraft, and from armored vehicles.

34. Reconnaissance through communication equipment provides an opportunity to:

a. determine the location of operating enemy radio transmitters and thereby the location of headquarters and enemy troop dispositions (range finding);

b. intercept operational radio commands and conversations by the enemy which clarify the situation, as well as press information (monitoring);

c. intercept operational telephonically transmitted enemy commands and conversations (tapping into enemy networks, monitoring).

35. Specialized reconnaissance for individual branches and services are arranged for by the superiors concerned.

All enemy information obtained by specialized reconnaissance and observation of the individual branches and services are to be immediately transmitted to the troop commander. The staffs and heads of the individual branches and services are required to exchange particularly significant enemy information among themselves.

2. Security

36. Troops must always be provided with appropriate security.

Depending upon the situation and the combat activities of friendly troops, security is divided into:

- a. march security,
- b. output security,
- c. combat security.

In addition, units of all branches provide for "immediate" security.

37. Security Tasks:

- a. prevent surprise enemy attacks on the ground and from the air;
- b. obscure the disposition of friendly forces;
- c. in a clash with the enemy, gain time for friendly troops to establish their combat readiness.

These tasks are accomplished by troops especially dedicated for security and by reconnaissance troops.

38. Depending upon the situation, members of any branch of the service can be assigned as security troops for a combat team. The security plan is established by the staff of the combat team (or large unit) in accordance with the provisions of Chapters VI-XIII.

39. In assigning security for personnel and materiel strict economy of available resources must be used.

3. Field Air Defense

40. Field air defense includes the following:

- a. the network of outposts for air observation, reporting, and liaison (air spotting and warning service);
- b. antiaircraft artillery, machineguns, and rifles;
- c. protection of troop movement and accommodation areas by fighter aircraft;
- d. systematic attacks on enemy air bases;
- e. deployment field barrage balloons and nets in certain sectors;
- f. careful camouflage and dispersal of march and battle formations.

41. The headquarters of major units and combat teams are in direct command of field air defense; they are responsible also for establishing the air defense plan.

The air defense plan determines the following:

- a. the system of the aircraft spotting and warning service;
- b. the disposition and tasks of the resources of the active air defense (antiaircraft artillery, antiaircraft machineguns, combat aircraft, and troop actions);
- c. special measures for use of the resources of passive air defense (camouflage, dispersed march formation, etc.).

42. The aircraft spotting and warning outposts (equipped with radios) and the spotting and warning squads (two-man mounted or foot patrols, equipped with flares and radio signal equipment), which are detached from the troop units, will form a continuous observation link, in front as well as in the rear and on the flanks, to ensure that not a single aircraft remains undetected.

On the march, aircraft spotting and warning squads (or outposts) are designated by the march security troops, which march together with the march

security forces (front, flank, and rear security). In addition, the units designate, as an uninterrupted observation line (3-5 km to the side of the flanks), supplementary, mobile aircraft spotting and warning squads, and within the column, aircraft spotting and warning posts (in the company, squadron, battery), for direct observation, receipt, and transmittal of signals. The distance between neighboring spotting squads to be no more than 2 km.

During combat the aircraft spotting and warning squads and posts are deployed in front as well as farther back. The most advanced observation line is constituted by the spotting squads of the battalions; in the rear, by those of the regiments, divisions, and corps.

At rest, aircraft spotting and warning squads or posts are furnished by the outpost troops and positioned in the line of the outpost security installations; at the flanks and in the rear, the resting troops position supplementary spotting squads at a distance of up to 5 km from the troops to be secured.

In addition, every major unit has internal aircraft spotting and warning posts which maintain communication with their own aircraft spotting and warning squads and those of their neighbors. The aircraft spotting and warning squads with the security troops are designed by the commanders of the security detachments concerned; the internal posts by the battalion commanders.

The supplementary spotting squads and posts are positioned by direction of the highest commander of the troops to be secured (march columns, major units, combat teams).

43. The aircraft spotting and warning squads and posts form a 360° observation post, four sectors at 90° each.

A light or radio signal from the aircraft warning and spotting squads is immediately repeated by the aircraft spotting and warning post.

Radio signals from the posts are immediately passed on through signals of the troop detachments (voice, siren, whistle, horn, flare) upon direction of the commander concerned.

The same system will be used in offensive as in defensive operations. Aircraft spotting and warning squads or posts have the additional duty of warning the troops upon spotting the appearance of enemy tanks. A special alarm signal is used for this purpose (color of the flare, special sound or radio signal).

44. Radio stations designated for receiving alarm signals, constitute a radio warning network around the clock. Receivers and transmitters of all radio stations are set for a common, specially designated frequency, the warning frequency.

The radio signal is broadcast for 1-2 minutes.

To ensure receiving alarm radio signals broadcast outside receiving range by neighboring divisions, division staffs or special columns will use the following:

a. two radio stations to receive radio signals for air and tank alert broadcast in neighboring sectors or columns; these radio stations receive the neighboring troops' warning frequency and immediately pass the information on their own warning frequency;

b. one or two radio stations for receiving and immediate retransmittal on their own frequency.

45. The signal for aircraft alarm is given only when three or more aircraft are seen.

Radio transmittal of alert signals occurs through previously determined codes. The air alert signal is given only in numerals, whereby the numerals 1,2,3, and 4 signify north, west, south, and east, respectively. Compound numerals signify the following: 12, northwest; 32, southwest; 34, southeast; 14, northeast. The numerals indicate the direction from which the aircraft are approaching. If the letter T (tank) precedes the numerals, this indicates the approach of tanks; the following numerals, the direction from which they are approaching.

46. The entire operational telephone network must also be used for transmitting alert signals from the aircraft spotting and warning posts.

47. Upon receiving the air alert signal, all specialized antiaircraft weapons make themselves ready for action; the other troops do the following:

a. On the march, the movement is continued in opened or dispersed formations, using camouflage. All personnel don gas masks and protective clothing and also put them on the horses.

Every company (or squadron) appoints a special duty detachment which readies heavy machineguns for antiaircraft use.

Air observation is augmented everywhere.

The soldiers of the units' chemical detachments get ready for action and establish chemical observation for quick determination which parts of the terrain and which units have been exposed to chemical warfare agents.

b. In combat all personnel equip themselves and the horses with gas masks and protective covers, without interrupting their combat activity. In every company or squadron, previously designated detachments prepare heavy machineguns for antiaircraft defense.

c. During rest, the protective measures for men and horses and readying of antiaircraft weapons are the same as those on the march and during combat. In addition, the men take cover in previously prepared foxholes.

If the troops are resting in inhabited areas or in forests, arrangements for firefighting are made.

48. In case of air attack, all detachments except those engaged in air defense and chemical warfare defense, quickly use available cover, don gas masks, and cover themselves with protective garments (or, when the latter are not available, with overcoats).

After the end of the air attack the officers quickly reestablish order in their units and continue with the tasks. Some of the physicians and medical technicians remain behind to care for the wounded.

49. In march security, a medium-caliber antiaircraft detachment can, by using "single-layer" fire, cover the march route of a column for up to 18 km; with "two-layer" fire up to 8 km, or two columns, provided they are no farther apart than 4-6 km.

A motorized antiaircraft detachment can cover two march sectors in sequence on 1 day's march--one before and one after the main rest period.

Depending upon the forward movement of the march column, the antiaircraft detachments move either separately parallel to the rear of the advance guard or at the end of the advance guard itself, by moving from position to position by sectors. Cover is provided for batteries separating themselves from the general march column.

One antiaircraft detachment can secure a defile of up to 5 km in width.

During combat and during rest periods, one antiaircraft detachment can secure an area with an 8-11 km diameter with "single-layer fire," 5-7 km with "two-layer" fire.

50. Small caliber antiaircraft artillery is used on the march to cover the main division column. It moves by platoons in a constant state of combat readiness either parallel to or in the intervals between the individual march elements of the column to be secured.

Antiaircraft machineguns move inside the march column or, if possible, parallel to it, always ready to open fire.

Enemy aircraft in low-level flight can be successfully attacked with rifle fire. For this reason, every company must have a duty detachment for firing against aerial targets; it is composed of specially trained sharpshooters using tracer ammunition.

51. In a corps, division or regimental offensive operation, the main mission of the air defense resources is the protection of the main concentration of tanks and artillery.

Efforts must be made to move the positions of the AA batteries as close as possible to the frontline, enabling it to attack enemy attack aircraft and to avoid the necessity for immediate change of position when the attack starts.

AA fire is concentrated in the most probable directions of approach of the enemy attack aircraft.

Leapfrogging forward movement of AA batteries for the purpose of maintaining constant fire is done by echelons, whereby two batteries remain in place while the third occupies a new position.

Protection of the attacking elements from enemy attack aircraft is primarily the responsibility of the regimental AA machineguns. Forward movement of the AA machineguns is done by echelons.

Cavalry fighting dismounted takes measure to protect the lead horses against air attack. It uses special detachments with machineguns. Similar measures are taken for draft horses of the artillery and the combat train.

52. In defensive operations, the most forward batteries of the AA artillery are placed in such a way that their effective range goes beyond the forward edge of the battle area [FEBA] and that they can thus impede the activities of enemy reconnaissance and artillery aircraft.

The firing positions of the AA artillery are established in areas inaccessible to tanks or are protected by armored vehicles.

In selecting emplacements for the AA artillery, distance must be maintained from those of the field artillery so as not to give away its location and become vulnerable to enemy ground fire.

AA machineguns secure the assault forces and artillery emplacements against low-flying aircraft.

Heavy and light machineguns, sharpshooter detachments, and individual sharpshooters are used in support of special AA machineguns.

53. Fighter aircraft providing security for troop accommodations, march and combat or those of the division or the corps attack enemy aircraft in the air, based on information from the field network of the aircraft spotting and warning service. Commanders of fighter units independently decide on operational sorties.

In possession of air reconnaissance information, the commanders of fighter, attack, and light bomber aircraft track enemy aircraft to their bases and destroy them.

54. In railroad transports the troop loading and unloading points as well as the trains in motion are to be protected by air defense.

Air defense of the loading and unloading points is established by the command which orders the transport movement.

Special air defense commanders are appointed at loading and unloading points.

The commanders of the moving troops or units take independent air defense measures in addition.

Should air defense measures still be lacking at loading and unloading points, the troop commanders have the responsibility of deploying the necessary resources, to organize the air defense, and to appoint air defense commanders for the loading and unloading points.

Organization of the air defense of troop trains in motion is the responsibility of the senior officer of the troops or materiel transported (transport commander).

Air defense of troop transports includes the following:

- a. aircraft spotting and warning squads: one on the locomotive (headed by a lieutenant) and one at the end of the train;
- b. telephone communication between the spotting squads, the AA guns, the transport commander and the units on the train;
- c. AA machineguns (special machine guns or others adapted for the purpose): 2-3 on the coal tender, 2-4 on the hindmost platform, and two in the center of the train;
- d. a sharpshooter detachment on alert duty (4-6 squads) to fire on low-flying planes while the train is stopped;
- e. chemical, firefighter, and medical personnel.

While en route the signals for air and gas attack alerts are given by locomotive whistle.

4. Field Gas Defense

55. The basic mission of field gas defense is the direct protection of personnel against chemical warfare agents and the preservation of their ability to perform if the enemy uses chemical weapons.

56. Within the action radius of enemy aircraft the commanders of major units and combat teams arrange for gas defense in all combat situations.

57. The plan for field gas defense is worked out by the staff of the unit or combat team in accordance with the task given by the commander. It consists of the following: chemical reconnaissance, chemical observation, meteorological services, measures for individual and group protection, preparation for decontamination of passages or individual sectors and to counteract chemical attacks on troops and rear area services, and firefighting.

58. In arranging for field gas defense the following is required:

- a. chemical reconnaissance of the terrain, the march routes, and troop accommodations (with particular attention paid to locations suitable for contamination by the enemy). Areas or sectors already contaminated by the enemy are examined for the possibility of detouring or creating decontaminated passages;
- b. to provide chemical warfare personnel as part of the security and reconnaissance detachments to detect contaminated areas and warn the troops. If enemy aircraft appear, the chemical warfare personnel are to observe whether they release chemical warfare agents and if so, to report the location and time;
- c. to distribute the requisite decontamination materiel among the march or combat formations and to arrange for decontamination of contaminated areas or sectors;
- d. to arrange for a stationary and mobile meteorological and chemical observation service. In mechanized units, chemical observation posts, equipped with signaling facilities, are assigned to every company; in motorized troops en route, to every platoon;
- e. arranging for a medical and veterinary emergency service for gas casualties and to issue orders for the movement and installation of shower and decontamination facilities;
- f. taking protective measures against chemical warfare agents affecting materiel, food, and water supplies.

59. The main tasks of chemical reconnaissance are the following:

- a. recognizing signs that the enemy is preparing a chemical attack;
- b. determine the start of a chemical attack; where, and with what chemical agents the enemy has contaminated the terrain; borderlines of affected areas, type and time of contamination, and availability of any detour possibilities;
- c. choice of the most suitable areas and locations for chemical warfare observation posts, decontamination materiel, etc.

60. The alert signal for air attack serves also as the alert signal for a chemical warfare threat.

The chemical warfare alert signal "Gas!" is given by sirens and all communications facilities. It is initiated by the chemical warfare observation posts. Upon initiation of the signal, the troops take the gas defense measures indicated in paragraphs 47 and 48; showering facilities are prepared for washing the contaminated personnel; on the march they are set up down-wind close to the march route and well marked by flags and markers.

61. The following actions are taken after an enemy air attack with persistent chemical agents:

a. individual troop units (battalions, squadrons, artillery detachments) advance quickly so as to depart the contaminated area; commanders use the help of medical and veterinary specialists to quickly determine contaminated personnel and horses;

b. slightly contaminated personnel and horses are treated immediately and remain with the unit; badly poisoned are sent to the battalion shower facilities on orders of the battalion commander;

c. chemical warfare detachments determine the border lines of contaminated areas, mark them clearly, and establish detours;

d. in an advance, the rearward troop units are immediately informed of the presence of a contaminated sector the availability of a detour; chemical warfare personnel remain on duty in the sector concerned to direct traffic;

e. regimental chemical warfare personnel arrange for the opening of passages or decontamination of the sector, if this is necessary.

62. The chemical warfare service uses its own weather observation stations and weather observations by aircraft and artillery for providing meteorological service.

63. During an attack on an enemy on the defensive, it is the main task of the gas defense to guarantee the continuation and the success of the attack during enemy use of chemical warfare agents.

Based on reconnaissance information and his judgment of the situation, the commander of the major unit or combat team gives directions about the following:

a. the number, location, and preparation time for required passages;

b. weapons to be used to neutralize the enemy located in positions near the sectors determined to be contaminated;

c. protective gear to be used by troops which must cross contaminated sectors.

64. The following is required to diminish the effectiveness of a chemical attack by the enemy:

a. all measures to thwart preparations for an enemy chemical attack must be taken by active friendly initiatives (use of chemical warfare agents by friendly artillery, aircraft, etc.);

b. establish a system of gas shelters and auxiliary protective shelters at the frontline and in the rear area (gas-proof gaskets, filters) for troops, staffs, and medical care points; organize communications and provide for relief of the troops if the chemical agents are of long-duration persistence;

c. provide the troops with devices for firing in smoke, arrange for observation on the flanks, and support firing by aerial observation, if the enemy uses smoke;

d. provide the troops with a plan for their combat activity in case of a chemical attack by the enemy.

65. Organizing gas defense for railroad stations and embarking (disembarking) areas in railroad or motor transport requires the following:

a. motor vehicles provided for troop or materiel transport must be equipped with tarpaulin covers; food and animal feed supplies to be transported must be given particularly effective protection;

b. during embarkation and disembarkation the troops are to remain on gas alert; they must be informed on the air and gas alert signals agreed upon as well as on their conduct in case of an alert;

c. shower and decontamination facilities, down-wind, must be far enough from railroad stations or embarkation/disembarkation points that they are not simultaneously endangered if the latter are attacked.

66. The main task of the gas defense in the rear areas is the support of uninterrupted resupply along the resupply route, at disembarkation railroad stations and supply points, as well as the protection of troops and horses of the rear area services against death from chemical warfare agents.

Gas defense of the rear areas is established as follows:

a. at supply points, by division and corps staffs;

b. "road resupply sectors" of the wartime resupply route (bridges, defiles), at disembarkation railroad stations, railroad terminals, staging areas, railroad bridges, information centers, etc., by the head of the wartime resupply route and the heads of the road resupply sectors; gas defense of the most forward camps is the responsibility of the heads of those camps;

c. in rear area facilities, by their commanders.

67. The rear echelons of the troops are responsible for the following:

a. careful protection of food and feed grains from chemical agents;

b. exchange of contaminated clothing and equipment;

c. decontamination of weapons, materiel, and all types of equipment;

d. transport and decontamination of contaminated items.

5. Field Antitank Defense

68. Antitank defense must be provided for by the troops and staffs for all situations. It consists of the following:

- a. an observation and warning system;
- b. appropriate distribution of specialized antitank weapons as well as regimental and division artillery, while on the move, to the march column or in combat or while at rest, according to a well-thought out antitank fire system;
- c. a counterattack with friendly tanks;
- d. special measures to be taken for protection of the troops against an enemy tank attack, using natural and artificial tank barriers.

69. Antitank defense observation and warning is the responsibility of air defense personnel, aviation, and all security and reconnaissance personnel. As soon as these personnel have detected a movement of enemy tanks they give the "Tanks" signal (paragraphs 44 and 45).

70. On the march, the troops do the following upon receiving the "Tanks" signal:

- a. infantry, cavalry, and vehicles quickly move to the closest tank-proof areas (forest, ditches, chasms, inhabited areas, etc.).

Heavy machineguns and sharpshooters occupy well-camouflaged positions close to infantry cover and start firing at the observation slits, as soon as the tanks have approached to within 200 meters.

Grenade throwers occupy covered positions in front of the infantry.

- b. All of the column artillery (except the heaviest) immediately proceeds to the threatened side and prepares for firing. Within the batteries the guns are staggered, making possible a quick shift of fire if tanks come from another direction, as well as mutual support.

71. In combat the defense against tanks must always be ready for action. This requires constant tank observation and continuous combat readiness of the available antitank weapons. The artillery is placed in tank-proof areas whenever possible.

In defensive action, the troops make use of natural and artificial tank-proof areas (woods, inhabited areas with stone buildings, sectors protected by swampy areas, deep cuts, ditches, etc.), and develop a fire system, using the available large-caliber machineguns, antitank guns, and division artillery, in coordination with engineer support installations.

In offensive action and especially in meeting action it is important that the attacking infantry or tanks be followed by antitank guns and that powerful antitank materiel be held in readiness at the open flanks and in reserve.

72. The division artillery reconnaissance battalion (motorized detachments) and division aviation are principally used against enemy tank movements with the task of guiding them after armed contact into difficult tank terrain or into an area which is particularly heavily defended by antitank guns.

The armored troops of the infantry and cavalry units (or divisions) are used to attack the attacking or penetrated enemy tanks. They occupy a camouflaged position, initiate surprise fire against the openly visible moving enemy tanks, and thereafter pursue them.

The army aviation has the task of guiding friendly tanks in finding the most advantageous route toward attacking the enemy.

73. The engineers are used to construct mine and other types of barriers in particularly tank-vulnerable directions of the enemy tank movement.

74. Having repelled the enemy tank attack, the troops are given the signal "Assemble," assume their former position in the march column, and continue the march.

Chapter III. Materiel Support of Combat Operations

1. Rear Area Organization

75. The main mission of rear area organization is the timely and continuous supply of the troops with everything they require for combat and survival.

Materiel supply of the troops is the responsibility of the staff. The staff of a combat team directs the activities of the rear area organization according to the commander's decision through a special staff section and through the chiefs of the individual branches and services. It prescribes troop requirements, the sequence of issuance, resupply, and rearward transportation routes, and prepares for the defense of rear area organizations.

Supply of the troops with everything they need for combat, with household items and special equipment is the responsibility of the chiefs of the individual branches and services--each for his own specialized area.

76. The rear area organization of a combat team consists of special units and installations which conduct resupply and evacuation, and of the area to the rear of the combat team concerned (rear area services, rear area).

The rear areas of the combat teams are delineated as follows: in front by the frontline of the troops, on the flanks by the borderline with the neighboring unit, and in the rear by a rear borderline to the next higher echelon.

The rear areas of the infantry regiments and divisions for the "rear troop area." The corps does not have any rear area facilities of its own. It is supplied by the army supply sector.

77. Average depth of rear areas:

--for regiments, 10-12 km;

--for divisions: for motorized resupply 40-50 km; with horsedrawn resupply 25-30 km (without the regimental area);

--for "road resupply sectors": (extending from the off-loading railroad stations to the rear area of the division): 50-100 km.

Mechanized and cavalry combat teams do not have their own rear areas when engaged within the borderlines of large combat teams; rather, they are supported by the rear areas of those combat teams.

78. The rear area organization of divisions and regiments is directed by the staffs of the regiments and divisions concerned and operated by the regular rear area services and trains of the divisions and regiments.

79. The "road resupply sector" is established for deliveries from the off-loading railroad stations to the troops and for evacuation in the opposite direction, if the distance between off-loading railroad stations from the front is greater than 60 km with use of motorized division resupply columns, and more than 40 km for horsedrawn division resupply columns.

At smaller distances, the troop units receive their supplies by using their own columns direct from the off-loading railheads. If necessary the divisions are reinforced by army resupply columns. The "basic resupply route" is one of the routes of the "road resupply sector" which is equipped with telephone and telegraph facilities and which is used at the duty stations for traffic control.

For operational purposes, the head of the "road resupply sector" is subordinate to the corps commander concerned, for such matters as deciding the direction, quantities, timing, and sequence of resupply.

80. When a "road resupply sector" is established, delivery of supplies from the off-loading railhead to the troops is performed by transport facilities of the road resupply sector and those of the troop units.

If the distance between the front and the rear area organization is 75-100 km, the supplies are delivered direct to the division supply points without transshipment. In that case, the division resupply column either participates in the delivery from the railhead or is retained as a transport reserve and as a mobile supply inventory at the discretion of the division commander.

If the rear area organization is longer than 100 km, a transshipment point (corps issue point) is established, where the freight for the road resupply

sector columns are turned over to the division or brigade depots and resupply columns. Individual echelons of the road resupply sector columns can transport the bulk supplies all the way to the division issue points.

81. The location where bulk supplies are turned over by the army resupply columns to the division resupply columns is called "corps issue point," that where they are turned over to the regimental column "division issue point."

Storing of greater than prescribed quantities of supplies at the issue points is permitted only in exceptional circumstances and by order of the next higher commander.

Issue points are established on instructions from the staffs concerned (corps, division, brigade).

82. The choice of resupply routes, their maintenance and traffic control, their defense and security, communications, and road service, are the responsibility by the head of the road resupply sector in his area, and by the staffs concerned in the rear troop area.

For purposes of concealment, simplification and distribution of movement, separate routes for resupply, and evacuation are established whenever possible.

83. Resupply for mobile units behind enemy lines is accomplished, if roads are available, by truck columns closely protected by tanks.

In cases of complete or sporadic interruption of resupply routes on the ground, resupply of mobile units with fuel and ammunition is accomplished by air in exceptional cases.

If the mobile units are cut off from their rear area services, all sick and wounded remain with their units until such time as they can be evacuated by air or on the ground.

A very important task for the staffs and the heads of the special branches and services is the timely setting aside of necessary inventories of repair, medical, and veterinary supplies at the location intended to serve as an assembly point for mobile units after the completion of their mission.

84. An off-loading railhead is as a rule established for every army or cavalry corps. Mechanized troop units are usually supported by army corps railheads.

2. Resupply Service

85. Broken down by types and special services, the resupply service consists of the following: resupply for artillery, fuel, food and animal feed, armored forces, engineers, communications troops, chemical warfare, aviation, quartermaster materiel, and propaganda materials.

86. Mission of the resupply services:

- a. providing current requirements and field inventories in all resupply branches;
- b. repair of all types of weapons and equipment;
- c. use of locally available resources;
- d. monitor the maintenance and proper use of weapons and equipment.

87. Locally available auxiliary resources in the rear areas of the troops are made available by the inhabitants only through local government officials upon request by the commander.

In occupied enemy territory, local resources are used in accordance with special directives.

3. Medical Services

88. Evacuation of the wounded and medical treatment are provided as follows:

a. by the regiment: by regimental medical services, which establish battalion dressing stations (1-2 km behind the frontline) and a regimental dressing station (3-6 km behind the frontline);

b. by the division (brigade); by the medical battalion, which sets up a division dressing station (8-10 km behind the fighting troops) and clearing stations for slightly wounded personnel (in the general area of the division supply issue points); and by the division field hospital, which is set up at the rear border of the division area;

c. by the corps: by army treatment and evacuation facilities, which are established in the area of the off-loading railheads, in the road resupply sector, and at the corps supply issue points. (Medical evacuation staging areas, forward staging areas, infectious disease hospitals.)

89. Those sick and wounded personnel remain in the troop area who are not transportable or whose suitability for return to field duty can shortly be reestablished by the troop unit medical services.

Moderately sick and wounded are evacuated from the troop area aboard returning deadheading army and division resupply columns; seriously sick and wounded, however, are evacuated in special division ambulances and those of the road supply sector.

4. Manpower Replacement

90. Personnel replacements are sent from their replacement units to the railhead, whence they proceed on the main resupply route of the road resupply sector to the staff of the major troop unit and, upon the latter's orders, on

to their units. They travel in orderly march formations. Their food supply and other care during the march are the responsibility of the route commander's maintenance companies.

5. Rearward Transport of Prisoners of War

91. Prisoners of war are immediately removed from the combat zone and sent to assembly areas via the road resupply sector which is established near the railroad.

On the march, prisoners of war are guarded and fed by personnel and installations of the road commanders.

Officer prisoners and noncommissioned officers are separated from the soldiers and placed in separate accommodations.

On the march the prisoners of war carry their gas masks.

6. Veterinary Services

92. Evacuation and treatment are furnished by the following:

a. at the regiment: by its veterinary services, which install a forward veterinary treatment point (5-8 km behind the frontline), and by the regimental horse dispensary, which is located per direction of the division staff;

b. at the corps: by the corps horse dispensary, which places its component parts at the rear border of the troop area.

Sick and wounded horses which are able to keep up with the troops remain with their units and are not evacuated to the rear.

Evacuated horses are sent to the horse dispensaries led by accompanying personnel; generally walking, in exceptional cases on motor vehicles.

Chapter IV. Political Work in Support of the Combat Activity of the Troops (Moral Support)

93. Political work in support of the combat activity of the troops is designed to reinforce and increase the combat capability of the Red Workers' and Peasants' Army and to closely unite all its soldiers around the party of Lenin and Stalin and the government of the USSR.

Political work is designed to awake in every leader, superior, and soldier of the Red Army the love of his country and his constant readiness to fulfill to the very end his holy duty of defending his socialist fatherland.

Political work is designed to bring out in every soldier, leader, and superior a high level of military discipline, courage and self-sacrifice, combative spirit, initiative and resoluteness, unimpeachable steadfastness in combat, and the immutable readiness to accept any deprivations caused by war.

94. Political work is organized and conducted by political agencies. Every officer and superior must engage in political work.

95. Political workers (i.e., army members engaged in political work, political leaders, commissars), must be in close touch with the soldiers and officers, must concern themselves with their welfare daily and must know the mood, needs, and concerns of the soldiers of their unit.

Political workers are required to serve everywhere and on every occasion as a role model for high political consciousness and alertness, iron military discipline, steadfastness, courage, initiative, and resoluteness.

In combat, political workers should be located wherever there is a need for an example of self-sacrifice and heroism.

96. Political agencies create an uninterrupted active liaison with the staffs and mutual exchange of information about any changes in the military or political situation.

97. The political agencies and political workers have the duty of concerning themselves daily with the maintenance of the rear area organization, with the timely delivery of ammunition, fuel, food and animal feed, with the maintenance of combat equipment, and with timely repair of equipment and vehicles.

98. The political agencies and political workers are responsible for carefully organizing the household requirements of their units and must daily and indefatigably see to satisfying all material needs of the soldiers.

Political workers have the duty to take all necessary measures for timely delivery of food supplies and feeding of the troops and to examine the quality of the food.

When moving into accommodations and during rest periods the political workers must personally examine the quality of the accommodations.

In wintertime, political workers must, if necessary, take measures or examine any frostbite damage upon departure, during the march, and during combat actions.

Political workers should have timely concern for maintenance of footgear, uniforms, and underwear.

The work of quartermaster and food organizations must be under constant observation and inspection by political agencies.

99. The political workers must provide special care for the wounded, gased, and sick, by obtaining from the medical services timely and careful organization of first aid, evacuation, and feeding.

100. The political agencies must see to it that newspapers are delivered to the units without interruption; they concern themselves with speedy delivery

of packages, presents, and letters from home to the soldiers, and see to it that soldiers' letters are dispatched to their homes.

101. Political workers should instigate relaxing recreation activities during rest periods for the officers and soldiers--"Red Army talent show"--shadow plays, accordion players, dancers. They provide uninterrupted functioning of traveling motion picture shows, radios, etc.

102. The political agencies and political workers take all necessary protective measures against espionage and treason.

They indoctrinate the men to be constantly alert, to safeguard military secrets, to recognize enemy agents, and to prevent rumors and panics.

Any political activity must comply with the necessity for strict secrecy in military matters.

103. The political agencies must establish good relationships with the local population and require every Red Army soldier to respect national and ethnic customs of the local population.

104. The political agencies, the political workers, and the military commanders conduct appropriate political activities among the prisoners of war also. In addition, they must see to it that prisoners are quickly removed from the front-lines, that wounded prisoners are quickly provided with medical care, that prisoners are carefully protected from any possible danger due to enemy gas or air attacks, and finally, that they carry their gas masks and that the latter are in good condition.

Chapter V. Principles of Command

105. Troop command in combat encompasses all of the following: careful reconnaissance of the enemy; decisionmaking appropriate to the situation; assigning tasks to the troops and organization of their interaction; timely transmittal of those tasks to the organizations concerned and monitoring their execution; reliable and timely orientation of subordinates and neighbors and situation reports to the superiors; quick reaction to changes in the situation; demonstrating personal initiative; and organization of security, liaison of all types, and the functioning of rear area facilities.

106. Troop activity consists of movement and combat actions.

The march order should facilitate, upon contact with the enemy, the quickest possible development of the optimum deployment and the defense against enemy aviation and mechanized forces.

As a rule the march order consists of one or more march columns of the main forces and of the march security troops which march in advance of any march column.

The battle formation consists of assault and neutralization groups, which are echeloned in depth (in 2-3 lines). The second or third lines provide security for the operational echelon of the battle formation.

Individual commands or combat teams of the groups are not subject to a special command.

If necessary, appropriate reserves are constituted to deal with unforeseen events.

Security for the combat and march orders is provided by all types of security forces and by measures for air, gas, and tank defense.

107. The assault group is intended for operations in the main direction of effort by the offensive battle formation.

The more weapons are available to the assault group to hold down the enemy, the easier becomes the infantry attack and the more secure is its success. That is why the major portion of the weapons available to the troop unit for holding down actions are concentrated in the assault group. Infantry units must be large enough so that, supported by tanks and artillery, it is able to destroy enemy troops in the entire depth of his defensive position. Otherwise, an exaggerated missing of infantry would result in unjustifiable losses.

The width of the offensive front of the assault group depends on the available weapons for holding down, the type of terrain and enemy emplacements, the defensive capability of the enemy, and the system and strength of his fire.

The assault group of an infantry division generally deploys its regiments in one echelon. An infantry regiment attacks in 2 or 3 echelons (battalions of the first, second, or third line).

108. The second (or third, if any) echelons of the assault groups receive their combat assignments together with the first echelon.

The second echelons consolidate gains and support the first echelons on their own, without waiting for supplementary orders. That is why second echelons must advance independently in the main direction of thrust, without lagging behind. Their leaders are responsible for timely and resolute support development for the combat actions of the first echelon. The second echelon faces almost the same difficulties as the first and must therefore not expect to be able to conquer the area as quickly as it would like. Once it has lagged behind, the second echelon becomes as a rule useless until the end of the engagement.

The second echelons establish timely liaison with the appropriate detachments and batteries of the close-combat artillery which supports the first echelon in the line of fire until the second echelon arrives.

First echelon troops are allocated a combat sector, while the following echelons are given directions of effort.

A gain in one of the attack sectors must be consolidated with all available resources. The commanders have the duty of immediately concentrating heavy artillery fire on that sector and to direct the troops of the second (or third) echelon and the reserves to that area without delay so as to exploit the successful action.

The troop commander proceeds in like fashion at the point of main effort if the enemy offers stiff resistance along the entire front.

109. The holding force in an offensive action must hold down enemy troops in a secondary direction and mount secondary attacks to prevent the enemy from consolidating his forces against the assault group.

As a rule, large numbers of personnel and weapons cannot be made available for such secondary attacks. That is why the holding force's combat tasks in the early phase of combat are usually characterized by a front of limited width and depth of attack. Within the framework of such limited objectives, requisite weapons must be made available for the attack. When the enemy battle formation becomes shaky as a result of the main assault, the attack of the holding force should be combined with that of the main force.

110. In defensive operations the holding force is responsible for sufficiently impacting the enemy infantry and tanks prior to their reaching the main front-line as to blunt their capability of attacking. Should enemy infantry and tanks break through the main frontline, the holding force must use continuous fire barriers and diversionary counterattacks to upset the enemy and to create favorable conditions for a counterattack by the assault group.

The assault group in defensive operations uses counterattacks to destroy enemy forces which have broken through the holding forces and reestablishes the former situation.

Under favorable conditions, the effect of a gain achieved by the assault group should transition into a general counterattack against a weakened and confused enemy.

111. Surprise is one of the most important elements of the operation and of successful combat. Modern weapons, which combine extraordinary mobility with great fire and penetration power, enable the troop commander to use quick and surprising movements to bring his troops into a favorable position vis-a-vis the enemy, and to force the latter into combat under for him unfavorable conditions.

Surprise is based on secrecy and speed. It is achieved by quick movement of the troops, concealed assembly, concealed preparation of combined artillery fire, its sudden initiation, and an unexpected assault by the infantry (or cavalry), tanks, and aviation.

Surprise can be achieved also by unexpected use of new types of weapons and new types of combat procedures.

112. Modern neutralization weapons, primarily tanks, artillery, aviation, and mechanized units in large scale use provide the option of simultaneously attacking the entire depth of the enemy battle formation with the objective isolating, encircling, and destroying the enemy.

Encircling the enemy is accomplished as follows:

- a. by envelopment of one or both flanks, for a decisive attack against the flank or rear of his main force;
- b. by a breakthrough by tanks and infantry on personnel carriers into the enemy rear with the objective of cutting off the retreat route of his main force;
- c. by attacks by air, mechanized units and cavalry against retreating enemy columns with the objective of hindering their retreat.

113. Division tank battalions constitute tanks for infantry support (escort tanks).

Tanks allocated to troop units (i.e., tanks supplied by higher headquarters for support beyond organic division tanks), depending on their type, are either subordinated to the infantry as reinforcement for its escort tank groups, or they constitute the "long-range tank group" used for penetration in the depth of the enemy battle formation.

In offensive operations, escort tanks are usually assigned to infantry troop commanders in company or platoon strength.

In defensive operations the tank battalion is usually under the direct command of the division commander for counterattacks or for fighting attacking enemy tanks.

The long-range group is usually subordinate to the corps or division commander, depending on the situation.

As a rule, tanks attack in several waves.

114. Combat disposition of the artillery should provide the best solution for the tasks allocated to the troop unit and be appropriate to the latter's battle formation. To fulfill its combat objectives, the artillery occasionally forms the following groupings:

--a "group for infantry or cavalry support" (artillery close-range group), dedicated to supporting infantry and tanks allocated to it. Close-range artillery groups are constituted from the entire division artillery and any subordinate artillery and support the infantry regiments, mainly the assault group. It is a general rule that the normal artillery organization be maintained. Close-range group detachments and batteries are allocated for the support of certain battalions or companies.

Those elements of the close-range groups which support specific infantry battalions are designated as "close-range subgroups." The commanders of the close-range groups and subgroups in combat comply with the requests of the infantry troop commanders whom they support, even if they are not under their command.

--The "artillery group for long-range effects" (long-range artillery group) is constituted from the corps artillery and its subordinate long-range artillery.

Its tasks include the following: firing at enemy artillery; fire attacks on remote reserves, headquarters, important targets in the rear areas, and road intersections, as well as the elimination of enemy anti-aircraft batteries, especially while friendly aviation is airborne.

--The demolition artillery--consisting of the heaviest pieces--for demolition of enemy strongpoints.

115. The corps commander has the following responsibilities: gives fire orders to the artillery within the range of the corps artillery; personally or through a division commander, initiates support for long-range tank groups by artillery fire; provides air observation resources to the artillery; establishes firing readiness times; gives orders for type and duration of artillery preparation and approves the firing emplacement system of the corps artillery.

The division commander provides for the following: coordination between artillery and tanks and infantry; distributes his division artillery to the close-range artillery groups, while maintaining the option of combined fire; confirms the system of artillery emplacements and the order of position changes during combat; and approves changes in subordinating artillery to infantry commanders during the course of the battle.

The infantry regimental commander distributes the detachments (or batteries) of the close-range groups for support to his battalions; gives fire orders to the artillery; monitors the use and subordination of artillery to the battalions as the battle proceeds in depth; coordinates the functions of artillery with the escort tanks; determines the system for mutual target allocation; and establishes the system of artillery emplacements and the use of regimental artillery.

The battalion commander distributes the artillery allocated (or subordinated) to him to the companies; gives specific fire orders appropriate to the terrain; coordinates the functions of the artillery with the subordinated tanks and the infantry; monitors the forward displacement of the artillery liaison command to the companies; allocates tasks to the battalion and subordinated regimental artillery; and determines the type of mutual target allocation and the liaison between artillery with infantry and tanks.

116. Aviation is used to attack those targets which cannot be destroyed by the fire of infantry, artillery, and other branches.

To achieve optimum combat effectiveness, aviation must attack in great numbers of aircraft and its effects must be consolidated in time and against targets which are of the greatest tactical importance.

As a rule the troop commander gives the mission to the combat pilots for the duration of the entire operation, stating to what extent the operational capability must be used.

Depending on the situation, tasks for specific sorties can then be allocated while the battle is in progress.

The success of cooperation between air forces and ground forces must be secured by reliable technical communications, by establishing personal liaison between the troop commander and the air force commanders.

The choice and preparation of landing strips and airfields, using ground force personnel and materiel, is a daily task of commanders and their staffs at all levels.

117. Combat aircraft have the following tasks:

- a. they prevent the approach of enemy troops to the battlefield and destroy them in the rear area troop assembly or army area;
- b. they serve in direct support of friendly troops by attacking the enemy in various phases of the combat operation;
- c. they disrupt enemy command and liaison by destroying headquarters, transmitting centers, and wires of the telephone and radio network;
- d. they attack landing operations from the air or water (rivers) by destroying them at their initial positions, en route, during debarkation and action on friendly territory;
- e. they disrupt the functioning of rear services, prevent railroad shipments, destroy roads for motor vehicle transport, destroy supplies stored in depots, at railroad stations, etc.;
- f. they destroy enemy aviation at its airfields, destroy depots and air bases;
- g. they participate in the defense against approaching large enemy bomber formation.

118. Fighter aircraft are primarily dedicated to the destruction of all types of enemy aircraft in the air and on the ground.

Their tasks are the following:

- a. they destroy enemy aircraft in the air and on their bases;

- b. they protect friendly troops and immovable objects against enemy air attacks;
- c. they destroy observation and barrage balloons;
- d. they provide cover for the assembly area of flying units, escort the flying units of the combat team as far as their range permits, and accompany them again once they have fulfilled their combat mission;
- e. if required, they provide photo reconnaissance and air support for the artillery.

In exceptional cases fighter aircraft can be used as follows:

- a. to attack ground troops at rest or on the move;
- b. to accomplish reconnaissance tasks for the benefit of ground commanders as well as air commanders.

119. Light bombers are used against the following types of targets:

- a. troop concentrations;
- b. command posts of the ground forces and message centers;
- c. supply depots;
- d. road and rail transports;
- e. enemy aviation on its air bases.

In addition, light bombers can be used for the following tasks: countermeasures against an aerial landing operation and participation in friendly air landing operations.

120. Army aviation is principally dedicated to support ground forces in combat. Its tasks are the following: reconnaissance, monitoring the battlefield, establishing liaison, escorting tanks, and artillery air support.

Liaison aviation has the following tasks:

- a. transmittal of orders to the troops and receipt of reports from the latter;
- b. maintaining liaison between different branches and services;
- c. monitoring the battlefield.

121. Troop unit headquarters control the cooperation between light combat aviation which is subordinate to them or which supports them, and the following: antiaircraft weapons; with the field artillery, which interrupts its fire when friendly aviation flies over the front at low altitude; with the most advanced infantry detachments which, upon orders from their company or battalion commanders, must display air identification signs to identify their positions. Identification signals are prescribed by the corps staff.

122. Proper cooperation between all personnel under all conditions requires exact coordination of offensive and defensive tasks of the infantry with that of the artillery and tanks in the field, particularly at the command level of battalion, artillery detachment, tank company. Sufficient daylight time must be set aside before the start of the operation for planning by the commanders; this will benefit an improved command situation and a shortening of the time required for issuing orders to the corps, division, and regimental staffs.

123. Combat operations are most successful when the commanders of all ranks have been trained to use courageous initiative. Personal initiative is of decisive significance. The art of leadership of the top commander includes the following: clear and exact definition of the task; a correct choice of the point of maximum effort and timely concentration of a sufficient number of neutralization weapons at that point; coordination of cooperative efforts; encouragement and exploitation of any type of personal initiative; support for and exploitation of any partial success.

Any commander having made a decision on his own initiative immediately notifies his superior to that effect, as well as his neighboring units.

124. The troop commander's executive body is the staff of the troop unit concerned.

In combat leadership, the cooperation within that staff and the teamwork between the commander and his chief of staff (or regimental or battalion adjutant) plays a decisive role. The chief of staff must enjoy the commander's complete trust; conversely the chief of staff must unconditionally execute his commander's orders.

The chief of staff directs the work of his staff and adapts the functioning of subordinate staffs to his own in such a way that the transmittal of orders, reports, messages, etc. can proceed with great reliability and exactitude. This exactitude is achieved by the chief of staff through continuous practice and personal monitoring of the activities of his subordinates.

As soon as a situation develops which indicates that combat will shortly take place, the chief of staff examines the readiness of communications facilities at his own level as well as that of subordinate levels and makes all necessary preparations for quick processing and transmittal of commands and orders based on the commander's decision.

Immediately upon issuing the key orders, the chief of staff must personally make certain that these orders have actually reached their addressee. While giving a personal example of reliability and care, the chief of staff must demand punctuality, circumspection, and constant control of his own personnel and of the staffs of subordinate units.

125. In deciding on an offensive, the commander must primarily evaluate the enemy's distribution of forces and the terrain situation as to their advantages and disadvantages for offensive operations.

Once he has gained knowledge of the enemy disposition of forces to the extent possible under the circumstances, and has evaluated the conditions for an offensive in the various sectors as determined by the terrain and enemy field fortifications, he decides on the sequence in which the parts of the enemy battle formation are to be attacked. Of great importance to the decision is the condition of the attacking enemy, e.g., whether he is in good condition and able to resist, or whether he is battle-weary, without willpower, etc. Incomplete reporting of the situation does not excuse the commander from the responsibility for timely decisionmaking. The worst thing one can do is to make no decision at all or to make it too late. A lack of reconnaissance data can force the commander to base his decision about the direction of main effort more on terrain considerations than on the enemy situation. The commander chooses the direction of main effort in such a way that as quickly as possible he comes upon that part of the enemy battle or march formation which he wants to destroy first. This is meant to be the first phase of the enemy's overall defeat.

Once a decision is made, it is executed without deviation.

126. In choosing the point of main effort, the commander must consider the following:

- a. the order of importance of the chosen target to the enemy battle or march formation overall; it is advisable to direct the assault against that part which would make the entire enemy battle formation collapse;
- b. useful terrain features for providing cover for approaching infantry and tanks for artillery fire and observation posts, for uninterrupted combat support and for the opportunity of cutting off the enemy's retreat routes;
- c. whether and where there are difficult obstacles for the attacking tanks in enemy territory.

127. The commander makes the decision to prepare for a defensive operation, carefully evaluating opportunities for using terrain features, placing machine-guns and artillery in a way to ensure reliable coverage of any terrain features favoring the enemy. It is of extreme importance to force the enemy to attack in a terrain situation which hinders a covered approach of his infantry and tanks and which does not provide him with favorable fire and observation posts for his artillery.

Choices of frontline positions and security must not follow a stereotype. Frontlines should run along forward as well as reverse slopes, and the security must give a false impression of the actual location of the frontline. In one sector security might be placed relatively far forward; in another there might not be any. A stereotype distribution of battalions and companies in high places, with lines of separation in low places, must be avoided.

128. In giving his orders, the troop commander must pay particular attention to a clear and exact wording of the general mission for the combat team or major unit; it must indicate the basic idea of the decision, i.e., the main direction

of effort toward attaining the ultimate objective (e.g., to cut off an enemy's retreat route by encircling a flank, to force him onto an obstacle, etc.). The art of command requires a capability for expressing the combat idea clearly, succinctly, and in a few words.

The battle (operational) order is produced by the staff of the combat team or major unit.

Paragraph 1 of the order provides a concise description of the enemy's activity and general disposition of forces (based on the most recent reconnaissance data, without enumerating the latter in detail).

Paragraph 2 provides the mission of neighboring units and the lines of demarcation for their location.

Paragraph 3 describes the overall battle objective of the combat team or troop unit and the tasks deriving therefrom for the subordinate units, indicating the support weapons allocated to them for that purpose, and their lines of demarcation to their left neighboring unit. This paragraph also contains instructions for the artillery, tanks, and chemical warfare troops which have been placed under the direct command of the commander concerned.

Paragraph 4 gives the location of the highest command post and the direction of its movement; this direction indicates at the same time the "axis" of the communications network.

Paragraph 5: supply points.

The order is signed by the commander and the chief of staff of the combat team or major unit.

The mission of the next higher headquarters (in the division order, the corps mission; in the regimental order, the division mission) are not indicated in the order. An orientation about the mission of the next higher headquarters is provided orally or in writing, separate from the order, to a very limited number of people. If it is in writing, the addressee will destroy it immediately upon having read it.

Instructions for reconnaissance, communications, antitank, antiaircraft, and antigas measures are provided in separate directives.

Orders to rear area services are based on the decision and special instructions by the commander and are given by the chief of staff.

Corps, division, and regimental commanders usually give their orders in writing. Battalion commanders normally give oral commands. During combat all commanders can issue direct commands orally or by telephone; however, all orders must be confirmed in writing by the adjutant on duty.

In combat, the chief of staff serves as deputy to the commander.

129. As a supplement to the main battle order--without, however, delaying the issuance of the latter--the corps and division commanders may issue a plan schedule for the attack, which contains the following:

- a. estimated times at which the tanks and infantry will reach certain sectors;
- b. temporary subordination of the artillery to infantry units as the action develops;
- c. the timing for emplacement changes for the artillery based on reaching certain sectors;
- d. signals for cooperative action between tanks, infantry, artillery, and aviation.

The schedule can take the form of a topographic sketch with marginal explanations.

130. Careful command functions require the timely issue of preliminary orders which on the one hand enable the troop units to make preliminary preparations and which on the other hand provide the infantry commanders and their supporting troops with additional time for studying the enemy situation and the approach and combat development area. Preliminary orders to battalions should contain brief instructions concerning the direction of the attack (or, in defensive operations, concerning the defense sector) and concerning the troops which are to support the battalion.

131. Combat orders are given through channels. If a commander considers it necessary to bypass his next subordinate commander when giving a direct order, he immediately informs him of this. A subordinate who has received an order of this type executes it and immediately informs his superior of that fact.

The execution of any combat order must be monitored. The superior checks on the receipt and execution of his order. The subordinate reports to him on all measures he has taken to execute the order he has received.

Verbal orders are immediately repeated loudly to the individual giving the order, and then are executed. If a verbal order is transmitted by a third party, the latter repeats it upon receiving it and upon returning from delivering it.

132. Command in combat is organized and executed by the staff of the combat team or major troop unit.

A well-planned command must provide for the following:

- a. organization of reconnaissance and observation of the enemy;
- b. collection of information and monitoring friendly troop movements;

c. command posts for the commander with observation posts for his personal observation (or by special observers) and auxiliary observation posts for combat or terrain sectors;

d. the organization of the communications services, based on the battle plan and the command relationship; specifically: identifying personnel and communications facilities for the entire depth of the combat; maintaining communications after relocation of the command post and ensuring cooperation between different branches during the individual phases of the action; use of radio facilities, type of transmitting orders while the battle is in progress; use of order receivers, signaling system, means for uninterrupted contact with mobile units operating in the enemy's rear; and uninterrupted communications with friendly rear area services;

e. organization of security and of air, gas, and antitank defense.

133. Command posts are placed only far enough to the rear of the most forward elements of the battle formation to permit the regimental or battalion commander to personally witness the combat of his troops in the main direction of effort from the observation post, and to permit the division and corps commanders quick access to the main battle sector.

To permit observation of the entire battlefield, auxiliary observation posts are installed and manned by staff officers.

134. Communications networks are established as follows: from the superior to the subordinate (from rear to front); between neighboring units from right to left; between major units of different weapons branches from the specialized troops to the infantry (or cavalry); among specialized troops during the execution of a special task upon instructions from the superior commander who coordinates their actions.

Every commander has the obligation of establishing communications with his superior and with his neighbors by any means possible, if such communications have not yet been established or if they have been interrupted.

The stability of communications must be guaranteed by the use of various means of communication in the area concerned.

135. Major use of radio communications, due to the danger of interception and the location of command posts and troop distribution by direction finding, will be made only at the start of the attack and upon progress of the action in depth.

Radio traffic permission or radio silence (total or partial) is ordered by the troop commander.

During an assembly, regrouping, preparation for a breakthrough, in a defensive position prior to enemy attack, radio transmitters are not used as a rule.

In cases where radio communications cannot be substituted for by other methods (e.g., in communication with airborne aircraft, with reconnaissance, for air defense, etc.) the major units will establish special radio receiving and transmitting stations.

Radio transmissions are usually carried out in code, code names, special signals, and decoding devices.

During combat, radio conversations must be conducted according to radio signal charts previously established by the staff, using terrain maps with nicknames, officer code tables, and "conversation tables."

If sufficient time is available, it is recommended that during the preparations for an offensive or defensive operation orientation sketches with new nicknames for various terrain features be developed, to facilitate orientation in the terrain by friendly troops as well as to make enemy interpretation of any intercepted orders or conversations more difficult.

Radio transmission in the clear is permitted for the following:

- a. for artillery fire control;
- b. by airborne pilots for transmittal of combat commands and in case of damage or emergency landings, when there is no time available for the use of code names;
- c. for tank troops, to transmit combat orders within companies, battalions, and brigades during the action;
- d. in communications networks from division level downward if the attack proceeds into the depth of the enemy defense zone;
- e. otherwise only in exceptional cases (attack upon a headquarters; surprise attack by enemy motorized troops).

When transmitting in the clear, unit names, and numbers and command post locations will be referred to by code names previously chosen by division or brigade staffs (e.g., "birch tree," "moon").

Radio transmission of operational orders and of messages concerning command decisions by division, brigades, and higher headquarters is permissible only if no other means of transmission exists, and then, only in code.

Use of radio communications in combat is under the direction of the chief of communications under the control of the chief of staff of the major unit.

136. For purposes of a secure command system, other types of communications delivery must be utilized apart from technical facilities, such as aircraft, motor vehicle, motorcycle, tank, and horse.

The staffs of combat teams and major units are responsible for the availability and readiness for use of mobile means for transmitting orders in sufficient numbers.

It is useful to arrange for the timely availability of personnel for receipt of orders, possibly even officers of the units.

Every superior is obligated to point the way for a receiver of orders and to assist him in his function of transmitting reports and orders.

137. Agreed-upon signals (colored flares and sound signals) are dedicated to the following: to announce the start of a combat action; to lay a general smoke screen; to mark terrain sectors reached; to shift and request artillery fire; and to give a general gas and air attack alarm. A group of flare signals of distinct colors is determined for different purposes.

Apart from the agreed-upon signals, the staff requests, depending upon the situation, the submission of periodic reports from certain combat and terrain sectors, and the dispatch of staff officers to troop units (liaison officers) to transmit orders and to clarify the situation.

138. Reports (to superiors) and notifications (to neighboring units and subordinates) constitute very important references which facilitate the evaluation of the situation and decisionmaking.

The main essential features of any report or notification are accuracy and timeliness. A report must concisely answer the following questions: a. has the enemy been identified or not; b. when; c. where; d. what type of enemy force, in what strength and how organized; e. what is he doing, what has he already done; f. action or proposed action by the reporting official. The source of the information will be stated exactly in the report (personal observation, reports from subordinates, statements by local inhabitants, notifications from neighbors, etc.). Reports and notifications are preferably transmitted in writing. Verbal reports and notifications must be reduced to writing upon receipt. The situation determines the subject and timing of reports; but one should be aware of the fact that it is preferable to make frequent reports than to forget to make them. Reports are obligatory about the following: contact with the enemy or about an absence of the enemy in places where it had been assumed that he would be; about the execution of an order previously received; about surprise enemy attacks. Reports scheduled for submission at a certain time are called "scheduled reports." They include operational reconnaissance and other special reports. Timing and terrain sectors for submitting reports or messages are determined by higher headquarters. The staff of a major unit which renders a report ends with conclusions based on the facts reported upon. Every important message must immediately be submitted to the immediate superior, with a copy to the next higher staff. In addition, reports about the enemy are transmitted direct to units which are threatened by an enemy attack.

139. An operational document should contain the following, apart from a signature and sequence number:

- a. addressee,
- b. time and location where prepared,
- c. scale and year of publication of the map used, and
- d. time of dispatch.

The addressee is designated either by his position or last name (if prudence dictates). The time of preparation is inserted by the person signing the document at the moment he signs.

In writing a document the following must be observed:

- a. Localities and terrain features referred to must be in exact accordance with the map and must not be modified; in using foreign maps, the names of localities must be described in the same alphabet as on the map, with the Russian pronunciation in parentheses; in listing several localities and terrain features, each must be separated by a comma from the others;
- b. if the same locality names recur several times or if points of the terrain are to be designated without names, they are identified with the closest major town or terrain feature shown on the map;
- c. routes are to be identified by a sufficient number of towns and an indication of intersections;
- d. the edges of towns, terrain sectors or wooded areas are to be described according to compass directions, river banks according to the direction of the river flow or the compass directions;
- e. terrain sectors and friendly and enemy troops are listed starting with the friendly right flank;
- f. directional indications are given mainly according to compass directions, rather than "right," "left" etc. The directions "right" and "left" are always understood as facing the enemy.

Chapter VI. The Meeting Engagement

140. The meeting engagement develops directly from the line of march against an oncoming enemy and can occur under the most diverse situation conditions.

Reconnaissance should forewarn of enemy movement and grouping.

141. The meeting engagement is characterized by a rapid deployment of troops from march to battle formation and an immediate attack of the enemy where he is met.

Anticipating the enemy in deployment, opening fire, and shifting to the attack is of decisive importance in a meeting engagement.

Therefore, daring and boldness, seizing the initiative, and decisiveness of actions subduing the enemy are required of commanders at all levels.

142. Upon entering a meeting engagement, no one should expect to understand the situation completely. Reconnaissance data will never be exhaustive and will quickly become outdated with the enemy moving.

Insufficient information about the actual enemy grouping will be normal in a meeting engagement.

He who is slow and marks time waiting for the situation to clear up will himself be reconnoitered by the enemy and lose the initiative.

In a meeting engagement, the decision on the direction of the main thrust sometimes can be made based on the conveniences granted by the terrain for delivering a crushing blow on the enemy.

Striving to split up the enemy columns and destroy him piecemeal through decisive actions of all combat arms, coordinated by target, place, and time, must be the basis of a maneuver in a meeting engagement.

143. The meeting engagement must be conducted for encirclement and destruction with the coordination of all weapons.

This is achieved by:

- a) aviation action against enemy columns;
- b) attacking them in the flank and the rear with mechanized and cavalry units (soyedineniye);
- c) swift deployment and engagement of combined arms units attacking the enemy in the flank and the rear.

Based on reconnaissance data about the enemy, the relative importance of his movement routes and the conveniences granted by the terrain for delivering the main thrust, the commander of a combined arms unit, advancing in march formations on a wide front, makes a decision on the sequence of routing the enemy columns. He aims the thrust of his main columns on the main axis, and on the other axes pins down the enemy and contains his movement with air operations.

An observer is posted from each battery indirect fire position to watch the approaches to the fire position for timely warning of the appearance of tanks.

Each battery fire position must satisfy the requirements for firing at tanks by direct laying from 800 meters. If it does not satisfy these requirements, on the alarm the battery rolls out for firing by direct laying to the protective crest, and in rare instances shifts to special antitank positions on limbers.

When firing on tanks breaking through, it is necessary to avoid hitting one's own infantry.

All long-range and close-support artillery, as well as artillery from adjacent sectors not attacked by tanks participate in repelling the tank attack to the forward edge of the defensive zone.

From the moment the tanks pass the defensive fire zone and come into fire contact with the short-range guns, the main mass of artillery shifts fire to the enemy infantry and the tank close-support guns.

The close-support artillery batteries continue to fight enemy personnel right up to the moment a given battery has to take up the antitank position for self-defense. Immediately upon destroying the tanks in the area of its disposition, the battery again takes up the main position and helps the infantry.

Communications for opening defensive fire must be relayed by light signals, for which observation is organized at the fire position.

It is extremely important to have a mobile reserve of antitank guns at the disposal of the division commander or regiment commanders for their use on the axis of the main enemy tank attack.

144. The enemy should be impacted while still on the march, prior to his entering the meeting engagement. Confusion of the enemy march movement is primarily caused by air action.

Air attacks upon enemy columns serve as preparation for the enemy's defeat through defeats of his individual columns.

Fighter aircraft have maximum impact through the use of machinegun fire, bombing and release of chemical warfare agents; light bombers, through bombing and chemical warfare agents.

Targets for aircraft include enemy personnel, artillery, artillery depots, and columns. Repeated attacks are designed to destroy their combat capability and interrupt their supply from the rear. Enemy artillery is the primary target for neutralization.

145. The organization of the march formation is of particular significance when a meeting engagement is impending. The composition of the march formation should be based on certain operational considerations. However, the march formation should be sufficiently flexible to permit necessary regrouping during the march if new reconnaissance information, for instance, makes this advisable.

146. Mechanized units are used to assault the bulk of that particular enemy column which the higher superior has designated as the primary target for destruction.

Until the decision to enter the engagement is made, the mechanized brigade travels on separate roads or column routes, always prepared for quick deployment.

The mechanized brigade, preceded by reconnaissance aircraft and liaison aircraft, advances and, jointly with the fighter aircraft, attacks the main forces of the enemy infantry or cavalry and artillery.

A meeting engagement makes great demands upon mechanized troops and particularly on their commanders (80-100 km of march overnight and the following combat day).

147. Cavalry units attack the flank and rear of whatever enemy column or group is targeted for the main assault.

The cavalry must not be deployed in directions in which it will meet head-on with strong infantry forces or in which it could be attacked by enemy mechanized troops. The most favorable directions are those which lead into the open enemy flank and which permit quick action and unimpeded movement.

Cavalry is not limited by certain locations for action; in general, it is merely given general operational directions.

In combat with motorized enemy troops the cavalry should give first priority to depriving him of his means of transportation.

148. The infantry division is the largest unit which can still deploy its main forces in a meeting engagement while on the march.

Depending upon the road conditions, a division should advance in 2-3 columns. This type of march is most suitable for quick deployment and assembly in the direction of main effort.

Mobile troops are best kept on the envelopment wing.

If only one road is available for the division, the tanks travel on column routes. If none are available, they leapfrog in the intervals between advance contingent and main contingent and between the advance guard and the main force.

All branches marching in the column are under the command of the column commander.

149. The bulk of the artillery travels where its use could be most advantageous, considering the tasks of the various march columns and the terrain conditions. The artillery must be able to deploy and open fire rapidly; for this reason it is close to the head of the column. The advance guard contains sufficient artillery (including long-range batteries) to enable it to open the way for the advance guard, to attack enemy columns on the march and to support friendly main forces in the battle.

Depending upon the situation, up to 50 percent of the entire artillery can be allocated to the advance guard of the march column. Individual pieces of the regimental artillery are allocated to the advance detachment.

The corps artillery and the artillery reserve of the army command are preferably allocated to the divisions in the direction of main effort; heavy artillery, which remains under the command of the corps artillery commander, marches as a separate column.

By direction of the advance guard commander, the artillery and infantry commanders organize their mutual liaison while still on the march. Battery forward observers for the infantry march with the infantry units which they are to support upon entering the engagement.

The artillery of the main forces precedes the infantry; having received their tasks, the batteries send their liaison personnel to the battalions or companies to be supported.

150. In anticipation of a meeting engagement, the bulk of the engineer troops of the march column are allocated to the advance guard.

The mission of the engineer troops in meeting engagements is the support of the march of the columns (removal of barriers, road repair, and creation of column routes) and, if necessary, the construction of defense sectors and barriers.

151. If the long-range enemy artillery interferes with the march of the column on the road, the commander of the march column orders deployment and continuation of the march as battalion march columns, using concealed roads.

If such concealed roads are available, the march columns are not further deployed.

152. All movements by march columns must proceed under the best possible concealment if a meeting engagement is impending.

Modern smoke screens provide large-scale covered operations, to either remove friendly march columns from air reconnaissance visibility or to give false impressions to the enemy about movements in location where in effect there are none.

153. When a meeting engagement is impending we can always expect attacks by enemy aviation or motomechanized forces.

Antiaircraft, gas defense, and antitank personnel in the march columns must be ready at all times to receive signals and to go into action. Reconnaissance must be increased, especially on the open flanks and in the direction of the probable approach of mechanized enemy troops. The antitank artillery is distributed along the entire march column.

The entire artillery and the tanks should participate in repelling a tank attack, so as to overcome the threat in minimum time and to regain freedom of movement. Attacks by enemy aircraft and tanks must not result in immobilizing the march column.

Maximum effort must be devoted toward making a rapid advance and entering the engagement.

154. An active ground and air reconnaissance should serve to provide timely information about the enemy's direction of march and the composition of his columns.

Air reconnaissance is one of the main types of reconnaissance in meeting engagements. It is recommended that a part of the troop aviation be made available to the divisions for that purpose. Should this be impossible, the corps staff must fulfill the division's requirements for air reconnaissance.

Ground reconnaissance of the division reconnaissance detachment is arranged prior to the start of the march. It must locate the enemy and determine the march direction and the composition of his march columns as well as the time at which they cross certain terrain sectors. Rapid delivery of the reports becomes particularly important; that is why reconnaissance personnel must be equipped with facilities for rapid communication (radio, motorcycles, automobiles). Behind the reconnaissance detachments message centers can be advanced (with automobiles, motorcycles, and radio transmitters). If a permanent telephone network is available, the message centers use it for the transmission of reports, but care must be taken to avoid interception.

The troop cavalry conducts close-range reconnaissance by using individual observation squads within the movement boundaries of the march column and in the open flanks. These cavalry observation squads should traverse the enemy's reconnaissance and security network and take contact with the enemy march columns.

Independent of the deployment of reconnaissance troops by higher headquarters, every march column commander deploys his own reconnaissance personnel in addition.

Reconnaissance personnel of the special services move with the march security forces or with parts of the division reconnaissance detachment.

155. It is most important to get ahead of the enemy in favorable terrain and to occupy important dominating points. Efforts must always be made to secure a desirable terrain feature for deployment and to force the enemy into unfavorable terrain locations.

Of particular importance is the occupation of a sector which provides good observation points for the artillery. The solution of this task is entrusted to the division reconnaissance detachment or specially constituted advance detachments.

An occupied sector must be held pending the arrival of the advance guard. If the enemy was first in occupying a desirable terrain sector, the advance detachments must on their own initiative repel him without being in contact with the advance guard.

156. The advance guard must act in a courageous, independent, and resolute manner and must destroy the enemy advance guard and advance detachments before the enemy main force has a chance to organize itself.

For this purpose the advance guard is reinforced with tanks.

Should the enemy advance guard be unable to organize itself, it must immediately be attacked in its march formation. For this purpose tanks and infantry detachments are deployed sideways from the friendly advance guard; they attack the enemy advance guard column on the flank and in the rear, supported by the quickly deployed artillery. Upon its destruction, the commander of the friendly main force attacks the enemy main force column. However, under certain circumstances it might be desirable to shift attention from the main force of that march column after having destroyed its advance guard, and to assault instead an open flank of a neighboring column.

By virtue of the engagement of the advance guard, a successful deployment of the main force of the march column should be ensured for a speedy and complete annihilation of the enemy main forces.

Aircraft primarily attack the enemy artillery and disable its personnel and horses with machinegun fire, bombs, and chemical agents.

Should the enemy in a meeting engagement make the transition to a defensive operation, the advance guard attacks him from the march formation, destroys his security troops, and reconnoiters the frontline of the defense zone.

157. The artillery of the advance guards immediately takes its position without looking for an advantageous initial position and without waiting for the end results of artillery reconnaissance. Using temporary observation posts, it opens fire on targets which are particularly damaging to the infantry and the tanks. The long-range artillery fires on enemy march columns and artillery, using aircraft observation, to impede the enemy's march and deployment.

Upon receiving the order to fire, an artillery detachment does so with individual batteries within 10 minutes of receiving the order. Necessary measures to regulate artillery direction are taken immediately upon initiation of the engagement.

Protected by artillery fire, the tanks break through the enemy security forces and attack the flank and rear of the enemy advance guard.

The infantry quickly advances its heavy weapons (heavy machineguns and battalion pieces) and opens fire. The battalions advance under cover, make a surprise deployment and proceed to the attack, supported by artillery and heavy machinegun fire while encircling and bypassing the enemy flanks.

The enemy advance guard must be destroyed before it can be supported by the main forces.

158. When a troop commander realizes that the enemy is advancing in an open formation rather than in a march formation, and decides to attack and encircle the densest enemy concentration, he directs his assault force under cover and in a timely manner against the enemy open flank and leads it into the initial position for the attack, using terrain cover.

The front of the enemy formation to be attacked must be tied down by the engagement of the advance guard.

Mechanized and tank troops, as well as cavalry, will be deployed against enemy flanks.

159. In meeting engagements, the quickly changing situation can lead to an interruption of the direct command function of the top commander. For this reason, individual column commanders must show great independence and initiative and must ruthlessly attack the flanks of enemy march columns which are engaged with neighboring friendly units. The intervals between enemy columns must be penetrated recklessly, so as to attack the flank and rear of one while only using cover against the other. The mandatory objective of any commander in a meeting engagement must be complete encirclement and confiscation of enemy materiel.

160. As soon as the enemy starts retreating, relentless and irresistible pursuit commences. Of particular advantage is a "leapfrog" pursuit of the retreating columns, the purpose being to cut off the enemy's retreat routes and to destroy him completely.

All tanks and motorized troops must leap forward for this purpose so that they will be the first to appear on enemy retreat routes. Aircraft attacking retreating enemy columns should disperse them completely.

In pursuit, engineer troops are distributed among the troop units.

161. Command functions in meeting engagements must be particularly lively and mobile. An unequivocal objective must be pursued through concise and clear commands.

The most reliable and effective means of communication, especially at the start of a meeting engagement, are liaison officers, mobile message carriers, and radio.

During impending engagement with the enemy these communications facilities move with the commander or the staff of the column.

Telephone communication facilities and a part of the mobile communication resources accompany those units and detachments for whose liaison they are intended. Communications facilities intended for a command post move with the staff concerned. Radio communications are initiated in accordance with a previously prepared radio communications plan as soon as the advance guard and the main forces deploy.

Chapter VII. Attack

162. Attack against an enemy on the defense can develop from a number of different conditions. The attack can be preceded by a long-distance movement against the enemy defense zone. The attack could also start from a sector in immediate contact with the enemy. It may be directed against an enemy who has made the transition to a defensive posture in a meeting engagement or who discontinues combat in certain sectors and retreats, while offering continuing resistance. The most difficult attack is one which requires simultaneous fording of a stream.

163. The effectiveness of the defense depends upon the terrain, the time which had been available to the enemy for improving and equipping his defense sector, and from the weapons and equipment available to him.

The effectiveness of the defense is great also if only limited time was available for its preparation.

That is why an attack requires a combination of the most powerful personnel and resources and the preparation of an overwhelming superiority in the direction of main effort.

164. In joint operations by all branches and services, offensive operations must have the objective of simultaneously overwhelming the entire depth of the enemy defense.

This can be accomplished as follows:

- a. by air attacks against the reserves and the rear areas of the enemy defenses;
- b. by artillery attacks against the entire depth of the enemy "tactical defense zone";
- c. by tank penetration into the depth of the tactical defense zone;

- d. by infantry penetration, accompanied by escort tanks, into enemy positions;
- e. by advancing mechanized and cavalry units into the far rear areas of the enemy;
- f. by large-scale use of smoke screens to conceal friendly movements and to confuse the enemy in less important sectors.

In this way the enemy is to be tied down, encircled, and destroyed in the entire depth of his position.

165. Reconnaissance of the enemy defense zone will determine the defender's disposition and organization of enemy forces in a timely fashion.

This includes the following:

- a. the defense echelons in depth,
- b. the existence of barrier zones and sector,
- c. location of security troops,
- d. location of the main battle area,
- e. organization of the reserves,
- f. presence of a rear area defense zone, and
- g. location of resupply routes.

Upon the approach of the advance guard and the main force to the enemy defense zone the reconnaissance supplements these data according to plan. It should determine as accurately as possible the enemy battle formation and artillery deployment; it should recognize his open flanks or unoccupied sectors; it should investigate the depth of the defense zone, the composition of defense forces, and the type and solidity of engineer terrain improvements.

Of particular importance is the determination of tank barriers, antitank guns, and the fire system of the enemy infantry.

However, these data will be incomplete unless prisoners are taken.

166. Reconnaissance of mixed combat teams is effected by aircraft, cavalry, reconnaissance detachments, special reconnaissance groups, and by observation, especially by officers. Special services personnel conduct specialized reconnaissance. This includes, artillery, chemical warfare, communications, and engineer reconnaissance. The use of reconnaissance personnel and personal observation is always devoted to a certain purpose: to determine whatever is still unknown and which has not been sufficiently clarified by advance personnel; or to check on the accuracy of reports previously received.

Reconnaissance must be given clear, definite tasks in accordance with its capabilities. Reconnaissance which is spread all over the front without specific objectives in an even and generalized manner is useless.

167. A goal-directed, well-ordered air reconnaissance discovers concealed enemy reserves not only through observation, but also by combat action (bombs

and machinegun fire). Of particular importance is aerial photography of the enemy defense zone. Aerial photographs are duplicated, primarily to place them in possession of long-range tanks, artillery, and the battalions of the main force. Aerial photographs should have a scale of 1:5,000.

168. In front of the defense zone the enemy is likely to install, in a suitable terrain, barrier zones consisting of engineer and chemical warfare obstacles, which are defended by infantry and machinegun detachments.

The mission of the reconnaissance is to determine the location, depth, and type of barriers as well as the personnel strength of defending enemy troops.

The reconnaissance determines the location of detours and noncontaminated areas. Signs are posted and observation posts are established next to contaminated areas, minefields, and electrical obstacles. Wires leading to electric obstacles are cut.

1. Attach While Advancing

169. If the attack develops directly out of the advance against a defending enemy, the advance guard has the following tasks:

- a. removal of barriers and destruction of troops defending them;
- b. destruction of the enemy's combat security;
- c. reconnaissance of the forward line of the enemy defense zone and providing security for battle deployment of the friendly main force.

Strong artillery must be allocated to the advance guards (two detachments per infantry battalion are desirable); also, engineer and chemical warfare troops for the quickest and most effective overwhelming of the barriers.

If the attack front of the advance guards is too broad, the troop commander deploys an infantry battalion, reinforced by other branches, with the same tasks and in the same direction.

Advance guards must act in a courageous, energetic, and fully self-sufficient manner. Enemy security detachments are surrounded. Enemy detachments which have succeeded in retreating to the frontline of their defense zone should be sufficiently battered as to be unable to further participate in the decisive combat action.

Closely pursuing the remains of the enemy security troops, the advance guards attempt, at least partially, to penetrate into the enemy's main battlefield at the same time as the remainder of his retreating forces. It must be noted, however, that the enemy will attempt to conceal the actual frontline of his defense zone by deploying stronger security forces in one sector and smaller ones in another. Only goal-directed action by the advance guards can determine the true location of that line.

170. While the advance guards engage the enemy security forces, the main forces advance under cover within the division attack zone in a manner which will permit them to start the attack in any desired direction (3-4 km away from the forward edge of the enemy position). During that time period all units must secure themselves and be prepared to defend themselves against an enemy counterattack. Air, gas, and tank defense measures are of particular importance here.

If the enemy starts a counterattack beyond the frontline of his defense zone, he should be annihilated in a meeting engagement and attempts should be made to have the main force penetrate the enemy defense zone while he is retreating.

While the advance guards are engaged in combat, the division artillery commander directs reconnaissance activities in the division attack zone, and, upon direction by the division commander, places his artillery under infantry protection into its positions in accordance with previously established attack planning. The artillery must be prepared to support the engagement of the advance guards and to repel a possible enemy counterattack.

171. If the start of the attack has been set for dawn, reconnaissance must be continued through the night so as to determine any regrouping by the enemy, to obtain more solid reconnaissance data about covered approaches and obstacles in front of the enemy defense zone and to take prisoners.

Aircraft determine any enemy movements at night with the use of illuminating flares.

Reconnaissance of all types is conducted along a broad front so as not to give away the location of the direction of main effort.

172. The battle plan, for flank attacks as well as for penetration, should not strive for producing an enemy retreat, but rather an encirclement of his personnel and confiscation of his materiel.

The most important prerequisite for a successful attack is surprise. That is why all preparations must be made in utter secrecy.

173. Open flanks and boundary positions are the most vulnerable points of the defense. Open flanks must always be searched for with the purpose of attacking them immediately, since an open flank is only a temporary occurrence.

Detouring a wing of an enemy defense zone makes it possible to start an attack with a direct assault against artillery positions, headquarters, message centers, and columns. However, an enemy attacked in the flank must at the same time be attacked by detachment on his front.

Envelopment requires speed and audacity, while at the same time fully securing one's own external wing.

Availability of tanks and aircraft facilitates envelopment and makes success more likely.

During the encirclement of an open flank the long-range tank group advances against the enemy's main retreat routes and attacks him in the rear; this action is followed by the main forces.

Mechanized brigades and cavalry divisions are deployed at the external encirclement wing.

The enemy's front is attacked by a part of the troop units.

174. If the defender has no open flanks, the troop commander prepares for a penetration. A joint and coordinated attack by infantry, long-range tanks, and air, supported by artillery, should in this case also lead to the destruction of enemy personnel and confiscation of their materiel.

175. Considerable superiority of "neutralization weapons" must exist in the direction of main effort, as well as superiority in numbers of personnel. The breadth of the front for the main assault is determined by the number of available neutralization weapons, by the terrain, as well as by enemy antitank defenses and engineer-built defense installations.

In attacking an enemy who has hastily prepared his defenses, an infantry battalion of the first echelon of the assault group is supported by an artillery detachment and a tank company or by two artillery detachments. In such a case the width of a battalion attack zone could be up to 600 meters.

If stronger artillery and armor support is available, the attack front can be widened up to 1,000 meters.

The frontal width of the assault group of a nonreinforced infantry division can reach 2,000-2,500 meters; that of a division reinforced with an artillery regiment and a tank battalion, up to 3,000-3,500 meters.

The overall attack zone of a division can double the width of an assault group front.

In the most important battle areas and in especially well defended enemy defense sectors, composite combat teams are primarily reinforced by heavy artillery, tanks, and other resources from the army command reserves.

176. The main mission of the air, gas, and tank defense in attack combat is to provide security for the combat action in the main area of effort. It proceeds in accordance with the directions in Chapter II.

177. Rear area organization and supply services are of decisive importance for the success of the attack. The more neutralization weapons can be concentrated, the more difficult becomes the task of the rear area services.

The organization of uninterrupted ammunition resupply and the security of rear area facilities against enemy aircraft are essential prerequisites for the success of an attack.

178. Engineering support of the attack is of particular significance also. It provides for greater attacking speed for the tanks and the infantry and assists the forward movement of the artillery.

The main tasks of combat engineer support are the following:

- a. Uninterrupted engineer reconnaissance of the terrain and the enemy defense system;
- b. preparation of column routes and roads;
- c. concealment of troop assembly areas;
- d. organizing water supply for the troops;
- e. procurement and preparation of bulk supplies for overcoming obstacles while advancing to the attack (ladders, footbridges, mats);
- f. removal and overcoming of obstacles and barriers;
- g. solidifying occupied terrain sectors and constructing barriers;
- h. construction of routes and bridges for uninterrupted resupply of the troops.

During the attack, a reserve contingent of engineer personnel and equipment should remain under the command of the top commander.

179. During an offensive operation, the communications service must support the command function of the battle along its entire depth, also in particularly difficult and decisive situations (deployment of second-echelon troops, defense against a counterattack, fire operations, encirclement of the enemy).

Communications in offensive operations are organized by main direction and interface connections. The main direction is directed along the line of advance of the command post.

The interface connections connect subordinate units and lead to their command posts.

Of particular significance in an offensive operation are radio communications which make possible the command of mobile forces in the depth of the enemy defense zone. Radio contact, and particularly radio signals, make possible joint operations of different arms and services.

Command aircraft and mechanical communications methods are widely used for transmitting reports and orders beyond the battlefield in supervising combat action in the depth of the enemy area.

The headquarters should always maintain a reserve of communications equipment so as to be able to provide communications even during unanticipated operations in the depth of the defense zone.

The reserve of communications equipment is located near the command post.

180. The corps commander makes his decision to attack on the basis of reports derived from all types of reconnaissance, which have been verified by staff officers in aircraft. The corps order is given before the division advance guards approach the enemy security zone. The order specifies attack zones for the divisions; indications are given on the division sector in which corps troops are to be deployed; and the time for attack readiness is given.

After contact with the enemy forward line of defense is made, the corps commander finalizes his decision, approves the final plan of attack and gives the order to attack.

Divisions which are to envelop an enemy wing are provided with attack zones only up to the enemy wing. Further movement is specified only through a "general direction" and develops thereafter according to the situation.

If only one long-range tank group is available, the corps normally assumes responsibility for its artillery support.

If, however, sufficient tanks are available to form two such groups, artillery support is transferred to the infantry division commanders.

In those cases the divisions are reinforced with additional artillery.

The order to attack must contain the following: duration of artillery preparation; start of the attack by long-range tank groups and starting time for the infantry attack, which is the point in time serving as a base line for all other timing calculations for the offensive operation. Those time periods must be taken into account which are required by the infantry, artillery, and tanks to prepare for joint field action.

The corps commander should have a liaison officer with radio transmitter with the long-range tank group and a staff officer in the air who monitors the battlefield and the activity of the tanks. Division officers stay with the corps commander to receive his orders.

The corps commander and his staff constantly monitor the ammunition resupply in the direction of the main effort.

181. The decisive role of the long-range tanks in penetrating an enemy defense zone in its entire depth requires that the use of the long-range tank group is actually consistent with the situation. The choice of the penetration point and support measures for the long-range tank group are highly dependent upon the strength of enemy antitank fire, upon the presence of any tank obstacles, and on the terrain characteristics.

The long-range tank groups have the tasks of penetrating the rear of the defender's main forces, of destroying his reserves and headquarters, to destroy the main artillery group, and to cut retreat routes for the bulk of the enemy forces.

In the majority of cases it is desirable to place the attack by the long-range tank group in such a way that the infantry and its escort vehicles can exploit the confusion of enemy defensive fire which had been caused by the long-range tanks' penetration of the forward line of the enemy defense zone. Shortening the distance between the waves of long-range tanks and the infantry with its escort vehicles makes it impossible for the enemy to reestablish his fire system quickly enough.

The infantry with its escort vehicles attacks simultaneously along the entire front.

If the forward line of defense runs through a terrain which is difficult of access for tanks, the infantry attack, supported by artillery and escort vehicles, should precede the attack by the long-range tanks. In that case, the infantry occupies the forward line of the defense zone and establishes passages through the tank obstacles. The long-range tank group makes use of the infantry's gains, leapfrogs it, and penetrates into the depth of the defense.

An armored battalion in the long-range tank group, covered in front and on the flanks by artillery fire, usually attacks with shortened intervals and distances between the individual tanks and between the units in several waves. Depending upon terrain characteristics, available artillery and the depth of the battle formation, the width of the armored battalion's attack sector varies between 300 and 1,000 meters.

If the attacking troops envelop an open flank of the defenders, the long-range tank group is sent to the defenders' rear.

182. An air unit which under special circumstances is attached to the corps is used during the ongoing combat to keep advancing reserves away and to attack troops which try to break out of encirclements.

One particularly important task for the aviators is to prevent the enemy from extricating his artillery from the battle.

To enable the pilots to make full use of their opportunities, infantry and tanks should carry clearly recognizable identification markings for identification from the air (but only for friendly aviation).

183. Until the end of the advance guard engagement, the division commander must have sufficient documentation for making his decision. He, therefore, initiates general reconnaissance activities, artillery, and specialized observation already during the fight with enemy security troops.

Actual joint operations on the battlefield are conducted by the commanders of battalions, cavalry regiments, and artillery detachments, who must be given as

much time as possible for this task. That is why in making the decision, care must be taken to provide sufficient time prior to the start of the attack for the work of the division staff, the artillery commander, the regimental staffs, and especially for actual integration of the battalions with the artillery and the tanks in the field.

To produce successful coordination, the latter must be protected during several daylight hours.

The main task of the division commander consists of securing the cooperation of the infantry assault force and the tanks with the close-combat artillery groups. This is the task for which the major part of the attack preparation should be devoted.

The division assault group should contain at least two infantry regiments, both of which are to be in the forefront of the attack. This assault group is supported by the massed division artillery and the entire reinforcement artillery assigned to the division.

If necessary, the division staff establishes a timing schedule for the battle and issues it for immediate use to the infantry, artillery, and tank units.

During the battle the division commander monitors the performance of the artillery groups supporting the infantry and directs the combined fire of his entire artillery toward the crucial battle sectors. Successes attained are consolidated by deploying the reserve, the mobile part of the reconnaissance detachment, and all division weapons not hitherto used.

The division staff must secure its artillery ammunition resupply for crucial moments and monitor the use and condition of the ammunition with great care.

184. In most cases, the commander of an infantry regiment will deploy the battalions of the assault group in two echelons. In narrow attack sectors, three echelons may be formed by the regimental battalions.

The mission of the first and second echelon should be so constituted that at the climax of the battle in the depth of the enemy defense zone the second echelon emerges from the flank of the first one, attacks, and brings about a decision.

The artillery detachments or batteries of the close-combat group are designated for supporting the battalions as required.

The commander of the infantry regiment plays a crucial part in supporting the engagement from the rear with assault troops. He monitors the timely advance of the second echelon battalion, conscious of the fact that if that advance is only slightly retarded this could impede the development of the action and that a lagging second echelon battalion could, under certain circumstances, be completely useless.

The advance of the second regimental echelon must be secured by timely artillery and tank support.

The regimental commander must protect the advance of his assault force against enemy tank attacks. For this purpose he uses the tanks allocated to him, as well as the guns of the regimental and battalion artillery. The latter must follow immediately behind the advancing infantry.

The regimental commander uses his officer observers to monitor the progress of the battle without interruption. He consolidates every partial gain with all resources available, secures the flanks and rear of the advanced detachments and urges the lagging ones forward.

The regimental commander and his staff must, during the entire course of the battle, be constantly concerned about supporting the firefight.

In making his decision and issuing the order, the regimental commander must take care to provide the greatest possible amount of daylight to his battalions, tanks, and artillery detachments for their activities in front of the enemy's forward line of defense.

185. The artillery and the tanks should pave the way for the infantry's advance to bayonet combat and prevent the enemy from looking up and defending himself against the onrushing infantry.

Shrapnel-proof tanks penetrate all the way to the impact zones of the friendly artillery and protect the attacking infantry by eliminating enemy fire sources. In combat against camouflaged enemy antitank guns the tanks should be supported along the entire attack front by artillery fire with high explosive and some smoke-generating ammunition.

In the presence of a sufficient number of escort vehicles, the main task of the close-range artillery consists of neutralizing the enemy antitank defense system.

If there are too few or no tanks at all available, the artillery's main function is to support the infantry. In that case, the tanks merely supplement artillery preparation in certain sectors during the penetration of the enemy defense zone.

186. The artillery has the following tasks:

- a. During the artillery preparation: neutralization of enemy artillery; destruction of identified antitank weapons and firing on probable assembly areas; destruction or neutralization of observation posts and certain fortifications, especially concrete bunkers which are invulnerable to tank attacks; neutralization of the machinegun system in sectors which are not being attacked by tanks or which are not accessible to them;
- b. during the attack by the long-range tanks: fire support for them by elimination or at least significant impairment of enemy antitank defenses; neutralization of recently arrived enemy batteries;

c. during the joint attack of infantry and its escort vehicles: facilitating their advance by neutralizing antitank defenses and machineguns; escorting the infantry with fire and wheels along its entire length of attack until the complete defeat of the enemy.

187. By using at least 30-35 guns per kilometer of attack front (without long-range artillery), and by using two armored battalions per infantry division, artillery preparation can be reduced to 1 and 1/2 hours.

If an insufficient number of tanks are available, artillery preparation can last up to 3 hours; if the enemy defense zone is well dug in, even considerably longer.

Situations can arise (e.g., if surprise is desired or if the enemy position is insufficiently fortified) when a reduction of artillery preparation for a fire attack lasting 10-15 minutes against the forward line of the enemy defense zone is useful, if the attack is strongly supported by tanks and artillery, so that further advances by the tanks can be accompanied by directed barrage fire.

If the artillery is ready to fire in the evening, it is sometimes useful to start artillery preparation during the night and to let tank and infantry attacks commence at dawn. Artillery preparation during the night is directed against presumed tank defense zones, centers of resistance, reserves, and command posts.

The time required for fire support to the long-range tank group is not considered a part of the artillery preparation.

188. Artillery support for the long-range tank group is best conducted by mobile barrage fire against the entire depth of the enemy antitank defense. Sudden fire redeployment is a function of the actual speed of the tanks in the terrain concerned.

Controlled artillery barrage fire provides reliable protection for the tanks, if an artillery detachment is placed every 300-400 meters of width and depth (flank protection).

Apart from the controlled fire barrage, sequential fire consolidations, or a combination of such consolidations with controlled fire barrages can be used.

Such fire consolidations are used when the positions of enemy antitank guns are well recognized. Their organization requires a good deal of preparation time. If on the other hand the system of the enemy antitank defense has been insufficiently reconnoitered, controlled barrage fire is useful.

In any case, the tank attack against the enemy front line of defense must be secured by artillery support. It must not be permitted to occur without it, neither in main force operations, nor in reconnaissance.

In an attack by the long-range tanks against an open enemy flank, artillery support by radial fire must also be furnished, since motorized antitank weapons of the defender could also counter a tank encirclement with a planned defense system.

Having finished its support activity for the long-range tank group, the artillery returns to the support of the infantry and its escort vehicles.

189. Close coordination between escort vehicles and the artillery supporting the infantry usually consists of the close-combat subgroups directing their fire in front of the escort vehicles which support the battalion concerned; specifically, against known or suspected antitank defense areas.

Armored companies which support the battalions concerned, neutralize the defense machinegun system under the protection of the artillery fire.

The commanders of the artillery detachments or batteries agree with the armored company commanders on simple signals to be used for shifting or discontinuing artillery fire.

In addition, the reconnaissance companies or advance observers with infantry companies report on the progress of the tanks, on encountering tank obstacles and on delays encountered.

When the attacking tanks are forced to halt and can no longer escort their infantry troops, the latter continue their attack with direct artillery support. Using its reconnaissance companies and the advanced observers, the entire artillery must at all times be prepared to provide direct support to the infantry units depending upon it. Liaison between infantry and artillery must under no circumstances be interrupted, not for 1 minute, not even while massive support to the tanks is in progress.

190. Regimental and battalion artillery, especially mine launchers, heavy and light machineguns, must support the tank attack in every possible way.

From the regimental and battalion artillery inventory, certain tank escort weapons are made available for the tank's breakthrough of the enemy forward line of defense. Their task is to combat the enemy antitank guns in sectors specifically allocated to each gun.

The gun commander of such a weapon must be familiar with the battle plan and the tasks of the tanks.

During the attack in the depth of the defense zone the guns of the regimental and battalion artillery will advance within the infantry's battle formation and support the infantry and tanks with their fire.

Direct support to the tanks can be provided by some of the mobile guns which in sudden moves occupy concealed positions and neutralize enemy antitank guns.

The arrival of new enemy antitank weapons must be quickly spotted by air observers and immediately reported to the attacking troops.

191. The escort vehicles will escort the infantry attack directly and clear the way for its advance.

If two echelons of escort vehicles are available, the first one can be used to attack the enemy's heavy machineguns deployed in the depth of the defense zone.

The commanders of the escort vehicle units and of individual vehicles must constantly adhere to the target allocations by the infantry troop commanders and neutralize those fire sources which impede the infantry's advance at that particular moment.

Target allocation by infantry troop commanders is particularly important. In compliance with it, individual tanks must in turn advance, turn back or move sideways.

The lowest unit of armored formations is the tank platoon. It can either be subordinated or be given the task of supporting the infantry. Even in the latter case it has the obligation of complying with the combat requests of the infantry troop commander.

192. The use of chemical warfare agents in the attack, if used in considerable quantities, can do considerable damage to the enemy. The use of various types of persistent and nonpersistent agents, of irritants or toxic smoke is ordered by the commander in chief.

During preparations for the attack, the use of persistent field agents is recommended to cause enemy attrition.

Under favorable wind conditions and particularly during darkness, toxic smoke and gas clouds can be used during preparations for the attack to hamper the enemy.

Aircraft drop aerial gas bombs against particularly important defense installations and against enemy personnel.

Chemical warfare personnel are used during the attack to conceal the attack forces with smokescreens and to decontaminate the terrain.

193. The approach by the infantry battalions takes place along concealed routes to preserve surprise, protected by artillery fire, to as close as possible to the enemy frontline.

The approach takes place in daylight if the attack is to take place that same day; at night, if it is not to take place until the following day.

The development of a battalion from cover starts as soon as the artillery has taken its positions, the entire artillery observation and reporting system

is ready and the guns are ready to fire. It is best to start development after the artillery has commenced firing.

The battalion commander, together with the commanders of the companies, the support artillery and the tanks, personally reconnoiters his attack sector, protected by an advanced security detachment.

The battalion commander plays a crucial part in the coordination between infantry, artillery, and tanks in the attack.

The order for the battalion to attack is given only after the completion of personal reconnaissance and clarification of all problems of coordination with artillery and tanks in the field.

194. Once the battle formation is deployed, the infantry, protected by artillery, mine launcher, and heavy machinegun fire, attempts to quickly reach a sector by leaping and crawling from cover to cover, from which it can conduct a bayonet charge against the enemy at a predetermined time.

Infantry soldiers must carry sufficient rifle ammunition for combat in the depth of the enemy zone.

195. During the attack the gas mask is carried at the ready, the protective cape carried in the pocket. In case of enemy air attack the soldiers don the gas mask and capes and continue their combat activities.

Certain designated detachments open fire on the enemy aircraft.

Soldiers who have been injured by aerial gas attacks or by entering contaminated areas, use their gas protection kits.

The gas protection service (reconnaissance and designation of contaminated areas, preliminary decontamination, collection and disposal of contaminated material) is performed by appropriate officers of the chemical warfare service (division gas officers, etc.) with the assistance of regimental gas squads and division decontamination troops.

196. The signal for the infantry assault is usually the penetration of the escort tanks into the forward enemy defense zone. When this occurs, the infantry officers lead their personnel to the assault on their own initiative.

If tanks are not available, the assault commences upon the signal of the battalion commander (flare) or of the company commanders, as soon as the artillery has shifted its fire forward into the depth of the enemy defense zone at the time designated for the breakthrough.

197. After penetration of the enemy forward line of defense, the control of the heavy machineguns, mine launchers, and the other battalion neutralization weapons is as a rule possible only as part of the infantry companies. For this reason, the battalion commander subordinates these weapons to the infantry companies long enough in advance.

Successful penetration throughout the depth of the enemy zone, from the front as well as from the flanks, primarily depends upon the activity, resourcefulness, courage, and the resolute action of battalion commanders, company, platoon, and squad leaders as well as that of the individual soldiers.

The regimental commander impacts upon the progress of the combat action by timely deployment of the second echelon of the assault group as well as by supplemental orders to the support artillery and the tanks.

The second echelon troops should, on the basis of tasks previously given to them, enter the attack sector in a timely and independent fashion and should bring about victory by courageously attacking the enemy's flank and rear, even if they have received no further orders while the battle is in progress.

198. Any breach cut into the enemy defense must immediately be exploited to further the penetration into the depth of the enemy. Commanders at all levels are obligated to penetrate through every breach, regardless of whether this leads them into a new direction different from the previous one. Attacks even by small groups against the flanks and rear of still resisting enemy formations can determine the outcome of the battle. During combat action in the depth zone, hesitation, waiting for orders or consideration of the neighbor are extremely dangerous. Courage and reckless advance confuse the defense and impact on the enemy's power to resist. It is up to higher command levels to support individual units which have penetrated and to exploit their success.

199. If tanks come to a standstill, this must not stop the forward movement of the infantry. If the tanks are stopped by any type of obstacle, the infantry commanders continue the attack without a moment's hesitation. For this, they must have continuous close liaison with the artillery liaison commands.

To provide effective support for infantry and tanks in the depth of the enemy defense zone, the batteries sequentially shift their observation posts and fire positions forward according to prearranged plans and come under the command of the infantry commander.

Previously agreed upon colored flare signals are used by the infantry for uninterrupted coordination of infantry and artillery during combat in the depth of the enemy zone. Division aircraft can also be used for this purpose, to determine the forward line of the infantry detachments in the depth zone. The infantry informs the pilots of their position by displaying signal panels.

200. Enemy counterattacks must be faced with consolidated fire from artillery and infantry weapons.

The enemy who undertakes a counterattack, should then immediately be attacked by infantry and tanks and be destroyed in a meeting assault. The tanks are to play a decisive role in this. An enemy counterattack, whether supported by tanks or conducted by tanks only, must face the tanks of the attacking troops and the regimental and battalion artillery guns. The latter always advance with the infantry battle formation.

201. The battle formation of the infantry and the tanks must roll over the entire depth of the defense zone until the enemy is totally defeated and his artillery captured in its positions.

The infantry occupies the defense zone without relief. The second echelon does not provide relief, but rather reinforces the first and contributes to the attack capability from the rear.

The long-range tank group and escort vehicle groups continue their combat actions until the total destruction of the enemy. They should avoid meeting in assembly areas inside the enemy defense zone.

202. If mechanized and cavalry units are moved forward through a breach, the attacking troops are responsible for providing full security for crossing the breakthrough front.

This is a task for the higher echelons of command (corps and division). Their responsibilities are the following:

- a. immediately to dispatch predesignated advance detachments through the new breach for the purpose of occupying important points, passes, and passages;
- b. without delay to extend the attack against the opened flanks and rear for the purpose of widening the penetration front;
- c. to use artillery fire to neutralize fire sources of the defense in the flanks of the breach;
- d. to prepare for closing off the penetration sector in the flanks with separating smoke curtains;
- e. to use aircraft against enemy reserves rushing toward the penetration point;
- f. to direct long-range artillery fire against known long-distance targets in the depth of the penetration;
- g. to initiate necessary action to repair all destroyed roads and bridges in the area of the penetration.

203. After the annihilation of the enemy in the defense zone, relentless pursuit of troops which have escaped from the encirclement and confiscation of rear area installation and transport vehicles of the enemy must commence immediately.

Reconnaissance of all types must establish the following:

- a. in what strength and on what routes the enemy is retreating;
- b. in what sectors and in what strength his rear guards are offering resistance;

c. how the enemy is reorganizing during his retreat (bringing up reserves, retreat direction of the columns, preparation of defense sectors, and their staffing).

Enemy forces which have escaped encirclement can be destroyed only through relentless pursuit. This is performed independently by tank and infantry troops as soon as a retreat by part of the enemy forces becomes evident. Pursuit occurs using all available forces, with full discretion of their commanders as to their actions. During pursuit, it is forbidden to wait for lagging neighbors to catch up. Even the smallest infantry or tank detachment can administer the final blow to the enemy by courageous action.

204. The commander of a combat team directs the pursuit by quickly advancing available personnel and weapons to cut off the enemy's retreat routes as quickly as possible.

To retain steady pressure on the enemy flanks, the pursuit is conducted along a wide front. The commanders of the pursuit forces protect their flanks against surprise enemy advances through security and reconnaissance.

Mechanized units which penetrate between the retreating enemy troops attack them from the rear and cut off their retreat routes.

Pursuit and light bomber aircraft attack retreating enemy columns, especially in crossings and defiles. The use of persistent chemical warfare agents during pursuit occurs only far to the rear of the enemy along his retreat routes.

Fighter aircraft are used depending on the situation to provide security for the pursuit and light bomber aircraft activity and to protect the pursuit columns against enemy air attack.

Chemical warfare and engineer detachments must accompany the advance guards and the head of the pursuit troops. Decontamination supplies must be brought forward. Any contaminated areas or defiles encountered should be circumvented if possible.

From the start of the pursuit action the repair and rehabilitation of roads in the occupied territory commences immediately.

As the pursuit progresses, the troop commander forms second echelons, reinforces them with artillery and moves them to the point of maximum effort, possibly to deal with reserves arriving from the rear.

205. Only the high command is authorized to discontinue pursuit, taking into consideration the combat capability of the troop units and the condition of their weapons, the general supply situation and possible reports of encounters with new enemy forces. Until he receives the order to break off pursuit, every commander must devote all forces at his command to strive for the enemy's final defeat.

2. Attack From a Terrain Sector Adjacent to the Enemy

206. Attack from a terrain sector adjacent to the enemy permits more detailed reconnaissance of the defense zone, the location of the forward line of defense, of the fire and barrier system, of the artillery disposition, the reserves, and the boundary positions of the enemy battle formation. Reports on the enemy organization are usually checked against photographs in a systematic manner. Ground reconnaissance proceeds without interruption, primarily through night-time forays, so as to get greater detail on the enemy disposition of forces, to locate the boundary positions, and to take prisoners for verification.

Reconnaissance of the forward line of defense proceeds according to Section 26, paragraph b.

207. Keeping the preparations secret is one of the main prerequisites for success. That is the reason why the entire preparation for the attack and the assault by units which are already in immediate contact with the enemy is conducted by officer reconnaissance for the newly arrived commands and forces which are to go into the attack. The troop formations and the special force detachments arriving as reinforcements deploy after prior officer reconnaissance and occupy the departure position for the attack or assault during the night prior to the attack.

208. Reinforcing artillery is conducted under concealment into the areas intended for it, where it is protected from direct enemy impact. Officer reconnaissance provides for timely preparation of firing emplacements and all firing reference materials (firing tables, planning schedules, etc.). Occupation of firing position and their preparation usually occurs at night, observing all opportunities for concealment. Observation posts are designated and occupied immediately upon receipt of the combat tasks.

209. Tanks or mechanized formations which are brought in for reinforcement assemble in assembly areas located at distances which protect them from artillery fire and aerial observation. Reconnaissance of march routes, initial positions and the attack sector, as well as the preparation for cooperation with artillery and infantry occurs ahead of time by officer reconnaissance. March routes and initial positions are prepared by the engineers. The tanks occupy their departure positions for the attack or assault at night, immediately prior to the start of the attack or assault. During the assembly of the tanks and mechanized artillery measures are taken to soften the noise thus generated. The main air force task is the prevention of enemy air reconnaissance above the assembly area.

210. Beyond that, attack from a terrain sector in direct contact with the enemy proceeds in accordance with Chapter VII, Part 1 (Attack While Advancing).

211. If the enemy still has a rear defense position, the plan for its elimination is worked out together with the plan of attack against the first defense zone. Aircraft must observe the moment when the occupation of the rear area position by enemy reserves starts, and must attack them upon arrival.

Long-range artillery hinders the enemy in occupying the rear position according to plan by artillery fire with air observation.

3. Attack of Fortified Areas

212. In modern war there will be occasions when the attacker must occupy not only individual fortified areas, but entire zones containing extremely strong permanent steel-reinforced concrete fortifications.

The method of taking fortified areas and zones depends upon the extent of their fortress-like installations, the number and strength of their armament and their dimensions in length and width.

The artillery content of the attacking formations is increased. Heavy caliber artillery, medium and heavy tanks, bombers, and engineer troops are brought forward. Careful ground and air reconnaissance is conducted.

Special regulations apply to attacks against fortified areas and zones.

4. Attack Hindered by Water Obstacles

213. The most advantageous locations for river crossings are:

- a. bends toward the attacker, which permit flank and cross fire against the enemy and which favor concealment of the crossing troops;
- b. a river bank with a commanding height, providing good observation of the depth of the enemy formation and concealed approach routes;
- c. river segments with shallows, islands, suitable places for bridging, and favorable bottoms.

214. The following is required for a successful crossing:

- a. surprise crossing, secrecy, and complete concealment of the preparations;
- b. several simultaneous crossings, if possible;
- c. deceiving the enemy through pretended crossings;
- d. careful preparation of ferrying and availability of adequate ferrying materiel;
- e. allocation of destructive weaponry to the crossing troops sufficient to neutralize enemy arms on the enemy shore;
- f. well-prepared air cover for the crossing.

215. The following must precede an attack across a water obstacle:

- a. timely reconnaissance of the river and the adjoining terrain;
- b. clean advanced enemy units out of the friendly shore area;
- c. bring on and prepare all crossing materiel at the crossing point (unobserved by the enemy; at night, if possible);
- d. develop a crossing plan.

216. Preliminary reconnaissance of a possible crossing point occurs on the basis of aerial photographs, geographic descriptions, map study, and statements by local inhabitants. However, none of these measures are a substitute for staff officer reconnaissance and special engineer reconnaissance at the water obstacle itself. First of all the friendly shore must be rid of enemy troops and reconnaissance personnel and, if contaminated by the enemy, it must be decontaminated.

All other troop branches conduct their own reconnaissance along with the general and special engineer reconnaissance.

217. It is desirable to have at least two or three crossing points per division sector; however, the mutual cooperation of the crossing troops must be ensured. The main condition for deciding on the number of crossing points is the availability of adequate artillery and crossing materiel. The commander of the force or formation which crosses at the point concerned is the director of the crossing. All engineer, artillery, and other arms are placed under his control.

The commander of the engineer detachment serves as the technical director of the crossing. The commander of the engineer unit which provides the crossing becomes the commander of the crossing point.

218. The plan for combat action on the far shore is based on the execution of the crossing.

The ferrying plan is worked out by the staff of the formation, with the help of the artillery commander, the chief engineer, and the reconnaissance personnel.

This plan should take the following into account:

- a. the composition and the armament of the troops to be ferried across;
- b. capacity of the ferries per crossing;
- c. the time required for each trip;
- d. the distance between terrain sectors which are to be occupied on the enemy shore to secure light bridge deployment and bridge construction for all troop branches;

- e. the time required for each such bridge deployment;
- f. crossing of amphibious combat vehicles;
- g. use of shallows.

The crossing plan is communicated to all crossing troops in a schedule, which contains the following:

- a. distribution of troops and ferries among the crossing points;
- b. sequence of ferrying the troops by echelons, and their landing locations;
- c. time spent on ferrying each echelon.

219. Special surprise can be obtained for crossings by conducting them under cover of darkness.

Using the cover of darkness, well-armed infantry detachments cross the river quickly on light ferries and occupy the most advanced of the enemy fire sources. They are immediately followed by composite detachments of all branches. The division artillery interdicts the area occupied in the night attack by barrage fire.

220. If the crossing takes place in daylight, the artillery preparation becomes particularly important. It is conducted in accordance with the general principles of offensive combat. The neutralization of enemy artillery, observation posts, and the fire sources which directly dominate the crossing points becomes particularly important here. All heavy infantry weapons should also participate in the preparation for the crossing: machineguns, regimental, and battalion guns, which are brought to the shore for this purpose. In coordination with the advance of the troops which have crossed over, the artillery supports the advance by the infantry and its supporting tanks on the enemy shore almost to the location of the enemy artillery.

221. Protected by the artillery preparation, the first to cross in the water are the amphibious combat vehicles and advance infantry detachments, on light ferries, to the far shore. It is their task to neutralize those advanced enemy fire sources which the artillery has missed.

Immediately thereafter, the first echelon (advance guard) crosses on a sufficiently broad front and occupies a bridgehead to secure the crossing area against enemy machinegun fire and artillery observation.

Tanks, regimental, and battalion artillery as well as the forward A.V. Ko [expansion unknown] furnished by the division and subordinate artillery are ferried over with the first echelon.

Protected by the first echelon, the main forces then cross immediately and on the enemy shore start without delay the attack prescribed by the command decision.

The artillery is ferried over in echelons together with the main force in such a way that its bulk can uninterruptedly support the crossing and the combat action on the far shore with its fire. Horses will as a rule swim across. Artillery parts which have been ferried over are under the command of the infantry commanders.

Pontoon bridge construction starts after occupation of the far shore by the first echelon.

222. Air cover is of particular importance for crossings.

The crossing area must be effectively protected by antiaircraft artillery and machineguns, and by smokescreens against pinpointing of the crossing points. However, these smokescreens must not give away the location of the crossing points; it is therefore useful to put them up at dummy crossing points.

Some of the antiaircraft machineguns cross to the far shore even prior to bridge deployment.

Fighter planes protect the bridges and the troops crossing over them.

Fighter bombers attack enemy artillery and advancing reserves.

223. There are cases (during pursuit, lacking enemy alertness, quick enemy defensive maneuvers), in which the river can be crossed immediately upon being reached. First of all, bridges must be occupied which the enemy had no time to destroy; small infantry detachments immediately cross the river on their own or other encountered boats at various points and at a wide front; the artillery interdicts the crossing points with its fire and neutralizes the enemy artillery; the regimental and battalion guns destroy enemy fire sources by direct fire from the shore.

Success is attained primarily by a reckless forward charge of the troops which have crossed over, and a courageous assault on the flanks and the rear of the defender.

Chapter VIII. Defense

224. Defense has the following objectives:

- a. preservation of forces on a wide front for the benefit of the attack in the crucial direction;
- b. gaining time for preparing the forces for the attack;
- c. gaining time in less important sectors until the attack in the crucial sector has succeeded;
- d. retain possession of a zone (of areas, terrain sectors, and roads);

e. attrition of the attacking enemy pending the transition of friendly forces to the attack.

The strong point of defense lies in the optimum exploitation of firepower, terrain, engineer troops, and chemical defense agents.

A defense which is combined with a quasi-attacking advance or which is followed by an attack, particularly into the flank of a weakened adversary can lead to total victory over the latter.

225. Under modern conditions a defense must withstand superior forces which attack the entire depth of the defense position with a single assault; i.e., it must be constructed in such a way that while destroying the infantry advancing toward the frontline of the defense;

- a. the enemy does not penetrate the depth of the defense with his tanks;
- b. in case of a tank penetration, the latter be destroyed by the antitank defenses, with the idea of separating the infantry advancing along with them and to hold it down by fire from concealed machinegun and rifle fire;
- c. tanks which have already penetrated into the depth of the defense be destroyed by artillery fire and a tank counterattack;
- d. infantry which has penetrated into the depth of the defense along with the tanks be dispersed by fire and destroyed by counterattacks.

226. Modern defense is primarily an antitank defense, consisting of a fire system of the troop and antitank artillery in conjunction with a system of natural and artificial tank obstacles, quickly establish mine fields and other artificial barriers.

The courage of the defenders, good use of the terrain in conjunction with a crossfire from the rifle and machinegun infantry men, with some of the machineguns positioned in "antitank defense areas," create the prerequisites for certain destruction of the attacking infantry and its separation from its escort tanks.

Depending on the development and the improvements of the defense zone, the following must be provided for the defenders:

- a. engineer emplacements for protection against machinegun and artillery fire;
- b. gas protection facilities.

227. A defense area which is being prepared without enemy impact or during the course of a retreat, usually consists of the following:

- a. an engineer-constructed or chemical barrier zone in front of the real defense zone, which is defended by small forward infantry detachments with artillery. The distance between the forward edge of the barrier zone from

the frontline of the defense can be up to 12 km, depending on terrain conditions;

- b. direct combat support (combat advance guard) and individual reinforced strongpoints about 1-3 km in front of the main frontline;
- c. the main defense zone (main battlefield), including the division assault groups (division reserve);
- d. the rear area defense zone, 12-15 km behind the main battlefield.

228. Establishment of the engineer and chemical barrier zone and the forward displacement of detachments for its defense proceeds upon order from the infantry division and corps commanders.

The position of the barrier zones is designed to mislead the enemy about the location of the main frontline; thus the barrier zones should not run parallel to the front of the defense sector.

The advanced detachments, together with the support groups, should by evading cause the enemy to approach the main battlefield at an angle.

229. The major troop units occupy the following areas in defense: an army corps and an infantry division, a defense zone; an infantry regiment; a sector consisting of battalion areas.

An infantry division defends a zone with a front width of 8-12 km and a depth of 4-6 km; a regiment, a sector with a 3-5 km front width, and 2.5-3 km depth; a battalion an area with 1.5-2.5 km front width and 1.5 km depth. The borderlines of the first-line battalion areas coincide.

These standards are subject to change, becoming larger or smaller depending on the mission, the terrain, and the availability of antitank weapons.

The enemy should be misled concerning the location of the main frontline, the distribution of forces, the antitank defense areas, and the depth of the defense. The following is necessary for this:

- a. the main frontline must be placed upon the front or rear inclines of elevations, while avoiding any significant terrain features or stereotypes;
- b. in some sectors, especially in those where the situation favors enemy attacks, to arrange security measures in such a way that a dummy frontline is created for the purpose of subjecting the enemy who has broken through to a crossfire;
- c. to choose a frontline in front of which there are few opportunities for covered approach, few fire and observation posts for the artillery and no terrain sectors for a concealed development of the infantry and tanks;

- d. to place the frontline into a terrain sector which has the greatest possible number of natural tank obstacles and which favors the installation of artificial ones;
- e. not to make the defense zone equally deep everywhere;
- f. to construct dummy defense installations and obstacles;
- g. to camouflage all activities carefully;
- h. not to deploy the troops as sharply limited islands on highly visible terrain sectors and points, but rather to construct dummy trenches.

230. The frontline, the assault group areas, and the artillery emplacements are chosen with consideration given to antitank defense (terrain sectors and areas which are inaccessible to tanks, flank fire positions, etc.).

Within the main battlefield area "antitank areas" are created, which are occupied by assault troops and which provide cover for artillery emplacements and command posts.

The antitank areas should, as far as possible, be effective in a complete circle and the corridors between them should lie in the zone of direct fire of the antitank guns.

The antitank artillery of the frontline is protected by tank obstacles; in the depth of the zone it is deployed in the antitank areas. A part of the antitank guns is of necessity deployed behind slopes facing away from the enemy and other cover.

Trenches, minefields, and other obstacles should lie below the fire of antitank guns which are concealed from forward enemy observation.

The main antitank areas are designated by the division commander; supplementary areas can be so designated by regimental commanders.

231. Infantry and antitank artillery should be distributed in the main battlefield area in a way which makes it more difficult for the enemy artillery to recognize battalion and company positions, and for enemy tanks to recognize natural and artificial obstacles.

The strength of the infantry in defense lies in withering close range fire against enemy infantry. To retain their arms until the decisive moment, riflemen and light machinegunners must not give away the location of their positions too soon. Prematurely discovered small arms of the infantry can be destroyed by enemy artillery fire. For this reason, long-range firefights are conducted only by heavy machineguns from the depth of the main battlefield area.

Spread out in front width and depth, the infantry should be deployed on slopes which both face and face away from the enemy. The infantry's best means of defense is the crossfire from fire sources in the frontline, supported by second echelon infantry fire.

To separate the enemy infantry from its tanks, camouflaged concealed machine-guns are deployed in the antitank areas, which use flank fire against the enemy infantry following the tanks. The infantry which is engaged in defense against tanks must be fully aware of the fact that a tank constitutes only a minimal threat as long as it is covered in its trenches. On the other hand, the infantry is capable of engaging enemy tanks in successful combat, using its own armaments (grenades and other close combat materiel). But the infantry must always be aware of the fact that the main threat confronting it comes from the enemy infantry which follows the tanks. That is why, during a tank attack, it should disperse its forces and materiel in such a way that after attacking the tanks and without having unnecessarily shown its presence, it can assault the attacking infantry with its entire firepower.

The infantry must remember that tanks have very limited observation capability and that they have great difficulty in maintaining liaison with the infantry. It must therefore be the main task of the defending infantry to use this fact, thus separating the attacking infantry from its banks and destroying it with its firepower.

A battalion area must be ready for defensive action in all directions.

232. Cooperation between close-range artillery groups and the infantry is organized just as it is in offensive actions.

In division defense sectors measuring more than 8 km in front width and in rough terrain of smaller front widths, the close-range artillery groups are usually placed under the command of the infantry regiments.

The artillery is echeloned in depth in defensive actions.

In choosing fire positions for the close-range and long-range artillery, attention must be paid to take advantage of every possibility of protecting the batteries with natural and artificial tank barriers, mines, and obstacles which are difficult to identify as such.

233. The unit and attached tanks are included in the strike group.

Tank battalions must have an excellent knowledge of convenient zones for maneuver, study and mark with conventional signs minefield areas and camouflaged pits, and know where antitank guns and batteries are situated.

If there is time, special pits must be prepared for the tanks for their concealed positioning in the area of forming up place for the counterattack.

234. Local battle security is posted in front of the defensive zone. It is the task of battle security to prevent a surprise enemy attack and counter his reconnaissance, as a rule, without engaging in serious combat with large enemy forces. Those sectors where the combined arms commander plans to mislead the enemy as to the actual outline of the forward edge of the defensive zone are an exception. The commander of the security unit in that sector

receives the appropriate order and is sent antitank weapons and a liaison section with infantry from the artillery in the defensive zone. Withdrawal of security in these sectors must be done only under pressure of large enemy forces and must be covered by artillery and heavy machinegun fire so that the enemy cannot destroy it and penetrate into the defensive zone on the shoulders of the retreating units.

235. By order of the corps commander, a rear defensive zone may be prepared in the rear of the main defensive zone. The distance of the rear zone from the forward zone is determined by the range of enemy artillery, the presence of suitable defensive lines, especially antitank, in the rear area, and also by considerations for the need to hold a given part of the territory. A corps strike group or the reserve is stationed in the area of the defensive zone.

236. Engineering tasks in defense include the following:

- a. support for the activities of the reconnaissance and security troops in conjunction with the chemical warfare troops;
- b. installation of a barrier zone in front of the main battlefield area and support for the activities of the advanced troops deployed there;
- c. preparation of antitank areas, obstacles, and minefields in the entire depth;
- d. construction of fire and alternate positions for riflemen, machineguns and artillery; clearing the field of fire; installation of command posts; preparation of infantry obstacles, covered connecting paths, shelters, and dummy structures;
- e. establishment of dummy areas and zones;
- f. preparation of sector separation, the rear position and defense of rear area installations;
- g. repair and new construction of bridges, repair and construction of roads, construction of landing sites, preparation of campsites, digging of wells, etc.;
- h. camouflage of defense installations, deployed troops, facilities, roads, etc.

Engineer terrain modification activities normally occur in the following sequence:

First priority: construction of combat and dummy trenches, with clearing of the visual and fire field; installation of command and observation posts, of artificial obstacles (especially against tanks), establishing covered connecting passages in the most important sectors, deploying of searchlights.

Second priority: construction of communicating paths to the rear; construction of shelters of different kinds; continuation of first priority tasks.

Third priority: road construction for combat and personal resupply of the troops and improvement of existing roads; continuation of first and second priority tasks.

The adequacy of camouflage of engineer activities must be tested by taking aerial photographs.

Simultaneously with defensive tasks, distances are measured between various terrain features and sectors which are particularly suited for meeting the enemy with fire.

In case of a long-duration defense, the defense zone is reinforced with reinforced concrete bunkers and deep barbed wire obstacles.

Preparation of the defense areas is a function of those troops which are to occupy them. Engineer troops are used for the construction of particularly difficult and important projects. Rear area troops and local inhabitants are used for the construction of rear positions and for road repair in the troop area.

The troop engineers (and the commander of the engineer camouflage platoon) develop plans for engineer tasks which must be approved by the commanders of the formations and commands.

Engineer preparation for antitank defense consists in the construction of a variety of obstacles, e.g.:

- a. terrain flooding in front of the main front line and within the main battlefield area;
- b. making inclines more precipitous, so as to deny access by tanks;
- c. dig trenches, if possible camouflage against view from above;
- d. establish minefields, etc.

These obstacles must be supplemented with dummy installations.

237. The commander of an army corps decides on the following: the time for occupying a defense zone; the general course of the forward defense line; the division segments; subordination of parts of the corps artillery to the division for use as long-range artillery groups; whether and where engineer and chemical barrier zones are to be established; and the time and resources for the construction of a rear position.

238. The division commander does the following:

- a. specifies the location of the forward defense line more exactly;
- b. determines the regimental sectors and the artillery close-support groups;
- c. forms the assault group;
- d. forms the antitank areas;
- e. decides locations where combat advance posts and where reinforced security troops are to be stationed in order to mislead the enemy about the location of the forward defense line;
- f. determines the zones for the preparation of controlled barrage fire against tanks, artillery tasks for the preparation of counterattacks by the assault groups and the organization of artillery observation posts inside the main battlefield area for the support of the counterattack;
- g. gives instruction for the engineer construction work of the division position.

239. On the basis of his personal reconnaissance, the regimental commander should do the following:

- a. determine exactly the location of the frontline, the combat advance guards and the antitank areas;
- b. order the location of the battalion areas for the holding force and the assault group;
- c. coordinate the activity of the close-range artillery group with that of the battalions and give orders to the artillery for the support of the advance posts;
- d. designate the area for stationary artillery barrage fire in front of the forward line and in the directions threatened by tanks; also, give instructions to the commander of the close-combat artillery group for the organization of the antitank fire with selected guns from the regimental and battalion artillery;
- e. prepare the tasks inside the main battlefield area for the battalion of the second echelon assault group and the tasks for the artillery in counterattack;
- f. arrange for engineer improvements in his defense sector.

240. On the basis of his personal reconnaissance, the battalion commander of the first echelon should do the following:

- a. allocate defense areas to the rifle companies and post advance guards;
- b. give instructions to the machinegun company for creating covered firing positions;
- c. prepare the fire of the machinegun company in front of the frontline and give instructions to the concealed machineguns;
- d. designate the fire zones for the rifle companies;
- e. issue tasks to the artillery close-range subgroups, the mine launchers, and the antitank guns;
- f. give tasks to the machinegun company and the company of the second echelon for the firefight inside the main battlefield and establish reserve positions for the second echelon company in case a defense in all directions becomes necessary.

241. In preparing defensive action, all commanders must make certain that in the fire zones allocated to their troops no single area with a radius of 400 meters remains uncovered by fire.

Every point in the terrain in a 400-meter wide strip in front of the frontline must be covered by fire--mainly flank and slant fire. In the seam areas the fire must be especially strong.

A high level of fire discipline must ensure that fire is opened only at close, especially effective ranges.

Fire sources and antitank guns which have given away their location during combat with enemy reconnaissance personnel and advanced troops, must change their positions.

242. To thwart an ongoing enemy preparation for attack, the corps commander may decide to execute an "artillery counterpreparation." It would be directed against the ready enemy troops (infantry in the initial assault position, tanks in departure positions, known headquarters, and message centers). It occurs in a relatively narrow front sector whose width is determined by the artillery provided. It should encompass at least the sector of an enemy assault group of at least one infantry division (up to 2 km).

The "artillery counterpreparation" should always occur prior to the enemy artillery preparation.

The artillery used for this purpose fires from alternate positions.

243. After his engagement with the security troops during his preparation for attack, the enemy may show certain moments of weakness. In that case, the division commander, if he is in possession of reconnaissance data, can initiate active engagements by one or more detachments to repel the enemy advanced troops and to disrupt his preparations for attack. Such enterprises are most successful in darkness.

The advance and return of such detachments should be covered by division artillery fire.

244. Command posts are established in locations where conditions for communications links, direction of the troops, and the control of a counterattack are most favorable without having to change location. To supplement observations made by the command posts, auxiliary observation posts for observing the battlefield by staff officers are established. Alternate command posts must be provided for in a timely manner in case of an enemy breakthrough.

The organization of communications in defensive actions must satisfy the following requirements:

- a. a deep and fully effective telephone network, which early on establishes communications between command posts and alternate circuits;
- b. a communications resources reserve for the case of a counterattack;
- c. protection against interception of telephone and telegraph communications.

To prevent interception in a strip 3-4 km wide behind the frontline, all telephone connections must be installed as double lines and, in the most important areas, underground.

Radio communications in defensive operations are used only for receiving. They do not transmit until after the start of the combat action and during the action on the main battlefield.

Unrestricted radio traffic will be used only in the following cases:

- a. by the reconnaissance troops;
- b. internally by the artillery for fire direction;
- c. for communication with aircraft and among them;
- d. for communication with the tank, and internally among the tank units during counterattacks;
- e. for air defense.

Interception stations and radio intelligence intercept enemy telephone, telegraph, and radio conversations.

To restrict and camouflage all friendly conversations, all protective measures must be rigidly observed (use of "conversation charts," codes, radio signals, etc.).

245. The tasks of aerial and ground reconnaissance are the following: determination of the strength and composition of enemy forces, especially the caliber and types of his heavy guns, tanks, and other armaments; determination of enemy direction of maximum effort, the organization of enemy artillery, of tank assembly and departure points, of chemical warfare and mine launcher troops, of command and observation posts and locations where infantry, second echelon troops and any mobile troops are assembling in the rear of the enemy battle formation. At every opportunity, especially during the night, surprise attacks with tanks and infantry must be launched against enemy combat formations for the purpose of taking prisoners and capturing documents.

246. The commander of an infantry battalion defends his area, always ready for perimeter defense. He conducts counterattacks with his assault group only for short distances. The basic mission of a first-echelon battalion is the unconditional defense of its area by using maximum firepower against enemy infantry and that of the antitank guns against enemy tanks.

The battalion commander remains in constant communication with his support artillery and attempts by joint fire of the machineguns and the artillery to separate the attacking infantry from its supporting tanks.

247. The regimental commander directs the combat of the battalions of the holding force by combining the artillery fire against the enemy main force.

In case of a breakthrough by enemy tanks through the frontline, the regimental commander opposes them with his mobile antitank reserve (if it is under his command). Infantry which has penetrated and advances through the depth zone, is attacked by the regimental commander by stopping its advance with a fire barrage in a counterattack by his assault group supported by tanks.

The antitank weapons do not depart from their antitank area and defend it in all directions.

248. The division commander consolidates the barrage fire of his artillery against the main force with the goal of separating the infantry from its tanks.

In case enemy tanks succeed in penetrating into the depth of the defense zone, the division commander throws his mobile antitank defense against them and attacks them with his own tanks. After turning back the tanks and breaking up the infantry, he prepares a joint attack, based on the counterattacks of his regiments, attacks with his own assault group and reestablishes the situation.

All available forces must be used for the counterattack.

It must be continued until the frontline is reoccupied.

If the enemy has broken through along the entire front, and if the entire defense system has been weakened, it is more useful not to conduct a counterattack and to commence the defense of prepared positions in the line of the assault groups.

The decision to renounce a counterattack can be made only by the division commander, with immediate report to the corps commander.

The division commander continuously monitors the course of the combat action with the help of his aircraft.

249. The corps commander has, as a rule, reserves only (i.e., no assault group). Only if a particularly dangerous enemy breakthrough occurs does he form an assault group out of his reserves, out of the reserve forces of higher command levels which are under his command, and out of parts of the front divisions which, depending on the battle situation, can be withdrawn and which can be used for a counterattack in the threatened locations in time. These forces are used for the counteroffensive. The enemy which has broken through is to be destroyed and the defense zone reestablished.

In case there is only a weak corps reserve or a lack of tanks and no possibility of obtaining them by withdrawing them from the divisions, the corps reserve can be used to reinforce the divisions or for temporary holding out against a further development of the enemy attack in active combat.

250. Should enemy mechanized troops have broken through into the rear of the defender, the corps commander must make every effort to close the breakthrough gap, to separate the advancing enemy troops from the support of the second echelon following them and to prevent their fanning out toward the flanks. All rear facilities and commands must be prepared to take cover in the closest tank-proof points or areas and to defend themselves with their own resources.

Destruction of broken through mechanized troops is the task of the army reserves and aircraft.

251. Combat with arriving enemy airborne troops is conducted by special detachments which are formed by the corps and army commands. Aircraft attack the airborne troops in flight and during the landing, keep track of their movements, and direct rear-area security forces against them.

252. Fighter bombers and light bombers which have been placed under the command of the corps at the beginning of the enemy offensive, participate in the counteroffensive, attack artillery and tanks, cut off the second echelons, attack airborne troops which have already landed, and direct the rear-area security forces against them.

Any fighter aircraft allocated to the corps have as their main mission combat against enemy aircraft and support for the fighter-bomber and light bomber activities.

253. The use of chemical warfare agents in defensive action can be for the following purposes:

- a. to contaminate parts of assembly areas for large enemy troops and materiel preparing for an attack;
- b. to contaminate covered enemy approach routes to the frontline;
- c. to contaminate the areas of enemy artillery emplacements and observation posts; also to neutralize the latter by smoke;
- d. to attack troop concentrations and approaching enemy reserves with chemical agents.

In defensive action, the chemical warfare troops are used to provide smoke-screens, to attack the advancing enemy with flamethrowers, in front of the frontline as well as in the main battlefield area, and for decontamination.

254. The following must be observed in defending rivers:

- a. in general, the friendly riverbank is chosen as the frontline, particularly if the river itself constitutes a serious tank obstacle;
- b. subsequent transition to the attack is secured by holding onto a number of crossing points on a wide front.

The organization of an active defense should become evident from the plan for the forthcoming transition of the attack. Crossing points are selected in such a way that an attack from each location would lead the troops toward effective tactical cooperation.

The assault into the main direction of the attack must be promoted by the greatest possible number of crossings. All advantageous river bends must be used for this purpose. The use of artillery must be cognizant of the plan for transition to the attack, of fire against the flanks of an enemy attack directed against the bridgehead, and of the support of friendly counterattacks from neighboring bridges.

The best location for building a bridge is on a river bend which projects backwards into the main battlefield area. Bridgehead emplacements are designed to cover the bridge against machinegun fire and artillery observation and should

facilitate the preparation of troops for transition to the attack. However, exaggerated advancing of the bridgehead emplacements weakens the river defense. Bridgehead emplacements are supported by flank fire from machinegun artillery from the friendly river bank.

Bridges should be camouflaged from ground observation and protected by antiaircraft guns.

The defense zone along the river bank should be equipped with covered paths and a communications net which make possible troop movements for counterattacks as well as for the general transition to attack.

255. Defense along a broad front (defense by groups) is used when a front is allocated to a force for defense which is considerably wider than usual.

In these cases no continuous defense zone is established; rather, the defense is based on resistance by individual areas in the probable attack areas of the enemy, and of their cooperation among themselves, and with the assault group which is in readiness further back.

The basis of defense along a broad front is the battalion area, whose task it is to repel the enemy with fire or to impede his progress pending the arrival of the assault group. The artillery is divided among the regimental sectors and the battalion areas.

The open spaces between the defense areas are disguised with security installations (with machineguns) and dummy positions, so as to deceive the enemy about them through deployment of the infantry.

In addition, the open spaces should be subject to crossfire by the machineguns and the artillery of neighboring areas.

The open areas can be contaminated with field chemical agents.

256. Mobile defense is used to gain time and for the preservation of forces if operational considerations indicate that a part of the terrain can be sacrificed.

Mobile defense represents a series of incomplete defensive engagements, while disengaging from the enemy and taking up positions in new defense sectors.

In mobile defense the holding force is smaller than usual. The direction of the division artillery is usually decentralized; the artillery is divided up among the regiments and the battalions.

Retrograde movement from sector to sector can be accomplished in leapfrog fashion or under the protection of a rear guard.

In mobile defense, extensive use is made of engineer and chemical barriers as well as small numbers of aircraft.

Use must be made of every possible opportunity for limited advances against the enemy's deployed formations and for making ambushes.

257. A force may retreat only upon orders from the next higher command level. A force commander may, on his own initiative, pull back only parts of his formation for purposes of a more advantageous formation for continuing the action in accordance with his ongoing mission.

If it is intended to discontinue combat, the holding force of the formation is gradually reduced in strength. Pullback of parts of the holding force is accomplished by a movement maneuver, combined with subsequent retrograde movement to a rearward position. The rear guard must have great firepower.

The troops of the mechanized forces and of the army cavalry--if available--are used for flank and rear attacks against advancing enemy march columns. Cavalry units can also be charged with providing cover for the infantry retreat in certain sectors in mobile defense.

Aircraft support the rear guard in holding the advancing enemy and protect the retreat of the main forces against reconnaissance and attack from the air.

Artillery command is as a rule decentralized.

The infantry regiments proceed to a rear position indicated by the division commander, independently. While retreating to intermediate sectors, regimental commanders take measures to ensure flank security for their neighbors and keep them abreast about the course of their retreat.

During disengagement the battalions are the basic units among the various troop formations. They fight while taking maximum advantage of all fire and movement types.

In view of possible enemy air attacks against the retreating troops, an air defense must be established in a timely manner (retrouping of antiaircraft artillery and machineguns, reinforcement of the air defense in defiles, avoidance of troop, artillery, and train accumulations in open terrain, etc.).

If the situation permits, it is best to initiate disengagement and retreat in darkness.

In disengagement and retreat under cover of darkness, cover can be restricted to small reconnaissance and observation squads, supported by machineguns. These remaining covering detachments continue fighting as they had prior to the retreat, so as to deceive the enemy.

To delay enemy pursuit, bridges, roads, and facilities are destroyed in accordance with a general, previously elaborated plan approved by the army commander in chief. The plan contains a list of objectives to be destroyed as well as the timing of the destruction and the name of the approving official. For the demolition of railroad stations and their equipment, passages, and tracks, special detachments from the main force are used if rail transport

troops are not available. Bridges to be crossed by the rear guard remain intact, but are prepared for demolition. Commandos left behind at those bridges blow them up after the rear guard has crossed them. Small detachment can be returned to the far shore by crossing light bridges, if the big bridge had to be blown up earlier.

In disengaging from combat there must be great flexibility in the use of communication resources, so that one can be replaced by another whose use would be more compatible with the combat situation of the moment.

Message centers and reporting points are established along the movement axis of the command post; their locations are communicated to the staffs of the troops.

Radio contact is maintained mainly in the form of radio signals.

Special attention must be paid to maintaining liaison between the rear guards and the troop commander and the liaison for cooperation between the rear guards and the subordinated weapons which support them.

258. Fortified areas are established in a timely manner for the following purposes:

- a. to maintain possession of economically, politically or strategically important points or areas;
- b. to secure an area for development and movements;
- c. to cover the flanks of units which make an assault in the direction of main effort and to preserve their freedom of action.

It is the mission of a fortified area to force the enemy into a frontal assault with a time-consuming consolidation of large forces and great firepower, to weaken him with fire from permanent emplacements, and to destroy him by attacking his flanks with field troops.

The troop formations of a sector of the fortified area use a part of their personnel to occupy the permanent defense zone, another part to occupy the field defense facilities which enlarge the strength and depth of the defense, and together with the remaining personnel they form the assault group.

259. Air defense is conducted as follows:

- a. in the infantry of the holding force, with a defense zone with organizational weapons;
- b. in the assault groups of a regiment, a division (and a corps, if there is one) with the weapons of the infantry belonging to those groups, and by the regimental, division or corps antiaircraft troops;
- c. in the artillery, by its own antiaircraft weapons and those of the division and the corps.

Air spotting and warning sentries or squads are deployed in a manner which will guarantee 360 degree observation. They are posted by the advanced detachments, the combat advance guards, with every battalion, with regimental, division, and corps staffs and with all special troops.

260. Gas defense in defensive operations should provide all general measures and special measures for combat including long-duration enemy gas attacks, such as:

- a. the building of gas-proof shelters;
- b. relief of troops which have been exposed to long-duration gas attacks;
- c. establishment of alternate positions in case a contaminated area must be evacuated;
- d. attacking the main sources of chemical warfare offensives.

Chapter IX. Night Operations

261. Under modern conditions, night troop operations are not unusual.

Movements of troops and rear area services under cover of darkness facilitate secrecy for operational intentions and the avoidance of casualties, especially those caused by aircraft. Cover of darkness provides the best opportunity for surprise action. Courageous night operations upset the enemy. That is why troops must be trained and practiced in night marches and night combat.

However, darkness introduces difficulties in troop command in combat, observation, effective firing, the use of tanks and aircraft. Darkness makes for greater nervousness, especially in troops under attack.

262. Simplicity of the task and a well-thought-out order of combat activity and support measures are obligatory for night operations.

263. If at all possible, darkness should be used fully for the following purposes:

- a. to approach an enemy or to prepare the starting position for the assault;
- b. to conclude an attack started in daylight with a night assault upon the enemy defense zone;
- c. to attack individual points of the defense zone;
- d. to reoccupy a strip of terrain or location just taken by the enemy (counter-attack);
- e. for courageous, limited ambushes, to inflict casualties upon the enemy and physical and psychological discomfort;

- f. for assaults designed to take prisoners;
- g. to disengage from combat and retreat (if necessary).

Movements of troops and rear area services not involved in combat action should occur preponderantly at night.

264. A limit is imposed upon the size of troop deployments for night operations by the difficulties in command and movement.

Night attacks are executed by battalions, occasionally by an infantry regiment. An attack by an infantry division is an exceptional case. A limited objective is established for a night attack against a defense zone (no deeper than enemy battalion areas) and the attack is timed in such a way that penetration into the depth and follow-up of the successful action occurs in daylight.

In a night attack against a defensive position, complex movements must be avoided. The troops attack in a straight line.

265. The night attack must be preceded by a daylight officer terrain reconnaissance, based upon which the approach in darkness and preparation of the departure position takes place.

The purposes of this reconnaissance are the following:

- a. determination of the departure point sectors for development and attack; designation of the approach routes for every company with markers, to enable the briefers drawn from the individual detachments for reconnaissance purposes to lead the troops unhesitatingly to the departure positions in darkness;
- b. determination of the exact location of the departure position for every single detachment;
- c. search for and removal of any obstacles which might be encountered (bad roads, bridges, contaminated terrain areas).

266. The infantry plays the leading role in night operations. The artillery must be prepared to support it. It commences firing immediately when the enemy does so.

The artillery prepares the fire plan for night firing during the preceding day. Of particular importance is the artillery barrage fire, which is intended to isolate the attack area and to neutralize enemy batteries which have been recognized.

If the enemy has erected barbed wire obstacles, tanks can be charged with creating passages. In this task they immediately precede the infantry. The location and direction of the passages are determined through daylight reconnaissance. In making the decision as to whether or not to employ tanks for this task, it must be remembered that their appearance would more or less

impair the surprise element of the attack, and that their activity in night attacks is restricted to making passages.

Preparations for a night attack and their timing must be kept secret.

267. No firing takes place in the attack until contact with the enemy is made. Any enemy observers or reconnaissance troops are taken prisoner or killed with cold steel.

The infantry advances in formation at reduced intervals.

The troops advance quickly and soundlessly to the frontline and attack the enemy. Their flanks must be covered by heavy machineguns.

As soon as the enemy commences firing, artillery and heavy machineguns direct overwhelming fire against the adversary in accordance with the prepared fire plan.

Upon initiation of firing by the enemy the attack area may be lighted with searchlights and artillery flares.

Request for and shifting of artillery fire in night operations are mainly initiated by colored flare signals.

268. The plan for a night attack contains the following:

- a. tasks for reconnaissance of the attack area; to deceive the enemy, it should proceed over a wide area;
- b. choice of the direction of the attack, starting points and attack objectives to be reached (the latter designed by terrain features);
- c. strength and composition of the attacking force;
- d. tasks for subordinate and support services;
- e. action and personnel required for follow-up of successful action; action against enemy positions which cover the position to be attacked by flanking;
- f. establishment of communication links, coordination of predetermined signals, passwords, etc.

269. Prior to leaving the assembly terrain area, all participants of the attack must be informed of the following:

- a. direction of the move, subject, and objective of the attack;
- b. type of movement to the departure position for the attack and the order of battle for the attack itself;
- c. the manner of opening fire;

d. password and agreed upon signals.

270. Defense against an enemy night attack is executed in accordance with a previously established plan which provides the following:

- a. position of security troops to be moved forward during the night;
- b. choice of night positions for the heavy and light machineguns and preparation of their fire with and without artificial illumination;
- c. location for night deployment of assault groups;
- d. preparation of terrain illumination with searchlights and flares;
- e. measures to be taken to defend against a chemical attack;
- f. preparation of artillery fire against specific sectors;
- g. supplementary barbed wire and other barrier sectors.

Infantry reconnaissance and security troops are moved forward, the latter consisting of listening and observation posts (with guard dogs). Reconnaissance must maintain close contact with the enemy. Return of reconnaissance and security troops is executed in such a way that they do not impede the fire of friendly machineguns.

The artillery prepares all fire plans for opening fire in daylight.

Fire against the attacking enemy is opened upon receiving signals (colored flares), which are ordered by the division commander and launched by the sector under actual attack.

Artificial illumination is provided by signal rockets, flares, and searchlights. Searchlight illumination commences upon receiving signals requesting artillery fire.

In case of a breakthrough into the defense zone, the assault groups must immediately counterattack and throw the enemy back without giving him a chance to dig in.

271. Fog, especially at dawn, should be extensively used to launch surprise attacks. Depending on the density of the fog and available visibility, the preparation of an attack or assault proceeds in the same manner as prescribed for night operations.

Chapter X. Winter Operations

272. Winter combat operation differs from others due to the presence of snow, cold, and short daylight hours.

Winter combat operations impose a special responsibility upon the commanders and rear area services with respect to protecting personnel, maintaining health and combat activity of the soldiers, and ensuring optimum use of weapons and equipment.

Combat operations in winter:

- a. increase the significance of inhabited localities for rest and billeting of troops, thus also increasing their value for combat operations;
- b. impede the off-road movements of infantry without skis, of the cavalry, the train, the artillery, and the tanks;
- c. as a result of short daylight hours and the necessity mainly to use roads for movements, increase the number of night marches and night battles.

The mobility and maneuverability of the troops in winter depends entirely upon their training, their winter equipment, and the terrain of the winter battlefield. Troops not trained and insufficiently equipped for winter operations quickly lose their combat capability, and equipment not adapted for winter use only serves to become a burden to them. If such deficiencies are detected in the enemy, they must be resolutely and tirelessly used for his defeat.

Rivers, lakes, and frozen swamps are more easily traversed in winter.

273. During the march, ground and air reconnaissance are conducted for the purpose of determining the availability and condition of roads. In planning the march consideration must be given to winter conditions; it usually lasts a maximum of 6-7 hours. A day's march should terminate in inhabited villages, in forests or in areas offering protection from wind and the availability of firewood. The size and composition of a march column is a function of the capability for independent combat expected of it and the ease with which its bivouacs (or villages) can be occupied. As a rule, no long rest periods are planned and short ones are abbreviated, depending upon the cold. The length of the column can be reduced by having entire infantry detachments on skis march along the march route on both sides. Reconnaissance during the march is accomplished by skiers, cavalrymen, tanks, and crosscountry vehicles; security preferably by ski troops. Engineer troops improve the routes by tamping down the snow and by preparing column routes.

274. Attacks in deep snow are usually conducted alongside the roads. Strong assault groups consisting of infantry on skis, tanks, and artillery attempt to attack the enemy's flanks and rear. The night is used for bold assaults by the ski detachments and for the destruction of advanced enemy detachments. In daylight, this is followed by approach and development of the infantry in the open terrain and, in deep snow, on skis, hidden by smokescreens. In covered terrain, consideration must be given to the changed tactical conditions due to the winter season (rivers, lakes, swamps, forests, shrubbery, etc.) for approach and cover. Special wintertime camouflage conditions must be observed on the march as well as in combat (white shrouds and capes).

The artillery is placed on sled runners. As the attack progresses, the escort of the infantry with fire and wheels (or sled runners) is guaranteed by greater decentralization of command and, if possible, by towing the guns behind tracked vehicles.

If the snow cover is less than 30 cm high the tanks participate in the attack.

The flanks of the attacking troops must be secured against a counterattack by mobile enemy forces by advanced echelons of ski detachments and aviation.

For encircling maneuvers in pursuit special ski detachments are used. Speed and preservation of energy of the troops are furthered by towing of ski troops on roads (or in flat terrain and low snow cover even away from the roads) by horsemen and tanks.

For "attack from a defensive position in immediate contact with the enemy" the general rules will be observed.

275. The cold makes inhabited areas attractive for defense. It is important to remove the enemy from possession of villages, forests and groves, and to secure them for the friendly side, at the forward line as well as in the main battle area. The frontline is placed, if possible, behind a terrain which in winter is difficult of access to infantry and tanks (ravines, deep snow, rivers, and creeks with a thin cover of ice, etc.).

The use of the troops in defense and the fire system should cover all roads and approaches passable in winter to the frontline and the flanks. Forays by ski troops under cover of darkness can be useful.

Engineer terrain improvements are more time-consuming in winter and require additional equipment. If there is insufficient time available, snow trenches are dug with 2-4 meter ramparts.

Great care must be taken in camouflaging the troops and defensive installations. In river obstacles, long and wide ice-free spaces are created by breaking up the ice at moderately freezing temperatures and if the ice layer is thin.

276. For communication links in winter, all means of communication are used, and in addition propeller-driven sleds. Telephone lines are laid by ski troops and from sleds. Runners on skis are used extensively.

277. In winter, attention must be paid to the fact that chemical agents have greater persistence and that there is more difficulty in using gas protective equipment.

278. Greater demands are made on aircraft in winter with respect to covering marches in daylight (especially in good weather) and troop accommodation areas. At the same time they have greater opportunities for attacking the enemy on the march and at rest.

Basic air defense principles remain valid in winter. When the air raid alarm is given, the ski detachments must deploy themselves quickly and widely along both sides of the march route.

For formations not on skis, for the march columns of the cavalry, the artillery, and the motorized troops, dispersal in depth would be more appropriate. Anti-aircraft guns should be used mainly for the protection of formations not on skis.

279. The most important duty of leaders and officers of all ranks under winter combat conditions is their care for the health preservation and combat capability of their troops. If the situation permits, overnight encampments and rest should be provided in covered areas. If the troops must camp outside of inhabited areas, campsites must be chosen with great care in wind-protected locations; foxholes are dug whenever a defensive position is taken. Every opportunity must be used for building shacks and to provide the troops with at least the most rudimentary heating facilities and firewood. During thaws, preventive measures against frostbite must be taken: timely issue of warm clothing, issue of ointments to apply to the most exposed parts of the body; drying of socks, wrapping feet in paper, covering stirrups, etc. It is part of the training to make each man look out for another to avoid frostbite. Each man must be clearly instructed on what to do in case of frostbite.

Severe discipline and well-reasoned direction of the marches is of particular importance in winter; care to prevent straggling, warmup through calisthenics, prohibiting sit-downs at rest, etc.

In the cavalry, the artillery, and the train it is recommended that personnel are ordered to dismount at certain time intervals and to lead their horses.

280. In winter care must be taken that the commanders of independently located commands regularly receive weather reports.

Chapter XI. Operations Under Special Conditions

1. Mountain Operations

281. The character of mountain operations is determined primarily by the specifics of the mountainous terrain and the climate.

The main characteristics are the following:

- a. the small number of traffic arteries, especially those suitable for vehicles; the even smaller number of lateral connecting roads;
- b. broken terrain which requires greater efforts of the troops than does flat terrain;
- c. the generally thin and uneven density of settlement and extreme scarcity of local facilities;

- d. the difference between climatic conditions at various altitudes;
- e. the significant impact of the seasons and the weather.

282. Special training, exercise, and adjustment of the troops to mountain operations, appropriate organization and armament of the troops and to support functions increase the chances for success. Troops unused to mountain conditions must be reinforced in mountain operations by officers having experience in mountain operations with troops or in staffs and must do everything possible to adapt themselves quickly to mountain operations.

283. Combat actions in the mountains are usually conducted by small composite units. Since they frequently see independent action, the original grouping and direction of effort for the troops and equipment are of particular importance. Every commander is expected to show great initiative and energy in accomplishing his tasks. The detachments should be constituted in a manner which permits them to engage in independent action.

284. Mountain action is mainly directed at occupying commanding heights, passes, crests, passages, and road intersections.

Infantry is particularly suited to mountain operations; in difficult sectors mountain troops are deployed.

Cavalry fights dismounted in true mountain terrain.

Mountain (pack animal) artillery facilitates action by the infantry and cavalry in any desirable terrain. Artillery command is decentralized as a matter of principle. Mine launchers are particularly effective in the mountains. If adequate roads are available, the use of horse-drawn as well as motorized self-propelled howitzers is appropriate.

Except for especially difficult, trackless terrain, tanks can be used in the mountains in formations up to battalion strength to good advantage. Their speed is reduced and they require more fuel. In defense, roads to accommodate the approach of tanks must be improved.

Aircraft are a powerful weapon in mountain operations (bombers) and are widely used for reconnaissance, transport, and liaison purposes. Reconnaissance aircraft are widely used as artillery spotters, for aerial photography, for preparing artillery fire and for correction of mountain terrain maps, which are as a rule inaccurate. The ground troops are responsible for choosing, clearing, and preparing landing strips in mountain areas. Mountain lakes can be used by seaplanes. In view of special conditions existing in flight in mountainous areas the personnel must have appropriate training or in any case must be fully briefed on flight conditions.

Chemical and engineer troops are as a rule subordinated to every independently fighting detachment. The engineer troops' main tasks in the mountains are dynamiting and roadbuilding tasks.

285. In preparing a march in mountainous terrain, the type and condition of roads must be carefully reconnoitered; time calculations and a profile of the march route must be established according to the map and the composition of the marching order of the column must be determined according to the situation.

March speed of the columns: on roads negotiable by vehicles with inclines of up to 20 degrees, 2-4 km/hour; with inclines steeper than 20 degrees, the time required is calculated by taking the vertical altitude and figuring an ascent time to it at the rate of 300-350 meters/hour; march duration: 10 hours/day maximum. The columns are divided into echelons (company with machinegun). The forward echelons are reinforced by artillery, engineers, chemical troops and the mandatory combat train, usually on pack animals. It is frequently useful to distribute the artillery during the march by batteries or by individual guns among the companies. To avoid the rear columns bumping into the leading ones, a time interval of 10-15 minutes is determined between the echelons in accordance with the march speed. Cavalry and tanks move in separate march echelons. A major rest period is prescribed for marches lasting more than 6-7 hours; small 10-minute rest periods every hour (after 50 minutes of march). In addition, in steep climbs a short 2-3 minute stop is made every 15-20 minutes.

Marching in the mountains requires an even, flexible and measured pace, especially for load-carrying troops.

During long rest periods the pack animals are freed of their burdens.

During descents, the artillery and train move more slowly than the infantry. On steep slopes, measures must be taken for braking of guns and vehicles. Animal loads must be tightened and animals supported with ropes and straps.

286. Security for the march is provided by the following:

- a. the leading detachment;
- b. mobile and stationary flank cover;
- c. the rear guard.

A forward detachment is advanced depending upon the composition of the column, or if there is a probability confrontation with an active and strong enemy, and of the existence of strong ambushes along the march route.

The distance between the leading detachment and the main force is not predetermined, not even during a march in daylight, but depends upon the necessity for securing any dominant highpoints along the march route for the security of the main force.

It is useful to include in the advance detachment small cavalry units, and in any case artillery (sometimes individual guns) and chemical and engineer troops.

Of particular importance in mountain marches is flank security. Stationary flank security detachments (with machineguns, sometimes also with individual

artillery guns) are advanced in good time and by leapfrogging for the occupation of commanding highpoints along the march route. They let the column pass and then rejoin it at its end. If the situation and the terrain permit, security can be restricted to mobile flank cover.

If a flank is threatened, the detachments of the flank security are deployed even before the advanced detachment starts moving.

287. Shelter is usually sought in bivouacs by march groups, approximately in the order of the march column. Guard duty is performed by one-man guardposts at dominant heights from where the area of the resting troops can be surveyed.

288. An attack in the mountain serves the purpose of entering an enemy's flanks and rear by depriving him of dominant heights, passes, passages, and road intersections, of encircling and destroying him. Any attack mission must be approached by way of an encirclement.

To occupy passes and valleys, the dominant heights must be taken and quick encirclement, even with small forces, must be initiated on the far side of the ridge, into the rear of the defender.

Simultaneously the holding force must attack the pass strongly in front. Meanwhile, the friendly flanks must be protected by careful reconnaissance and security.

289. Defense in the mountain must include all roads originating from the enemy side, and the commanding heights. Places where the enemy might be able to bypass the defense and the intervals between the areas to be defended are occupied by small units (platoon, company, squadron) and closely observed by reconnaissance. Barriers are erected in front of the defense zone, mandatorily across all approach routes from the enemy side. The infantry and artillery fire is prepared as a cooperative system of frontal and flank fire in such a way that coverage of the approach routes and the dead spaces is assured. In the mountains there is particular significance to high-angle fire by the infantry weapons and the artillery, the organization of multilevel fire as well as the use of hand and rifle grenades and mines. An effective antitank system should attack the tanks as they are climbing up the slopes.

The strength and assembly area for the assault groups depend upon the opportunities for encircling the enemy and by terrain advantages for a counterattack. There is an advantage in attacking downward.

Assault groups must be supported by tanks. Reserves should be at road crossings.

290. Communications in the mountains are maintained by radio, flares, sound, and optical signals, by aircraft, horsemen, runners, automobiles, and motorcycles.

291. Air defense in the mountains is subject to all general rules. Observation and warning take place from those elevations which permit optimum

surveillance and fire effect. Primary coverage must be given to road intersections. The anti-aircraft machinegun is an effective weapon. Marches, especially those of the cavalry, the tanks, and the train through ravines and across passes are covered by fighter aircraft. Personnel must be trained in taking quick cover and to enter areas protected from aircraft, which are abundant in the mountains.

292. Rear area organization is of decisive importance for successful mountain operations. A particularly important task for the troops and the rear area services is the immediate repair and improvement of roads, behind attacking troops as well as behind defense positions. If improved roads are available, resupply by pack animals is replaced by drawn vehicles and automobiles.

2. Forest Warfare

293. The following factors must be considered in forest warfare: the size of the forest, the height of the trees and density; ease of passage through it; type of floor; presence of swamps. Some small wooded areas are used as masks, as anti-tank areas or bases, and for assembling reserves. However, troops which occupy such wooded areas are vulnerable to air attack, chemical attack, the danger of a forest fire or a blockade.

294. Marches in the forest are secured by careful reconnaissance (with engineers and chemical troops), which occupies the opposite edge of the forest and exits therefrom; by route reconnaissance; by guarding the entire perimeter, and by careful traffic control. All routes leading sideways must also be reconnoitered. A dispersion of the front and concealment of the march are achieved by having some parts of the column march off the beaten paths in the woods within eye contact of the march column. To facilitate quick development of individual parts of the column (battalions, companies), they are allocated individual batteries, engineer and chemical personnel, as well as part of the communications resources and the combat train. The security troops must be strong enough to overcome barriers on their own and deal with strong ambushes.

The advance guard does not enter the forest until the reconnaissance troops or advance detachment are in possession of its exits. The main force enters the forest edge closest to the enemy. Marches through extended forest areas are secured by preceding occupation of the exits from the forest by mobile detachments.

Marches through the forest are executed at reduced intervals. The difficulties connected with air defense observation require a reinforced air observer and warning service.

295. The taking of a large extended forest area requires a planned overpowering of the enemy at the edge of the forest by combined artillery fire and infantry attack, with occasional support from tanks. Projecting forest areas are the first to be attacked.

Under certain circumstances it is useful to burn down strongly defended forest areas.

Combat inside the forest is conducted by individually acting reinforced battalions (companies), supported by engineers and gas protective equipment. Of particular importance are the courage and initiative of smaller infantry units and their resolution to advance with bayonets and handgrenades. The troops must be skilled in maintaining their compass directions and in avoiding any kind of conglomeration on paths, in clearings and glades.

Upon exiting from the forest, the main force must have sufficient time available for reestablishing the normal order of battle and cooperation with the entire artillery and tanks for the continued attack.

296. Defense in the forest is based on cooperation between individual, strongly defended forest sectors, some of which have been prepared by clearing the line of fire, which provide the opportunity for using firepower, for installing an extended barrier system and for resolute counterattacks against enemy troops which have broken through and are exhausted by forest combat. It is useful not to place the frontline along the edge of the forest; it either extends beyond the edge or is pulled back slightly into the forest. Artillery command is decentralized.

297. Limited air observation, difficulties in development in the front and the danger of traffic jams require particular attention to air and gas defense, such as:

- a. timely deployment of the antiaircraft artillery and machineguns on particularly narrow and endangered sectors of the march route;
- b. fighter aircraft cover for these sectors;
- c. an increased supply of gas protective equipment and its distribution to the march column for quick elimination of gas contamination of roads.

298. Communications links in the forest are provided by telephone, radio, messengers, and dogs. In a forest reservation use can be made also of bicycles, motor vehicles, and horsemen.

3. Steppe Warfare

299. Common characteristics of steppes are:

- a. low population density;
- b. poor availability of auxiliary resources;
- c. little water; what there is is in widely separated wells;
- d. in summer, extremely high temperatures in the daytime.

The direction of engagements in the steppe is therefore generally determined by the routes which link wells and oases.

300. All types of weapons are used in steppe warfare; motorized and mechanized forces and commands and aircraft are used to good advantage. Water supply and the construction of roads and airfields is the responsibility of the engineer troops.

301. The march is secured by extended air and ground reconnaissance (by motorized infantry and cavalry with tanks), by exploration and marking with road markers of column routes, and by strong security along the entire perimeter. The opportunity for marching without established roads permits development in the front, but makes it mandatory that every column has a guide who knows the terrain. If there is no assurance that water can be brought in behind the troops, the designation of the march route and the length of a day's march depends upon the existing water locations and upon the possibility of finding new wells. The strength and composition of the march columns or detachments is determined by the necessity for independent combat capability and by the availability of transport.

The transport vehicles move at the end of the march columns. If they move in a column of their own, they require special cover. The use of aircraft to cover troops and transport columns is particularly important in steppe marches.

All commanders must pay particular attention during the march to preserving the strength of their personnel and strict supervision of drinking water rationing.

302. In the attack it is useful to conduct the main assault by the infantry, supported by massed artillery, tanks and aircraft, against the defender's flank, first having found the flanks and advance guard of the enemy defense position and having held the enemy down by a frontal attack. Simultaneous attacks by aircraft and mobile units against the enemy's reserves and rear can lead to success.

The main thrust into a flank can usefully be combined with an encircling movement in a less important direction.

303. Defense is based on defensive action by the holding force in all directions, flexible fire deployment, and counterattacks by strong assault groups supported by artillery, tanks, and aircraft. A mobile reserve is established for rear area protection.

304. For communications purposes use is made of radio, aircraft, motor vehicles, blinking devices, and horsemen messengers.

305. Steppe operations require careful execution of troop feeding programs, protection for the activities of rear area services and particular attention to water supply sources.

Of particular importance is the protection of wells, food, and feedstuffs from chemical warfare agents.

Steppe operations, particularly offensive operations, must be supported by motorized rear area services and transport aircraft.

4. Battles for Inhabited Areas

306. Inhabited areas afford cover for troops in combat against observation and fire from light weapons, but attract fire from enemy artillery and attacks by bombers. They can nevertheless easily be converted to strong bases or anti-tank areas, especially if the buildings are made of stone.

307. In preparing for a battle for inhabited areas the following must be observed:

- a. the size of the village, its outline, type and strength of buildings, and surrounding terrain;
- b. the presence of community and governmental facilities, industrial enterprises, depots (especially of armaments), and gas shelters;
- c. availability and condition of local transportation, railroad stations, rail links, etc.

308. Prior to attacking an inhabited area, the following must be determined through careful reconnaissance and aerial photography: the presence of solid stone structures; road system; defense system at the edge of the village and inside; the presence of prepared centers of resistance. In preparing the infantry attack, all solid and other buildings should be destroyed if possible, if they could be of any value for the defense. To avoid an enemy flanking movement, protruding parts of the area are attacked first. If there is combat inside the inhabited area, cooperation with troops fighting outside must be ensured, whereby the latter encircle the village and attack the enemy's flank and rear. The main force of the troops fighting inside attacks across backyards and courtyards, while along the roads only smaller detachments are in action. The infantry is reinforced with heavy weapons, some artillery guns and engineer personnel, and is well equipped with explosives and handgrenades. It must also have access to the artillery liaison commands of the heavy artillery.

A successful attack is based on destruction of solid buildings occupied by the enemy by heavy artillery and aircraft. Railroad stations, power plants, water supply facilities, telegraph offices, have first priority for occupation.

Upon being taken, the inhabited area is equipped for defense, carefully searched, and enemy personnel are cleared out. These tasks belong to the second echelon of the attacking troops and the reserves.

309. The defense of an inhabited area is conducted in a way which will ensure absolute maintenance of tactical cooperation with the troops fighting outside. The latter defend heights overlooking the village and those terrain features which cover the flanks and the rear of the defender of the village. For the defense of an inhabited area only the absolutely necessary strength of infantry with machineguns, battalion, and regimental artillery should be deployed. The most solid buildings, especially those at street intersections, are prepared for stubborn defense in all directions as mutually flanking

strongholds. Tank barriers and infantry obstacles are placed across the thoroughfares.

The strongholds are equipped with solid shelters and are provided with fire-fighting equipment. Should the enemy succeed in entering the village, the defenders defend every single house, even after complete encirclement, thus making possible a counterattack from neighboring sectors.

Preparing the village for defense proceeds in its entire area. The frontline is best not placed at the edge of the village, but slightly inside, thereby keeping a row of buildings available as tank obstacles and masks.

The villages must be protected by antiaircraft artillery of machineguns; several buildings must be equipped to serve as gas shelters. A firefighting service is prepared.

310. Radio, automobiles, motorcycles, bicycles, and telephone are used for communications. To facilitate movement of personnel, it is recommended that some thoroughfares be blasted in some parts of the village.

5. Cooperation Between Ground and Naval Forces

311. Naval forces or single ships can accomplish the following tasks in tactical cooperation with ground forces:

- a. support of ground force troops along the coastline by fire from naval guns;
- b. deployment of tactical landing troops for assaults into enemy flanks and rear for the support of friendly ground forces;
- c. protection of friendly ground troops deployed along the coast from naval bombardment;
- d. prevention of an enemy landing operation;
- e. support of ground troops by naval aviation.

312. Command relationships or mutual support between ground and naval commanders are decreed by orders of higher headquarters.

During the decisionmaking process about tactical deployment of subordinate or supporting naval forces the ground force commander is informed about the naval commander's ideas about the deployment opportunities of the naval force.

The same is true for a naval commander under whose command ground force troops are placed. Exchange of liaison officers, staffs, and special arms and services (artillery, communications) is mandatory, as is close liaison between the ground force and naval headquarters.

313. Use of naval artillery is a part of the general artillery fire plan of the sector concerned.

The naval artillery receives special tasks for firing upon targets which are out of the range of land guns. The intermediate naval gun calibers are used depending upon the situation and against targets in the depth of the enemy battle formation.

In allocating tasks to the naval artillery, the troop commander must be aware of the following in addition to the situation on land:

- a. the operational sea and air situation;
- b. hydrographic and topographic conditions; minimum depths to which ships can approach, visibility of targets from offshore, weather conditions, etc.;
- c. characteristics of naval artillery (flat trajectory), fire control conditions, choice of the most effective ammunition;
- d. strength of the naval artillery, ammunition on hand, and conditions for ammunition resupply;
- e. communications facilities, type of artillery reconnaissance, observation, target allocation, etc.

314. A tactical landing which has been prepared in secret and well executed can bring great success in combat near the coast.

A "tactical landing force" for the support of a troop formation could be up to the strength of an infantry regiment (with organizational artillery and machineguns), reinforced by a tank company.

However, landing operations of greater size can be undertaken also.

The success of a landing maneuver is based on the following:

- a. an organization elaborated in great detail; secrecy in preparation; goal-directed action during the crossing and debarkation of the landing force; most useful is the execution of the landing during darkness, timed in such a way that development on land is completed at dawn;
- b. selection of the best location for landing, being alert for a possible enemy counterattack, enemy counterattack, and provision for an alternate landing site in case enemy resistance turns out to be too strong at the proposed main landing site,
- c. control of tactical cooperation of the landed troops at the coast with the frontally fighting army troops;
- d. air cover for the operation, especially if it takes place in daylight.

The plan should provide for reembarkation in case the landing operation is unsuccessful.

315. The following measures can be taken for the protection of a ground force flank along the coast against bombardment by enemy warships:

- a. covering the flank by a naval maneuvering unit (submarines, surface vessels, aircraft) for the purpose of annihilating the enemy upon his approach to the coastal sector to be protected;
- b. direct defense of the flank against a special task force of ships which is in tactical cooperation with the ground troops (gunboats, submarines, torpedo boats, aircraft), and which is equipped with barrier resources (mines);
- c. use of coast guard arms (coastal batteries--permanent, temporary, and mobile ones) which cooperate with the field troops.

Under any circumstances it remains the duty of the troop commander to take independent action, consistent with naval operations, to protect his flanks.

316. The task of preventing an enemy landing is accomplished jointly by the responsible ground force and naval commanders.

All measures taken on land must be closely coordinated with those of the fleet:

- a. agreement of the reconnaissance plan and uninterrupted information exchange;
- b. joint action by the scouting and warning services;
- c. joint estimates concerning locations threatened by enemy landings;
- d. a joint plan for joint action of land and naval forces to prevent an enemy landing and to annihilate the enemy should his landing succeed.

It should be noted that the first landing might be a diversion.

Chapter XII. Troop Movements

1. March

317. A properly prepared and executed march creates the best preconditions for entering combat. The success of a march depends on the extent to which the troops are accustomed to marches and on the commanders' and their staffs' capabilities with respect to march preparation and execution.

The versatility of modern weapons and their characteristics, the necessity of constantly protecting the troops against attacks by aircraft, mechanized troops, chemical and engineer weapons, and long-range artillery fire, make great demands upon the execution of a march movement of all troop branches and services.

318. A well-thought-out preparation of marches is one of the most important duties of commanders and their staffs. Their objectives are the following: timely arrival of the troops in the area allocated to them; maintenance of their physical stamina and eagerness to fight; continuous combat readiness of the troops and equipment; secrecy and surprise. Marches are mainly executed in darkness or in limited visibility (fog).

319. Marches are divided into forward or rearward marches; either can be a flanking movement.

Marches are executed in independent march columns of different branches of service. March columns are broken up frontally and in depth. For frontal dispersal, use is made of parallel and column routes (off the main roads, across open terrain).

Intervals for dispersal in depth: between regimental columns up to 1 km, between battalion columns up to 500 meters.

The type of dispersal, the composition of each march column and the intervals depend upon the task of the force and the situation.

In a march movement comprising several columns, mutual support, and timely development for combat must be ensured.

320. The march speed of infantry formations is 4 km/hour; with light packs, 5 km/hour.

The speed of smaller advanced detachments of up to battalion strength with light packs can go as high as 8 km/hour.

In a normal march the cavalry can travel 7.5 km/hour (on roads and favorable terrain).

March speed of bicycle troops: 10 km/hour; motorized troops: 15-25 km/hour; mechanized formations: 12-20 km/hour.

321. Distance covered in a normal 1-day march by a troop formation: 32 km in 8 hours; forced march: 10-12 hours and over (with a big rest period following). "Combined marches" are possible too, in which part of the troops march on foot while others are carried in motor vehicles. A march of this type requires exact timing calculations, careful traffic control, and unconditional security in execution.

Note: Forced marches and advancing of detachments where great physical demands are made on the troops are permissible only for attaining an extraordinarily important combat objective.

322. The following rest periods are observed to preserve strength:

- a. short rest periods of 10 minutes after every 50 minutes of marching;
- b. long rest periods of 1.5 to 3 hours.

During the preparation and execution of marches, during rest and relaxation all possible measures for strength preservation are to be taken consistent with the situation.

During the execution of a march, a minimum of 8 hours' sleep every 24 hours, timely food distribution, and observation of sanitary and hygiene rules are required. It is the duty of all commanders to monitor foot care, correct positioning of carried equipment the condition of the horses, etc.

The transition to a rest, the formation, and dissolution of march columns must not waste any unnecessary time and energy of the men. Assembly of formations larger than battalion strength (regimental strength for cavalry) in one place prior to the start of the march is prohibited. Every command is allocated a departure point or sector and the time of crossing it.

During the march the order of march formation must be strictly adhered to. The officers take their prescribed places in the column. The regimental and division commanders and their staffs are with the advance guards or at the head of the columns. It is their duty to monitor the march and combat readiness.

323. For protection against a surprising collision with the enemy, reconnaissance and security troops are advanced and march security, antiaircraft, anti-tank, and gas defense as well as communications are installed sideways and into the depth.

324. For the planning and composition of a march the following is necessary:

- a. to search for and select those routes which are most likely to promise the attainment of the task at hand, and to designate specific column routes; maps must be updated and corrected;
- b. provisions for road repair must be made;
- c. the length of the routes (taking note of their condition), speed, and duration of the march and rest periods must be calculated;
- d. the distance from the adversary on the ground must be considered;
- e. to appraise the entire route and its individual segments with respect to the possibility of enemy air, gas, and ground attacks and to take defensive measures against them;
- f. to allocate the routes to the troop commanders; to designate the composition of the columns and their commanders, the times for crossing the departure points and the intermediate sectors, as well as the areas for major rest periods, and for overnight rests;
- g. to indicate the time and sequences for intersecting march routes.

An order is given to initiate a march. Upon receipt of the marching order from higher headquarters, the commander of a troop formation or command issues preliminary orders so as to provide more time for his troops to prepare for the march. The preliminary orders contain the departure time, march formation, march route, and intended length of the march.

325. Two routes are desirable for the movement of an infantry or cavalry division.

Units having mechanized vehicles move on special roads or on column routes; if they move with the general march column, they move by fits and starts within the column intervals.

The first echelons of the train (the battle train) march with their troops-- at their rear when advancing, at their head when retreating.

326. The troop formations march concealed in march formation either on one or on both sides of the road. In any case, the thoroughfare must be kept completely clear for passage by motor vehicles and for countermovements.

The desired intervals and all movement regulations must be strictly adhered to.

327. Troop formations cross defiles and crossing points either in a continuous stream or by fits and starts. A traffic control officer is appointed.

In case of accidental meetings or intersections of march elements, the ranking officer decides on the sequence of continuing the movement with consideration given to the combat mission.

328. For the long rest period, the troops leave the march route in accordance with the march orders and camp in the bivouac or inhabited area. Rest areas must be identified in good time. They should comply as closely as possible with requirements for concealment and comfort (water, shade, etc.).

If an engagement with the enemy is likely, the accommodation and security of the bivouac are to be such that quick development for combat and defense against surprise attack are ensured.

329. During the march the staff of every troop command and the commander of the march column have the responsibility of deploying active antiaircraft and antitank weapons as well as observation and warning resources and to allocate their tasks to them.

The commanders of the march columns and the commanders of the formations monitor the combat readiness of the antiaircraft and antitank defenses during the march, without tolerating violations (marching on the shadow side, no marching and no rests on roads if there is a forest next to them, etc.)

The crossing of defiles and passages must be most effectively secured by massed defensive weapons.

Reconnaissance personnel must in advance scout for possible alternate routes for the case that defiles or narrow passes have been contaminated by persistent chemical agents.

In daylight marches advantage must always be taken of the availability of poor visibility from the air (fog, low clouds, etc.). Artificial fog can be used also to conceal marches.

330. Controlled communications during the march should enable the command to issue orders during the march, to receive reports from the security troops and the neighboring columns and also to exercise tight leadership in case of a sudden development for combat.

This can be achieved by extensive use of mobile communications resources (aircraft, automobile, motorcycle, bicycle, messenger on horseback), by using signaling devices (radio, sound, and light signals) and by an appropriate distribution of communications equipment throughout the column.

Radio contact is used only for communicating with the reconnaissance and security troops, the air warning guards, and aircraft. The other radio transmitters must be ready to communicate with each other in accordance with a previously elaborate plan which is known to the staffs.

331. Night marches normally take place on roads.

A march by individual detachments on column routes can be considered if the situation demands it or if the terrain is suitable for it (flat land, steppe, etc.).

332. March speed on moonlit nights is the same for troop formations as in daylight: 4 km/hour.

In total darkness and on bad roads the march speed of all arms and services is reduced by about 25 percent.

333. The following is necessary for the success of a night march, if the situation permits:

- a. conduct reconnaissance on the day before, also find routes and select them;
- b. take precautions against losing the way (guides, terrain features, markers, etc.);
- c. consider the kind and duration of the night and the dawn;
- d. distribute the troops among the march column in such a way that night marches are facilitated;
- e. provide for reliable security and liaison.

334. To take full advantage of darkness for movements, it is advisable to accommodate those troops which will use a common route in such an echelon sequence that they can assemble at the same time.

335. In darkness, troops march at closer intervals; if the situation permits, the columns are constituted from troops having the same march speed; the artillery is then given special cover. As far as possible, the motorized and mechanized troops are allocated special roads; if none are available, they move by fits and starts either in front of or behind the infantry or cavalry, depending on the situation, without leapfrogging. The interval between security detachments is reduced. Direct security troops are reinforced. Every command appoints duty units.

336. Prior to a night march the troops should be given ample rest time during the day; care must be taken that such rest time is actually used for sleeping.

On night marches there are as a rule no major rest periods. For night marches, the troops should be issued food rations.

337. Strict march, noise, and light discipline must be enforced during a night march; without permission of the commander of the march column there must be no smoking, loud talking or giving of orders; during short rests care must be taken that the troops do not go to sleep. At the end of every company (squadron, battery) one of its officers brings up the rear to preserve discipline.

Opening of fire at night is prohibited without permission by the commander.

338. All antiaircraft and gas defense measures must be fully performed during a night march. Antiaircraft artillery personnel and machinegunners and chemical warfare troops join forces with the daylight reconnaissance which must determine the march route for the impending night march. Their task is to choose positions for the antiaircraft artillery at crossings, defiles, steep slopes, and the choice of alternate routes, in case these locations are impassable due to chemical agents or otherwise. Distances between regimental columns measure up to 500 meters.

Air alert and warning guards or squads are posted still in daylight.

If the march ends at dawn (especially during short summer nights), all actions concerning antiaircraft, gas, and tank defense must by that time have been performed just as in daylight.

339. In winter without skis, march speed is on the average 3-4 km/hour; for larger ski formations (battalion), 7-8 km/hour; for smaller ones, up to 10 km. The duration of a march in daylight is 6-7 hours maximum.

Short rest periods are shortened still more, or eliminated altogether.

2. March Security

340. Troops on the march must secure themselves against surprise attacks from the ground, air, and by chemical warfare agents.

341. Security measures should provide the opportunity of always anticipating an enemy attack, to defend against it, to develop the columns in a timely manner in case of an encounter with the enemy, and to initiate combat under favorable circumstances.

342. In a forward movement the troops secure themselves as follows:

- a. by having an advance guard in front;
- b. with lateral detachments or lateral security forces on the flanks;
- c. with rear troops or rear security forces in back;
- d. with "direct security," i.e., by dispatching guards and observation squads in all directions.

The second and following march echelons, apart from direct security, detach lateral detachments or lateral squads if they have exposed flanks. They provide flank protection if the flanks are threatened.

343. The strength and composition of the advance guard are determined by the following:

- a. by the mission;
- b. by the strength of the column to be secured (the time required for its development);
- c. by terrain conditions.

The advance guard can consist of up to one-third of infantry, some of the tanks and armored observation vehicles, up to one-half of artillery (including heavy howitzers and long-range guns), engineer and chemical detachments. Cavalry can also be added to the advance guard.

The distance between the advance guard and the main force depends upon the situation; it varies between 3 and 5 km.

344. For its own security, the advance guard dispatches the following forward:

- a. an infantry regiment--a forward force of up to (reinforced) battalion strength, 2-3 km forward, and lateral security (on open flanks) in platoon to company (squadron) strength;
- b. a formation smaller than an infantry regiment (reinforced battalion); a point and lateral security in reinforced company or platoon strength;

c. the "direct security."

The forward force itself splits into a head and lateral security. During the long rest of the march column the advance guard and the lateral security forces rest in sectors suitable for defense, and post guards.

345. Lateral formations in reinforced company to battalion strength with armored guns generally keep a distance of 2-3 km between themselves and the column in forward movements.

Lateral formations can post a "standing security." For this purpose they advance lateral guards into the directions from which enemy attacks threaten. These occupy positions which are favorable for defense and let the column to be secured pass through.

346. The intervals between the columns are secured by infantry and cavalry observation squads which remain in visual contact with each other.

347. The rear point covers the end of the march column and maintains order in the back of the column.

As a rule it follows the column at a distance of 1 km and detaches observation squads laterally and to the rear.

348. In retrograde movement the troops secure themselves:

- a. by a rear guard in direction of the enemy;
- b. by lateral formations or lateral security troops on the exposed flank;
- c. by an advance guard or forward point in the direction of the retrograde movement;
- d. by "direct security."

In a retrograde movement of a troop formation in several march columns each column provides its own security.

The next higher commander (corps or division commander) controls the activities of the security troops and decides in which sectors and for how long the rear guards are to hold. On orders from the next higher commander, lateral cover is formed if there is a threat of a leapfrogging pursuit.

Apart from infantry, cavalry, field artillery and armored observation vehicles, the rear guard contains long-range artillery, antitank weapons, chemical warfare, and engineer personnel.

The distance between the rear guard and the end of the main force varies, since it grows bigger with every stop for the purpose of defense against the enemy. In any case, it is a minimum of 4 km.

349. For its own security, the rear guard detaches:

- a. if a regiment, a rear formation (up to reinforced battalion strength), and lateral security forces (if there are exposed flanks);
- b. if smaller than a regiment (up to reinforced battalion size): rear points and lateral securities;
- c. "direct security."

The rear formation itself detaches a rear point.

Lateral security troops in retrograde movements are used according to the same principles as in a forward movement. Parallel routes must be well secured, in order to prevent a leapfrogging enemy pursuit, especially by mechanized and motorized detachments.

350. In retrograde movements the advance formation and security troops remove obstacles on the march route of the main force and repel attacks from enemy encircling detachments.

351. In flanking movements, the troops secure themselves:

- a. by a "lateral advance guard" (if a parallel route is available) on the threatened flank or by lateral detachments or lateral security forces, which are moved forward as needed to certain points and in certain directions (if no parallel routes are available);
- b. in forward movements by an advance guard, in retrograde movements by a rear guard in the march direction of the column;
- c. by security toward the rear;
- d. by "direct security."

The "lateral advance guard" (or rear guard) marches either without stopping (apart from necessary rest periods) or in sections, by occupying at a given time certain points on the routes leading to the march route of the main force.

The advance guard detaches from itself a mobile or stationary security and advances it toward the enemy (lateral detachments, security forces).

3. Motor Vehicle Transports

352. Motor vehicle transports are used for purposes of regrouping troops, to gain time and to preserve personnel health.

Such transport is appropriate as follows:

--an infantry battalion and an artillery detachment only for a distance of 15-20 km;

--an infantry regiment to a minimum of 1 day's march;

--an infantry division for a minimum of 1 and 1/2 day-2 days' marches (with "mixed transport").

Infantry battalions and a regiment are as a rule transported in their entirety; an infantry division minus its rear services.

The most appropriate distance for transporting an infantry division is 200-400 km.

353. The speed of a motor vehicle transport amounts to 15-25 km/hour in daylight, at night with its own illumination slightly less.

On automobile roads and with fewer motor vehicles in the column the speed increases.

354. The average need for motor vehicles for simultaneous transport is as follows:

--for an infantry battalion and a regimental battery: 100-120 vehicles (1 and 1/2 ton);

--for an artillery detachment: 180 vehicles (3 ton);

--for an infantry regiment: 700 vehicles (1 and 1/2 ton).

355. The commander of a motor vehicle unit is placed under the command of the troop formation during the time of the transport and is responsible for the technical preparation, execution and security as well as for appropriate use of the motor vehicles.

356. Planning for a motor vehicle transport movement of a troop command or troop formation should provide for the following:

a. preparation of the troops (determination of personal requirements, march sequence, security measures, household, medical, and veterinary care);

b. preparation of loading and off-loading areas (reconnaissance, allocation of troops);

c. preparation of the march routes (reconnaissance, communication links, traffic control, road and bridge maintenance, unless the latter have already been accomplished by order of the headquarters ordering the transport movement);

d. preparation of the transport columns (supplying them with fuel and lubricants, assembly of the columns, distribution of maintenance equipment, equipping the motor vehicles appropriate to the proposed movement, etc.).

357. The loading area contains a number of loading points, assembly (waiting) areas for the vehicle columns, approach and departure routes, traffic control posts, and communications links.

Every battalion and every artillery unit will as a rule be allocated its own loading area. The battalion area measures 1 by 1 and 1/2 km on the average.

The total of the battalion loading areas constitutes the regimental loading area; the total of regimental loading areas the division loading area.

Loading of an infantry battalion in daylight takes about 40-60 minutes; that of an artillery detachment 1 to 1 and 1/2 hours. In darkness these times increase by 15 minutes on the average.

358. The march sequence of a motor vehicle column should:

- a. be consistent with the mission, the situation, the terrain conditions, and the proposed operational plan;
- b. provide for optimum use of all resources contained in the column;
- c. ensure cooperation among all troops and individual echelons belonging to the column;
- d. be flexible, i.e., permit changes in the tasks and direction of parts of the march formation.

Troop formations are broken down as to width and depth and are transported in several columns (on several routes) and by echelon (in every column).

The movement is conducted in such a way that the individual echelons contain entire tactical units with necessary reinforcement troops and resupply.

Reserve vehicles, repair, and fuel tanker vehicles travel at the end of each echelon.

March security for motor vehicle transports is controlled by the same principles as those valid for foot marches and under observation of the same time intervals.

359. During the motor vehicle transport, normal distances between vehicles are 25-50 meters, between infantry battalions 3-5 km.

Stops lasting 10-15 minutes are made every 2 hours for the purpose of checking the vehicles, tying down the loads, rest for the drivers and closing up the column ends of the echelons.

In a movement of more than 120-150 km a major rest period of 2 to 2 and 1/2 hours is provided for thorough checking of the vehicles, personnel rest, food intake, and watering the horses.

360. Troop command during the motor vehicle movement is supported as follows:

- a. by appropriate control of communications (use of existing communications facilities, radio signals, liaison aircraft, liaison officers with motor vehicles, and motorcycles);

b. by providing for a traffic control service (traffic control sentries, determination of regulating terrain sectors);

c. by exact determination of the location of the commanders or command posts with data of intended displacement or by determining the location of the commanders in the march column.

If an engagement with the enemy is anticipated, the commanders of a column of troops do as a rule join their next higher superior with the advance guard.

361. Offloading areas should generally satisfy the same criteria as loading areas. Immediately upon offloading, every echelon of the motor vehicle operating unit immediately proceeds to the assembly area provided so as to vacate the roads in the offloading area as quickly as possible.

In daylight the offloading of an infantry battalion takes 15-20 minutes, that of an artillery detachment 30-40 minutes. In darkness these times increase on an average by 15 minutes.

362. The loading and offloading areas of a troop command or formation are carefully camouflaged and protected by antiaircraft artillery and machineguns, fighter aircraft, and all available gas defense resources.

363. Antiaircraft defense of a motor vehicle column on the march is achieved as follows:

a. by appropriate distribution of antiaircraft weapons of the troop formation being moved, of the motor vehicle operating unit and of the antiaircraft weapons provided for the period of the movement to the column;

b. by preparing the machineguns of the troop formation being moved for anti-aircraft use;

c. by timely deployment of antiaircraft batteries and machineguns in particularly exposed sectors of the movement;

d. by appropriate control of the aircraft spotting and warning service;

e. by patrolling fighter aircraft above the area of the motor vehicle movement.

364. Gas defense of the motor vehicle column during the movement requires the availability of protective tarpaulins and of decontamination supplies aboard the vehicles. Also, mobile shower facilities and vehicles with decontamination equipment must be located with every echelon or group of echelons.

365. Antitank defense of the motor vehicle column during the movement is provided by designation and appropriate distribution of antitank gun duty sections among the column. In case of attack by enemy motomechanized detachments they depart from the column, stop and open fire on the spot.

If mechanized troops form part of the motor vehicle column, they are also deployed as active antitank defense resources.

366. Medical and veterinary care of the troops during motor vehicle movements is based either on medical or veterinary facilities established along the resupply route or on organic resources carried by the troops being transported.

367. In planning a motor vehicle transport movement, staffs prepare the following documents:

- a. in an infantry battalion and in an artillery detachment, a schematic representation of the inventory of the motor vehicle echelon for loading;
- b. in the regiment and in the division, a movement order, a calculation of the requirements for motor vehicles, a column sketch, a time schedule for the movement.

Orders for air, gas, and tank defense, for communications and supply are the subject of separate orders.

Chapter XIII. Troop Accommodations and Their Security

1. Accommodations

368. Troops move into quarters in inhabited areas (community accommodations), in the open (bivouac), or a composite of the two (community bivouac).

The greatest amount of rest and the best protection against enemy air reconnaissance is provided by community accommodations; in warm, dry weather, by forest areas with an adequate water supply.

369. To provide the best prerequisites for rest, the selected locations (night quarters, day of rest) should be announced at the latest at the end of the major troop rest period; quartermasters should be sent ahead to them in good time; troops already resting should not be moved to other quarters; troops should not be made to wait in front of their accommodations; the accommodation area should be chosen for being self-sufficient and for providing sanitary and hygienic facilities; the troops should be secured against enemy surprise attacks from the ground and air and from reconnaissance; and providing the capability of quickly assembling into march and combat formations.

370. While preparing for their rest, the troops must take necessary measures for the following:

- a. combat readiness upon being alerted;
- b. unconditional cooperation and cover by antitank weapons;
- c. search for advantageous terrain sectors and the sequence of occupying them;
- d. locations to proceed to in case of alarm, and routes leading to them.

The troops require regular security by advanced sentries, reconnaissance, "direct security," a duty detachment, functioning communications links,

warning service, aircraft, gas, and tank defense. The local higher level commander (local commander) takes the measures necessary for security and combat readiness.

Upon arrival of the formation concerned, he issues his local regulations.

371. Troops in quarters will strictly observe local regulations and camouflage directions against enemy air observation.

Military secrecy must be strictly observed (against enemy intelligence agents). The local inhabitants must not be informed of the unit designation, where the unit has come from or its destination, the names of its officers, etc.

372. A "duty detachment" is formed in every locality from infantry and artillery and housed on the side facing the enemy. Its commander reconnoiters the area allocated to him for defense and prepares his defense plan. When the duty detachment leaves the location, a new one is formed immediately. The duty detachment is formed upon orders by the local commander.

The strength, composition, and degree of combat readiness of the duty detachment depend upon the distance from the enemy, the size of the locality or the area, the attitude and number of local inhabitants (up to about one-ninth of the troops quartered).

373. To maintain internal order in the community accommodation the following is required: designation of a duty officer, posting of internal sentries to protect public facilities and dispatch of patrols; directions to drinking water sources and locations for cooking, watering horses, bathing, washing laundry, slaughtering animals, establishing latrines, firefighting regulations, regulations for use of bathhouses, laundries, bakeries, etc. Guards are posted at wells and other sources of water supply.

374. Assembly of resting troops in case of alarm takes place in accordance with the orders received from the local commander immediately upon arrival--on specific orders or upon receiving the alarm signal. Alarm assembly areas are designated for this purpose for units of up to battalion strength (or artillery detachment), outside the inhabited area, if possible.

Special orders must be issued for alarms occurring in darkness, especially for cavalry, motorized troops, and train.

375. Quartermasters, led by an officer, are sent ahead for quarters allocation in case of community accommodations and for sector allocation in case of bivouacs. The following personnel are required for this task: one lieutenant from each battalion, each artillery detachment and every independent troop formation; one noncommissioned officer from every company, battery, and squadron.

The responsibilities of the quartermaster commander are the following: choosing the accommodation area as to sanitary and veterinary criteria; allocation of quarters or bivouac areas; accommodations for the staffs, communications

facilities, and medical facilities. The noncommissioned officers continue their preparatory tasks for their troops. Upon completing their tasks, the quartermasters meet their approaching troops and direct them to their quarters. The quartermasters are accompanied by one physician, one veterinarian, chemical warfare person, and one engineer (water supply technician).

Signs containing the name and number designations of troop formations are prohibited!

376. For rest in the open, accommodations must be provided in the smallest possible groups. The rest area must be dry and not sandy. It should not be in locations previously occupied by troops.

Special purpose locations along a river are designated in the following sequence:

- a. for drinking water and cooking;
- b. for watering horses;
- c. for bathing of troops and horses;
- d. for doing laundry.

Locations for domestic animals and for slaughtering at a distance and to the rear; latrine trenches at least 100 meters away from the troops, and never between the troops.

377. Communications between the commander and the troops under his command located in the same area, are provided by messengers, telephone, and signals. Aircraft spotting and warning sentries or squads are posted. Every single man must know where to find his immediate superior; conversely, every superior must know where he can find his immediate subordinates.

2. Outpost Security

378. Outposts have the following responsibilities:

- a. to secure undisturbed rest for the troops; to defend against attacks by advanced enemy detachments and to prevent surplus fire on friendly troops by rifle, machinegun, or artillery guns;
- b. to interdict access to the accommodation area of the resting troops to enemy reconnaissance personnel, to attack them and take them prisoner;
- c. to protect the resting troops from surprise ground and air attacks, especially from incursions by airborne troops and mechanized forces, and to warn them in time against threatening gas attacks;
- d. in case of an enemy attack, to offer resistance long enough until the troops are combat ready, and while holding down the enemy, to determine the composition of his forces and the direction of his main assault.

379. An infantry division secures itself as follows:

- a. when the enemy is at a distance of 2 days' march or less, by "outpost detachments," if the terrain permits easy access, or by individual sentries, if the terrain is passable only in certain directions;
- b. if the enemy is at a greater distance and conditions are such that surprise attacks by enemy motorized and mechanized forces appear unlikely, only by individual sentries;
- c. in every case, by guard details and sentries of the resting troops, in all directions ("direct security").

Troops which are already secured against the enemy by guards posted by other units, post only "direct security."

An infantry regiment in separate quarters secures itself along a wide front by guardposts and "direct security."

380. The strength, composition, and distance of an outpost detachment depend upon the following:

- a. the distance from the enemy;
- b. the mission of the troop formation;
- c. the size of the formation to be secured, the width and length of its accommodation area and the time required for it to develop for combat;
- d. the width of the combat sector of the troop formation concerned;
- e. the terrain and visibility conditions;
- f. the effectiveness of friendly reconnaissance detachments.

Strength of:

--an outpost detachment: a reinforced company up to battalion strength with artillery (including antitank artillery), cavalry, and tanks;

--an independent guard detail: infantry platoon up to company strength with heavy machineguns and antitank guns;

--a field sentry: an infantry squad.

Outpost troops include chemical reconnaissance personnel.

381. The distance of the outpost security (i.e., the most forward line at which the security troops stop the enemy) should be fixed in such a way that the resting troops are protected against enemy artillery fire, that they can be warned in good time against threatening tank attacks and approaching gas clouds, and that their development for combat and the formation of march columns is ensured.

The forward line of the defense sector of an outpost security (line of guard details) should be at an average distance of 3-5 km from the resting troops.

382. Outpost security personnel are deployed in accordance with the principles of "defense along a wide front." The front width of the sector of an outpost detachment in battalion strength measures up to 5 km, that of a guard detail in company strength (with heavy machineguns and artillery guns) up to 3 km. Outposts are deployed in front as well as on exposed flanks, and occasionally even in the rear. The outpost detachments and the independent guard details are allocated security sectors, a line of resistance in case of enemy attack, a line up to which reconnaissance must be conducted, as well as a password and a passage location.

383. When a troop formation makes the transition from march to rest, the march column commander indicates the terrain sector at which the march security troops are to halt. The outposts are deployed under their protection. The march security troops then return to their commands.

384. When the troops continue the march after the end of the night rest period, the newly appointed march security detachments traverse the outpost zone in developed formation; thereupon the outpost troops assemble and assume their place in the march column as ordered by the march column commander (usually in the rear).

If in a retrograde movement the outpost security is relieved by new detachments which assume march security (as a rear guard), these new detachments first develop behind the outpost line in a terrain sector assigned to them, permit the outpost troops to pass in closed formation and in turn start their own movement so as to follow the main force.

385. Defense against tank, aircraft, and gas attacks as well as camouflage against aircraft during rests are initiated by direction of the next higher troop commander (local commander). A duty detachment must always be combat ready in the positions of antiaircraft machineguns and artillery, if any. Aircraft spotting and warning sentries establish communication with their opposite numbers in neighboring locations.

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