

FM 100-15

WAR DEPARTMENT

FIELD SERVICE REGULATIONS

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LARGER UNITS

June 29, 1942

RESTRICTED

FM 100-15

**FIELD SERVICE
REGULATIONS**



LARGER UNITS



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WAR DEPARTMENT,
WASHINGTON, June 29 , 1942.

FM 100-15 (Field Service Regulations, Larger Units) is published for the information and guidance of all concerned. It discusses the functions: and operations of larger units. It presupposes a familiarity with the provisions of FM 100-5 (Field Service Regulations, Operations) which covers the doctrines pertaining to the leading of troops and combat of the combined arms; FM 100-10 (Field Service Regulations, Administration); and Joint Action of the Army and the Navy, 1935. Policies and procedure for coordinated action by United States land and sea forces , as set forth in the latter publication, are particularly applicable to the operations of task forces composed of military and naval units. Doctrines pertaining to the defense of coast lines and landing operations on hostile shores are discussed in other manuals.

Field Service Regulations, Larger Units, is not intended as a treatise on war but as a guide for commanders and staffs of air forces, corps, armies, or a group of armies. Operations of the division are discussed in FM 100-5.

This manual emphasizes the importance of modern means of combat. It stresses the fundamental doctrine that successful modern military operations demand *air* superiority.

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BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,
Chief of Staff.

OFFICIAL:

J. A. ULIO,
Major General, The Adjutant General.

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LARGER UNITS

CHAPTER 1

HIGH COMMAND

		Paragraphs
Section	I. General.....	1-10
	II. Theater of operations.....	11-19
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■ **1.** The *President* is Commander in Chief of the armed forces of the United States. He exercises command over the Army through the Secretary of War, who is charged with carrying out the policies of the President in military matters. The duties of the Secretary of War are performed subject always to the exercise by the President, directly through the Chief of Staff, of his functions as Commander in Chief in relation to strategy, tactics, and operations. The *Chief of Staff*, United States Army, is the ranking officer of the Army.

■ **2.** The *Army of the United States* is organized to provide, under the Secretary of War and the Chief of Staff, a War Department General Staff; a ground force, under the Commanding General, Army Ground Forces; an air force, under the Commanding General, Army Air Forces; and a service of supply command, under the Commanding General, Services of Supply; and such oversea departments, task forces, base commands, defense commands, commands in theaters of operations, and other commands as may be necessary to the national security.

■ **3.** The *Chief of Staff* is the immediate adviser of the Secretary of War on all matters relating to the Military Establishment and is charged by the Secretary of War with the planning, development, and execution of the military program.

■ **4.** The *War Department General Staff*, under the direction of the Chief of Staff will coordinate the development of the armed forces of the United States and insure the existence of a well-balanced and efficient military team. The War Department General Staff

AGF eventually became CONARC (Continental Army Command), then split into FORSCOM (US Army Forces Command) and TRADOC (US Army Training and Doctrine Command; roughly equivalent to WW II's Replacement and Schools Command). Army Air Forces is now, obviously, a separate service.

assists the Chief of Staff in the direction of field operations of the Army of the United States. It is specifically charged with the duty of providing such broad basic plans as will enable the Commanding Generals of the Army Ground Forces, Army Air Forces, Services of Supply, defense commands, task forces, and theaters of operations to prepare and execute detailed programs.

■ **5.** The mission assigned the field forces (see **FM 100-5**) is ordinarily contained in one or more war plans, which are placed in operation by the direction of the President after the necessary declaration of war by the Congress. Should hostilities break out under conditions foreign to, or in the absence of, any specific war plan, the mission of the field forces is prescribed by the President. This mission may prescribe a definite scheme of maneuver or may authorize great freedom of action under a general directive. When initial shortages exist in munitions, special types of units or equipment, control measures may prescribe limited or special operations, pending the procurement of the means necessary for more general operations.

■ **6.** The Chief of Staff is the military commander of the field forces. Under the direction of the President he prescribes the ends to be accomplished. He exercises command through the issue of directives, letters of instruction, memoranda, or orders to theater, defense command, task force, department, and similar commanders. Usually the details of execution will be left to the lower commander. Because of the magnitude of the movements and logistical arrangements required, the instructions to subordinate commanders must usually be general in scope, allow for contingencies, cover considerable periods of time and be issued well in advance of the time of execution of the operations. Specific instructions may be issued for the execution of a definite operation for a limited period. To provide a guide for the lower echelons, these specific orders may be accompanied by general instructions suitable to meet possible developments in the situation. The form or wording of the instructions is not so important as their clarity. An energetic follow-up must insure that they are effectively executed or are modified at the proper time to fit a changing situation.

■ **7.** Among the more important responsibilities of the War Department General Staff are—

a. Determination of the enemy's resources, combat strength, major dispositions, and capabilities.

b. Decisions upon and preparation of broad basic plans of campaign.

c. Determination of the organization and training required for the contemplated operations.

This has changed dramatically. With the Goldwater-Nichols Act of 1986, the chiefs of staff lost command authority over field forces.

d. Determination of requirements, and allocation and distribution of means.

e. Accurate and clear delimitation of responsibilities of major subordinate agencies.

f. Approval or modification of plans and estimates submitted by subordinates.

g. Coordination of the activities of the field forces.

h. Attainment and maintenance of high morale, and combat and logistical efficiency.

■ **8.** The War Department General Staff must foresee and plan far in advance and, from time to time, warn appropriate subordinate commanders of its ultimate plans. While current plans and orders are being carried into effect, future projects must be foreseen, in order that means may be accumulated and, if necessary, installations changed or established to carry them out. The War Department General Staff must be one campaign ahead in its preliminary planning. It must take into its confidence those subordinate commanders from whom preliminary studies and tentative plans are required.

■ **9.** Subordinate commanders are assigned missions in accordance with the general plan. They are given the means to accomplish their tasks and are held responsible for results.

■ **10.** An accurate and sound estimate of the means necessary to accomplish a desired objective is a requisite of great importance to the War Department General Staff. The Staff must ordinarily view in their broader aspects the contemplated operations, terrain, enemy forces, and the dispositions of friendly troops and logistical arrangements. The operations contemplated. must envision a general victory rather than local successes. However, the detailed requirements of the lower echelons must be known and provided for if local and later main successes are to be assured. The study and determination of these means may, and ordinarily should, be delegated to commanders of the next lower combat echelons who are in close touch with the enemy and actual conditions of terrain, and with supply and combat efficiency pertaining to the units which are to conduct the operation. The War Department General Staff will seldom attempt to make this detailed study. When time is very short, when great secrecy is essential and when detailed knowledge of local conditions exists. such a study may be possible but it is advisable only exceptionally.

With the postwar reorganization, the War Department was replaced by a Department of Defense, comprising its own staff and the service (Army, Navy, Air Force) staffs, each with its own CoS.

Field forces are now under joint Combatant Commands (COCOMs).

SECTION II

THEATER OF OPERATIONS

■ **11.** *Theater of operations* is a term used to designate that portion of the land, sea, and air areas of the theater of war necessary for military operations, either offensive or defensive, pursuant to an assigned mission, and for the administration incident to such military operations. No absolute and invariable distinction can be made between the terms "theater of operations," "base command," and "defense command." In general, however, the term "theater of operations" is more inclusive, being applicable to an extensive area in which military operations of any type may be conducted, whereas the term *base command* is normally used to designate a smaller area in which the primary mission is the maintenance of a military base or bases. The term *defense command* usually indicates an area in which contemplated operations are restricted to the tactical or strategic defensive. The theater is organized for tactical control and administrative control to the extent dictated by War Department instructions. The character of modern warfare does not permit a complete division of the administrative and combat functions of the theater into entirely separate areas. Combat operations will take place throughout the entire theater and the commander must organize his forces and area so as to permit the necessary unity of command for both combat and administration. If the theater of operations is divided into a combat zone and a communications zone, the boundary between them is prescribed to coordinate administrative responsibilities. The necessity for organization in depth may require that army commanders have tactical control of operations within the forward limits of the communications zone. Interceptor commanders will normally control interceptor operations in both the combat and communications zone.

■ **12.** The *combat zone* comprises that area of the theater required for the armies. It is divided for tactical control into army, corps, and division areas, each controlled by the commander of the corresponding unit. The combat zone ordinarily should contain no fixed supply or evacuation establishments. The rear boundary is designated by the theater commander and is changed to conform to the movement of the armies.

■ **13.** The *communications zone* is that part of the theater in rear of the combat zone containing the principal establishments of supply and evacuation, lines of communication, communications zone police forces, and other agencies required for the immediate support, maintenance, security, and well-being of the forces. Laterally, it includes sufficient area to provide for the proper operation of supply, evacuation, transportation and for the defense

A theater of operations is generally brought into being when combat requires it—that is, in time of war. Nowadays it's hard to tell from day to day whether we are, strictly speaking, at war. The new expression Combatant Command is more or less equivalent to Theater of Operations; the busiest for some time has been CENTCOM, which includes Iraq and Afghanistan; AFRICOM is getting interesting lately.

Why the changes? For one thing, it is easier to change a name than to change anything substantive.

thereof. The rear boundary may be designated by the War Department. It may be divided into base, intermediate, and advance sections depending on the length of the lines of communication, geographic features, or other factors. A base section is desirable when for any reason supply cannot be kept sufficiently regular or balanced by shipments from the zone of the interior. If communication forward of the zone of the interior is effective and sure, the communications zone may be organized as an advance section with depots containing balanced stocks, and sufficient evacuation and replacement establishments to serve the troops adequately. For details of organization and functions of the communications zone see **FM 100-10**.

■ **14.** A *theater commander* may be designated by the President or by the War Department.

■ **15.** The *mission of the theater commander* may be prescribed in an approved war plan or it may be stated in a letter of instructions or other orders from the President or the War Department. The mission assigned will usually be general in character and leave great discretion to the theater commander. Ordinarily, he is consulted prior to the promulgation of the plans. He may be called upon to prepare such plans.

■ **16.** The theater commander, pursuant to policies announced by the War Department, is directly responsible for the administrative and combat operations within the theater. The administrative responsibilities of the theater commander are discussed in **FM 100-10**. His responsibilities for combat operations and the formulation of plans are analogous to those of the Chief of Staff. It is his responsibilities that operational plans provide for coordination of the land, sea, and air forces at his disposal and that such plans are energetically and effectively executed. He must plan far in advance.

■ **17.** The extent of the *territorial control* exercised by a theater commander will vary. He may exercise very limited control over the territory included within the area occupied by elements of the communications zone and even over portions of the combat zone. At the other extreme, when a hostile country is invaded, the control by the theater commander over the enemy territory included in the theater may be all-inclusive. Each situation presents a separate problem. For example, in a theater within home territory, control of vitally important industrial plants, transportation nets, depots, arsenals and ports of embarkation by a theater commander might so seriously jeopardize the functioning of the zone of the interior as to warrant exempting them from theater control. Furthermore, a theater commander should be relieved of the administration of any area or activity not important to his

mission and for which there is another agency equally capable of performing this duty without conflicting with or jeopardizing theater interests.

SECTION III

TASK FORCES

■ **20.** A *task force* is a tactical grouping composed of one or more arms or services constituted for a specific mission or operation. The composition and strength and the special training, equipment, and weapons required can be determined only after a careful estimate of the mission, the area of operations, including the routes of communication and climatic conditions, and the kind of resistance to be expected. Proper organization, suitable equipment, and thorough training for operations in the particular area may be decisive in the successful accomplishment of the mission assigned the task force. For the successful accomplishment of the assigned mission the commander must assure the concentration and complete coordination at decisive areas of the forces (land, sea, and air) allotted him.

A task force is in some respects equivalent to the German *Kampfgruppe* in that it designates a special, usually temporary, combination of units, generally in combination of arms.

For example, the D Day NEPTUNE plan (ground forces part of OVERLORD) specified that, on securing the Beach Maintenance Line, the 1st Battalion 116th Infantry would pick up the remainder of the 2nd Rangers and form Task Force Sugar, advancing toward Isigny and the bridges over the Aisne River connecting OMAHA and UTAH Beaches.

CHAPTER 2

PLANNING A CAMPAIGN

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SECTION I

INFORMATION

■ **21.** The effective execution of an assigned mission necessitates careful planning and preparation, which require that the commander be provided continuously with carefully evaluated information (intelligence). During peace and war, the collection and evaluation of information is a continuing process. During peace, the most important function of the Military Intelligence Division of the War Department General Staff is to make thorough and continuing studies of every country and possible theater of operations and have these studies readily available and in usable form (surveys) for the field forces. These studies include composition, organization, distribution, combat efficiency, equipment, and tactical and supply doctrines of the armed forces; personalities of high commanders; resources in manpower and material; economic conditions; history of the country; political situation, religious characteristics, national aspirations, and psychology. Of especial importance are the military geography, topography, and climatic conditions, with particular attention to the study of roads and rail nets, airdromes and landing fields, and harbor facilities.

■ **22.** The topography of the theater will influence the organization, equipment, and supply of the forces involved. Early and detailed study of the terrain must be made in order to determine the means necessary for the successful conduct of the advance and later maneuvers. Terrain may dictate the type of operations in certain areas. The effective employment of the armored and motorized elements of a large command will depend largely on the terrain over which they operate. (See par. 53 and FM 31-15, 31-20, 31-25.)

■ **23.** In times of strained relations the War Department must exhaust every possible source of information to keep itself and commanders of field forces advised of air, military, and naval dis-

Sometimes the G-2 drew on unusual sources. While vacationing in France in the 1920's, then-Colonel G. S. Patton and his long-suffering spouse toured the countryside, a copy of Caesar's *De Bello Gallico* in hand, following the paths of the legions on campaign and so discovering a number of unheralded river fords that just might prove useful some day.

positions and movements of potential enemies and of the trend of diplomatic relations. Commanders of the field forces must keep themselves informed of the possibility of a surprise attack being made both from without and within, previous to the declaration of war. During this period commanders must dispose their forces so that a sudden attack will be defeated. All intelligence agencies focus their attention on obtaining early information of changes in dispositions of potential enemies, paying particular attention to the approach within striking distance of any forces. Usual dispositions and routine activities must be varied. Effective counterintelligence measures must be taken to keep secret our own dispositions and plans. Positive steps will be taken to deny information to agents and sympathizers of potential enemies and to prevent sabotage and cooperation of fifth columnists with the enemy in case of attack. Commanders will keep themselves informed of the measures being taken by naval, Federal, and local civilian agencies that may be concerned with combating activities of potential enemies and will cooperate with them to the fullest extent.

■ **24.** During war, the intelligence agencies of the field forces are primarily concerned with obtaining complete information about the hostile forces confronting them or those capable of intervening, and the terrain of actual and projected operations. Correct evaluation of this information and its integration with that furnished by the Intelligence Division of the War Department General Staff, furnish a sound basis for the planning and execution of operations. Although many peacetime sources of information will be closed or made difficult of access in war, there can be no lessening of efforts to obtain information. It is especially important that the War Department use every available means to obtain correct information about the internal political, economic, and psychological condition of the opposing nation or nations so that any weakness discovered can be fully exploited.

SECTION II

THE PLAN OF CAMPAIGN

■ **25.** The *plan of campaign* may be prepared by the War Department in peace to meet a possible or probable situation. Such a plan must be characterized by great flexibility so that changes occurring in the international situation as well as in the economic, military, and psychological conditions of the probable enemy may be met promptly and with no disruption of the efficient operation of the armed forces. On the other hand, the *plan for operations* is usually formulated by the theater, defense command, task

The elder von Moltke once observed that "No plan of operations extends with certainty beyond the first encounter with the enemy's main strength."

force, or similar commander designated to command in a particular area.

■ **26.** Regardless of whether the plan of campaign is prepared to meet a probable or an existing situation, there must be detailed consideration of mission, means available or allotted, lines of action which will accomplish the mission, areas in which the forces will be concentrated, the probable enemy composition and capabilities, supply requirements, routes of communication, signal communication, and the terrain within the theater. *Special consideration must be given to relative air and armored force strengths.*

■ **27.** In preparation of the plan, every effort is made to assure that upon the outbreak of hostilities, the friendly forces will be suitably disposed to meet the enemy at the time and in the area most favorable to the successful execution of the contemplated scheme of maneuver. *The plan must provide for a rapid concentration of forces for employment in a decisive direction.* It should also contemplate probable successive operations to continue the success achieved initially, as well as provide for action to be taken should the results be other than those hoped for or expected. The movement and employment of larger units require long-range planning and preparations. Whereas the smaller unit commander may only plan from day to day, or hour to hour, the army and higher commanders must project themselves days and weeks into the future. Such a commander must visualize the whole campaign; he must carefully evaluate the situations which may develop as a result of his planned maneuver; he cannot be unduly influenced by local reverses or failures. His conception must be that of the operation as a whole. His primary attention must be focused on the objective of the campaign.

■ **28.** Major terrain features, such as large rivers, lakes, heavily forested areas, and mountain ranges; the character, position, and shape of frontiers; density of population and consequent refugee problem; transportation means; and the number and location of routes of communication may play a decisive role in the employment of large forces. These factors require careful analysis as to their effect on contemplated combat operations and the supply of the forces engaged.

■ **29.** Each plan of campaign must include the following major decisions:

- a. The mission of the force, the objective.
- b. The course of action to accomplish the task.
- c. Troops and special equipment or material required (task forces).

This is sometimes shortened as "no plan of battle survives the first shot." As soldiers, we have a weakness for uncritical acceptance of anything said by successful Germans. But here is another one, from Friedrich Schiller: "*Mit der Dummheit kämpfen Götter selbst vergebens*" ("against stupidity the gods themselves contend in vain").

What Moltke was saying (quite correctly) could be more intuitively stated as "stay flexible, because the enemy always gets a vote." It is emphatically *not* an admonition to abandon plans and rush into battle with a light heart and an empty skull. It's much easier to modify a plan with fragmentary orders (see **FM 101-5**) that start from zero when a battle starts to go south.

For terrain analysis, see again **FM 101-5**.

d. The method, location, and security of the concentration.

e. Supply arrangements and routes of communication.

f. An estimate of the time required to effect all measures prior to and during active operations.

■ **30.** Decisive action results from clear-cut, comprehensive plans, based on a full utilization of all available strength and means. The opportunity for decisive action may be foreseen initially or it may have to be created during the operations. In either situation, flexibility of plan is of major importance so that the commander may exploit favorable developments in the general situation. This flexibility must exist in all phases of the operation. By surprise, by skillful use of the terrain, and by concentration of the power of all arms at decisive points the commander should plan to secure and retain the initiative.

SECTION III

THE OBJECTIVE

■ **31.** The *object of war* is to impose the will of one country upon that of another. The accomplishment of this object normally requires the decisive defeat or destruction of the hostile armed forces.

■ **32.** In planning an offensive campaign, a major problem which signed mission will require the selection of a physical objective or series of objectives, the occupation, destruction, or neutralization of which will bring about the decisive defeat or destruction of the enemy or will constitute a threat so great as to cause him to sue for peace. The selection of air force objectives from the viewpoint of the higher commander is discussed in chapter 7. The range and flexibility of air forces present such a large number of objectives that the higher commander must give this careful consideration. Maximum force must be concentrated against that particular objective or system of objectives most vital to the success of the campaign.

■ **33.** The *selection* of objectives will be influenced by two main considerations. The first will be the position of the enemy's military forces or the mass of these forces and their lines of communication. The second will be the location of the following vital essentials of a nation's existence:

- a. Vital industrial, communication, and commercial centers.
- b. Sources of raw materials.
- c. Lines of communication and supply within the nation.
- d. Seat of government control and administration.

Living historians, take careful note: Armies do not win by burning powder, looking for a fight, making sure everybody gets a chance to shoot. They win by selecting appropriate, decisive objectives (e.g., "secure Hill 963, denying enemy movement along the BIDONVILLE-MERDEVILLE road").

The list of strategic objectives listed in para 33 is a statement over highest level (grand-strategic) pressure points; lower level objectives, however, follow the same general plan: to wit, hurt the enemy, impede his ability to bring force to bear.

■ **34.** Whatever the objective selected for the initial operations, the decisions and plans of the commander must be positive and clear-cut, and they must visualize the attainment of the ultimate objective. Unless the commander already possesses sufficient air superiority to permit other operations, the initial objective must include the attainment of air superiority. This may also require operations to acquire bases from which effective air operations can be conducted.

In planning initial operations to attain air superiority, higher commanders are responsible for causing all suitable means under their control to be employed to this end wherever armed forces may operate. (See par. 216.)

Objectives which will gain the initiative and force the enemy to regulate his movements on those of the attacker may be necessary initially. The selection of such objectives may force the enemy to leave any prepared and probably fortified localities which are favorable to the execution of his plans. Armies or groups of armies do not therefore of necessity move directly against the enemy's main forces but may advance toward some locality *containing the essentials of his national life and thus force the enemy to move to its defense, or abandon important territory or areas of military advantage to him.*

The nation's capital is ordinarily the junction of a network of road and rail communication, the focus of wealth, and the nerve center of the people. If this or any other of the vital elements of a nation's life is in the path of advance of the armed forces, the enemy will certainly fight for its safety, and he will interpose all or a part of his armed forces. An advance on the capital or the seizure of a vital or valuable district may thus assist and be preliminary to obtaining the final objective, the decisive defeat or destruction of the hostile forces.

An objective may be selected, the defense of which will place the enemy in an unfavorable position for decisive battle. such a situation may exist where the terrain would prevent the enemy from employing a certain important type of combat power, such as armored forces, in which he is superior, or where the enemy would be denied room to maneuver his troops in battle. An objective may be selected which forces the enemy, in marching to its defense, to move his army by separate lines of advance out of mutual supporting distance, thus permitting his forces to be defeated in detail.

SECTION IV

COURSE OF ACTION

■ **35.** The military situation and the political objectives of the war will determine whether the course of action of the nation at war is

Note, however, that wars fought subsequent to the one guided by this FM have had somewhat more modest objectives. Total war between symmetric foes (that is, equal adversaries) are generally more limited in nature. This contravenes one of Clausewitz's first principles (there is no such thing as limited war). Clausewitz lived in a different world order, one uncomplicated by weapons of mass destruction and different political ethics.

initially offensive or defensive. Under any circumstances the higher commander should be fully conversant with the political objectives so that his strategic plans of action may attain these objectives.

■ **36.** When one nation seeks to impose its will on another by force of arms, invasion of territory, or occupation of vital areas, the aggressor nation is undertaking the *strategic offensive*. For success, the commander engaged in the strategic offensive must not only bring superior forces to bear in the air and on the ground, but he must provide for the security of an ever-lengthening line of communication and all its installations; he must not only operate against the armed forces of the enemy but must protect his forces against a hostile population. Superiority of forces does not rest in numbers alone; it may rest in equipment, in leadership, in position, in training, in morale or in a combination of some or all of these and other factors.

■ **37.** Once the strategic offensive has been determined as the national policy it becomes the mission of the War Department to select the course of action which a careful estimate of the situation indicates will most surely and quickly impose the national will on that of the opponent. It must so organize and direct the field forces as to insure the full realization of the national aim at the peace table. The defeat of the enemy is its sphere of operations. The terms of peace are the province of the civil branch of the government.

■ **38.** When the political objective of a nation at war is simply the denial of what is desired by the opponent and the preservation of the *status quo*, the integrity of its territory and institutions, that nation is on the strategic defensive. Its national objective may be secured by the repulse of the invader, by the exhaustion of his resources, and the breaking of his will to continue the offensive.

■ **39.** Whether the general course of action be the strategic offensive or the strategic defensive, both the *tactical offensive* and the *tactical defensive* separately or in combination, will be employed to gain the ends sought. For detailed discussion of these operations see **FM 100-5**.

The fundamental principle that decisive results can seldom be achieved except by the tactical offensive applies equally as well to the armed forces employing the strategic defensive as to those employing the strategic offensive. The exhaustion of the enemy's resources and the weakening of his will to continue the offensive cannot be obtained by the tactical defensive alone. The forces on the strategic defensive will employ effectively the tactical offensive to achieve surprise, upset the opponent's calculations and achieve local successes which in increasing numbers, may so

The distinction between strategic and tactical offensive or defensive addresses the principles of *mass* and *economy of force* (see essay on principles of war). In a geographically widespread general war, there will be more than one theater, and each theater may have more than one objective area of operations. While on a general strategic offensive, some areas may revert to defense (usually to permit resources to be shifted to reinforce offensive objectives). Third Army, for example, was ordered to assume a tactical defensive so POL (Class III) resources could be shifted to XII Army Group in the north. Nobody likes to be the defensive part of the show, but sometimes it is necessary.

change the balance as to permit the original defender to assume the offensive and decisively defeat the opponent.

■ **40.** For more detailed discussion of offensive and defensive maneuver see chapter 5.

CHAPTER 3

STRATEGIC CONCENTRATION

■ **41.** A *strategic concentration* is the movement and assembly of designated forces into areas from which it is intended that operations of the assembled force shall begin. The purpose of the strategic concentration is to permit the commander to assemble the mass of his forces prior to actual operations so that they are best disposed to initiate the plan of campaign. Speed and secrecy in concentration, followed by bold, rapid execution of the plan, may be a decisive factor in the defeat of the enemy. By the concentration of his forces, the commander has taken the first step in executing the plan of campaign.

■ **42.** The specific locations of the concentration areas and their distance from the enemy are influenced by—

- a. Suitability for the projected plan, offensive or defensive.
- b. Probable hostile course of action.
- c. The capabilities of any opposing forces to interfere with the concentration.
- d. Railroads, roads, waterways, air and other routes of communication and their capacity not only to effect the concentration but to meet the logistic requirements of the troops.
- e. Terrain.
- f. The time required to complete the concentration. Piecemeal concentrations should be avoided. Plans should envisage coordinated action by the whole force in a decisive blow.
- g. The capabilities of defense forces to afford protection from air attacks directed against the concentration area and lines of communication thereto.

■ **43.** The grouping or disposition to be made of the major units of the force within the concentration areas in order to execute best the plan of campaign is affected principally by the following factors:

a. The grouping (that is, the organization and disposition of the forces in the area) depends on the mission, enemy situation terrain, and projected maneuver. An incorrect initial grouping will require the subsequent shifting of troops with possible resultant confusion and loss of time.

b. When the situation is so clearly defined that definite plans for the next operation can be formulated, the plan of concentration

This refers to the principles of *mass, objective, and economy of force*. The German expression (attributed to von Manstein) *klotzen, nicht kleckern* (boot 'em, don't spatter 'em) applies here. Unless you can achieve local superiority everywhere (in which case, the outcome is ordained), you will have to be nimble, bold, and bring maximum force to bear at the critical point.

assembles and disposes the available forces so as to permit their being launched without delay in a decisive direction against their objectives. There may be, therefore, a direct transition from the concentration to an advance, an offensive operation, or a defensive operation. Ordinarily the concentration is followed by an advance. It is highly advantageous to precede the advance by appropriate detachments from the component combat units to make a detailed preliminary reconnaissance to facilitate the early entry of their units into action.

c. When the situation is not clear enough to justify the definite planning of a particular scheme of maneuver, or if it is such that only the most general plans can be made, a plan of concentration is prepared which places the forces in the concentration area so disposed as to meet effectively any probable contingency. This may necessitate provisions for meeting a possible hostile offensive operation or for launching the offensive should an opportunity suddenly arise. Such a plan provides for contingencies that may occur during the progress of the concentration as well as after its completion.

d. Ordinarily, the concentration should be so arranged and executed that the enemy is kept in ignorance of the location of the mass of the forces. Yet, in some situations, to further deception, it may be desirable to concentrate without particular attempts to obtain secrecy or concealment and thus focus hostile attention on the area. This is especially true when the commander intends to launch a secondary effort from the area in which his mass is concentrated followed by a shifting of this mass to another area for the decisive blow. In considering such an operation, careful analysis must be made of the means, the time and space factors, and the routes of communication to assure that the forces designed for the main blow can be moved rapidly to strike with surprise.

e. Under all circumstances there must be sufficient flexibility to meet unexpected developments in the enemy situation, as well as in the mobilization program and progress of the concentration itself.

■ **44.** The security measures to protect the concentrations must be based on the following considerations:

a. The plan of concentration must provide continuous protection against hostile ground observation and attack. The concentration should be screened and protected by air and ground forces, and, as far as practicable, should be protected by natural features which, while affording security, will not interfere with the execution of the plan of campaign. In some situations the concentration may be accomplished under the protection of friendly forces not a part of the troops being concentrated. In others, the force

Always bearing in mind, of course, that the enemy will interpret such things as a sudden increase in patrolling or groups of people standing on high ground looking through binoculars as evidence of intention to attack. Be careful.

Even intellectually challenged enemies watch for a mass lurking behind your front and signaling a punch; far better to keep the force dispersed and mass it only at the critical moment.

At the Battle of Kursk in 1943, the timing for the kickoff of a major pincer assault was delayed again and again, and the masses of armor deployed near the *Schwerpunkte* tipped off the Red Army and stymied the last major German offensive in the East.

es being concentrated must provide all security measures for the concentration; this necessity will affect the sequence of troop movements into the area. It may be necessary to prohibit all daylight movements by large forces. When the concentration area is distant from the enemy and superior air forces are available with which to protect the concentration against air observation, it may be practicable to concentrate by day; but when the enemy is near it will be impossible to prevent all enemy air reconnaissance, and night movements, ruses, and stratagems must be resorted to if any considerable degree of secrecy and deception is to be attained.

b. Concentration areas must be made reasonably secure from air attacks by the defeat or limitation of the hostile air force. Depending on the strength with which it is made, hostile air attack is capable of seriously delaying the concentration and of definitely limiting subsequent maneuver. *The establishment of air superiority by our own force should precede or, at the latest, be concurrent with the initial phases of the concentration.* This will require the establishment of an interceptor command and ground defense of airdromes in order to protect the concentration area. (See ch. 7.)

c. In addition to providing for the physical security of the troops during the concentration, the lines of communication must be protected. Protection may be given in several ways:

(1) By selecting the concentration areas so that the communications are protected from ground attack wholly or in part by natural obstacles.

(2) By locating the concentration area between the direction of danger and the lines of communication.

(3) By rapidity of concentration, followed immediately by active operations, thus not giving the enemy time to interfere.

(4) By troops and air bases disposed for protective purposes.

d. Constant and intensive reconnaissance throughout the concentration is essential. Accurate information of the enemy forces forms the basis for the best security.

■ **45.** Certain and direct control of the concentration must be provided.

a. This requires the early establishment of the principal command posts and the early arrival of the forward echelons of these headquarters. It also requires the prompt utilization of existing agencies of signal communication and the development of an adequate signal communication system. When the early arrival of the commander is not possible, staff officers who are fully informed of the commander's plans and alternate plans should be

Note that by the time of the Ardennes offensive in December 1944, the Luftwaffe was capable of air superiority only in local areas and for a limited time. This was offset by the advantage of poor flying weather for most of the month.

Again, concentration of forces should take place at the latest possible moment to maintain the advantage of surprise.

sent into the area to coordinate any necessary actions of covering forces and the movements of troops.

b. Proper staff work, including efficient traffic control measures must assure the orderly and uninterrupted movement of elements into and out of the concentration area.

■ **46.** Troop movements into the areas may be made by marching, by rail, motor, water, or air transport, or by a combination of these methods. The means employed will be determined by—

a. Locations of the troops to be concentrated.

b. Availability of railroads and rolling stock, motor and air transport, and the road and waterways net.

c. Time and space factors.

d. Proximity of the enemy and the danger of his interfering with the concentration.

e. Orders of higher authority.

■ **47.** The sequence in which troops should arrive in the area is governed largely by the conditions existing in the particular situation. Control elements should arrive early. Other considerations affecting the sequence of arrival are the following:

a. When the concentration areas are secure and the time element is not pressing, the order of arrival is governed largely by convenience.

b. When the concentration areas are not adequately protected, reconnaissance and security elements must be among the first troops to arrive. This usually requires the early arrival of armored units or cavalry or both, antiaircraft artillery, tank destroyer units, engineers, other mobile ground elements, and air force elements.

c. When active operations are to be initiated before all the troops can be concentrated, elements of all arms necessary to form the task forces needed for the initial operations should arrive immediately after the reconnaissance and security elements. Necessary service elements must arrive in the area at this time.

d. It is desirable that the principal combat units come in as complete units rather than by fragments at widely separated times.

e. Service elements can usually be brought in by echelon. It is of the utmost importance that service elements necessary to administer the combat echelons arrive sufficiently early to perform their tasks effectively.

CHAPTER 4

ADVANCE FROM CONCENTRATION

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SECTION I

FACTORS AFFECTING THE PLAN OF ADVANCE

■ **48.** In formulating his plan of campaign the commander visualizes the operations as a whole from the initiation of the concentration to the accomplishment of his mission. The advance from concentration is but one step in the campaign, yet the preparation, direction, speed, and surprise with which this step is taken may be of decisive importance.

■ **49.** It is fundamental for the commander to evaluate his mission, objective, and available means. In addition he must carefully evaluate *all* other factors which will affect the advance, either favorably or adversely. *Some* of these are

a. Location of main hostile forces and where and how it is desired to meet them, or where contact with main hostile forces may be expected.

b. Capabilities of the enemy to interfere with the advance.

c. Lines of communication (railroads, roads, waterways, air).

d. Topography of area to be traversed.

e. Probable weather conditions.

f. Hostile fortified areas.

g. Organization of task forces and employment of air forces and armored forces.

h. Employment of detachments for special missions.

i. Time and space.

j. Means for attaining and maintaining air superiority.

k. Measures for reconnaissance, counterreconnaissance, and all around protection.

■ **50.** Information of the enemy, obtained during the concentration, will furnish the commander with strong indications of the location of the main hostile forces and movements of major elements thereof. The elements of the command should begin the advance disposed to facilitate execution of the projected scheme of maneuver, and to be able to take advantage, quickly and decisively, of any changes in the situation learned as a result of aggressive reconnaissance and other information-gathering means. The commander regulates or changes the dispositions of subordinate units during the advance so that his main forces will be favorably disposed for decisive action on contact. (See pars. 58 to 64, incl.) Particular attention must be paid to the location of supporting air forces and means of communication therewith by advance elements to permit prompt response to calls for air support.

■ **51.** The enemy may seek to impede the advance with combat aviation and mechanized means, by sabotage of key points on the rail or road nets, and by forcing refugees on the roads · by indiscriminate air attack of the civil population. Daylight movements within range of hostile aviation must be preceded by attainment of air superiority. An advance opposed by a superior air force must be made by night marching in widely separated formations with appropriate time allowance. In either event protection by combat aviation and antiaircraft artillery should be provided. Hostile mechanized delaying action, harassment, and raids may be frustrated by mobile security detachments operating well in advance and on the flank of main bodies. These should comprise strong tank destroyer, engineer, motorized, and armored means, with reconnaissance aviation in direct communication and bombardment aviation quickly available on call by prearranged means. Sabotage must be prevented by protection of key points by military personnel or civilian agencies subject to military control. The use of parachute troops may be necessary to secure these points and protect them until ground troops arrive. Traffic blocking by refugees must be prevented by measures to insure uninterrupted passage of military traffic. It is easier to deny refugees access to a road than it is to clear it once it is clogged by them.

■ **52.** Lines of communication exert a dominant influence on the advance and operations of large forces. All railway, road, and waterway routes and means of transportation must be studied to provide for their efficient utilization, protection, repair, and maintenance. Utilization of the various available means must be

integrated to provide the best whole system. Railways are unsurpassed for hauling large volumes, and tonnages over long distances at high speed, but they are the means most vulnerable to continued damage and destruction by hostile aviation, mechanized demolition detachments, and sabotage. When available they will be the primary transportation means in comparatively secure areas. The extensive use of motor vehicles and advantages of the mobility afforded by them make roads a major factor in the advance and operations of large forces. In planning the concentration and advance the commander must carefully evaluate the road net on which his mission and objective dictate that he operate. It is a consideration strongly affecting the capabilities for rapid maneuver, supply, and for dispersion to afford less remunerative air targets with subsequent concentration for attack. Plans must provide for coordination of road use by subordinate units and effective flexible control of traffic. Waterways, both sea and inland, may play an important role in the movement of supplies and sometimes, of troops. Boats and barges have large volume and tonnage capacity, are comparatively slow and especially vulnerable to attack by hostile air and land forces, and by sea forces if movement is by sea. Their use must be accompanied by special measures for their protection. Air transport is characterized by great speed, comparatively low volume and tonnage capacity, unlimited choice of routes within its range, freedom from intermediate terrain obstacles, restriction to suitable landing fields, and vulnerability to air attack and ground-based fire. It is adaptable to the movement of large units when heavy or bulky equipment is not essential or may be shipped by other means. It is an effective means for refueling and supplying armored elements or other detachments operating at a great distance from supply bases. Its success is predicated on air superiority or surprise, neutralization or avoidance of anti-aircraft fire, and the ability to seize or prepare landing fields and protect them.

■ **53.** Mountain ranges, great hill masses, escarpments, deserts, jungles, large rivers, and lakes may block, retard, or canalize ground movement. They may impose the necessity for special equipment and training. These factors must be considered in the planning and conduct of the advance. The commander must seek to turn topographic features to his advantage. Barriers across the line of advance facilitate hostile delaying action, yet there may be key features, the early seizure of which will counter hostile attempts to delay. The commander employs highly mobile units to seize early control of the exits from defiles and establish bridgeheads. Canalized movement of the main force dictates use of all means for protection against air attack. Barriers paralleling the line of advance, with few crossings, screen the flanks against con-

"Canalize" means literally to "channelize"—force the enemy into a narrow avenue of movement where he can be effectively targeted.

certed efforts of large hostile forces, but provide the enemy with a screen from which to raid the flanks, rear, and lines of communication. Such surprise must be prevented by thorough reconnaissance and security measures. Parallel barrier masses interlaced with roads may permit the movement of large hostile forces unless the roads are blocked by adequate security detachments. Hostile canalized movement should be attacked by bombardment aviation. Operations in deserts and large jungle areas present special problems, which are discussed in detail in FM 31-25 and 31-20. The employment of a large proportion of highly mobile, hard-striking ground forces in combination with aviation strong enough to assure air superiority and transport troops and supplies is the commander's best guarantee of a successful advance and the defeat of the enemy in desert areas. The need for special equipment and training in desert and jungle areas must be considered early in planning. Measures must be taken to protect personnel against the natural hazards peculiar to such areas.

■ **54.** The effects of probable weather conditions must be considered in planning the advance in order that risks and delays imposed by adverse conditions may be foreseen and measures taken to alleviate them. Generally only seasonal changes may be anticipated. Among important weather effects are mud, swollen or flooded streams, snow, ice, and extreme cold. Lakes and marshes may freeze sufficiently to provide for the passage of troops and vehicles. Roads may become impassable because of snow or ice, particularly in mountain regions. For details of operations in snow and extreme cold, see FM 31-15. Weather has a perverse faculty for being unusual. The commander must not depend on the occurrence of conditions unfavorable to his adversary. He should, however, be alert to capitalize upon them if they do occur.

■ **55.** In determining the direction of advance, the commander must evaluate the effect of hostile fortified areas. It may be advantageous to contain them and continue the general advance of the main force on more distant and decisive objectives. When they impose a continuous barrier, they must be studied in detail to determine where they may be attacked most advantageously. The commander must not permit the presence of a fortified area to divert him from the timely accomplishment of his mission. See **FM 100-5** for discussion of the attack of fortified areas and fortresses.

■ **56.** Every effort is made to mislead the enemy and cause him to draw false conclusions. Special mission forces (detachments), organized and equipped according to mission, may be employed for diversions, feints, and attacks on hostile rear areas, to focus the attention of the opposing commander. Such missions are justified only when their accomplishment will assist the whole operation.

Feints and diversions are effective only when made in a direction in which a major offensive operation would be practicable.

■ **57.** Time and space must be considered in their relation to all other factors. Every advantage conferred by modern transport should be utilized to place the enemy in an unfavorable situation. Time permits an enemy to develop resources and organize resistance. A force with an offensive mission should advance to strike the enemy with overwhelming force before he can fully organize his defenses, shift his means, or take other effective counteraction.

SECTION II

THE ADVANCE

MARCH FORMATIONS

■ **58.** The direction of movement and disposition of forces for the advance are of major importance (see par. 50). Initial faulty disposition provides an alert aggressive enemy With an opportunity which he may be expected to exploit fully.

■ **59.** The march dispositions for the advance of a larger unit from strategic concentration may be linear, in depth, echeloned, or a combination of these.

■ **60.** The linear formation is that in which major subdivisions are generally abreast. The formation in depth is a square, diamond, column, or wedge formation. Formation in echelon is that in which the larger units are placed one to the rear and partially or wholly to the flank of another. Echelonment on both flanks produces a wedge.

■ **61.** Linear formation makes supply less difficult, simplifies control of movement, and facilitates rapid movement and rapid employment of the whole force. It facilitates convergent action with the object of envelopment. It sacrifices flexibility by bringing about comparatively complete commitment of the force and, if columns are widely separated presents the risk of their defeat in detail.

■ **62.** When formation is in depth, action of the leading elements may force the enemy to disclose his dispositions. Advance elements may be employed to gain time and secure freedom of maneuver for the remainder of the force . Coordinated action in any direction by a large portion of the forces is more readily brought about. The disadvantages are added difficulties of supply and the possibility of exposing leading elements to envelopment. If column

or square formation is used, longer time is required for envelopment.

■ **63.** Echelon formations are a combination of linear and depth formations and have the advantages and disadvantages of both to a varying degree. They facilitate supply and rapidity of movement, expedite deployment, provide freedom of action, and generally permit flank attacks to be met by strong forces. The leading units may force the enemy to disclose his dispositions. *They are useful formations to employ when there is doubt as to the enemy's dispositions.* Disadvantages are possibility of defeat in detail and possible restriction of power of maneuver.

Editor's emphasis.

■ **64.** The primary considerations in adoption of strategic march formations are discussed in paragraph 50. In addition to these considerations, the formation is influenced by the lines of communication and necessity of covering certain areas. Because of the time required to change dispositions of large units, strategic march formations are largely influenced by the formation in concentration. The commander has considered this fact, in planning and conducting the concentration, in accordance with all factors then known to him (see ch. 3). During completion of concentration and during the advance, additional information of the enemy is obtained and other additional factors will become known. The commander regulates dispositions within practicable limits so that his main forces will be disposed for decisive action on contact. (See par. 50.)

RECONNAISSANCE

■ **65.** The commander uses every effective means to supplement existing information of the enemy and the terrain. Reconnaissance by the air force and mobile ground forces must be continuous during the concentration and advance. When information of the enemy's dispositions and movements is meager and uncertain, it may be advantageous to employ strong, hard-striking mobile forces as task forces to break through the hostile protective screen and gain information necessary for the higher commander.

■ **66.** Commanders and staff officers must take every opportunity to make personal reconnaissance of areas likely to be the scenes of operations. Ground observations may be supplemented by observation from the air; there are occasions when air observation is the best, if not the only, means of obtaining a good general view of an area. Ground reconnaissance by commanders of armored units is of special importance.

■ **67.** Distant reconnaissance is performed mainly by the air forces. Both positive and negative information obtained by the air

force is supplemented and confirmed by mobile ground forces in critical areas. Mechanized or motorized units are especially valuable for this purpose. Horse elements will be used for distant ground reconnaissance only when the ground *is* unsuitable for motor vehicles. Coordination is effected by the assignment of areas or zones to the various reconnaissance agencies, taking into consideration their respective characteristics. In large forces of all arms, whose principal subordinate elements have organic reconnaissance agencies reconnaissance lines are designated to delimit responsibility in depth between the higher and lower units. The reconnaissance mission assigned to any agency should definitely state—

- a. The specific information desired.
- b. Where it is to be sought.
- c. When it is to reach the commander.

AIR FORCES

■ **68.** Suitable elements of the air forces are used to execute strategic reconnaissance. Elements so employed usually operate under the direct orders of theater or similar commanders.

■ **69.** Higher commanders must employ combat aviation during the advance to neutralize the hostile air force by counter air force operations unless the air situation is such that the advance is reasonably secure from hostile air attack. Other suitable missions for the air force are to—

- a. Delay the hostile mobilization, concentration, and movement by paralyzing routes of communication.
- b. Immobilize, disperse, or destroy hostile ground forces. Formed bodies of troops and their transportation and motorized and armored elements constitute most remunerative targets.
- c. Destroy routes at defiles, such as bridges and tunnels which are of importance to the enemy yet do not affect the accomplishments of the mission of the friendly forces.
- d. Destroy installations vital to the hostile war effort.

■ **70.** Aggressive employment of the air forces, in accordance with the general plan of campaign which seeks to gain and maintain air superiority and prevent effective hostile air reaction to the advance and maneuver of the ground forces, may prove of decisive importance in the successful conclusion of the campaign.

MOBILE FORCES

- **71.** Mobile forces, especially large armored units strongly supported by other highly mobile ground elements, may be employed in combination with or closely following the operations of combat aviation. They proceed to decisive areas to seize the initiative and gain quick decisions. Parachute and air landing troops may be employed to seize objectives in advance of mobile ground forces.
- **72.** When hostile ground observation is a sufficient threat, mobile forces may initially screen the remainder of the advancing forces by a combination of offensive and defensive action.
- **73.** When the terrain precludes armored operations, large cavalry units may operate over reduced distances on similar missions.
- **74.** Large mobile forces operating in front or on the flank of the main force, as well as on special missions, must be provided with suitable and adequate combat and reconnaissance aviation. (See ch. 7.)

STRATEGIC ADVANCE GUARD

- **75.** A fairly long advance to contact may indicate the employment of a strategic advance guard operating well in advance of the main force to locate the enemy definitely, fix him partially or wholly, and develop the situation. Such action insures the ability of the entire force to execute a decisive tactical maneuver and strike a decisive blow. The strategic advance guard should comprise elements of all arms, since it may be required to fight long and heavy engagements.
- **76.** Important functions of the strategic advance guard include the following:
 - a.* By reconnaissance to locate the enemy, especially his main forces. This reconnaissance complements that of the air forces and any highly mobile ground forces operating directly under the supreme commander.
 - b.* To engage the enemy in order to fix his main forces to a definite locality, to draw them to a definite locality, or to draw them in a desired direction.
 - c.* To screen the main forces and gain time for the movements necessary to carry out the tactical maneuver planned as a result of all information gained.
 - d.* To act as a pivot of maneuver for the main forces.

CHAPTER 5

STRATEGIC MANEUVERS

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SECTION I

OFFENSIVE MANEUVER

GENERAL

■ **77.** The *strategic offensive* retains the initiative; it permits the higher commander to direct his movements and employ his forces in a decisive effort in accordance with his plans. Its psychological advantage is great; it provides a powerful stimulus to the war efforts of both the civil and military components of the nation. Initiated with surprise and energetically followed through, it throws the opponent off balance and on the defensive from which he may be unable to change until decisively defeated or until the accomplishment of the mission assigned the forces initiating the offensive has been achieved.

■ **78.** The strategic offensive demands great initial impetus, continuity of effort, and flexible dispositions, so that its culmination in battle will find the offensive force capable of launching decisive, destructive blows against the enemy forces. For decisive results in modern warfare it is essential that the offensive forces have air superiority in the areas of decisive operations. Combat aviation and motorization have increased striking power both for the offensive and defensive forces, but the offensive force still has the advantage of initiative and earlier concentration. This advantage offers enormous opportunities for success if it is not neutralized by the enemy's ability to canalize or restrict maneuver, or counteract superiority by the utilization of terrain and

combat aviation. The defender, on the other hand, must conform not only to the general movements, but must be prepared to meet the many capabilities of his opponent. This may tend to disperse the defender and weaken him at areas which are, or lead to, decisive strategic objectives of the attacker.

■ **79.** The Maintenance of routes of communication in hostile territory presents numerous difficulties. Large reinforcements in personnel, munitions, and equipment must be kept moving forward. It may be necessary to employ considerable forces in investing or containing fortresses or large fortified areas and holding and exploiting the occupied areas of enemy territory. The inhabitants, as well as parachute troops, can be expected to interfere with the gaining and transmitting of information and with the maintenance of supply lines, as well as to engage in guerilla operations. Careful estimate of the situation will enable the commander to foresee many of the difficulties which may be encountered and provide for timely measures to meet them effectively, without diminishing unduly the power of, or resources required for, his decisive movements.

■ **80.** Whether the strategic offensive can be initiated in all theaters at the same time will depend upon many factors, among which are the mission of the armed forces, the relative strengths of friendly and enemy forces, terrain, lines of communication, and defensive or other strategic requirements in certain areas. With inadequate forces the strategic offensive should rarely be undertaken in secondary theaters. When such an offensive is necessary, it must be launched with boldness, rapidity, and surprise. The assumption of the strategic defensive in one or more theaters may permit the decision to be reached in the primary area of operations. For the doctrines concerning main and secondary attacks see **FM 100-5**.

■ **81.** Strategic offensive maneuvers have for their purpose

a. Forcing the enemy to accept combat under conditions favorable to the attacker.

b. Forcing the enemy to abandon his will to continue warlike operations by occupying or seriously threatening his vital areas.

Since the second contingency will rarely be achieved without battle, the culmination of the offensive maneuver will ordinarily find the opponent ceasing to maneuver and taking position from which to receive the attack in an area most favorable to him and in accord with his strategic requirements. When this condition is reached, offensive operations will be continued to gain tactical success by break-through, envelopment, or turning movement.

■ **82.** Offensive operations on interior lines consist of maneuvers from a central location against enemy forces advancing along convergent lines or against enemy forces of two allied countries which are separated by the common opponent of both. The advantage of interior lines is increased as the distance separating the converging or otherwise separated hostile forces is increased. Time and space initially favor forces operating on interior lines. This advantage is at the maximum when the separated forces can be struck and defeated in detail before one can come to the assistance of the other. This necessary delay of separated forces may be gained by employing against one or more of them small, highly mobile forces whose primary mission is delay, yet which can strike hard offensive blows against an overanxious or rash enemy.

THE BREAK-THROUGH

■ **83.** The *strategic break-through* may consist of a decisive blow launched in one area or of penetrations with decisive blows launched in two or more areas. The purpose of both is an advance deep into hostile territory to encircle and destroy or capture large hostile forces or to seize strategically important areas.

■ **84.** *Break-through operations launched in one area* have for their primary objective the separation of the enemy's forces into two parts, followed by the envelopment or encirclement and defeat or destruction of one or both of the separated parts.

■ **85.** *Break-through operations launched in two or more areas* will ordinarily envisage the junction of the highly mobile leading elements of each penetrating force in rear of the hostile rear areas or other objective. They further provide for the closing of the pincers thus formed, and annihilation or capitulation of the forces surrounded, or the capture or investment of the strategic objective encircled. The breakthrough forces must be prepared to meet enemy counterattacks from the encircled enemy forces as well as from those outside the encirclements. The maintenance of strong pressure on the hostile front between, as well as on areas outside and adjacent to the areas of penetration, tends to fix the enemy in those areas and restrict maneuver of his forward elements.

■ **86.** *Break-through operations require careful planning, deception, surprise, and the massing of superior striking and exploiting means, including armored forces, motorized elements, and combat aviation in the area of decisive attack.* Whether the breakthrough operations are initiated by infantry divisions or by task forces of large armored elements reinforced by combat aviation and other suitable mobile ground forces closely followed by mo-

The break-through (penetration) is a powerful blow, but not as simple as it sounds. The critical requirement—whatever the relative size of attacking and defending forces might be—is to achieve *local* superiority of mass and firepower. If an enemy sees you preparing to strike a blow at a certain point, he will move forces to counter it. This is why the manual adds par. 86. *Do not telegraph your punch.* Review the 1864 overland campaign for examples of this, from Spotsylvania to Cold Harbor; see also Operation Citadel in 1943.

torized elements, the breakthrough must be exploited by highly mobile, hard-striking forces. The encirclement and capture or destruction of the enemy can best be accomplished when the leading and encircling elements have the mobility and power to form the arc of the circle behind the enemy and permit the rapid advance of other ground forces, motorized, horse, or foot elements or a combination of any or all of these, to close in on him from the front, flanks, and rear. Not only does the rapid advance of these forces provide protection to the flanks and rear of the leading elements, keep supply routes open, and decisively close the circle, but by taking over the fronts of the leading forces, these forces are released for other missions. These missions may include operations against large enemy reserves, threats to or capture of strategic areas, exploitation beyond the encirclement, or movement to other fronts for other decisive operations.

■ **87.** *It is essential that the offensive forces have air superiority and that this air superiority is maintained throughout the operation.* Combat aviation not only assists the break-through operations by attacks against hostile ground forces in contact, but by attacks against large enemy reserves which may be employed to assist the defender, and by providing pursuit protection over the area of operations. (See ch. 7.) Aviation has a major function of gaining and transmitting important information prior to the initiation of the operation, and of reporting events on the field of battle as well as those distant from the scene of operations which may eventually influence the outcome of the operations. It must exert every effort to gain and transmit this information. Air superiority itself is a tremendous factor in preventing the enemy from gaining timely information. It may prove decisive in gaining surprise over the enemy.

■ **88.** Modern means of combat have placed in the hands of the higher commander weapons of speed and striking power which permit him to plan well in advance and employ these means decisively in the break-through and subsequent encirclement and effectively to meet changes in the situation.

■ **89.** A break-through operation launched with insufficient striking and exploiting force runs the grave risk of failing to break through the hostile defensive areas and of merely bending the hostile front. This, in turn, may subject the attacking force to strong enemy counterattacks or to a hostile counteroffensive.

■ **90.** When terrain and other conditions permit, large armored formations may be effectively and decisively employed as the leading elements of the task forces employed in the break-through operations. They are capable of thrusting themselves into and through the hostile dispositions as a wedge and in such

This refers to *local* air superiority. Adhering to the principle of economy of force, inactive or secondary areas may be left with just enough air support to remain stable while offensive air support is massed in the critical area.

formation as to assure protection initially of their own flanks. This wedge formation also furnishes some security to the flanks of the other ground elements which are following the armored formations. The armored formations open the way for the timely advance of other ground troops which widen the breach and strike the flanks and rear which have been exposed. Pressure is continuously maintained on the hostile front, between and adjacent to the areas of break-through. Missions assigned the armored formations will be governed by the object to be attained. In one situation they may constitute an element of the encirclement force whose task is to envelop and destroy a major hostile force. In another they may be assigned strategic area objectives for the purpose of destroying hostile lines of communication, blocking movement of large reserves, or capturing facilities vital to the opposing force, while the encirclement and destruction of the forward hostile elements is assigned to other ground units. Against a retreating force they may be employed to gain the rear or flank of this force and block its retreat while less mobile elements advance to complete the destruction or cause the surrender of the enemy. In whatever maneuver the components of the break-through forces are employed, the forces must be so organized and of sufficient strength to execute a complete break-through and the plans must be so flexible that full advantage can be taken by mobile, hard-striking forces of changes in the situation favorable to the friendly forces. This also requires a thoroughly adequate signal communication system. (See also ch. 9.)

■ **91.** The *selection of the area*, or areas, for the breakthrough will be influenced strongly by the objective (whether enemy forces or vital areas), by the suitability of terrain throughout the area for operations by the forces to be employed, by dispositions of the hostile forces, including large reserves, and the time required to move adequate forces to the area. In some situations it may be desirable to select an area in which terrain is less favorable when by so doing combat intelligence indicates less hostile resistance is to be expected and surprise as to direction and intensity of the advance and attack is gained. When the opposing forces are composed of armies of two or more allied nations, the area at which such armies make contact along their front may be particularly suitable for the break-through. This consideration also applies, though to a lesser degree, to the area of contact between two armies. It is in these areas that coordination and cooperation are often weakest and where national jealousies or conflicting aims weaken the opponent. Large salients along the opposing fronts may offer especially favorable areas for the

As noted elsewhere, seasoned commanders will not use a road as a boundary between two units, since this places a vulnerable point directly on an avenue of approach. That is, who is responsible for the road itself? But not all commanders are seasoned. Reconnoiter carefully to find this or other mistakes you can turn to your advantage.

break-through since in these areas exposed hostile flanks already exist.

■ **92.** Full advantage must be taken of all means to deceive the opposing commander. With plentiful lateral routes of communication and modern means of combat and transportation it may, under certain conditions, be feasible to build up a strong force in one area, attack with a part of this force follow this attack with the secret movement of the mass' of the assembled force to the area where the decisive effort is to be made, and strike in that area. Such an operation requires that forces sufficient to effect a strong continuing blow be employed in the area of initial concentration. Otherwise, there will be little deception, since the enemy may be able to block the original attack with minimum forces and meet effectively the forces intended for the decisive effort, and the advantages of mobility will be lost.

THE ENVELOPMENT

■ **93.** The *enveloping maneuver* may be initiated off the field of battle after contact has been gained; or it may be the decisive action following the break-through.

■ **94.** The strategic objective, the terrain, the relative strengths of opposing forces, and the enemy situation may be such as not only to indicate, but to make advantageous, the initiation of movements off the battlefield by the enveloping forces. Such movements will often facilitate the surprise execution of the envelopment simultaneously with or following the fixation of the hostile forces by those friendly forces which make contact frontally. This maneuver should not ordinarily contemplate the movement of the two component parts beyond mutually supporting distance. (see **FM 100-5.**) However, the size of each should be such that it can maintain itself against the enemy. It is highly desirable that the enveloping forces move secretly and strike with surprise.

■ **95.** An envelopment may be the result of an advance so planned and executed as to be in sufficient width to extend beyond one or both flanks of the hostile forces. In such an advance the higher commander must guard against an overextension of his own forces or their separation into parts by a barrier which may unduly delay or prevent concentration at a decisive area. Flexibility in plans, an adequate system of routes of communication both laterally and in depth and a superiority of forces, air and ground, in the decisive area, are essential to the successful execution of such a maneuver.

■ **96.** After contact has been gained and the hostile forces have been developed, an enveloping maneuver may be executed by troops on the battlefield. When the maneuver aims to strike the hostile flank well in its rear, it is preferable to employ for the envelopment, reserve or other mobile elements not in close contact with the enemy. Such a maneuver requires thorough reconnaissance, careful planning, excellent staff work, suitable security measures and the exercise of great initiative by all commanders. Great freedom of action must ordinarily be granted to subordinate commanders, since a capable enemy will not remain idle while the offensive force maneuvers. It must be expected that the opposing commander will take suitable measures, including offensive action, to counter the planned maneuver.

■ **97.** Air, naval, and land force superiority may permit decisive results to be gained by an envelopment, by air-borne and sea-borne troops, of an enemy, one or both of whose flanks rests on navigable waters. The existence of suitable landing beaches, inlets, or other waters favoring the movement of small landing boats, along and in rear of the hostile flank provide suitable areas from which to launch an envelopment or turning movement against the hostile rear combat elements and lines of communication. Maximum results are to be expected when the maneuver can be launched with surprise; when the envelopments by sea-borne and air-borne troops can strike simultaneously, and when the objective is of such nature that its capture makes the position of the defender untenable and at the same time blocks the retreat of part or all of the hostile forces.

■ **98.** The relative merits of the break-through and the envelopment will not be discussed. They both have the same ultimate aim: to defeat or destroy the hostile forces or to capture decisive strategic areas. When his mission and a careful estimate of the situation have caused the commander to decide upon both the strategic and tactical offensive, he must employ all means at his disposal to drive through boldly and energetically to the objective. Under special conditions strategic requirements may demand a tactical offensive when the calculated risks indicate only a fair chance of success. The commander must not, however, rush headlong into enemy traps.

TURNING MOVEMENT

■ **99.** Lines of communication and the maintenance of adequate supply to the combatant forces are of vital importance in modern operations. The requirements in munitions, equipment, food, and motor fuel can be satisfied only from the zone of the interior

or other suitable supply bases. To deprive the field commander of essential supplies reduces his otherwise effective army to the status of a force equipped only with primitive means of combat. Consequently, no field commander can afford to sacrifice his lines of communication. He must meet a threat to these vital lines. Meeting this threat may draw him from an otherwise advantageous position and force him to maneuver in conformity with the plan of his opponent. This may be accomplished by the turning movement or maneuver wherein the final defeat or destruction of the hostile forces is achieved or aided by directing a suitable proportion of the offensive forces deep against the hostile rear, the hostile lines of communication, or specifically against the sources of enemy supply. The commander of the forces comprising the turning movement seeks by surprise, deception, and rapidity of movement to avoid hostile defenses of major organized forces in order to strike his objective rapidly and decisively.

■ **100.** For large forces the turning movement is frequently executed in conjunction with the frontal advance. It is particularly suited to highly mobile, hard-striking components, such as large armored formations strongly reinforced by combat aviation and other suitable means. Its objective may be at a great distance from the field of battle on which the forces in the frontal advance initially engage the enemy.

■ **101.** Forces executing the turning movement may be required to sustain themselves for considerable periods of time. Because of the vulnerability of their own lines of communication they may be required to transport with them supplies in amounts considerably greater than they ordinarily carry. Special provision for supply by air transport may be advisable or necessary.

■ **102.** Whether or not the turning movement can be initiated prior to the contact of other friendly forces with the main enemy forces will depend on many factors. Whenever possible the forces engaged in the turning movement should be from those not in contact with hostile forces when the maneuver is begun. It is preferable to begin the turning movement from an area well to the flank, and strike the hostile rear vital areas with surprise, disrupt the hostile high command and assist in completing the total defeat of the enemy. There can be no formulas as to the area from which the turning movement is begun nor the area to which it is directed. In one situation the friendly forces may be With mutually supporting distance (modern means of transportation have greatly increased this distance); in another the turning movement may consist of operations both by land, air, and water to gain the hostile rear areas or areas otherwise vital to the prosecution of war by the enemy.

■ **103.** The successful turning movement presages great strategic and tactical victory. However, the commander must give consideration to certain dangers inherent in this maneuver. The commander of the turning forces will ordinarily be given a general directive for operations. Therefore the possibility always exists that the turning forces will turn too soon or too close to the main hostile forces, find themselves confronted by a defended enemy front, and be forced into a frontal attack or a change in direction of movement with the probable resulting delay. As a consequence of the great distance separating the friendly forces there may be the risk of defeat in detail.

■ **104.** In determining the practicability of a turning movement the higher commander must evaluate the means he has available, the means with which the enemy can oppose his maneuver, and the possible hostile reactions. The separate forces must be strong enough to execute their missions without assistance from the other. Each must be capable of fully exploiting a success gained by the other. *The elements allotted the commander of the turning movement should be strong in highly mobile, hard-striking forces.* These must be reinforced with powerful combat aviation means and plentifully provided with suitable reconnaissance agencies, both ground and air. The commander to whom is entrusted the execution of the turning movement must be bold and aggressive. He must be one who, having weighed carefully the factors of the situation, daringly puts his decision into execution. He must give full play to his initiative and be able quickly to exploit successes or turn seeming disadvantages into situations favorable to himself.

STRATEGIC WITHDRAWAL AND COUNTEROFFENSIVE

■ **105.** It cannot be expected that advances along the entire front of the armies on the offensive will be uniform. Successes will be notable on some parts of the front; inability to advance will be common on others; reverses also must be expected. These varying degrees of success, stalemate, and reverse provide the energetic, bold commander opportunities to exploit situations which seem unfavorable to him and favorable to the enemy, and thus achieve results of decisive importance. Under such conditions the higher commander may direct a withdrawal where a stalemate has resulted or where he is experiencing reverses, and follow this withdrawal with a counteroffensive to envelop and encircle the pursuing hostile forces. Boldly conceived, carefully planned, and energetically executed, this maneuver may bring decisive results.

■ **106.** In the execution of the counteroffensive from a withdrawal for the purpose of enveloping and encircling the hostile forces, certain fundamental doctrines are applicable:

a. The withdrawing forces preferably should withdraw from an area whose recapture is important to the enemy.

b. Terrain, preferably on both flanks of the withdrawing force, should permit the flanks of the withdrawing elements to be held and protected. Behind these protected flanks strong counteroffensive forces are secretly assembled. When the counteroffensive is to be initiated, they are launched in decisive directions.

c. Adequate mobile reserves are required for the rapid concentration of forces necessary to accomplish the encirclement. *Armored and motorized divisions are particularly suited for this component of the counteroffensive.* These reserves should be moved secretly, ordinarily at night. Secret movement by day requires absolute air superiority in the area of movement. The requirements of deception may not make this air superiority desirable in the area of withdrawal.

d. The conduct of such an operation requires the most careful planning, a highly trained and disciplined command, and great initiative in all ranks.

e. During the withdrawal, and particularly just prior to the launching of the counteroffensive, the withdrawing forces must be aggressive. They must force the opposing commander to focus all, or certainly most, of his attention on the situation in front. Local counterattacks and strong covering force action characterize this maneuver.

f. When the counteroffensive is launched, a strong frontal attack is combined with the attack of the encircling forces so directed as to "wrap up" the opposing forces and destroy or capture them.

SECTION II

DEFENSIVE MANEUVER

GENERAL

■ **107.** Various factors may dictate the adoption of the strategic defensive in one or all areas at the opening of hostilities. Included among these factors are the superior readiness of the enemy; inferior strategic position, such as frontiers exposed on the flank; inferior combat strength in one or more theaters; or the advisability of deliberately adopting a defensive attitude initially to let the enemy expose his plans and commit himself.

■ **108.** The strategic defensive confers some advantages initially on the nation or force which must gain time in order fully to mobilize its effort for offensive action. The defender will not have long lines of communication in hostile territory to protect, nor large hostile populations to control. Where time and space permit, the defender may trade terrain for the time necessary for the full mobilization of his offensive power. However, for psychological reasons, not only the troops but the civilian population must be informed of, and impressed with, the conception that such losses are temporary only. The commander has a responsibility to the nation as a whole. A nation correctly oriented as to the aims and requirements of the military forces can be expected to, and will, give its utmost to support the action of its armed forces. The strategic defensive, ably conducted and appropriately employing the tactical offensive, will permit the field commander to assemble his forces as they become ready. By assembling in such areas and at such times, as to permit him to take full advantage of enemy mistakes, and move decisively to the offensive, he will be able to defeat the enemy's armed forces and break the will of the hostile state to continue operations. The execution of such maneuvers requires that the higher commander possess the highest qualities of leadership, that he be decisive and of adamant will power, with the ability to select the correct time for offensive operations, and that all forces be thoroughly indoctrinated with the fundamental consideration that only by the offensive can decisive results be achieved.

■ **109.** Although conditions may require the adoption of the strategic defensive initially, *the fundamental consideration remains that no decisive results can be achieved by the defensive.* The power of initiative, over-all threat, and the ability to strike at the tactical or strategic area of his choosing remains with the higher commander who is on the offensive. It is he who forces his opponent to conform to, and seek to parry his movements.

■ **110.** The strategic defensive employs the tactical offensive under suitable conditions to gain time, to block hostile advances, to threaten seriously enemy dispositions, lines of communication or strategic areas. The tactical offensive may also be employed to gain a local success as a stimulant both to troop and civilian morale. Although the strategic defensive as a national policy initially has been forced by lack of complete military readiness, by surprise offensive action on the part of the enemy, or by other considerations, the ultimate aim must be the general offensive. Unnecessary or heedless expenditure of personnel and material in minor tactical offensive operations which do not contribute to the general success must be avoided. This does not imply, however, that a calculated risk should not be taken to gain a tactical

success which will operate to facilitate the later general offensive. Such an operation may entail the employment of suitable forces to regain an objective of great importance or to reinforce elements engaged in combat against greatly superior forces seeking to capture an area of decisive strategic importance. However, the higher commander must not be influenced too greatly by the conditions on a small part of his front. He must visualize the whole and estimate the situation as a whole.

■ **111.** Whether the defensive will be conducted initially with the intention of holding a general area and offering decisive battle in this area or of executing delaying or retiring maneuvers will depend on many factors. Among these are the time during which it is estimated the defensive attitude must be maintained; the space in which the defender can maneuver without engaging in decisive battle; the necessity of protecting vital strategic areas such as essential industries, mines, or other sources of raw material; and the terrain on or near the boundary between the two States as well as that farther within the boundary. Whatever the character of the defensive maneuver decided upon, it must be predicated upon maximum mobility and achievement of surprise, both in dispositions and conduct, with the ultimate objective of turning to the offensive and defeating the enemy decisively.

■ **112.** It must be expected that an opponent strong in armored means will seek to use this means to strike deep into the defender's rear. (See pars. 83 to 92, incl.) It is on roads that armored units can achieve greatest speed. In many situations, terrain and weather conditions may limit rapid movement of armored and motorized formations to roads. It is therefore imperative that the commander give careful consideration to, and make adequate provision for, suitable antitank defense measures along all roads in rear of his forward elements and in great depth on those roads. Not only can highly mobile enemy elements which succeed in breaking through or enveloping a position jeopardize the defender and frequently make his position untenable but, unless they are blocked or delayed, these elements may be able to disrupt the orderly withdrawal or retirement of the friendly forces. Where time and facilities permit, the antitank defenses along roads in rear areas can be provided by prepared installations. This permits the commander to retain his mobile elements for active offensive employment as the situation dictates. Tank-destroyer units provide the commander hard-striking, highly mobile means which should be employed aggressively to seek out and destroy enemy armored formations.

DEFENSIVE IN ONE POSITION

■ **113.** When strategic considerations cause the high commander to decide to execute his defensive mission in one position, the selection of the area for this position is his next major strategic decision. This decision will be influenced by the factors which have been considered in **FM 100-5** under tactical operations of the defense and by the necessity of protecting vital installations or areas. Whether the force engaged be an army corps or the entire field forces of the nation, the position must be such that the enemy cannot risk passing the defender without offering battle. On the other hand, the defender must not take a position which will permit his forces to be contained by a part of the enemy forces while the remainder advance with slight opposition to decisive objectives. The flanks of the position must be protected. Where other conditions permit, they are rested on difficult obstacles.

■ **114.** The defensive in one position may be the result of systematic planning and preparation, during which the complete structural development of the position has been accomplished. It may be adopted on the outbreak of hostilities to block the maneuver of the enemy, on terrain which then must be organized, or it may be the culmination of maneuver to block hostile moves. Under either condition it is of the utmost importance that the mobility of the defending forces be such that hostile successes in one area can be effectively met by elements from other areas. *It is the essence of the defense that the enemy be prevented from exploiting his initial success; and of the strategic defense that it can at the proper time and place, launch a decisive counteroffensive.*

■ **115.** Factors indicative of, or favoring, the defensive in one position include the following:

- a. Early arrival of reinforcements.
- b. Terrain, the defensive power of which greatly augments the combat strength of the defender.
- c. Short distance of the enemy from decisive strategic objectives.
- d. Location of a position on the flank of the enemy advance which will force him to change direction, and commit his forces in a maneuver less favorable to him.
- e. Strong natural or prepared flanks which cannot be turned or which will require long, tedious operations to turn.

■ **116.** Although the commander may plan to hold on one position until he can launch the offensive, he must be prepared to meet enemy successes. Rear positions must be reconnoitered

and prepared. Under suitable conditions on a part of the front, he may execute a strategic withdrawal to these positions and follow by a decisive counteroffensive. (See pars. 105 and 106.)

■ **117.** Not only must the commander assure himself that suitable defensive measures are taken against hostile ground forces, but also must be especially vigilant to defeat attacks against his rear by parachute troops and other troops transported by air or water. (See **FM 100-5.**)

RETROGRADE DEFENSIVE

■ **118.** The *retrograde defensive* avoids decisive battle until adequate measures can be effected for the successful assumption of the offensive. It delays the enemy, draws him farther from his major supply bases, and elongates his lines of communication; it inflicts losses by offensive tactical operations and disrupts his plans by the operations of detachments in his rear. The retrograde defensive in one area may be combined with the offensive in another area. This combination of maneuver finds special application when it will operate to draw component elements of the hostile force away from each other. The retrograde defensive is suitable when time and space factors are favorable and the initial loss of terrain will be more than compensated by the reasonable expectation of subsequent decisive results. Tactical considerations affecting the conduct of retrograde actions are discussed in **FM 100-5.**

■ **119.** Inherent in the retrograde defensive are the dangers that the defending forces will become involved in a decisive engagement at an unfavorable time. For instance, the enemy may strike while a withdrawal or retirement is in progress, or the actions of subordinate commanders may precipitate a major engagement prematurely. The essence of this maneuver is to cause the opponent to prepare for a series of battles, not one of which the defender permits to reach culmination until the decisive moment arrives.

■ **120.** Whether the retrograde defensive is initiated prior to or following close contact, the general situation, the lines of communication net, the operations planned for the future, and the location of strategically important areas will largely influence the commander's decision as to the direction of movement to be taken by his subordinate elements. They may be directed to move straight to the rear or they may be directed to converge on a given area; or the convergence may follow after a series of moves straight to the rear. Under any condition, control of the entire force must be such that at the proper time a concentration of

forces may be effected and launched in a decisive counterblow. Throughout the defensive action, suitable reserves must be available to prevent an enemy break-through or exploitation of local enemy successes.

■ **121.** The retirement straight to the rear simplifies execution of the maneuver; it permits the maximum use of road and rail nets; it confronts the enemy on a broad front whose flanks where possible are protected, thereby decreasing the likelihood of envelopment. It may, however, favor hostile concentrations and rapid advances, especially by armored and motorized elements, on parts of the front. The commander must be particularly alert to block attempted penetration and break-through by highly mobile units. Combat aviation and armored elements, including tank-destroyer units, may be effectively employed to delay, block, or destroy these hostile components. Should these enemy elements succeed in breaking through, the commander must limit the effect of the hostile operations by utilizing all suitable means, including armored and motorized elements, tank-destroyer units, and combat aviation to cut off and destroy the break-through forces and prevent them from encircling large elements of the defending forces. Rapid, decisive action against such hostile forces may contribute largely to the successful assumption of the general offensive and decisive defeat of the enemy. On the other hand, the commander must not permit local enemy successes to be assigned a value out of proportion to their importance in the general plan of maneuver. He must bear in mind constantly that the successful prosecution of the campaign and the war are his objective; that successes and reverses are inevitable on local fronts and each must be evaluated as to its effect on the whole operation.

■ **122.** The converging retrograde defensive has for its purpose the coordinated moving of forces to a previously selected and favorable position in rear. The maneuver may be designed to shorten defensive lines by straightening out salients and reentrants, or to rest flanks on protective obstacles, or to concentrate the forces for decisive battle., The convergence of the defensive forces in one area may be combined suitably with the assembly of reinforcements in another area whose mission shall be to strike after battle has been offered the enemy in the area of convergence.

CHAPTER 6

LARGER UNITS

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SECTION I

GROUP OF ARMIES

■ **123.** The *group of armies* consists of two or more armies with suitable reinforcements placed under a designated commander for the accomplishment of a particular task, the execution of which requires coordination and control by one commander. The group (task force) may operate under the War Department or under a theater commander.

■ **124.** The commander of a group of armies may be designated by the theater commander or by the War Department. He will usually be designated as the group commander in a letter of instructions or in an order supplemented by a letter of instructions. The letter of instructions directs that designated armies, the War Department reserves, or other units constitute the group of armies effective on a specified date or upon arrival in certain areas.

■ **125.** Combat aviation and armored and motorized formations should be allotted in suitable amounts for the execution of the mission assigned. The mission, area of operations, and probable hostile resistance will influence the composition and strength of additional means allotted the group commander. For powerful offensive operations in suitable terrain the allotment of armored and motorized elements should be proportionately large. Under these conditions superiority in combat aviation support must be assured. Based on his estimate, the group commander makes

recommendations for the allotment of additional or special means. It is especially important that the group be provided with adequate signal communication agencies.

■ **126.** The mission assigned the group of armies must be clear and specific. The execution of the assigned mission is the responsibility of the group commander. He prepares plans for the group operations, allots to the armies additional means which have been provided by higher headquarters, assigns zones of action or sectors, and coordinates the movements and efforts of his major subordinate elements, such as armies, armored formations, combat aviation, and group reserves. He assigns missions and objectives to the armies or other major subordinate elements but decentralizes the execution of the tasks to his subordinates. During the execution of current operations, the group commander must be planning future operations. He must be prepared for further operations on the front or his present operations or ready to regroup and move to other areas and execute other missions.

■ **127.** The group of armies is a tactical unit. The group commander exercises no territorial jurisdiction and has few supply or administrative functions except when he becomes theater commander. However, the group commander must estimate the means required and make recommendations for the allotment of additional means. He exercises control over supplies and credits for his forces. He makes provision for suitable traffic control measures and in some instances establishes supply installations.

■ **128.** The general staff of the commander of the group of armies will be occupied more with operational than administrative matters. The special staff must include representatives of the various arms allotted the group of armies as additional or special means. The employment of experienced liaison officers is one of the best means of assuring a mutual exchange of information between the group commander and subordinate, higher, and adjacent commanders.

■ **129.** The group will usually constitute its reserves from units allotted to it, from its own subordinate elements, or from a combination of the two. It is highly important that the reserves be kept mobile, that they be kept concealed and, when employed, that their movement be protected against both air and ground attack. Group reserves constitute one of the major means whereby the group commander can decisively influence the outcome of battle. They must be employed in a decisive area against decisive objectives. Their piecemeal employment is seldom justified.

SECTION II

THE ARMY

■ **130.** The *army* is the largest self-contained unit. It consists of a headquarters, certain organic army troops, a variable number of army corps, and a variable number of divisions, of which some or all may be assigned from time to time to army corps.

■ **131.** It is not desirable that a fixed organization be prescribed for the army. The number and kind of army corps and divisions such as armored, infantry, cavalry, and motorized, and additional combat troops and service elements from the War Department reserve or other sources, will be determined primarily by the mission, the terrain of operations, and the probable hostile forces. In a given area it may be highly desirable because of terrain conditions to team armored formations with cavalry divisions, whereas in another area a more suitable combination would consist of armored, motorized and infantry corps and divisions. Similarly, in one area a great number of engineer bridge units may be required, whereas in another a preponderance of the engineer effort must be placed on road construction and maintenance.

■ **132.** The army is the fundamental unit of strategic maneuver. It is the unit which the theater commander or commander of the field forces uses as a basis for planning and executing strategic and tactical operations. The army has territorial, tactical, and administrative functions.

■ **133.** The general doctrines discussed under strategic maneuver (see ch. 5) are applicable to the army.

■ **134.** The army commander must be assured of continuing, reliable information as to the dispositions, strength, composition, and movements of hostile forces. He must use every means at his disposal, both ground and air, to gain information of the enemy forces on his front as well as those on other fronts and in other areas which may affect the preparation and execution of his plans. A failure to exploit every source of information may deny important information as to hostile dispositions, movements, and operations, a knowledge of which would permit the army commander to strike decisively at enemy weaknesses.

■ **135.** The army commander plans and puts into execution the operations necessary to carry out most suitably and decisively the mission assigned the army. During the planning phase the army commander should keep the major subordinate commanders advised of the contemplated operations so that these commanders may prepare their plans, make recommendations, execute required troop movements, and reconnaissances, and effect deception and surprise measures. In his planning the army commander

must project himself well into the future; his plans must cover considerable periods of operations; and while one operation, which may extend over many days or weeks, is progressing, he must be planning the next. The plans of the army commander must be flexible so that full exploitation of favorable situations can be effected, and unfavorable situations, should they occur, can be rectified.

■ **136.** The army commander issues orders to subordinates in furtherance of the general plan; allots divisions, special troops, and means to the corps; makes provision for the organization of any special task forces; and coordinates the efforts of the major components of the army. (See **FM 101-5.**)

■ **137.** On the offensive, the army commander accomplishes his mission by assigning to his corps suitable tasks and objectives, and directions or zones of advance or zones of action, and by employing reserves, artillery; combat aviation, or other means at his disposal to further the impetus of the attack. *The commander's plans and orders provide for the employment of a decisive mass in a decisive direction at the decisive time.* The mission of the army, the terrain, enemy dispositions, and component elements of the army will determine to a great extent the allotment of means to the main and secondary attacks. (See **FM 100-5.**) As a part of a larger force the direction of the army's main attack and terrain objectives will frequently be assigned by the higher commander. Whereas a flank army may execute the enveloping maneuver or turning movement of the larger force, the front of the interior army will frequently be more limited initially, and may require frontal attack, a development of weaknesses in the hostile positions, and break-through operations. Under any condition, however, the detailed planning of the operation should be left to the army commander.

■ **138.** All offensive plans must envisage the successful accomplishment of the task assigned. They must not overlook, however, the capabilities of the enemy to execute strong countermeasures, including attacks by air and armored forces, and defense measures designed particularly to slow down, block, or completely stop the rapid advance of armored and motorized elements. Great depth of organized defenses must be anticipated along the avenues favorable to movement of these mobile units. These defenses may range from mobile gun units and portable pill boxes to permanently constructed, well-camouflaged emplacements, in which are emplaced large caliber antitank weapons. Provision should therefore be made to assure that suitable weapons and troops are available to the leading elements with which to destroy or neutralize these antitank defenses. Otherwise, the delay gained

by such defenses may prevent the timely accomplishment of the assigned mission. (See ch. 5.)

■ **139.** On the defensive, the army acting alone will ordinarily have great latitude in the selection of the area or areas in which it will conduct the defense. In some situations, however, strategic considerations or the assigned mission may

limit very definitely the army's freedom of maneuver. As part of a larger force the army must conform generally to the decisions of the higher commander and operate as one element in the general defensive scheme. (See ch. 5.)

■ **140.** Frontages assigned the army corps in defensive operations will depend on the mission of each corps, the terrain, and the general plan for conduct of the defense, whether position defense or retrograde defense. The defense must be so organized in depth that it not only can throw back the attack of foot elements but can effectively block and defeat armored and motorized elements. This requires an antitank defense organized in great depth and consisting of demolitions, obstacles, and both fixed and mobile gun units. But as indicated in chapter 5 it must be anticipated that armored and motorized formations may succeed in breaking through the defense zone. Having broken through they may seek to exploit the initial success by rapid movement in the rear areas to encircle or assist other mobile hostile units which may have broken through in another area to encircle the defending forces. In order to gain their objectives and assure the encirclement, the hostile forces must move rapidly. This indicates that they must move over roads or terrain favorable to fast armored and motorized unit movement. Unfavorable terrain, weather conditions, and the demand for speed will frequently confine their advance to roads. To prevent or delay this movement may be decisive in the continuity of the defense and ultimate defeat of the hostile forces. Consequently, antitank defenses should be disposed in great depth along routes favorable for the rapid advance of mechanized units. These defenses, consisting of fixed emplacements and mobile units, block or delay the hostile force and enable the defender to strike him with combat aviation, armored, tank-destroyer, and motorized units and destroy or capture him.

■ **141.** Successful conduct of the defense requires the preservation of the offensive spirit, which is manifested in the counterattack. The counterattack is the soul of defensive action. However, it is but a preliminary to counteroffensive operations, for which the commander must prepare timely plans during the period of the defense. The initiation of the counteroffensive requires a careful evaluation of the enemy situation. Inadequate information and a consequent misconception of enemy capabilities may delay the

launching of the offensive at the decisive time or it may lead the defender into a planned enemy trap. Daring and boldness must characterize the commander; they must, however, be the result of a careful analysis of the situation, based on far-reaching and detailed information.

■ **142.** The army commander influences the outcome of battle by the decisive employment of combat aviation at his disposal, effective use of artillery, and timely employment of reserves. The flexibility of army organization permits the transfer, during operations, of the control of one or more divisions from one or more corps to another when such transfer is dictated by the missions and objectives assigned the various corps, or when the situation requires or favors such transfer. Likewise, divisions in army reserve may be assigned to front line corps to assure the continuity of effort by the corps and permit the relief and reorganization of tired, depleted, or disorganized divisions. However, the army commander should retain under his command a reserve of suitable size and composition fully to exploit the successes of his attacking echelons or to assure the integrity of his defense. When the army reserve is employed, prompt measures should be taken to reconstitute a reserve from combat elements as they become available.

■ **143.** A general offensive may, and often will, be characterized by the defensive, delaying action or even retirement in certain areas. This consideration and the speed with which modern operations can be conducted require that army commanders give special attention to the protection of flanks. Although an interior army is provided a certain degree of flank protection by adjacent armies, the army commander cannot rely on that protection alone. Failure to provide flank protection, in consequence of which strong enemy forces may be able to strike the flank and rear of the army, may result not only in disorder and disorganization, but the enemy threat and successes may delay, stop, or even cause the abandonment of the general offensive operation. The flank army especially must make adequate provision for the protection of *its* flank and rear. Whether the protection of the flank of the theater forces will be assigned the flank army commander or whether special provision will be made by the theater commander will depend on the terrain, available suitable means, the mission of the flank army, and the general situation. In general, subordinate combat commanders should be free to focus their primary attention on the effective prosecution of combat operations in progress. Any threat, however, against the flank of the army, whether it be an interior or flank army, must be met with timely suitable action.

■ **144.** Highly mobile elements, strong in antitank means and engineer units for the preparation of obstacles and demolitions, find favorable employment in flank protection. These elements should be provided with suitable air and ground reconnaissance components and signal communication system, with which to communicate not only within itself but also to higher headquarters. Combat aviation is a most effective means of disrupting hostile threats against a flank. Tank-destroyer units reinforced as necessary, constitute powerful, mobile forces for employment against armored elements.

■ **145.** The army commander is responsible for the organization and operation of administrative arrangements to serve the elements of the army. This requires long-range planning, a detailed estimate of the supply and evacuation needs, a careful study of routes of communication and provision for suitable traffic control, and transportation and supply facilities. Modern means of warfare demand that greater efforts than ever be made to provide an adequate, flexible, and continuing supply system. (See **FM 100-10**).

SECTION III

THE CORPS

GENERAL

■ **146.** The *corps* is primarily a tactical unit of execution and maneuver. It consists of a headquarters, certain organic elements designated as corps troops, and a variable number of divisions allotted in accordance with the requirements of the situation. The composition of the corps will depend upon its mission, the terrain, and the situation. The flexibility of its organization permits an increase or decrease in the size of the corps, or a change in the type of divisions and other nonorganic elements constituting the corps, by the attachment or detachment of divisions and reinforcing units at any time during the operations. Reinforcing elements will be allotted initially to the army, which in turn will make such suballotment to corps as is indicated for the effective execution by each corps of the army mission. When the corps is operating alone, reinforcing elements from higher headquarters may be allotted directly to it by that headquarters.

■ **147.** For tactical operations the corps commander prepares plans based on instructions received from the army, or, if the corps is operating alone, on the mission assigned the corps and the general situation. He issues orders to divisions and other units directly under his control. He allots reinforcing means, such as tank-destroyer, tank units, artillery, and special troops, to di-

visions in accordance with the means at his disposal and the requirements of the divisions, giving primary consideration to those executing the decisive effort of the corps.

■ **148.** As a part of the army, the corps has few administrative functions other than those pertaining to corps troops. When the corps is detached from the army for both operations and administration, it must operate the necessary administrative installations for its own supply and evacuation. In such a situation it must be reinforced by the necessary service units. (See FM 100-10.)

■ **149.** The corps commander is responsible for the coordinated effort of the corps as a whole; he should, however, leave the details of execution of the plan to the commanders of divisions and corps troops. During combat he influences the outcome of battle by maintaining close contact with the leading divisions, effecting necessary coordination or changes in dispositions, by the use of his corps artillery, by the decisive employment of the corps reserve, and of combat aviation, armored and tank-destroyer units at his disposal.

■ **150.** The employment of larger armored formations is discussed in chapter 9. The cavalry corps is discussed in section IV. At present this section deals primarily with the corps whose mass is composed of infantry divisions. Tactical doctrines enunciated in **FM 100-5** are applicable to the employment of components of the corps and of the corps itself.

THE ADVANCE

■ **151.** The following discussion applies equally to the corps as part of the army and to the corps operating alone or detached. However, when the corps is a part of the army, the corps commander will have less independence in the conduct of the advance. Major decisions concerning the advance will be made by the army commander. The general formation, the frontage, the rate of advance, the objective of objectives, the conduct of reconnaissance agencies, special measures for secrecy and security may be prescribed by the army or may be influenced by limitations or special requirements prescribed by the army. Under certain conditions the general location of the mass of the corps within its zone of advance may be prescribed by the army commander. The army plan and scheme of maneuver may impose specific limits on the movements and actions of the corps. Normally, however, the corps commander will be given great freedom of action in accomplishing the assigned mission.

■ **152.** The advance of the corps is a coordinated movement of large combat groups—the divisions and corps troops. The corps commander may receive instructions from higher authority as to the direction of his advance; or if the instructions from higher authority do not prescribe the direction of advance, the corps commander himself must select the direction.

■ **153.** In planning the advance of the corps, a careful study should be made of the critical areas where contact with the enemy is likely to occur. These areas should be determined for each day's advance. Suitable daily objectives are determined in this manner. The advance must be so planned that the corps will be in the desired formation when each of these critical areas is reached.

The enemy situation is one of the controlling factors in planning the advance. When the enemy is near, no other factor is so important. Since the enemy situation will probably change constantly with the passage of time, it is essential that the commander of the corps be kept continuously informed of the strength, dispositions, and movements of the hostile force. He must know not only what the enemy is doing but also, as far as possible, what the enemy is capable of doing. Early and continuous provision for the procurement of information prior to and during the advance is essential.

■ **154.** The formation adopted for the advance should be the most flexible permitted by the situation so that expeditious and decisive employment is assured on contact with the hostile main forces. In determining the march formation of the corps, the needs of the divisions must be taken into consideration.

Depending upon the mission, information of the enemy, the terrain, road net, supply situation, and the projected plan, any one of a number of formations may be adopted. Three common formations based on a corps of three divisions are outlined below. These represent but three of many possible combinations.

a. One division in advance, and the other two divisions echeloned to the right (or left) rear; corps troops follow in trace of the leading or center division. This formation is valuable when one flank is secure. It facilitates maneuver to the front or right (left) front.

b. One division in advance, the other two divisions echeloned to the right and left rear; corps troops follow in trace of the leading division. This formation provides for maximum maneuverability, both to the front and to either flank.

c. Two divisions in advance, one echeloned slightly to the right (or left) rear of the other; the third division and corps troops follow in similar formation. This formation is especially applicable

when approaching an enemy who is on a broad front and commitment of the corps is indicated initially on a broad front.

Similar formations are suitable for corps consisting of either a greater or lesser number of divisions.

■ **155.** The factor of time is usually important. When definite position or locality is the march objective, the formation adopted for the advance must be such that the objective can be reached by the bulk of the corps within the time allowed by the mission.

■ **156.** The formation of the corps during the advance must be such as to facilitate maneuver or change of direction of march, provide flank protection, and utilize all available roads, railroads, and bivouacs. The preservation of freedom of maneuver until the corps engages in decisive combat is essential.

■ **157.** When a hostile force is the objective or when hostile forces threaten to interpose between the corps and its objective, the formation adopted for the advance will be governed largely by the available information concerning the strength and location of the hostile forces. When the information is definite, the formation adopted should provide primarily for early decisive action by the corps, and secondarily for the protection of the corps while in movement. When the information concerning the enemy is indefinite, the formation of the corps should provide for protection of the main force and for mutual support by all elements of the corps; the formation must also permit prompt maneuver in any direction from which hostile forces may appear in strength.

■ **158.** The place of the corps artillery in the march formation is selected to insure its early availability for action at the time and place desired. When the need for part or all of the corps artillery as reinforcing artillery for one or more divisions can be definitely foreseen, units of the corps artillery may be attached to such divisions for control during the march. In determining when and where it will be marched consideration must be given to the road net and to its probable employment. If early need for it in the forward areas cannot be foreseen and security measures permit, it may be left behind initially and brought forward later, or it may advance by bounds behind the divisions. The corps artillery should not be prematurely pushed so far forward that its ability to maneuver in support of any division becomes restricted.

Other corps troops and reinforcing units are moved so that they will be in suitable locations when they are needed. Considerations of supply, control, and possible or probable interference with combat elements of the corps indicate that service troops should not be advanced until their presence in the forward areas is required.

■ **159.** In accordance with the army plan, or when the corps is operating alone, in accordance with the corps commander's plan, the advance of the corps is coordinated by march orders which prescribe appropriately the hours of march and zones or routes of advance for subordinate elements. As suitable, they provide also the successive lines to be reached and the hours they are to be reached by corps ground reconnaissance agencies, advance guards, and the heads and tails of divisions, units of corps troops, and reinforcing elements. Provision is made for special security measures. When practicable, the axes of signal communication for the corps' and major subordinate elements are announced. Routes of march are prescribed for divisions only when the road net is limited; they must be prescribed, however, for corps troops and reinforcing units which are not attached to divisions.

The orders for the advance may be accompanied by a march table, the purpose of which is to assure the orderly and uninterrupted advance of the corps. So far as possible, control of the movements of the major subordinate elements is decentralized to the commanders of those elements.

■ **160.** In assuring himself that prescriptions regarding the reaching of lines or areas are carried out, and in order to enable him to take corrective action in the event of unforeseen events, the corps commander utilizes all possible methods of control. Reports may be required in advance of the prospective time of arrival at objectives and of actual arrival. Reports of necessary deviations from the prescribed advance are required. Liaison officers must be used freely by the corps. to maintain close touch with the movements of the major elements. Command and staff visits are essential.

■ **161.** The corps plans must be projected well into the future; they must envisage action days in advance. In order that the corps commander may be able to keep abreast of the situation and adjust his plans as the need occurs, corps reconnaissance agencies must reconnoiter continuously and far in advance of the corps. The commander must be provided with timely information. Available to the corps commander for distant reconnaissance missions are the corps aviation and the corps reconnaissance regiment (see pars. 195 to 207, incl.), the activities of which must be closely coordinated.

■ **162.** On the march and in bivouac, security is provided by advance, flank, and rear guards, and outposts of the divisions, by specially constituted mobile task forces and by antitank and anti-aircraft elements. Mobile task forces are particularly suited to provide flank and rear protection, to block defiles, or to delay hostile forces. They should be strong in antitank and engineer com-

ponents and demolition means, and suitably provided with reconnaissance and signal communication means. Reconnaissance aviation and the corps reconnaissance regiment facilitate security measures by the expeditious reporting of hostile forces, their dispositions and movements.

■ **163.** As the corps approaches the enemy more closely the corps commander increases the readiness of his command for decisive combat. He makes such changes in formation and disposition as will assure the greatest flexibility of maneuver and prompt availability for combat of the various elements of the command. When the corps reconnaissance regiment has been relieved by the advance guards it may be employed on one or both flanks or it may be withdrawn and placed in corps reserve for future employment. Based on the information he has received and the capabilities of the hostile force the corps commander indicates the action to be taken by the leading divisions. The conduct of the advance guards will be governed primarily by the general

THE OFFENSIVE

■ **164.** The general doctrines of the offensive are discussed in chapter 5 and in **FM 100-5** which also fully treats the tactical doctrines applicable in the employment of a force of all arms and the forms of offensive action which may be adopted.

■ **165.** The attack by a force as large as a corps requires planning well in advance of the actual tactical action. Plans are fully developed and completed as close contact with the enemy is gained. The division constitutes the unit of execution on which the corps commander bases his plan.

■ **166.** Adequate and timely information of the enemy must be assured if the commander is to make the maximum use of his own forces and employ them decisively. All agencies for obtaining information must be used to their greatest capabilities to provide this necessary information. The corps reconnaissance regiment and reconnaissance aviation allotted to the corps provide the corps commander with the means for far-reaching search in front of and to the flanks of the corps and into the hostile dispositions. Information secured by the corps and pertinent to subordinate commanders should be given promptly to these commanders in sufficient detail to permit them to use it in formulating their plans. In addition to general information of value to certain elements, all major subordinate commanders must be kept advised of the situation and capabilities of the enemy by means of G-2 studies, reports, and situation maps. Liaison officers are particularly valuable in keeping the corps and higher, lower, and adjacent units informed of the situation.

■ **167.** Since the movement of large forces requires careful staff planning and operation and the proper balancing of time and space factors, subordinate commanders must receive timely information of the developments of the corps plan and decisions by the corps commander. Such information will permit subordinate commanders to plan well in advance and to make the necessary timely arrangements for the effective participation of their units in the corps effort.

■ **168.** In the plan of attack, the corps commander so apportions the means as to give the maximum strength possible to the main attack. *Strong support by combat aviation is essential and close coordination of the attacks by ground and air forces must be assured.* For the employment of combat aviation in support of ground troops see chapter 7.

■ **169.** For the attack, the divisions are assigned missions general lines of departure or areas from which the attack will be launched, zones of action, the time or times of attack and objectives, or if required by the scheme of maneuver successive objectives. Provision is made for the mutual support and coordination necessary between adjacent divisions to carry out successfully the corps scheme of maneuver. Allotments of corps troops and reinforcing units are made to divisions in accordance with their missions, requirements, and the terrain of operations. In these allotments emphasis is placed on the main attack force. When armored divisions or separate tank units are attached to the corps they are employed in accordance with the doctrines prescribed in **FM 100-5**.

■ **170.** The corps artillery supports the attack primarily by counterbattery and long-range missions, thus permitting the division artillery to concentrate its means on close-support missions. The corps artillery should be employed to reinforce the close-support fires of the division artillery when it has batteries available for such missions and when such assistance is required. The division artillery may be called on to supplement the corps artillery in counterbattery when necessary. Control of the organic corps artillery and of reinforcing heavy and medium units is centralized when practicable. The major efforts of the corps artillery should be in support of the main attack.

■ **171.** In order to provide the divisions with the means of performing air reconnaissance and battle missions the corps usually allots some of the corps reconnaissance aviation to them. The corps should retain a part of this aviation for the more distant reconnaissance and for artillery observation. The air reconnaissance activities of the corps and divisions are coordinated by the

assignment of air areas or the use of other methods by the corps commander.

■ **172.** Units such as separate tank, artillery, chemical troops, and similar units attached to the corps to assist or support the corps offensive action, may be attached to divisions in accordance with the missions assigned and the powers and limitations of the attached units, or they may be employed under corps control as the situation indicates.

■ **173.** The attack by a corps ordinarily is a matter of days and not of hours. Throughout the battle the corps commander must furnish the impetus to the attack by the use of the corps artillery, combat aviation made available for the support of the corps, and corps reserves. Reserves should be SQ located and moved that they can be rapidly employed on any section of the corps front. They preferably should be provided with motor transportation and when in movement they should be fully protected against both mechanized and air attack. Plans for the movement and employment of the reserves must be prepared to meet various possible contingencies. When reserves are committed to battle, they should be replaced at the earliest practicable time as other elements become available. However, the attacking echelons should not be unnecessarily weakened to gain a reserve component. The commander must not hesitate to employ his last reserves when such action gives promise of decisive results. Piecemeal employment of corps reserves is seldom justified.

■ **174.** The corps commander follows the progress of battle through personal contact, reports of staff and liaison officers, information received from subordinate commanders, and suitable reconnaissance agencies. As the course of the combat indicates, he adjusts or modifies the missions assigned to subordinate elements and makes such changes in zones of action and objectives as may be necessary to take full advantage of enemy weaknesses, to exploit those weaknesses, and defeat decisively the hostile force.

■ **175.** *The corps commander must make timely provision for the pursuit and destruction of a demoralized opponent.*

THE DEFENSIVE

■ **176.** Tactical doctrines governing the selection of defensive positions, and the organization and conduct of the defense are discussed in **FM 100-5**.

■ **177.** When the corps constitutes a part of the army, the area assigned the corps for defense and the general conduct of the defense will be decided by the army commander. For a corps operating independently or on a detached mission these decisions are

made by the corps commander and are based primarily on his mission, time and space in which he has to accomplish the mission, the terrain, and strength and composition of the opposing forces. Whether the plans contemplate a defensive in one position or a retrograde defensive, they must visualize sharp aggressive action under suitable conditions, with the eventual adoption of decisive counteroffensive action. (See ch. 5.)

■ **178.** In order that the corps commander may most suitably dispose his subordinate elements he must be provided with continuing information of the movements, strength, and composition of the hostile forces. The corps reconnaissance agencies must be given well-defined missions so that they can search for and secure the most vital information.

■ **179.** The selection of the area to be defended cannot be made solely from the map. Ground or air reconnaissances, or a combination of the two, by the corps commander and members of his staff are necessary. Otherwise decisive defensive locations may be overlooked and require a readjustment in defense plans at a later, more critical time.

■ **180.** The plans and orders for the defense provide for the disposition of the divisions and other corps elements in width and depth suitable to the defensive capabilities of the various components and the requirements of the situation. In the retrograde defensive the division may normally be assigned a greater frontage than that permissible in the defense made in one position. (See ch. 5.) To allot a division an excessive frontage invites a hostile penetration and break-through. The means of modern warfare demand that the defensive position be organized in great depth and that organized areas be mutually supporting. The defense against an enemy strong in armored and motorized elements requires that an attack by these elements be met by ever increasingly powerful antitank means distributed in depth. These will include fixed emplacements along routes favorable to the rapid movement of armored elements and highly mobile tank-destroyer units, held in reserve for the purpose of moving against and attacking the hostile formations. (See FM 18-5.)

■ **181.** Plans for the employment of the corps cannot be improvised. From the initiation of operations until their conclusion the corps commander and his staff must be planning far in advance of the current situation. The occupation and organization of a defensive position are but initial steps in the whole operations. Plans to meet various enemy capabilities, plans for counterattack, for the counteroffensive, or for further retrograde action must be prepared while the initial defense measures are being taken. Major subordinate commanders must be kept informed of projected

plans so that they also may make necessary plans and arrangements to meet various contingencies. Failure of large units to prepare suitable plans for future action may so delay the execution of suitable measures as to jeopardize the operations of the corps and higher units.

■ **182.** Divisions occupying portions of the defensive position will be given missions and general instructions for the conduct of the defense. They will be assigned areas or sectors, allotted appropriate reinforcing means, and will be directed to provide, as appropriate, covering forces and flank or rear protection. The corps issues the necessary instructions to assure coordination between adjacent divisions. As a rule, the detailed execution of defensive measures will be left to the divisions. Inspections are made by the corps commander and the corps staff to assure complete and effective defense organization throughout the corps.

■ **183.** Armored forces, including separate tank units, and combat aviation allotted to the corps for defensive operations are employed in accordance with the doctrines prescribed in chapters 7 and 9 and in **FM 100-5**.

■ **184.** The corps artillery has for its principal mission the neutralization or destruction of hostile artillery. It will also be used for interdiction, counterpreparation, and fire in front of the outpost position to reinforce the artillery of the divisions. The missions assigned the corps artillery at any given time are those which will most favor the success of the defense. In preparing plans for employment of the corps artillery, arrangements are made for the mutual assistance of the artillery of adjacent corps and for the assistance of artillery units under army control.

■ **185.** In a defensive situation the corps reconnaissance regiment may suitably be employed on its primary mission of reconnaissance, it may be reinforced by suitable tank destroyer, infantry, artillery, and engineer units and employed as an advance covering force (see **FM 100-5**) or a flank-security force, or it may be withdrawn into corps reserve for later suitable employment.

■ **186.** Corps reserves may be employed to occupy previously prepared positions, block hostile envelopments or penetrations, reinforce front-line units, relieve exhausted units on the battle position, cover a retrograde movement, counterattack, or participate in the general counteroffensive.

■ **187.** The effective employment of the corps reserve requires careful planning, detailed reconnaissance of routes and areas of employment, rehearsals where practicable, rapid means of movement, protection against both ground and air attack while in its

original location and during movement and a signal communication system which assures the rapid transmission of orders.

■ **188.** The counterattack expresses the offensive spirit and is the decisive action of the defense. For the counterattack corps reserves may be employed either under corps control or they may be attached to an appropriate division. When the reserve is a division or larger and is employed as a unit, it should be committed under corps control. Reserves smaller than a division may suitably be attached to a division, to which the counterattack mission is assigned. In any situation, the counterattacking forces should be supported by all suitable and available artillery and other ground weapons, and by available combat aviation. Armored forces and tank units as part of the defensive forces find their most appropriate employment in the counterattack and counteroffensive. (See **FM 100-5.**)

Every effort must be made to move the counterattack forces secretly and launch the counterattack with surprise. However, the sacrifice of secrecy must not deter the commander from launching his counterattack force at the most decisive time and place. With modern means of transportation a delay or gain of a few hours may be decisive.

■ **189.** *The counteroffensive must be the ultimate goal of all defensive operations.* It is by the counteroffensive that the commander regains the initiative and is enabled to impose his will on that of the enemy. Whether the corps is acting alone or is part of a larger force all plans must envisage the offensive and during the defensive plans and preparations must be made for decisive counteroffensive action.

SECTION IV

THE CAVALRY CORPS

■ **190.** The *cavalry corps* has a flexible organization. It is composed of two or more cavalry divisions and may have other supporting or reinforcing units. The cavalry corps is assigned organically a corps headquarters and headquarters troop and a signal troop. It may have attached aviation, motorized infantry, elements of the armored force, additional artillery and engineers, special anti-aircraft and anti-mechanized units, and administrative units necessary for corps troops. When a cavalry corps is operating separately, or when a superior commander has delegated administrative and supply functions to it, the cavalry corps commander is responsible for the administration and supply of all assigned and attached units. The cavalry corps normally operates with an army or larger force.

■ **191.** Appropriate missions for cavalry and the employment of the cavalry division are discussed in **FM 100-5**.

■ **192.** The doctrines for the employment of the cavalry division are applicable for the cavalry corps; consideration must be given, however, to increased time and space factors and the employment of corps troops and reinforcing units.

■ **193.** Under suitable terrain conditions the cavalry corps and division may be effectively employed in conjunction with large armored or motorized formations either in breakthrough or envelopment operations. In such operations the cavalry corps should be strongly reinforced with armored elements and antitank and antiaircraft means.

■ **194.** The corps commander will ordinarily issue his orders as instructions which specify the missions of the divisions, but leave the method and details of execution to the division commanders. In battle he coordinates the action of his divisions, determines the employment of corps troops or other nondivisional units, and employs the corps reserve in accordance with the requirements of the situation.

SECTION V

GROUND RECONNAISSANCE AGENCIES OF LARGER UNITS

■ **195.** Ground reconnaissance agencies for employment by larger units may be organically assigned to the units or all or part of these reconnaissance elements may be retained in a pool by higher headquarters.

Units held in the pool may be allotted to subordinate larger units to reinforce organic reconnaissance means, or to provide those larger units which do not have organic means with the means required by the situation.

■ **196.** The discussion which follows is based primarily on the mechanized regiment. Similar considerations apply to larger (brigade) and smaller (squadron or battalion) mechanized reconnaissance units. The primary difference lies in the frontage which may be satisfactorily covered by the unit concerned.

■ **197.** The chief mission of the reconnaissance regiment is reconnaissance. It is designed to precede the larger unit at distances up to 150 miles, depending on conditions; to gather information for the higher commander; and to furnish security from surprise, including establishment of a counterreconnaissance screen. It is essential that the regiment commander have complete information concerning the plans and intentions of the higher commander. Close liaison must be maintained with the

higher commander through the intelligence and operations sections of the general staff. Appropriate orders are given to the regimental commander but the methods of employing his command are left to him.

■ **198.** The methods of employment of the regiment, in the main duty of reconnaissance, vary with each situation depending upon the character of the terrain, road net, and enemy opposition. No fixed general plan is suitable for all occasions. Initially, only such part of the regiment should be utilized as may be necessary to fan out to the front and flanks over the roads, while the remainder of the regiment is kept in reserve. The regiment should be in close touch at all times with reconnaissance aviation operating with the corps which serves to focus attention on critical areas and enemy concentrations. The employment of the regiment can be anticipated and its strength conserved to a great degree by the information obtained from the air. The orientation and assistance rendered by observation aviation facilitate greatly the speed and effectiveness of the ground reconnaissance detachments. Control and communication may be assisted by drop and pick-up messages as well as by radio. When practicable, one or more airplanes should be assigned to work directly with the regiment.

■ **199.** Frontages suitable for the regiment and its elements vary widely depending upon enemy resistance, terrain, road net, weather, and the mission of the main force. In general terms only, the regiment can reconnoiter from six to ten roads and the intersecting crossroads on a front of 30 to 50 miles. When the situation requires operation in a wider zone with a plentiful road net, either the effective rate of advance must be reduced, or the information will be that which is obtainable without leaving the roads.

■ **200.** Cooperation with the division reconnaissance troops must be carefully coordinated. When elements of the corps regiment have gained contact, elements of the division reconnaissance troops close and cooperate with units of the corps regiment within their respective zones, or release elements of the corps cavalry regiment for use in other directions such as flanks or rear. Division units may assist or relieve elements of the corps regiment holding bridges, defiles, or vital terrain. Division units execute supplementary reconnaissance necessary to prevent infiltration of bodies of hostile troops and secure accurate information of routes and terrain features not covered by the corps regiment. Each division reconnaissance troop or squadron should send a liaison detail to the corps regiment with means for transmission of information.

■ **201.** When other forces such as large cavalry or armored units are present, it is necessary that these units and the reconnais-

sance regiment each understand the missions locations, and actions of the others at all times. The corps or higher commander, through the intelligence and operations sections of his staff, coordinates the work of these units and assures liaison and communication between them.

■ **202.** During concentration and the early stages of the advance, when distances from the enemy are great, the information obtained by the regiment consists mainly of reports on the more important routes in its zone, axis, or area, and of a general report on the terrain passed over. The route report states whether or not the main routes are suitable for use by the higher unit, while the terrain report shows such items as stream crossings, defiles, and commanding terrain features. During this period the regiment can make its maximum speed. When roads and road nets are suitable reconnaissance is performed by both motorcycle and mechanized elements.

■ **203.** As the enemy main forces approach, the advance of the reconnaissance is slowed down and the regiment is closed up on its leading elements, preparatory to making a detailed reconnaissance of the terrain and hostile dispositions.

■ **204.** Upon gaining contact, small hostile detachments are driven off or passed around and every effort is directed to locating the main hostile force. However, it will be necessary ordinarily to fight for information, and combat must be accepted when it promises to yield profitable returns. When horse elements are present they may use their cross country mobility and fire power to advantage, passing around or between points of hostile resistance and pushing on to gain information. Combat aviation also may be used to attack resistance delaying the reconnaissance.

■ **205.** As the reconnaissance detachments approach closer to the enemy main body, hostile flanks are located, enemy dispositions are determined, and terrain features in the vicinity of the enemy positions are observed and reported. Reconnaissance beyond the flanks and in the hostile rear is performed by flank detachments of the regiment or by special detachments from the regimental reserve. These detachments endeavor to locate enemy command posts and lines of communication, hostile reserves, and reinforcements, and hostile trains and supply installations. As the reconnaissance elements and security detachments of the various columns of the higher unit close up and make contact, the reconnaissance regiment is usually displaced to the flanks. It continues its reconnaissance and takes this opportunity to reorganize, reservice, and to relieve elements operating to the flanks and rear. Tentative plans should be prepared by the regimental

commander at this time for the future employment of the regiment in pursuit and exploitation.

■ **206.** In night reconnaissance, mechanized elements are more vulnerable, and their movements are generally restricted to roads. Progress is slower than during daylight, and information obtained from the vehicle, if negative in character, may not be reliable. To obtain positive information, dismounted scouts or patrols should be used.

■ **207.** The regiment may execute counterreconnaissance or delaying action; it may be employed to seize terrain, pursue, cover a withdrawal or retirement and to execute other offensive or defensive missions where the situation demands. However, commanders must realize that combat missions ordinarily can be performed only at the expense of reconnaissance. In each situation suitable reinforcements must be added as needed for the execution of the mission.

CHAPTER 7

AIR FORCES

Section I

GENERAL

■ **208.** The basic tasks of the air forces, which govern organization, training, and equipment are as follows:

a. Deny the establishment of and destroy existing hostile bases from which an enemy can conduct operations on land sea, or in the air.

b. Oppose the operations of hostile air forces by fighting in the air.

c. Operate against hostile land or sea forces, the location and strength of which are such as to threaten the vital interests of the United States.

d. To wage offensive air warfare against the sources of strength, military and economic, of the enemies of the United States in the furtherance of approved war policies.

e. Operate in close cooperation with the other arms of the mobile army in the conduct of land operations.

f. Operate in support of our naval forces when the fleet is so situated that it can and does operate effectively against enemy forces afloat in the threatened area.

g. Operate in lieu of or supported by naval forces and facilities when the fleet is so situated that it cannot operate effectively against enemy forces afloat in the threatened area.

■ **209.** All combat aviation in a theater of operations or similar command ordinarily is organized as an air force under the theater or similar commander. This organization permits mass employment as well as maximum flexibility in both close support and independent missions.

■ **210.** Army aviation is divided into general functional categories as follows:

a. Training and special purpose aviation includes all Army aviation not assigned to air forces. Its function is to meet the requirement for training, for the development and test of equipment, for transportation, and for noncombat air operations.

b. Air forces include those overseas and in the United States. Each consists of all classes of aviation except training aviation. From the aviation assigned to each of these air forces there are formed

(1) *Striking forces* which operate as strong offensive air units for the application of air power. They will be required to extend the destructive effect of air operations over both land and sea to great distances beyond their operating bases. Tactically they conduct counter air force operations to gain and maintain control of the air. The strategic functions of these forces are set forth in paragraph 208.

(2) *Defense forces* which provide a close-in air defense of vulnerable and important areas to include, where necessary, reasonable protection against offshore carrier attacks.

(3) *Support forces* which provide the necessary air power in support of ground force operations. Command and staff echelons will be trained and disposed to assure effective control and employment of that combat aviation assigned or attached for particular operations. While all combat aviation will be trained within its means to provide effective air support to ground forces, certain classes will be specifically trained to furnish close support to ground forces. Support forces include observation aviation needed to provide air observation for ground troops. Because of the necessity for close control by ground force commanders, observation aviation must be attached to the ground unit specifically supported.

■ **211.** The capacity of air forces to deliver fire power is directly affected by the mobility of the supply services. Air forces must be provided transport aviation wherever they operate to expedite the service of supply and the transportation of maintenance personnel. Additionally, transport aviation must be available to support forces for the transport of parachute and air-borne troops and for towing gliders. Security and reconnaissance for air movements are provided by the air force commander who, under the theater or task force commander, controls the embarkation, movement, and debarkation of air-transported personnel.

■ **212.** The necessity for rapid production and correction of maps requires that photographic aviation be assigned to theater and similar headquarters for the air photography required for photogrammetric mapping. This type of aviation is also suitable for the

conduct of photographic reconnaissance beyond the capabilities of observation aviation. Because of the characteristics of the photographic airplane, this type of unit can accomplish both photo-mapping and photographic reconnaissance tasks.

■ **213.** The successful application of air power necessitates an air force trained, equipped, and staffed to operate both as an independent striking force beyond the range of surface forces, and in support of surface forces from the time these forces enter battle. Ability to fulfill both requirements is vital. The initiation of strategic air operations normally will precede the contact of surface forces. Even though close support may normally occur last in chronological order, it is essential that designated agencies give this type of operation consideration and that all agencies be prepared for such operations at any time.

■ **214.** Although the organization, equipment, and training of striking-force aviation must be designed primarily for the application of air power in initial long-range strategic air combat operations, there must also be incorporated the greatest practicable provision for success in close-support operations. Consideration of the close-support role must not prejudice success in the air striking-force mission. Similar considerations require that support aviation must be designed primarily for close support with such modification as is practicable for successful employment in short-range striking force missions. The basis of all air power is the bombardment airplane.

■ **215.** For the protection of our vital military and economic installations the minimum requirement for our striking-force aviation is that it be capable of exerting air power at a distance from these installations greater than the practical operating radius of hostile bombardment. This radius of hostile bombardment is determined by the location of the air bases and the types of aircraft employed. Wise strategic location of our air bases and maximum radius of operation for our airplanes are important factors in gaining superiority of operating range over the enemy. It may frequently require the seizure or occupation of suitable bases and the construction and operation of necessary facilities.

■ **216.** Complete control of the air is gained and maintained only by total destruction of the enemy's aviation. Since this is seldom practicable, counter air force operations must be carried on progressively and intensively to provide security from hostile air operations.

Air superiority is at all times a matter of vital concern to the higher commander. The organization of air components is not alone a responsibility of the air forces. The active direction of the higher command and staff is necessary to secure the essential

support of service and ground troops, the provision of tonnage and transportation, and the development of temporary and dummy fields. Destruction of hostile aircraft and air bases by air, naval, mechanized, guerilla or parachute forces, should be carried out wherever practicable and usually will be an essential preliminary to larger operations.

The security of his own aircraft is of equal importance to the higher commander with the destruction of enemy aircraft. In distributing ground forces, particularly anti-aircraft units, primary consideration must be given to the protection of friendly aircraft.

The dispersion of aircraft on and around airdromes, protective installations on airdromes, and the construction of numerous airdromes, actual and dummy, are all measures which, by conserving friendly aircraft, will contribute to air superiority. The utilization of detector devices and multiple means of communication are vital considerations for the higher command.

■ **217.** Once air warfare has begun, the most effective defense is an active and systematic air offensive against enemy aircraft, equipment, bases, and manufacturing facilities. Our air forces must be capable of carrying on sustained effective operations especially against those enemy bases from which effective operations can be launched against areas vital to our national defense.

■ **218.** Suitably located, dispersed, manned, and stocked air bases are a controlling factor in the capacity to apply air power. To be usable by the air force, an air base area must contain within it units organized, trained, and equipped for the defense of the air base against all forms of hostile action. Air bases form primary objectives for attack by hostile forces. They must be made secure against air attack, parachute, air transported, or other hostile forces and against subversive elements. (See pars. 239 to 261 incl.)

SECTION II

AIR OPERATIONS BEYOND THE SPHERE OF ACTION OF SURFACE FORCES

■ **219.** Air force operations may be directed against a system of objectives such as the oil industry, the airplane industry, or the electric power industry of a nation, each of which consists of many separate targets embracing production, distribution, and storage facilities. The selection of systems of objectives for the air offensive is a responsibility of the commander of the field forces or of the commander of the theater or task force. The selection of targets is a responsibility of air unit commanders.

■ 220. Operations beyond the sphere of influence of surface forces are conducted to destroy systems of objectives which are vital to the will or ability of the hostile nation to wage war. These operations must be concentrated upon the most immediately vital of such systems of objectives the destruction of which is within the capacity of the air force available, and these operations must be continued to a decision.

■ 221. The selected system of objectives may be the armed forces, a particular industry, or the means of providing an essential product or material. The system of objectives which is most immediately vital and is also vulnerable can be determined only after a most careful analysis of the hostile national structure. Further detailed analysis of the selected system of objectives is necessary to determine the particular targets the destruction of which will have the greatest effect upon the selected system of objectives.

■ 222. Analysis of a hostile structure may disclose the oil industry as the most immediately vital system of objectives but relatively invulnerable due to some factor such as very broad dispersion. On the other hand, electric power might be also vital but of lesser immediate importance and might be considerably easier to destroy by air attack due to its concentration in a few large and relatively fragile establishments.

In any event the proper selection of systems of objectives and of targets requires the assembling of extensive data and detailed research which may extend over a considerable period of time, all of which demands that such activities be pursued continuously in peace or war.

SECTION III

AIR OPERATIONS IN AIR DEFENSE

■ 223. The only reasonable hope of avoiding air attack lies in the possession of such power of retaliation as to deter an enemy from initiating air warfare. A powerful air offensive cannot be prevented by local defenses. A determined air attack once launched may be interfered with but it can rarely if ever be stopped by local defense.

■ 224. A vital installation may justify tying both aviation and anti-aircraft artillery to its defense, but care must be exercised not to violate the doctrine of the offensive.

■ 225. Air defense comprises all measures, ground and air, taken to provide the direct defense against hostile air operations as distinguished from the indirect defense afforded by counter air force operations.

■ **226.** The purpose of air defense is to limit the effectiveness of enemy air operations. Passive defense, including dispersion, camouflage, blackouts, the balloon barrage, and all measures of air raid precautions where applicable, is an economical and continuously effective means of air defense. However, neither passive nor active defense, including interceptor aviation and anti-aircraft artillery, can ever guarantee complete security at a point.

■ **227.** The air defense organization must provide all essential means for the effective conduct of active and passive air defense. An adequate aircraft warning service is necessary for effective local defense by all air defense agencies: military and civil. The aircraft warning service is a highly specialized interceptor intelligence service designed for pursuit aviation but incidentally includes within it adequate and effective general warning service for all other air defense agencies.

■ **228.** Pursuit aviation, if present, is the principal using and controlling agency for any aircraft warning service. Such a service designed to meet the requirements of pursuit aviation employed in air defense also fully meets the requirements of—

a. Calling to alert anti-aircraft artillery and barrage balloon units:

b. Warning military and naval units and passive defense agencies.

c. Issuing air raid warning to civil passive defense agencies.

■ **229.** An aircraft warning service should be organized in all areas in which pursuit aviation may be employed.

■ **230.** In order to meet the requirements for air defense it is essential that the total requirements of passive and active defense be determined and that a complete system of air defense organization be provided for all vital areas and wherever operations are carried out.

■ **231.** Operations in air defense provide an area defense and not a point or unit defense.

■ **232.** All anti-aircraft artillery and pursuit aviation operating within the same area must be subject to the control of a single commander designated for that purpose.

SECTION IV

EMPLOYMENT OF AVIATION IN CLOSE SUPPORT OF GROUND TROOPS

■ **233.** All classes of aviation may be used to support ground forces. Light bombardment aviation is particularly trained and equipped to operate in close support of ground forces. It accomplishes this by the employment of bombs, chemicals, and machine guns, by horizontal bombing attacks usually at intermediate and low altitude, or by dive bombing attacks.

■ **234.** Close support comprises all types of operations by aviation which have the primary mission of intervening against hostile ground forces in contact with the supported friendly ground forces or capable of interfering with their mission. This support may consist of aviation attacks against targets or objectives on the immediate front or flanks of the supported ground forces; attacks against troops, installations or other objectives more distant from the supported units' for the purpose of assisting in the execution of their missions; execution of reconnaissance or observation for the supported ground forces; or pursuit protection in the immediate area, of ground operations of the supported troops and installations.

■ **235.** The methods of operation employed by bombardment aviation are dependent upon the particular mission, characteristics of the target, enemy defensive measures, and the weapons that are to be employed in the assault. Bombardment supports the operation of ground forces by supplementing or extending the range and hitting power of organic means of the supported ground force. Bombardment aviation placed in support of the ground unit operates to further the mission of the supported force. The strength of the combat aviation allotted will always be dependent on the forces required to meet the specific needs of the supported ground unit in the execution of its mission. Standard allotments of force will therefore seldom be desirable.

■ **236.** The employment of aviation support of ground forces is affected by the following fundamental considerations:

a. The primary mission of combat aviation is the establishment of air superiority by the destruction and neutralization of effective hostile air resistance. Local air superiority must be maintained to insure effective air support without excessive losses from hostile aviation.

b. Since aircraft are more vulnerable and less easily replaced than artillery, economy in their use against well defended positions must be exercised. This does not mean economy in number applied to the objective, but economy of force by application to

the right target at the right time. Support from aircraft can outdistance greatly the support which can be given by artillery; therefore, it should normally be employed on targets which cannot be engaged effectively or overcome promptly by the use of artillery alone.

c. The locations of air support units in relation to supported units are immaterial so long as they are within effective radius of action. The closer supporting aircraft is based, however, the faster and more effective will be the support given.

d. It is possible for the whole bomber effort, horizontal and dive, to be concentrated at short notice on a particular section of the front. Mass and flexibility in employing this mass require centralized control.

e. An attack delivered by one airplane is of extremely short duration. Continuous air support for an extended period of time is normally necessary to realize the full effect of air attack and can be obtained only by the employment of large masses of aviation. The rate of operation is an important factor in determining the size of the air force required to support a particular operation. Sufficient aviation will seldom be available for allocation to subordinate elements of the supported unit.

f. Due to the maneuverability and method of attack, dive bombers in close support of ground troops are normally used against precision targets. Due to the speed, lack of close quarter maneuverability, and greater bomb loading, horizontal bombers are normally directed against area targets.

g. Support cannot always be guaranteed. It may be interrupted by bad weather, enemy interceptions, hostile attacks on airdromes, or strong anti-aircraft fire.

h. The identification of targets may be difficult. It depends on many factors such as enemy opposition, visibility, standard of training of individual pilots, and the designation of targets within the capabilities of the pilot to locate and recognize.

i. In order to utilize fully and efficiently the capabilities of supporting combat aviation, the field of operation or air attack should not be restricted, but should be kept sufficiently extended to permit timely attacks on any mobile forces that threaten the successful operations of the supported force. The targets selected must be those that will contribute most to assist the operations of the supported ground force.

j. Support aviation constitutes a powerful weapon for influencing the course of ground combat. When employed on the battlefield, great care must be exercised to see that the efforts of com-

bat aviation are not devoted to targets which could be more economically overcome by the ground forces themselves.

■ **237.** Combined operations of air and ground forces must be closely coordinated by the commander of the supported ground force. The success of operations depends on this coordination and on standardized procedure in which both ground and air units have been trained together thoroughly.

■ **238.** Combat aviation in support of ground troops may be employed in one or more of the following operations:

a. Reconnaissance bombardment.-Bombardment aviation may conduct combined reconnaissance bombing missions by developing and attacking targets that impede the advance of the supported unit.

b. Attack on defensive organization. Air attacks are executed against field fortifications and defensive organization in the path of supported ground forces, particularly mechanized and armored forces when it is not practicable to employ other means of attack upon the desired objective in the time available, or when the added fire power and moral effect of air attacks are essential to insure the timely success of the operation of the ground forces.

c. Attacks on enemy reserves and reinforcements. Hostile ground forces moving toward the operations area of the supported force normally will be a remunerative target for bombardment aviation and are subjected to air attack for the purpose of blocking or delaying their movement and for effecting their destruction or demoralization. Formed bodies of troops and their transportation are highly vulnerable to attacks by bombing and automatic weapon fire.

d. Attacks on hostile mechanized forces. Supporting combat aviation attacks and destroys approaching mechanized forces and antitank units before they gain contact and engage the supported force. The supply, and maintenance elements of hostile mechanized and armored formations are essential to their continued operation, and opportunity shall be sought constantly to accomplish early destruction of these hostile supply elements. Support aviation should be continuously on the alert to detect preparation for and to block any counteroffensive operations against the supported ground force. Their organic reconnaissance should be used for this purpose.

e. Support of friendly armored or motorized forces. After the initial attack has been launched, supporting aviation continues to operate in close coordination with armored and motorized forces by attacks on hostile resistance impeding their progress, including hostile counterattacks against the friendly supported force.

f. Support of parachute troops and air infantry in the air and on the ground. In the support of air infantry operations, friendly pursuit operates to gain and maintain effective air control over the objective for the period of the operation and provides security to aid-borne troops while in air transit and during landings. Supporting bombardment aviation conducts initial attacks when necessary to neutralize the enemy ground defenses at or near the objective, in order to enable parachute and/or air infantry to effect a landing, and maintains sustained support until the objective of the supported unit has been gained. Air attacks are directed against ground targets at or near the objective that opposes the operations of the supported air infantry on the ground and against any enemy reserves or reinforcements that threaten the supported force. (See FM 31-35.)

CHAPTER 8

DEFENSE. OF AIR BASES

■ **239.** All air bases are subject to sabotage and, depending on the military situation and the location of the air base, may be subject to attack from the air, ground, or sea. An attack on an air base may be for counter air force purposes or to gain a point of departure for further ground or air operations. The means made available for the defense of an air base will depend upon the probable nature of attack to which it may be subjected, and the effect that its loss or neutralization will have on the military operations of the forces as a whole.

■ **240.** Responsibility for protection against sabotage rests with the air base commander. Defense measures against sabotage include interior guard, industrial riot proof fences, electrically charged fences, barbed wire, and arming and training of personnel on duty at vital installations. Antisabotage plans must provide for continuous surveillance of vital equipment and installations, the detention and examination of questionable individuals, an alarm system, and means to isolate sabotage attempts of all types.

■ **241.** The defense of an air base is an integral part of the defense of the entire area in which the base is located. It requires local ground defense forces, plus adequate mobile reserves. The allocation of local ground defense forces, in excess of any organic air base defense unit which may be authorized, is the responsibility of the theater or territorial commander. These forces should consist of the minimum strength necessary for the initial defense of the base. The air base commander exercises command and is responsible for the plans and operation of the local defense forces. Since the defense of an air base is closely connected with the general defense of the area in which it is located, the plans for its defense must be coordinated with those for defense of a whole area if practicable, be so located as to be able to intervene in support of two or more air installations. Reserves must be highly mobile in order to oppose successfully any hostile action before the local defense can be overcome.

■ **242.** Attacks against air bases may take one or more of the following forms:

- a. Bombing or machine-gun attack.
- b. Chemical attack.
- c. Parachute troop attack.

(1) Counter air force, to destroy airplanes on the ground, fuel supplies, shops, and equipment.

(2) To gain control of the air base for further operations.

d. Air-landing operations, including troops landed by gliders.

e. Ground attack.

■ **243.** The defense of an air base comprises all practicable passive and active defense means, carefully coordinated. Passive defense measures include damage control, deceptive measures such as dummy fields and camouflage, shelter, obstructions, mines, and an alarm system. The active defense includes the emplacement of weapons and searchlights, field fortifications, and plans for the manning of weapons and for local counterattack.

■ **244.** Dispersion of vital installations, fuel and bomb storage facilities, and airplanes is of primary importance in controlling damage from hostile bomb and machine-gun attacks, from fires, and from action by parachute troops armed with incendiary weapons. The nature and location of facilities at many existing air bases makes impracticable the dispersion of their vital installations. Protective bunkers and detailed fire-fighting plans and equipment should be employed to aid in controlling damage to such facilities as cannot be dispersed. Airplanes must be dispersed on and in the vicinity of the base to minimize the effect of an air attack on the group of planes as a whole. Protective bunkers, barbed wire, and provision for weapon fire by the crews must be planned for the protection of each airplane to prevent its destruction on the ground by troops landed for that purpose.

■ **245.** Effective use of dummy fields will assist greatly in the protection of the air base from bombing and machine-gun attack. Dummy fields must be camouflaged, and activity on the field, both by day and by night, must resemble that on the real landing field. Evidences of use, such as wheel marks, runways, partially hidden dummy airplanes, lights, and defense works are necessary if the deception is to be successful. The main value of dummy fields is to divert as many hostile air attacks as possible from actual fields. Repairs to a dummy field which has drawn an attack must be made just as quickly and thoroughly as if it were the actual field. Defense plans must provide for the obstruction of dummy fields in the event of attack by air-landing troops.

■ **246.** Every attempt must be made to conceal from the air all indications of an air field by full use of camouflage and of natural concealment. Camouflage of permanent installations on existing air fields will be difficult if not impossible. The best that can be hoped is to break their outlines and make them a less apparent target. Full use of camouflage must be made in the construction of weapon emplacements, field fortifications, facilities, and shel-

ters for installations and personnel. Consideration should be given to protection of the field from bombardment and machine-gun fire by use of artificial fog or smoke. Hostile aircraft will thus be forced to resort to area bombing which decreases the probability of damage to vital installations. The distance from hostile air bases, the danger of attack by parachute or air-landing troops, the time in which a warning of impending attack can be received, weather conditions, effect of smoke on defensive anti-aircraft fire and on the operations of friendly airplanes must be considered in the adoption of this defense means.

■ **247.** Splinterproof shelter should be provided for all defensive works and, when possible, for all personnel assigned to the air base, and for fuel and bomb storage. Bombproof shelters should be provided when practicable for such vital installations as radio and control rooms, operations offices, and repair shops. The provision of adequate shelters for aircraft crews will increase the efficiency of operation of the aircraft using the base. Damage control by dispersion must be considered in the location of shelters.

■ **248.** Two classes of obstructions must be considered: those which impede the operations of ground forces, including the movement of parachute or air-landing troops; and those which prevent the landing of aircraft.

Industrial riotproof fences, both around the field and for the compartmenting of installations on the field, will aid in protection against sabotage and hinder the ground movement of hostile troops. To protect against attack by hand grenades and flame-throwers, weapon emplacements should have barbed wire protection all around. Provisions should be made for permanent or temporary road blocks on all avenues of approach for motorized or armored forces.

Defense plans must include the use of vehicles as obstructions on the landing surface itself to deny its use by hostile aircraft. All vehicles not necessary for the active defense of the field or the operation of aircraft should be used to block landing areas when such action is necessary. Areas in the vicinity of an air base which might be used by hostile aircraft and not needed by friendly airplanes, should be made useless by obstruction with trees, ditches, wire, discarded vehicles, or other means. Highways which might serve as landing surfaces can be rendered useless for aircraft by the erection of hoops or wires elevated to sufficient height to permit use by ground vehicles. Posts which reduce the width of highways to less than the wingspan of an airplane serve the same purpose. It must be remembered that one of the first duties of parachute troops will be to clear landing areas for hostile airplanes. Hence obstructions intended to prevent such landings should be difficult or impossible for such troops to move.

Plans should provide that all obstructions are covered with fire.

The use of mines to obstruct the landing field and prevent its use by hostile aircraft is not considered practicable since such mines may be detonated by hostile bombs in counter air force operations and thus assist the enemy in his mission. Mines should be used, where practicable, to obstruct landing areas in the vicinity of the field not used by friendly aircraft. Antitank mines should be used to obstruct possible avenues of approach for vehicles when such approaches are not needed in the operation and defense of the base. When mine fields are laid, their location must be accurately recorded and made known to all friendly forces.

■ **249.** Persistent chemicals is one of the best means for neutralizing an air base. Adequate Chemical Warfare Service decontamination troops equipped with protective clothing and decontamination materials must therefore be readily available. All personnel at the base should be provided with clothing impregnated for protection against persistent chemicals. Shelters for vital installations and for personnel should be gasproof.

■ **250.** The establishment and proper functioning of the aircraft warning service is under each air force commander. In oversea possessions and bases it is established by the territorial commander of each area. Provision will be made to notify the local air base commander of the approach of hostile aircraft. Information of impending attack will also be received from the antiaircraft artillery intelligence service.

■ **251.** Defense plans for the air base must provide an air attack alarm system to warn all personnel of the attack in sufficient time for all defense posts to be manned and all other protective measures taken.

An alarm system to warn of parachute attacks must be set up. Parachute troops will attempt to land not only on the base itself but on the surrounding area. It must be remembered that the burst of antiaircraft shells, the escape of crews of disabled airplanes, and the hysteria which an air attack will evoke in civil communities will frequently result in false reports. Hostile aircraft may drop dummy parachutes in the attempt to force disclosure of searchlight positions and other defense installations. Provision must be made for the immediate verification of reports of the presence of parachute troops. In friendly territory, maximum advantage should be taken of the services of local patriotic civilian agencies in the organization of a parachute alarm system.

■ **252.** Searchlights should be provided for the illumination of the field and the area surrounding the field when desired. These lights are for use after the bombardment has ceased and there is evidence of the landing of parachute troops or air-landing troops.

When such attempt is made, a blackout of the field serves no purpose and the lights will assist the ground force in its defensive fires.

■ **253.** An adequate signal communication system is necessary to assure the transmission of information between the various defense installations. Concealed underground cables should be used to prevent damage by bombs and by parachute troops. All detached posts, whether for giving alarm or protection of areas, should have reliable signal communication with the defense command post. Pyrotechnic signals should be provided in the event of the interruption of other means of communication. Radio should be used to supplement telephone communication where applicable.

■ **254.** Air-base defense plans must provide for immobilizing all motor vehicles not necessary for use by defense forces, both on the base and in the nearby vicinity, to prevent their capture and use by parachute troops.

■ **255.** The means for active ground defense against air attack include all troops and weapons available to resist such attack. These will vary with the importance of the air base and the probable nature of the attack. All weapons to be used for the initial defense of the base will be manned by troops provided primarily for that purpose. All troops stationed at an air base will be considered available for its defense if needed. The order of availability of troops for the defense will be as follows: ground defense forces whose sole mission is defense of the base; engineer troops (aviation) whose primary mission is maintenance and repair of the base; Chemical Warfare Service decontamination troops; Air Corps troops whose primary mission is operation, maintenance, and repair of aircraft; and other troops within supporting distance.

■ **256.** To defend against air attacks, the following ground weapons and equipment should be instantly available:

Antiaircraft machine guns.

37-mm or similar caliber (antiaircraft and antitank).

Caliber .30 automatic and semiautomatic weapons.

Antiaircraft artillery. Searchlights. Decontamination equipment.

Effective defense against attack by parachute and air-landing troops requires in addition to the above—

Motorized field artillery.

Armored vehicles.

A motorized counterattack force.

■ **257.** Antiaircraft artillery should normally be, sited some distance from the air base. It must be included in the alarm system and in the defense communication system of the air base. While its primary purpose is fire against aircraft, it will be prepared to reinforce the fire of other weapons on enemy forces. Antiaircraft machine guns should be sited primarily for defense against low-flying aircraft but are available for use against hostile troops on the ground.

■ **258.** Defense of an air base against attack by parachute or air-landing troops or other ground forces demands an inward and outward perimeter defense. Pill boxes, redoubts, and trenches must be so disposed as to be capable of all-around mutually supporting fires, covering the landing field itself and the approaches outside the base. If the field is so large that fire from such weapons cannot cover the landing area effectively, disappearing pill boxes may be provided on the field. Coordination in the location of inner and outer defenses and provision for all-around fields of fire for weapons emplaced in these defenses will permit them to complement each other for defense in depth against the main hostile effort. Flame-throwers, both fixed and portable, may be effectively employed in the defense.

■ **259.** If a hostile force intends to use the air base as a point of departure for ground attack, it must be expected that all defense works will be bombed before a landing is made. The construction and camouflage of weapon emplacements must be accomplished with consideration of the effect of such bombing. The use of dummy emplacements and movable steel turrets, and damage control by the dispersion of emplacements or their invulnerability to bombs, must assure that adequate fire will be available when the attempt is made to land troops. Since parachute troops may be expected to land outside the base as well as on the field, weapons must be so emplaced as to have adequate fields of fire against the approach of such troops. All road blocks on avenues of approach to the field should be covered with fire.

■ **260.** Successful defense demands that a force be available for launching a local counterattack against any hostile forces which succeed in landing. Armored vehicles are an important weapon for such a force. Engineer troops (aviation) have the necessary combat training and should be used to reinforce the weapon crews and for counterattack purposes. Air Corps ground personnel should be armed and trained in the use of suitable arms for close defense. Although they will be primarily concerned in Air Corps activities, they may, when available, be used for close defense and counterattack purposes. Motor transport should be provided for the movement of the counterattack force.

■ **261.** Reserves from the theater or territorial command should be so located as to be able to intervene rapidly in enemy action on or near the air base. Such reserves should be highly mobile. They should be strong in armored vehicles and artillery. Defense plans should provide that battery positions for the field artillery be prepared in advance, and the necessary data be computed to permit the artillery to bring effective fire immediately on the air base in the event of its capture by parachute troops, and thus prevent its use by hostile airplanes. If an enemy attempts to land troops from the air he will probably make every effort to prevent, by combat aviation, the movement of reserves to the landing area. Provision must be made for adequate alternate routes of approach for reserves. Consideration must be given to the movement of reserves simultaneously on multiple routes. The initiative of the commander and the speed with which a counterattack is launched will be the decisive factor in defense against troops which have landed from the air.

CHAPTER 9

EMPLOYMENT OF LARGER ARMORED UNITS

■ **262.** Operations of components of the armored force may, at various times or simultaneously, involve—

a. Attachment of separate tank battalions and groups to infantry, cavalry, and armored divisions or corps.

b. Grouping of armored divisions, corps, or separate task groups with other corps or field armies and groups of armies for combined operations.

c. Employment, by the field or theater commander, of armored divisions and corps on independent or semi-independent missions without reinforcing logistical means, or additional supporting troops other than reconnaissance aviation.

d. Operation as task forces wherein armored divisions or corps or, at times, separate tank units are teamed with motorized divisions, tank-destroyer units, antiaircraft automatic weapons battalions, and reserve engineer, maintenance, and supply units, closely supported by combat aviation, parachute, and other troops transported by air.

■ **263.** Larger armored units properly utilized, either separately or in combination with other means, can achieve rapid decisive results in the area of employment. They are to be employed on decisive missions. They must not be frittered away on unimportant objectives. Missions far in advance of other main forces are justified when the operation will obtain decisive results, but should be closely supported by other equally mobile troops. Proper employment necessitates definite appreciation and careful consideration of the following:

a. Those conditions which should exist or be created for successful action, such as air superiority in the decisive area of employment, surprise, favorable terrain, and absence of or neutralization of massed defensive means.

b. The mobility of armored units permits great latitude in choice of direction and method of attack. Decision as to whether the attack will be executed as a turning movement, envelopment, or penetration will be largely determined by the time factor involved, and by terrain and hostile dispositions, including rear in-

stallations. The most suitable areas for employment are on open flanks or through existing gaps created by penetrations.

c. The assignment of missions or objectives to armored units must be preceded by a careful consideration of the more important factors affecting operation of the armored and other units associated in the operations. These factors are weather, terrain throughout the entire areas of contemplated operation, nature of the enemy and his methods of combat, availability of other supporting troops, and especially, adequate space, road net, and supplies for the operation of the units concerned. The axes of advance of major armored and motorized units will be along roads.

d. Most decisive results will be gained from the grouping of overpowering masses of armored units and launching them against vital objectives deep in the hostile rear. The armored mass must be supported by sufficient means to maintain momentum until attainment of the objective.

e. Most effective and decisive application of the mobility and power of large armored and motorized combinations will often necessitate decentralization of control to the appropriate commanders who will be guided only by the broad general plan of the higher headquarters. After the initiation of the operation, however, the superior commander must keep armored unit commanders constantly informed of the situation.

f. Maximum development of the demoralizing power of larger armored formations will be dependent in a large measure on continuous support of adequate reconnaissance and observation aviation, and timely assistance of combat aviation in overcoming critical ground resistance beyond the ability of available artillery. This should be assured by direct arrangement between air and armored unit commanders and by adequate air-ground signal communication nets. Higher commanders can increase the effectiveness of supporting aviation by habitually assigning the same components to operational teams or task units. (See ch. 8.)

g. Sustained mobility and combat effectiveness of armored and motorized units are dependent upon adequate, timely replenishment of required supplies, especially ammunition, fuel, oil, and lubricants. Regular vehicle maintenance must be continuous. When operations are to be prolonged for several days, it must be appreciated that armored and motorized units must have opportunity for daily maintenance.

h. Because of their mass employment, armored and motorized units are difficult to conceal during approach and development. Measures for deception and surprise will often be required and may involve, variously, advance stockage and concealment of es-

sential supplies; improvising and concentrating dummy armored vehicles or marked activity of actual units in localities distant from that of contemplated employment; extensive camouflage work; and rapid shifting of armored masses to the area of decisive attack.

■ **264.** The operation of large armored formations will frequently dictate the organization of task forces. (A task force is a temporary tactical grouping composed of one or more arms or services formed for a specific mission or operations.) The composition of such forces should be decided only after careful estimate of the associated means required to accomplish the projected mission or operation. This estimate must consider the nature of the expected resistance, distance to which operations are projected, terrain to be traversed, and troops available for the operation. The additional means to be associated with armored elements will vary with each situation but may comprise appropriately infantry divisions, motorized divisions, or components of these divisions; cavalry units; engineers; combat aviation; parachute troops; other troops transported by air; tank-destroyer battalions; antiaircraft units; and additional maintenance and supply facilities, especially for separate tank groups.

■ **265.** *Offensive operations* of armored units, acting alone or as part of a combined force, are characterized by rapid thrusts into vital parts of the hostile rear followed by immediate exploitation to complete enemy demoralization. Armored division commanders coordinate and control the movement of subordinate units by appropriate assignment of routes, zones, objectives, or phase lines. Phase lines are prescribed only when required to insure coordinated action or movement of two or more units and must not involve prolonged halts thereon. The attack is massed initially, but is extended promptly in frontage and depth by the armored reconnaissance and combat elements after the hostile position is penetrated. As the operation gains momentum, reconnaissance agencies should precede combat elements at the earliest opportunity to seek out and develop soft spots through which combat elements may pass rapidly. The more time allowed for this reconnaissance, the more effective it will be. Contact once gained must be maintained.

Maximum advantage is taken of speed and terrain barriers to prevent or neutralize enemy countermeasures. Reconnaissance agencies provide information on which to base security measures. Other combat detachments provide immediate advance, flank, and rear security. Closely supporting motorized units protect the immediate rear and lines of communication of the armored elements. Other motorized units should relieve the armored unit commanders of concern for extended lines of communication and

assure continuous logistical support. When armored units are operating as task forces, the security of the immediate supporting motorized elements will be enhanced by their following the armored combat elements as closely as possible.

■ **266.** Following the advance of armored units, other elements of task forces operate to overcome remaining hostile resistance, occupy ground gained, keep gaps open, extend and protect the flanks, and relieve armored units which have been checked in order to permit the reduction of the resistance by the relieving units for subsequent advance of the armored formations, or for the employment of these formations in a more remunerative direction. Whenever practicable, other less mobile troops should follow motorized task units as closely as possible to wipe out the last vestige of resistance, meet counterattacks, and relieve the more mobile elements for close support of the armored units. This demands adequate signal communication and careful timing.

■ **267.** In addition to establishing and maintaining local control of the air, supporting combat aviation is directed against hostile antitank dispositions, artillery and reserves, especially armored, in the immediate zone of advance. Concurrently, if available aviation suffices, it may be directed against hostile command and supply installations, targets of opportunity such as more distant reserves and other formed bodies of troops, especially armored units.

■ **268.** In an envelopment, the support units of armored divisions and task forces may, when the situation demands, attack or contain enemy elements on the flank while armored units make the main attack.

Troops transported by air may be suitably employed in advance of armored units to seize critical points or to create opportunity for immediate exploitation by armored forces operating alone or as task forces.

■ **269.** Highly organized areas should be avoided. Where their attack is necessary, it will usually be advisable for other specially equipped infantry and engineer troops to breach the enemy defenses in advance or concurrently with the advance of the armored units unless heavy tanks are available to lead the attack.

■ **270.** Against equal or superior hostile armored forces, friendly armored units should avoid frontal assault and seek to maneuver to cut off or destroy enemy armored unit supply facilities, followed by blows against the rear of enemy detachments.

■ **271.** Large armored formations, operating separately or as part of other forces, are especially suited for exploitation and pursuit. They should be launched boldly against vital areas deep in the

hostile rear. The exploitation and pursuit phase must be anticipated to insure that appropriate plans are made and timely orders issued in all echelons. There must be no relaxing of pressure on the shaken or beaten enemy. Objectives for armored units should be those which will halt hostile rearward movement until less mobile friendly troops can close with the enemy. Concurrently, some armored elements operate to destroy, disrupt, and paralyze enemy communication and supply.

Pursuit by large armored units, operating alone or as major elements of task forces, is rapid and continuous, even during hours of darkness.

■ **272.** When the operations of armored units are likely to carry them beyond practicable operating radius of organic supply means, special provision must be made by the higher commanders to place necessary supplies within operating radius of the units. Under suitable conditions units may be supplied by air transport. Likewise, special arrangements must be made by higher headquarters for rapid signal communication with the widely dispersed elements of armored formations.

■ **273.** Large armored units, as part of other major forces on the defensive, are held in readiness for the counteroffensive or major counterattack. The employment of the armored units must be carefully timed and coordinated with the attack objectives of the other forces. Local air superiority during the period of the counteroffensive or major counterattack is a prerequisite to success of the operations. Usually the armored attack should be delivered to disrupt the continuity of the hostile offensive and not merely to restore the defensive position.

■ **274.** Armored formations are particularly vulnerable to ground and air attack while they are in bivouac, during refueling, or when stopped during combat. It is therefore of great importance that during these periods suitable supporting ground forces, such as infantry, tank-destroyer, engineer, and antiaircraft units be present with and protect the armored units.