CHAPTER 5

INTELLIGENCE AND RECONNAISSANCE

GENERAL

■ 193. Information of the enemy and of the terrain over which operations are to be conducted must be evaluated to determine its probable accuracy, and, together with other items of information, it must be interpreted to determine its probable significance. It then becomes military intelligence.

■ 194. From adequate and timely military intelligence the commander is able to draw logical conclusions concerning enemy lines of action. Military intelligence is thus an essential factor in the estimate of the situation and in the conduct of subsequent operations.

■ 195. Military intelligence functions and procedure are covered in detail in FM 30– series.

INFORMATION COLLECTING AGENCIES

■ 196. The intelligence available initially concerning the enemy and the theater of operations is obtained from intelligence studies made in time of peace by the War Department and furnished the field forces prior to operations. This is supplemented by more detailed information obtained in the field from study of recent maps and map substitutes, captured documents and equipment, hostile and neutral press and radio; from interrogation of inhabitants, repatriates, prisoners, and deserters; from reports of agents, air and ground reconnaissance and observation, troops in contact with the enemy, aircraft warning service and special information services of component units; and from radio direction finding and other sources.

■ 197. Air reconnaissance extends the zone covered by ground reconnaissance and obtains information which will enable ground units to give effective direction to their reconnaissance. Photographs of the areas reconnoitered are of great value to both air and ground reconnaissance agencies.

Under favorable conditions, aviation can furnish early information of the enemy's general dispositions and movements to a considerable depth in rear of his security forces. It cannot provide continuous or detailed information, and frequently its negative information is unreliable, since it is subject to definite limitations resulting from inclement weather, darkness, forested terrain, antiaircraft fire, the activities of hostile combat aviation, and passive measures of antiaircraft defense.

Night visual and photographic reconnaissance by means of artificial illumination will detect heavy troop and vehicle movements. Reconnaissance flights made shortly after dawn and before dark offer a favorable opportunity for discovery of night movements.

■ 198. Ground reconnaissance elements, on the other hand, cannot obtain a complete picture of the enemy situation to any great depth in rear of the hostile screen. They need the cooperation of aviation in order to conserve their combat strength. They can maintain continuous contact, operate under weather conditions which preclude air reconnaissance, and can determine details of enemy activity, strength, composition, and combat value.

■ 199. Reconnaissance units of horse cavalry are of great value on reconnaissance missions because of their ability to execute detailed ground reconnaissance within an appropriate area.

■ 200. Mechanized reconnaissance units are of great value on distant reconnaissance missions, and for reconnoitering on an extensive front. (See FM 2–10, FM 2–15, and FM 17–10.)

■ 201. When cavalry divisions or adequate mechanized reconnaissance forces are not available, and the reconnaissance mission indicates the probability of serious combat or necessitates operations at a considerable distance from the main forces, a composite force consisting of available mechanized reconnaissance elements and either porté horse cavalry or motorized infantry may be desirable. Such a force may be reinforced by other arms.

■ 202. Close and intensive reconnaissance by infantry, artillery, and engineer units supplements the more distant recon-

naissance. Infantry reconnaissance assumes special importance when cavalry or mechanized reconnaissance units are lacking or weak. It is constant and intensive when the opposing forces are in contact and especially during combat.

Small engineer groups should constitute a portion of ground reconnaissance units to obtain and report information concerning routes of communication and movement and demolitions and obstructions.

ORGANIZATION OF RECONNAISSANCE

■ 203. The *essential elements of information* consist of that information of the enemy, of the terrain not under our control, of meteorological conditions in territory held by the enemy, or hydrographic conditions needed by a commander in a particular situation in order to make a sound decision, conduct a maneuver, and avoid being surprised. The essential elements of information constitute the basis for orders governing the search for information.

■ 204. In the combat zone the following items are usually included among the essential elements of information: what are the strength, composition and dispositions of the enemy; what lines of action, which can interfere with our mission, are within the physical capabilities of the enemy; when and under what circumstances can he put each into effect; and whether, when, and in what strength he can be reinforced. The essential elements also include unknown details of terrain which may affect our own maneuver. They may also include items of information desired by higher, lower, or neighboring units, and data as to suitable distant objectives for air or mechanized units and on meteorological conditions at or en route to such objectives.

■ 205. Ordinarily, the military intelligence required by the essential elements of information relating to the enemy are deduced from numerous items of information which serve as indications of enemy action. Reconnaissance agencies are directed to search primarily for these indications. According to circumstances, some or all of the following items of information will furnish indications of value: whether there are any enemy forces in a specified area at a particular time; the identification of the enemy's leading elements and the contour of his front line; the frontage and depth of his dis-

positions; his assembly positions; the location, size, and movement of his main forces or reserves; the location of his artillery; his measures for antiaircraft defense; the movement of supplies into or out of an area; the density of railroad traffic; entraining, detraining, entrucking, or detrucking; progress of construction and demolition; use of chemicals by the enemy; the location of his airdromes and landing fields, detraining stations, and principal supply and evacuation establishments; location and movements of enemy motorized and mechanized forces.

■ 206. The nearer the approach to the enemy, the more intensive is the reconnaissance. The most detailed information will be required concerning areas of importance in the contemplated maneuver. Detailed information of the terrain in the possible areas of combat is essential.

■ 207. Effective reconnaissance requires concentration of the available means on missions of importance. Depending on the situation, some reconnaissance elements may be held in reserve to reinforce the reconnaissance which is in progress, or to project reconnaissance in a new direction.

■ 208. The commander is responsible for all intelligence activities of his unit. He coordinates the activities of the reconnaissance agencies, avoiding duplication of effort by the assignment of missions and objectives and by informing each reconnaissance detachment of reconnaissances to be executed by others. He makes the necessary requests for information to higher and neighboring units.

The commander establishes zones of responsibility for air reconnaissance by designating air boundaries between his own aviation and that of the next subordinate units. Air reconnaissance must extend to such distances as to assure against surprise by hostile ground forces.

Orders for reconnaissance or observation should state definitely the information desired, where it is to be sought, and the destination and time of reports.

■ 209. Missions to aviation for the observation of specific roads, railroad centers, and exits of towns and woods must be stated in orders. These objectives are closely observed both day and night to discover the enemy's main forces and reinforcements, and their direction of movement.

■ 210. During combat, *observation aviation* reconnoiters and observes, in accordance with reconnaissance orders, within the reconnaissance zone of the unit to which it is assigned or attached; observes and adjusts fire for the Field Artillery; supports front line units by observing and reporting enemy assemblies which constitute an immediate threat, by locating opposing front lines, and by maintaining contact between units; and performs such missions within its capabilities as may be specially ordered by the commander. *Reconnaissance aviation* carries out long-range reconnaissance.

■ 211. Ground reconnaissance elements gain and maintain contact with the enemy, and, by working through gaps and around the flanks and rear, endeavor to ascertain the strength, movements, composition, and dispositions of the enemy's main force, and the approach of enemy reinforcements.

■ 212. Orders for the development of a command frequently assign zones of reconnaissance to subordinate units. Each unit is habitually responsible for reconnaissance within its zone of advance or action. Flank units are also responsible for reconnaissance on their open flanks.

■ 213. While orders for intelligence activities issued by a large unit may be included in an intelligence annex to a field order, it will usually be necessary to issue part or all of them in fragmentary form.

EXECUTION OF RECONNAISSANCE

■ 214. Reconnaissance is so executed that contact must be gained at the earliest practicable moment, and once gained must never be lost. The search for information must be unremitting. Reconnaissance is a responsibility of all units and is habitually directed to the front and to any open flank. As the situation requires, it is also directed to the rear.

■ 215. Ground forces assigned to reconnaissance missions secure information chiefly through the use of patrols. When, on account of hostile activities or the distance of objectives, patrols require close support in the execution of their mission, reconnaissance is executed by detachments which closely back up the action of patrols and furnish reliefs for patrol duty.

■ 216. Terrain features that afford observation of the hostile dispositions constitute especial objectives of reconnaissance. Active and aggressive action of patrols in seizing such terrain features is indicated.

■ 217. Weak reconnaissance elements seek to avoid combat unless it is necessary for gaining essential information. If the enemy is superior, the reconnaissance mission is often more easily accomplished by containing the enemy's reconnaissance or security forces in front while pushing reconnaissance around their flanks.

■ 218. Essential information can frequently be obtained only through attack. Reconnaissance units attack when their mission requires it.

■ 219. When hostile resistance is encountered which cannot be brushed aside or enveloped, a reconnaissance in force constitutes the best means of clearing up an uncertain situation. Troops engaged in a reconnaissance in force usually make a local attack with a limited objective. The commander who orders a reconnaissance in force must consider the possibility that his intentions or those of the higher commander may thereby be disclosed. He must also be prepared for the possibility that such reconnaissance may bring on a general engagement.

■ 220. Arrangements as to details of cooperation and direct signal communication between air and ground agencies must be made for each phase of operations. The commander of the aviation unit must be informed of the routes of advance of any ground units with which he must communicate, and the locations of command posts, advance message centers, intermediate dropping grounds, and temporary landing fields.

■ 221. Under the protection of the leading elements, the commander usually makes a personal reconnaissance for information of the terrain.

Reconnaissance parties are sent forward to determine the routes and covered areas available for the development of the command, the terrain, obstacles and barriers for antimechanized defense, gassed areas, defiles requiring antiaircraft protection, the location of position areas for the artillery and of covered assembly areas for infantry, cavalry and armored units, and the general location of the zone of resistance for

the organization of the defense or of a covering position to cover the development of the command.

■ 222. Without orders from the higher commander, each unit executes the reconnaissance necessary to its own operations within its own zone of action and toward any unsupported flanks. The methods of reconnaissance employed by the several arms are described in their respective field manuals.

TRANSMISSION OF INFORMATION

■ 223. All subordinates of a command are responsible that their immediate commander is promptly and fully informed of the situation.

■ 224. While a commander who is in need of information from other headquarters is responsible for requesting it, neighboring units should habitually exchange pertinent information regardless of whether such a request has been made.

■ 225. Items of information that appear unimportant to a collecting agency should be reported as they may be of significent importance to a higher commander when considered in conjunction with other information. Negative information is frequently important; likewise, confirmation that the situation during a specific period of time has remained unchanged. First contact with the enemy, and new identifications, are always reported by the most rapid means available. Other reports of reconnaissance are made as required in orders.

■ 226. Front line troops are frequently so closely engaged in combat that they are unable to report as often as desired by the higher commander. Commanders make provision for obtaining prompt information by special reconnaissance and by sending liaison agents to higher, subordinate, and adjacent units. These provisions do not relieve subordinate commanders from making every effort to keep their superiors fully informed of the situation.

■ 227. The best information will be of no use if it arrives too late at the headquarters for which it is intended.

■ 228. Important and urgent information, in addition to being transmitted to the next higher commander, is sent

by the most rapid means available to all headquarters affected, without regard to the usual military channels.

Artillery observers and liaison officers are often in a position to transmit to the higher commander over their own signal communication systems early reports of important combat events when such information might otherwise be delayed in transmission.

■ 229. The commander regulates signal communication to insure the prompt and reliable transmission of the results of reconnaissance. To facilitate the transmission of information between headquarters or units, he may establish advance message centers near the ground reconnaissance elements.

■ 230. During pauses in combat, or whenever the situation demands, subordinate commanders make brief intelligence reports to the next higher headquarters. Periodic reports are made as ordered by the higher commander.

■ 231. As required by the situation, military intelligence is disseminated to subordinate units in field orders, messages, or copies of periodic or special intelligence reports. The means of dissemination must be appropriate to the time available.

■ 232. For details regarding military intelligence methods and forms, see FM 30– series, and FM 101–5.

CHAPTER 6

SECURITY

GENERAL

■ 233. *Security* embraces all measures taken by a command to protect itself against annoyance, surprise, and observation by an enemy.

■ 234. The *primary mission* of a security detachment is to protect the command against surprise attack and observation by hostile air and ground forces, and to maintain freedom of maneuver for the command by gaining the time and space it requires to make the necessary dispositions. Forces assigned to security missions are secondarily charged with reconnaissance.

■ 235. Adequate and timely information is the *basis* of all security measures.

■ 236. *Security* and *reconnaissance forces* operate in accordance with different considerations. In general, security forces operate primarily with reference to the command to be secured; reconnaissance forces operate primarily with reference to the enemy.

■ 237. Each commander is *responsible* for the security of his command. This includes the protection of his lines of communication unless such protection is furnished by the higher commander. The superior commander prescribes security measures for the protection of the command as a whole or coordinates those adopted by subordinate commanders. Subordinate commanders provide such additional security as is required for their own local protection. The measures adopted are appropriate to the hostile threat. As the danger becomes greater, as, for example, when contact is imminent, security measures are increased.

■ 238. All security measures include an adequate *warning system* consisting of observers and the means of signal communication to warn promptly of hostile dispositions and operations on the ground and in the air. Special measures are taken to warn of the approach of hostile mechanized or air forces.

■ 239. Security detachments weaken the available forces of a command and in some situations constitute a partial commitment of the command to action. They are given sufficient strength to preserve the commander's freedom of action, and no more. In their composition, consideration is given to the desirability of preserving tactical unity. It is desirable that they possess mobility at least equal to that of the forces they are expected to oppose.

■ 240. In proximity to the enemy, an advancing force secures itself to the front by mobile reconnaissance elements sent out in advance of the command and by an advance guard.

■ 241. Depending upon the composition of the command, the *mobile reconnaissance elements* vary from armored units, cavalry, and aviation, in the case of large units, to small cavalry detachments, motorcyclists, or infantry in trucks, in the case of small units.

■ 242. The *advance guard* consists of a fraction of the command sent out on the route or routes of advance in front of the main body to protect it against surprise and observation, to clear the way by driving back weak enemy forces, removing obstacles, and repairing demolitions, and to secure for the main body the time and space required for its deployment for action in accordance with the plan of the commander. (For details, see ch. 8.)

■ 243. A command retiring in the presence of the enemy secures itself by a *rear guard,* a fraction of the command which follows the main body within the zone of retirement, usually by bounds, for the purpose of protecting it against hostile pursuit. (For details, see ch. 11.)

■ 244. An advancing force threatened in rear by hostile mobile forces also requires a *rear guard.* In the same way, a retiring force confronted with the danger of interception by hostile encircling forces requires an *advance guard.*

■ 245. In addition to its advance or rear guards, a command whose flanks are not protected by adjacent units will often find it necessary to detail *flank guards* to protect the exposed flanks. (See ch. 8.)

■ 246. A resting or defending force secures itself by an *outpost,* a fraction of the command disposed to cover its front,

flanks, and rear when the situation indicates, to protect it against surprise attack and observation by hostile ground forces. (For details, see ch. 7.)

■ 247. There is a similarity in the *formation* of advance, flank, and rear guards and outposts. Each comprises reconnaissance groups which send out patrols or post sentinels for observation. These reconnaissance groups are backed up by a support echelon, the principal element of resistance. In large security detachments, a reserve is provided. The reserve constitutes the principal maneuvering and reinforcing element for offensive or defensive action as determined by the mission of the security detachment, which mission in turn depends upon the plan for the subsequent employment of the command as a whole.

■ 248. An echelon of command which depends upon another for security to its front, flanks, or rear is responsible for maintaining contact with the unit upon which it depends. This is accomplished by means of liaison agents which it sends to the unit upon which it depends for the purpose of gaining information of the situation and by means of combat patrols which move between the two to assure connection.

■ 249. Reconnaissance and observation aviation, and in many situations combat aviation, is allotted in sufficient strength to supplement effectively the ground security forces. Combat aviation is particularly effective in providing security for fast moving and often isolated mechanized forces against hostile air and ground attack.

SECURITY AGAINST MECHANIZED FORCES

■ 250. *Terrain* and the road net influence the employment of mechanized forces. A map study, supplemented by air and ground reconnaissance, will disclose avenues of approach which may favor or impede mechanized operations. Reliance for protection against mechanized attack cannot be placed on terrain alone. When approaches are favorable, special measures are taken for antimechanized protection, especially by exposed march columns.

■ 251. Security against mechanized units requires an efficient *warning system,* which includes an intelligence and a signal communication system carefully coordinated to insure early

and continuing information of the presence and action of hostile mobile forces. Timely warning permits an increased readiness for action. Mechanized reconnaissance detachments operating well to the front and flanks are especially suitable for giving warning. All observation and reconnaissance agencies, both ground and air, are required to make an immediate report of a mechanized threat to the nearest commander. In addition to security measures adopted by a command as a whole, subordinate units conduct local reconnaissance to prevent surprise mechanized attack.

■ 252. The *means* for protection against mechanized attack are active and passive. The active means include antitank guns, artillery, combat aviation, antiaircraft artillery which is capable of firing at horizontal or minus elevations, tank units and armored divisions, chemicals, and individual weapons to the limit of their effectiveness. Passive means include reconnaissance, concealment, cover, natural and artificial obstacles, buildings, demolitions, antitank mines, and organized localities. Usually active and passive means are used in combination.

■ 253. Security against mechanized attack must be organized from two standpoints—the local protection of the troops and the protection of the command as a whole. The first is the mission of the antitank weapons organically assigned to lower units.

The second is the mission of the antitank units at the disposal of the higher commander. These units, because of their great mobility, are available for employment at a distance from the command or for concentration at the decisive locality. Mobile units capable of effective employment against mechanized forces are held for maneuver against hostile mechanized vehicles which succeed in breaking through. To insure the prompt transmission of information and orders to units, arrangements are made for rapid means of signal communication with them.

■ 254. The coordination of the means of antimechanized protection is a command responsibility. Commanders of subordinate units are given missions for antimechanized defense which are specific with respect to time, place, and purpose, and cooperation with other units, but which leave to them the details of execution. (See ch. 10.)

SECURITY AGAINST CHEMICALS

■ 255. It is the *responsibility* of each commander to take measures to provide security for his command against chemical agents.

■ 256. The *means* of providing security against chemical attack consist of an adequate warning system, the provision of individual and collective protective equipment, provision for the prompt decontamination of individuals, equipment, and supplies, and tactical measures which minimize the effects of chemical agents.

■ 257. An adequate *warning system* comprises reconnaissance to locate and define contaminated areas, gas sentinels, and an alarm system to alert the command when a chemical attack begins or impends.

■ 258. *Individual equipment* consists principally of gas masks and protective clothing. Men must be trained and disciplined in the use of this equipment. Failure in this respect results in excessive casualties and incurs the danger of panic.

■ 259. *Collective equipment* includes gasproof shelters, or protective covers for equipment and supplies, and decontaminating equipment and supplies. Gasproof shelters are provided in all permanent fortifications; their use in field fortifications increases with the elaboration of the field fortifications.

Prompt *decontamination* of individuals, equipment, supplies, and occupied areas reduces casualties and losses of equipment and supplies.

■ 260. *Tactical measures* include troop dispositions which take advantage, as far as practicable, of terrain unfavorable for gas concentrations and the avoidance or evacuation, to the extent possible, of gassed areas. Alternate positions for units and supporting weapons are selected in advance.

ANTIAIRCRAFT SECURITY

■ 261. Regardless of the effectiveness of the security measures taken by the higher command through the offensive action of its combat aviation, all units must consider the probability of air attack and reconnaissance and provide appropriate security measures.

■ 262. Measures taken by ground troops for antiaircraft security vary with the situation, the degree of visibility, the concealment and cover offered by the terrain, and the capabilities of the enemy's aviation. Protective measures comprise *warning, concealment, dispersion,* and *fire.*

■ 263. The first requirement of antiaircraft security is an efficient *warning system.* Air guards are detailed by all units to give timely warning of the approach of hostile aviation. In addition, an aircraft warning service is, whenever practicable, organized within an area for the purpose of detecting and tracing movements of hostile air forces and transmitting warning of the approach and departure of such forces.

■ 264. Upon receiving an air alarm signal, troops in position, bivouac, or billets seek the nearest concealment or cover and remain motionless. In general, foot troops on the road take concealment or cover in adjacent ditches, depressions, or shadows. Motorized troops clear the center of the road, halt, and dismount. Horse elements seek protection by dispersal and the utilization of all available concealment and cover. When secrecy is not of paramount importance, all suitable weapons are employed against low flying aircraft.

When the situation indicates the necessity for continued movement and a command is subjected to frequent air attacks, maximum advantage is taken of dispersion and available concealment and cover without unduly delaying the movement. Troops must be prepared to accept some casualties rather than delay arrival at their destination at the appointed time.

■ 265. Measures taken for *concealment* aim to defeat both visual reconnaissance and air photography. Protective measures taken to defeat the camera will ordinarily deceive the eye of the air observer.

The presence and position of troops are disclosed to an air observer by movement, by regular formation or outline, by reflection of light, or by dust, smoke, or newly made tracks and intrenchments. All commanders are required to take appropriate countermeasures to prevent detection.

■ 266. Shadows cast by the sun early in the morning and late in the afternoon facilitate concealment. Ground haze or mist may constitute an effective screen against air ob-

servation. A low ceiling makes air reconnaissance dangerous for the air observer. During darkness, blackout frequently provides effective concealment.

Woods and villages afford concealment from air observation and reconnaissance; they serve to screen troops in shelter, in assembly, in position, and in movement.

Intrenchments and field works are visible from the air unless carefully sited and camouflaged. Protection is sought by the distribution of the defenses on the terrain and by their adaptation to concealment and cover such as buildings, brush, hedges, banks, ditches, and cuts.

■ 267. A command diminishes its vulnerability to air observation and attack by adopting *dispersed formations*. Dispersion in formation may be accomplished by increased width and depth of dispositions, by reduced density within columns or groups, and by increased speed in movement between successive terrain lines affording concealment or cover.

■ 268. The antiaircraft security of a column depends initially on the efficacy of the concealment in its last bivouac. During a movement, the important periods during which antiaircraft security must be provided are the formation of the march column, the passage of defiles or crossings en route, and the movement into shelter or assembly positions at the end of the march. During temporary halts, troops and vehicles clear the road and take full advantage of all nearby cover.

■ 269. At night, special precautions must be taken against reconnaissance by hostile aviation using flares. When a unit is illuminated it halts and remains motionless. No lights visible to air observers are permitted to be used by troops and vehicles.

■ 270. All units take measures for immediate protection against low-flying aircraft by using their own weapons which are suitable for *fire against aircraft*. All troops charged with this duty are constantly prepared for immediate action. Antiaircraft artillery reinforces the antiaircraft fire of other units and operates especially against aviation flying beyond the effective range of weapons of other arms.

■ 271. In the forward area of the combat zone, *antiaircraft artillery* protects the principal troop concentrations and

assembly positions, and covers the movement of troops through defiles and critical localities. Driving hostile aviation to higher altitudes decreases the effectiveness of air attack and observation. Since antiaircraft artillery will be handicapped in giving protection at night, additional dependence must be placed on passive measures supplemented by the fire of organic weapons of troops in position. (See pars. 421 and 633.)

■ 272. In the rear area, *antiaircraft artillery* cooperates with friendly aviation in protecting important establishments from air attack.

■ 273. The threat from troops transported by and landed from aircraft requires that special security measures be instituted against them. Responsibility for these measures extends down through all echelons of command, the measures adopted within each echelon being coordinated in such a way to provide a unified system over the entire danger area. In general, the security measures adopted are designed to gain early information, to attack incoming enemy transports by combat aviation and antiaircraft fire, to destroy parachute troops while in the act of landing or immediately afterward when they are most vulnerable, to obstruct all possible landing fields (airdromes, open fields, and straight stretches of level highway), and to isolate and destroy all landing forces by immediate attack before they can be resupplied and reinforced with supporting weapons. Defensive measures must not be reduced to routine; routine will assist the enemy in gaining surprise. (For details, see ch. 13 and FM 100–15.)

COUNTERRECONNAISSANCE

■ 274. *Counterreconnaissance* includes measures to screen a command from hostile observation. It is executed principally by aviation, antiaircraft artillery, cavalry, armored units, and security detachments. The commander coordinates the action of all of his counterreconnaissance agencies by assigning to each a mission in accord with its capabilities.

■ 275. Bombardment aviation contributes materially to counterreconnaissance by attacking hostile airdromes. Pursuit aviation, employed for counterreconnaissance on fronts where it is important to conceal our own activity from hostile

air reconnaissance, attacks all hostile aviation. Since complete elimination of hostile air reconnaissance cannot be expected, where secrecy is desired, ground forces must conceal their movements and dispositions.

■ 276. Combat aviation in counterreconnaissance is supplemented by antiaircraft artillery and the weapons of other units. Subject to the desirability of maintaining secrecy, all hostile aviation within range is fired upon to prevent observation. Before the fire of antiaircraft weapons is resorted to, consideration must be given to the fact that such fire may disclose the importance of the area being screened.

■ 277. Units assigned counterreconnaissance as their principal mission seek to defeat or neutralize hostile reconnaissance forces. In the execution of this mission, they operate offensively, defensively, or by delaying action, resorting to all forms of combat when necessary.

Offensive counterreconnaissance is most effectively executed by the defeat of the hostile reconnaissance forces. The activity of hostile patrols is most completely eliminated by the defeat of the stronger supporting detachments.

Defensive counterreconnaissance is most effective when the screen can be established behind an obstacle which must be crossed by hostile reconnaissance forces. Elements are employed to obtain information, attack advanced enemy detachments, or obstruct their operations.

When a broad front must be covered, it may be necessary to resort to delaying action to impede temporarily the operations of hostile reconnaissance forces.

Aviation assists counterreconnaissance by attacking hostile aviation attempting to cross the zone of counterreconnaissance and by reporting hostile ground movements, especially the approach of highly mobile units.

■ 278. The counterreconnaissance screen may be either moving or stationary. A moving screen is applicable to situations where the movement of a force must be screened; a stationary screen is used to screen the dispositions or concentration of troops or prevent the enemy from reconnoitering an area. (See ch. 15.)

COUNTERINTELLIGENCE

■ 279. The object of *counterintelligence* is to destroy the effectiveness of the enemy intelligence system.

Counterintelligence measures available to a command include secrecy; discipline; concealment; tactical measures designed to deceive the enemy; restrictions on the preparation, transmission, and use of documents; signal communication security; precautions in the movements of troops and individuals; regulation of the activities of newspaper correspondents, photographers, radio news commentators, and visitors; censorship; counterespionage, and counterpropaganda. (See FM 30–25.)

■ 280. It is imperative that all members of the military service realize that thoughtless or talkative persons may become a menace to their country and to the lives of their comrades. Officers, enlisted men, and civilian employees must not discuss military instructions, plans, operations, movements, or the composition or location of troops in the presence of civilians or other unknown persons. In making preparations for operations, it frequently will be advisable to take special precautions to maintain secrecy. Secrecy precautions must not jeopardize the success of operations by withholding information necessary to the forces involved.

■ 281. All members of the military service should understand that if they are captured the enemy will make every effort to obtain information from them. They will be instructed to give correctly their name, rank, and serial number, and maintain absolute silence when asked any other questions. Any other information given may prejudice the success of operations and endanger the lives of their comrades.

■ 282. Troops should make maximum use of natural and artificial concealment. Natural concealment and cover should be supplemented by camouflage. Since photographs frequently disclose things not visible to an observer's unaided eye, commanders should prevent the making of trails, tracks, or other telltale marks in the vicinity of any work. In general, it is useless to attempt to camouflage a position where work has already been begun which the enemy has had an opportunity to observe and register.

In general, troop movements in the combat zone should be

made under cover of darkness and with restrictions on the use of lights. If the enemy possesses a powerful air force, a blackout system must be employed. Under favorable conditions, smoke can be placed over restricted areas for limited periods of time to conceal information of great importance.

■ 283. A commander who is ingenious and resourceful in the use of tactical strategems and ruses often will find methods of deceiving or misleading the enemy and of concealing his own intentions.

Feints, demonstrations, and simulated concentrations may be employed to mislead the enemy regarding the strength, time, or place of attack. The main attack may be accompanied or preceded by secondary attacks made in such a manner as to conceal the location of the main attack. A carefully screened withdrawal may be employed to deny the enemy the choice of the time and place of attack. Marches by day and return at night and the movement of empty truck columns have been employed to create the impression of great activity. Fake concentrations; simulated bivouacs, airdromes, and radio installations; dummy field fortifications, artillery positions, tanks, and airplanes; and many other such means have been successfully employed. It often is practicable to deceive the enemy regarding our plans and intentions by changing any routine procedure which may have come to his attention.

The dissemination of false information designed to deceive or mislead the enemy as to our intentions, capabilities, morale, or dispositions, such as, for example, the deliberate loss of orders or prisoners always introduces an element of danger because our own plans and decisions are apt to be influenced by the assumption that the enemy has been deceived. Such measures may be adopted only by the theater commander or by his authority.

■ 284. Counterreconnaissance is employed on fronts where it is especially important to conceal the disposition of troops from hostile investigation.

■ 285. Precautions are taken in the safeguarding and transmission of secret, confidential, and restricted documents. All orders, pamphlets, maps, diagrams, publications, or manuals and similar matter, except messages, originating in the theater of operations are classified as *restricted* unless given a

more restrictive classification. Military personnel in the front lines, on reconnaissance, or on missions over the enemy's lines, will not, under any circumstances, have in their possession any documents, except those absolutely necessary for the execution of their missions.

■ 286. Secrecy in the transmission of messages is of the utmost importance. Commanding officers are responsible for the maintenance of signal security within their commands. The signal intelligence service is responsible for the surveillance of friendly signal communication. The use of codes and ciphers is restricted to personnel specially trained in cryptography.

■ 287. Before leaving a camp, concentration area, rest area, bivouac, or any other assigned area in the theater of operation, troops will make a systematic search of the area to insure that no documents or other evidence of potential intelligence value to the enemy remain.

■ 288. The objects of censorship are to prevent information of military value from reaching the enemy, to insure that only accurate accounts of military activities are published or broadcast, and to maintain friendly relations with allied and neutral nations.

CHAPTER 7

HALTS AND SECURITY DURING HALTS

HALTS

■ 289. A halt after the completion of a march should be considered as much in the nature of preparation for the following operation as an opportunity for rest after marching. The bivouac area should be selected and the troops should be distributed in it to facilitate the succeeding operation. Security and comfort of troops influence the selection of the location for a halt.

■ 290. Considerations governing halts during a march are set forth in chapter 8.

SHELTER

■ 291. In the theater of operation, troops are sheltered in billets, bivouac, camp, or cantonment. (See FM 100–10.)

■ 292. The requirements of the situation and probable future action dictate the *distribution of troops in shelter areas.* Protection against air observation and air attack is sought by the selection of wooded areas and by the irregular distribution of units within the area.

■ 293. When contact with the enemy is remote, march considerations and comfort of the men govern dispositions for the halt. In large units, troops are sheltered as close to the route of march as practicable and are distributed in depth and in the order of march. Distribution in depth facilitates shelter and supply.

■ 294. When contact with the enemy is probable, tactical considerations govern the distribution of troops. Frontages are increased and units are echeloned in depth. Units incapable of self-defense against surprise attacks by hostile ground troops are quartered in protected areas or with troops equipped for defense. Trains are concealed in protected localities. Headquarters of regiments and higher units are concealed close to principal routes.

■ 295. When in close proximity to the enemy, combat requirements govern bivouacking.

During pauses in combat, troops rest in position on the ground held and secure their front and exposed flanks.

■ 296. The commander announces the shelter areas as soon as practicable. Quartering parties then proceed to their assigned areas. Countermarching by any unit to reach its shelter area must be avoided. Where practicable, unit commanders reconnoiter the area prior to the arrival of the unit.

OUTPOSTS

■ 297. An *outpost* is a security detachment to protect a resting command or a defensive position against annoyance, surprise, and observation by ground forces.

■ 298. The enemy capabilities and the decision of the commander relative to the location of the main body determine the location and nature of the outpost.

■ 299. A resting command provides outpost protection in all directions from which hostile forces may have access to the main body. The control of roads, of terrain features affording facilities for extended observation, and of observation points which would permit the enemy to direct the fire of long-range artillery on the main body is important. Measures for antimechanized and antiaircraft security and defense are stressed.

■ 300. Flank and rear security is provided by refusing the exposed flanks of the outpost position and by establishing detached posts on roads or at important observation points outside the sector covered by the outpost.

■ 301. The *strength and composition* of an outpost vary with the distance, mobility, armament, and attitude of the enemy; the terrain; the time of day; the size of the command to be secured; the degree of resistance the outpost is expected to offer; and the special duties assigned it. An outpost may comprise varying proportions of the combatant arms. It should be no stronger than is consistent with reasonable security. Economical protection is furnished by the use of patrols to keep close contact with the enemy, together with resisting detachments on the avenues of approach.

■ 302. In close terrain and during periods of darkness or low visibility, security forces are usually stronger and operate in closer proximity to the main body or defensive position.

■ 303. *Infantry* ordinarily constitutes the principal element of an outpost for a force of all arms. Its organic antitank weapons may be reinforced by the attachment of antitank units at the disposal of the higher commander.

Support of the outpost infantry is provided by the *artillery* with the main body or that assigned to the defense of the main position. If such support is impractical, artillery is attached to the outpost.

For the construction of obstacles, mine fields, and other barriers, *engineers* are attached to the outpost.

Cavalry, attached to the outpost, operates under orders of the outpost commander on reconnaissance missions, to maintain contact between adjacent units, and to establish detached posts at more distant points. Its use extends the zone of reconnaissance of an outpost. When not engaged actively, cavalry is withdrawn to a rear echelon of the outpost.

■ 304. The outpost of a large command is divided from rear to front into a *reserve, supports, outguards* and, when cavalry is attached, *outpost cavalry*. When important points to be secured lie outside the sectors of the supports, detached posts are established.

The general mission of the elements of an outpost is to gain time for the forces behind them. This mission governs their disposition.

Prominent points in rear of the outguards affording an extensive view over the foreground are used as observation posts.

■ 305. The missions of the *reserve* are to reinforce the troops in front, to counterattack, or, if the outpost has been given a delaying mission, to hold a rallying position. It is so located that it readily can reinforce the line of resistance, or, in delaying action, take up a position covering the retirement of the supports.

■ 306. The reserve sends out needed detachments. It maintains connection with supports and nearby detached posts. The reserve is instructed regarding its action in case of hostile attack.

■ 307. *Supports* constitute the principal echelon of resistance of the outpost. They provide their own security and the observation service of the outpost by establishing outguards and sending out patrols. They are placed at the more important points on or near the outpost line of resistance. A support is generally placed near a road. Each support is assigned a sector which is clearly defined by recognizable boundaries. Supports vary in strength from a platoon to a company. Machine guns and other supporting weapons are attached to supports as required. Supports are numbered consecutively from right to left.

■ 308. When supports are furnished from more than one battalion, a sector of the outpost position is assigned to each battalion furnishing the supports. Battalions assigned to sectors of the outpost position hold out their own reserves.

■ 309. An *outguard* varies in strength from four men to a platoon, depending on its location and the number of sentinels it is to furnish. Posts at a short distance from the support may be held by weak outguards while important posts at a considerable distance must be strongly held. Outguards are numbered consecutively from right to left in each support. (See FM 7–5 and FM 2–15.)

Outguards must be ready for action at all times. When in close contact with the hostile outpost, the establishment of listening posts at night in front of the general line of observation is advisable.

■ 310. *Sentinels* are charged with the observation of a portion of the foreground of the outpost position, with the discovery of hostile activity, and with giving alarm in case of attack. Sentinels at the post of the support and outguards repeat the signals given by advanced sentinels.

The duties of sentinels are prescribed definitely in special orders.

■ 311. Outposts conduct reconnaissance only so far as required by their security mission. The execution of more distant reconnaissance is regulated by the higher commander.

■ 312. The field of view held under observation by sentinels is extended by *patrols*. Patrols execute reconnaissances in advance of the line of sentinels and reconnoiter positions of the foreground which are masked from view of sentinels and

observation points and are too distant to be included in the outpost lines. (See FM 21–45 or FM 7–5.)

■ 313. Patrolling in front of the line of observation is increased during periods of low visibility and during the hour preceding dawn.

When outposts of opposing forces are in close contact, reconnaissance is largely restricted to night patrolling. Night patrolling requires systematic organization, careful preparation, and the coordination of advanced outpost elements with the activity of the patrols.

■ 314. Within the outpost position patrols maintain contact with advanced elements and with adjacent supports and outguards and reconnoiter between sentinel posts. Patrols may be used to maintain contact with detached posts.

■ 315. During an advance, the outpost established at halts usually is furnished by the advance guard. A new advance guard usually is designated when the movement is resumed. The outpost ordinarily stands relieved when the support of the advance guard passes the outpost line of resistance.

■ 316. During a retreat, the outpost usually furnishes the rear guard, a new outpost being posted from the main body when the command completes the day's march.

When the command remains stationary for a prolonged period, the outpost ordinarily is relieved at intervals of several days.

■ 317. The *halt order* of the commander of the troops assigns locations to the elements of the command, designates the position to be held in case of attack, and contains instructions relative to security. This order either provides for an outpost under centralized control by naming the outpost commander and detailing the outpost troops or it requires column commanders to organize outposts for their commands. In either situation, the commander of troops designates an outpost line of resistance, important areas to be held, and the limits of the front to be covered by the outpost system. He indicates what action the outpost is to take if it is attacked in force, outlines special reconnaissance to be executed, indicates the approaches which are to be especially guarded, and regulates the signal communication to be established between adjacent

outposts. He may direct the establishment of detached posts by the main body or by the outpost commander.

■ 318. Upon receipt of orders to establish the outpost, the outpost commander promptly makes his dispositions under the protection of march outposts established by the advance, flank, or rear guards. In proximity to the enemy, his initial orders insure the prompt execution of the most urgent measures to meet a hostile attack. These measures include the occupation of commanding terrain, reconnaissance, construction of obstacles, and preparation for the defense of the outpost position. Details and rectification of preliminary dispositions are regulated by subsequent instructions.

When battalions (squadrons) are assigned to sectors of the outpost position, the outpost commander issues his orders for the occupation of the outpost line to the sector commanders. The sector commander fixes the distribution of troops within his sector; assigns to each support its location and the area it is to cover; prescribes the location and disposition of the reserve and its conduct in case of attack; provides for the necessary detached posts and connection with adjacent troops; issues instructions for organization of the ground, signal communication, antiaircraft, antimechanized, and gas defense. He prescribes the disposition of trains and gives the location of his command post.

■ 319. After issuing the initial orders, the outpost commander inspects and coordinates the dispositions of the supports, completes his arrangements, and reports his dispositions to his superior. He prescribes the degree of readiness fos action of the elements of the outpost.

■ 320. The sector or support commander seeks to protect his sector so that the enemy, in dangerous numbers, cannot reach his section of the outpost line of resistance unobserved. Elements within supports are deployed in frontage and depth as for the defensive except that intervals are considerably greater.

Each defensive area on the line of resistance is organized to command an adequate field of fire to the front and to sweep with fire the intervals between it and adjacent areas. Road blocks and obstacles are prepared for defense against mechanized attack.

■ 321. When the support is posted, the support commander inspects, rectifies defects, and reports his dispositions, preferably accompanied by a sketch, to his immediate superior. He indicates the areas not effectively covered by the fire of weapons at his disposal and where the fire of artillery supporting the outpost is desired. He renders subsequent reports covering additional developments, embodying information collected by his patrols. He maintains connection with adjacent supports and keeps them informed.

The support commander prescribes the degree of readiness for action of the support. Greater vigilance is required during fog and toward dawn. Under these conditions it may be necessary to cause the entire support to stand to arms and to draw in the outguards closer to the support. At night, it will sometimes be advisable to move the outguards from day positions. Where an outpost occupies a position for a considerable length of time in close proximity to the enemy, provision must be made for frequent change in the position of outguards to avoid capture by hostile raiding parties.

■ 322. In occupying their positions and during relief, the various subdivisions of the outpost conceal their movements against both ground and air observation. They prepare their positions for defense unless the situation renders such action unnecessary.

CAVALRY AND MECHANIZED OUTPOSTS

■ 323. *Cavalry and motorized or armored* units secure themselves by far-reaching reconnaissance and by depth of their dispositions in the bivouac area. When at a distance from the enemy and not protected by other troops, they send out security detachments (companies or troops, platoons) to hold critical points on the routes of approach from the front, flanks, and rear. These detachments preferably are posted along some protective terrain line that the enemy will be forced to pass in his advance (defiles, streams, crossings) and provide for their own security by posting outguards and sending out patrols. Additional outguards are posted near the main body.

■ 324. In close proximity to the enemy, security measures approach a more continuous outpost organization. When the security troops occupy an extensive front, outpost sectors are assigned to the various security detachments. When neces-

sary, portions of the main body are held in readiness for immediate action. The mobility of a motorized or mechanized unit permits its outpost to bivouac at some distance from the main body. The number of vehicles with the outpost is the minimum necessary for patrolling and signal communication. Vehicles of the resting units are serviced and made ready for operation. Motor parks are established in protected, concealed areas located to avoid congestion and to expedite departure.

■ 325. In immediate proximity to the enemy, the outpost organization conforms to the general procedure for an outpost of all arms. Horses or personnel carriers are sent to the rearward echelons of the outpost. When there is danger of attack, increased readiness for action is obtained for outguards and supports by holding animals saddled and ready for movement.

SECURITY MEASURES WITHIN SHELTER AREAS

■ 326. To provide local security in any shelter area, the commander establishes an *interior guard.* This guard is charged with giving warning in case of gas attack or approach of hostile aircraft or ground troops, and with the enforcement of regulations governing such matters as traffic control, police, use of lights, and circulation of civilians.

■ 327. Concealment in shelter areas is of primary importance. Effective camouflage is stressed. Traffic is strictly controlled. Vehicles are concealed or are camouflaged and parked irregularly. Only those lights are allowed that cannot be seen by hostile observers on the ground or in the air.

■ 328. Antitank detachments are posted to cover routes of approach by mechanized vehicles. Antiaircraft weapons are sited to provide defense against air attack.

■ 329. In hostile territory, interior guards are made stronger. Guards for bridges and railway stations, searching parties for enemy wire and radio installations, holding of hostages, closing roads to civilian traffic, and other special security measures often are necessary.

■ 330. At each headquarters and in each company or similar unit, one officer, and in each platoon, one noncommissioned

officer are constantly on duty to alert the command in case of attack.

■ 331. The area commander designates a rallying position and the route thereto for each subordinate unit. Intermingling or crossing of units is avoided.

■ 332. To alert all the troops, the alarm is sounded. If the area commander decides to alert only certain troops, he notifies them by telephone or messengers.

When alerted, each unit forms on its assembly place, reports its readiness to the commander, and awaits orders. In an alert, quiet and order are maintained. Each man must know where to go and what to do.

■ 333. On the approach of hostile aviation, the interior guard sounds the alarm if danger is imminent. All troops take the prescribed antiaircraft measures.

CHAPTER 8

TROOP MOVEMENTS

GENERAL

■ 334. Troop movements are made by marching, by motor transport, by rail, by water, by air, and by various combinations of these methods. The method to be employed depends upon the situation, the size and composition of the unit to be moved, the distance to be covered, the urgency of execution, the condition of the troops, and the availability, suitability, and capacity of the different means of transportation.

■ 335. For the organization of systems of transportation and circulation and control of traffic in the theater of operations, see FM 100–10.

■ 336. For technical and logistical data pertaining to troop movements, see FM 101–10.

■ 337. In the *combat zone,* troop movements generally are executed by marching or by a combination of marching and movement by motor transport. Motor transportation is employed extensively to increase the mobility of foot troops and conserve their strength. Air transportation is used for the movement of troops for special purposes.

■ 338. A *successful march* places troops at their destination at the proper time and in effective condition for combat. It is the task of commanders to reconcile the conflicting requirements of rapidity of movement and conservation of fighting power.

■ 339. The ability of a command to achieve decisive results on the battlefield depends in large measure upon the marching capacity of the troops. While mechanical means of transport are employed extensively for troop movements, sustained mobility on or near the battlefield requires that all troops be thoroughly conditioned to march exertions; therefore, from the first days of training, advantage is taken of every opportunity to perfect troops in marching.

■ 340. Special attention to the care of troops and the means of transportation is essential to successful marching. Commanders take the necessary measures prior to a march to place men, animals, and transportation in the best possible condition and exercise the necessary supervision during and after the march to maintain them in that condition. Troops are not kept in column or under arms any longer than necessary. Full use is made of available transportation to carry the rolls of troops and the equipment and loads of animals in need of relief.

■ 341. Care is exercised to prevent men from obtaining unwholesome food and beverages and from indulging in excessive eating and drinking. Men are encouraged to drink all the water they need before starting a march; they are cautioned to drink sparingly during the course of the march. All water for drinking and cooking purposes is chlorinated unless it is procured from a source found to be safe by the medical service. Commanders make the necessary arrangements for refilling canteens in accordance with anticipated needs. They permit no straggling from the column for this purpose. For details of march hygiene, see FM 21–10.

■ 342. *Hot weather* is one of the greatest sources of hardship on a march. Places for halts are, when practicable, selected where there are shade and free circulation of air. Special attention is given to the supply of water and water discipline before, during, and after the march. Fatigue and heat exhaustion can be minimized by the consumption of common table salt. Cold coffee or tea is likewise beneficial.

If animals are watered insufficiently they rapidly lose condition. The times of watering must be regulated in accordance with march conditions and available facilities.

■ 343. The hardships caused by *cold weather* are mitigated by proper precautions and suitable winter clothing. Ears, eyes, face, and hands must be protected.

Mounted troops stimulate circulation by dismounting and leading. Foot troops sling their weapons to free their arms.

Snow and ice greatly reduce the rate of march. To equalize the exertion of breaking the way, leading elements of a column are frequently changed. In deep snow, it may be necessary to break the way for foot troops with a snow plow, tractor, or similar device. (See ch. 12.)

SHUTTLING

■ 344. The ability of a command to concentrate superior forces quickly at the decisive place and time will often depend largely upon its skill in the use of its organic motor transportation. The movement of a unit in two or more trips using the same vehicles is called *shuttling*. Whether the normal loads of motor vehicles are advanced before or after the foot troops depends upon the nature of these loads and the tactical situation. The amount of organic transportation which prudently can be diverted from its normal purpose to move foot troops depends upon the degree of readiness for combat required by all or part of the command, the supply requirements, the hazard of immobilizing essential loads at a critical time, and the consequence of possible disorganization of the command by enemy action. Except for vehicles issued for the movement of active weapons such as prime movers or weapons carriers, all trucks of any unit are considered as a pool of transportation to be used as required.

■ 345. The distance moved by shuttling is largely dependent upon the time required to complete the movement, the enemy's capabilities to interfere with the movement, and the cover and terrain suitable for the assembly, detrucking, and deployment of the main body. The time required to complete the move is affected by the number and condition of roads; distance between entrucking and detrucking areas; vehicular speed maintained; number of trips required; time-length of columns; delay caused by enemy interference or other obstructions; the time-lag between the issuance of orders and the beginning of execution; and the time consumed in loading and unloading personnel and equipment and in turn-arounds.

■ 346. In the execution of movements by shuttling, a commander divides his command into tactical groupings which are moved successively either by furnishing them with additional transportation obtained either from higher echelons or from units whose movement is deferred, or by initially organizing each group so that it has the transport means to move itself in two or more shuttles.

Each contingent should be a well-balanced force. Its composition depends on the tactical mission. As far as practi-

cable, each tactical grouping is composed of the same units. They should include the tactical units (combat teams) normally associated in combat.

■ 347. Movement by marching and by shuttling may be combined. Foot troops may march from the initial point while awaiting their transportation, or may be detrucked short of their destination.

■ 348. Preparations for and the conduct of movements by shuttling are greatly facilitated by the adoption of standing operating procedures. Otherwise the plans and orders for such movements are so time-consuming in their preparation as to nullify the potential mobility of the command.

■ 349. When combat is in prospect, special attention is given to the protection of the detrucking area, to the composition of the first shuttle, and to the security of the zone of movement between the separated elements of the command.

TACTICAL CONSIDERATIONS

■ 350. The factors which exercise the greatest influence upon dispositions for marching are the composition and proximity of the hostile ground forces and the activity of hostile aviation. Distance no longer gives to armies the same degree of protection and freedom of action as in the past. When the hostile forces include mechanized elements, contact with such elements should be expected from any directions not protected by friendly forces or terrain barriers.

When contact with enemy ground forces is remote, the principal object of march dispositions is to facilitate and expedite the movement of troops and to conserve their energy. Commanders make use of the available motor transportation for moving foot troops. As far as practicable, columns are composed of units having the same rate of movement. Separate roads are assigned to columns having different rates of movement, or their movements by the same road are echeloned in time.

When contact with the enemy is probable, tactical considerations govern march dispositions. Columns are constituted in accordance with their tactical missions. Adequate provision is made for security.

Service troops, kitchens, and baggage trains may be held in a protected area and moved forward under cover of darkness.

■ 351. A large unit advancing against the enemy is assigned either successive objectives or a direction of movement, and either a zone or routes of movement.

A large unit whose zone of movement includes several routes assigns routes or zones to its component units in accordance with its plan of maneuver.

■ 352. *When the enemy main forces are distant,* a large unit usually moves in a broad and deep formation in order to retain the power of maneuver and to achieve the rapidity of movement essential to the initiative. Reconnaissance troops reconnoiter the assigned zone of reconnaissance and gain contact with the hostile forces. Security against motorized and mechanized forces is provided in the zone of reconnaissance by the successive seizure of road centers and natural terrain lines through the aggressive action of mobile detachments operating well to the front and on unsupported flanks. To the extent permitted by the tactical situation, movements are made at night or by infiltration by small groups during daylight.

■ 353. *With the closer approach to the enemy,* the zone of reconnaissance becomes less extensive and less time is available to prepare for action. Readiness for combat requires a diminution in the depth of the formation. Columns are constituted in accordance with tactical missions.

■ 354. Commanders dispose their tactical groupings so as to permit flexibility of maneuver and readiness for deployment in the direction of the enemy.

A *formation in depth* provides maximum flexibility of maneuver but delays deployment. It is the easiest of all formations to control, enables the commander to exert the maximum influence in coordinating the action of the forces initially engaged, and assures the availability of units intended for maneuver.

A *formation in width* increases readiness for deployment in the direction of movement. Maneuverability is restricted, especially after gaining contact. Changes of direction are difficult.

A formation in which columns are echeloned to a flank facilitates maneuver and deployment to that flank and retains to varying degrees the advantages and disadvantages of both linear and columnar formations.

The commander's movement order prescribes the time and place of departure of his columns so as to produce the desired formation and includes such instructions pertaining to *subsequent* coordination as can be foreseen.

Movements may be controlled by prescribing the hour when the head of the main body of the respective columns will continue the advance beyond the designated terrain (phase) lines. These intermediate objectives may be prescribed in the order or during the movement. Column commanders report promptly when these objectives are reached and at other designated times. The imminence of contact with strong forces prepared for battle, the probable inequality in progress of the several columns, and suitable terrain affording concealment and cover and tactical advantages largely determine the length of bounds.

Control of the movement may also be obtained without the designation of phase lines. Under this procedure, subordinates furnish periodic position reports and the commander issues his orders during the movement.

■ 355. When contact with strong forces prepared for battle is imminent, the commander assures himself of continued possession of terrain suitable for subsequent maneuver and prepares his command for combat. He coordinates further advance by prescribing terrain lines that will be seized by the advance guards while the main bodies of the respective columns are suitably disposed for combat within supporting distance. After a march has begun, variations in echelonment are regulated by halting certain columns or by changing the duration of their rest periods.

■ 356. In an advance, *commanders and their staff parties* are well forward. The commander goes where he best can control the operation, usually with his principal column or with the column along which the axis of signal communication is being established. Ordinarily, the commander and his staff party move by bounds to successive locations where messages may be received and sent. He may be accompanied by one or more of his principal subordinate commanders.

■ 357. *Signal communication* between columns and with the superior commander is regulated ordinarily by standing procedure, supplemented as necessary by special instructions. Ordinarily the means employed are motorcycle messenger and vehicular radio. Liaison airplanes may be used to maintain contact between columns and to report their arrival at successive march objectives. Full use is made of existing commercial signal communications systems.

■ 358. A column comprises its security detachments, the main body, and the trains. The formation and movement of each of these groupings are regulated by a designated commander in accordance with instructions of the column commander. Distance between the groupings is regulated by the column commander.

The maintenance of roads and the removal of obstacles require the presence of an engineer unit with the advance guard or near the head of each principal column.

■ 359. The *order of march* of a column of all arms advancing against the enemy is dependent upon the terrain, the tactical situation, the mission of the column, and the relative mobility of the component units.

The order of march of security detachments ordinarily is prescribed by their respective commanders. The column commander prescribes the order of march of the main body.

■ 360. When contact with the enemy is possible, the order of march of a column composed of elements of approximately equal mobility is adapted to the requirements of security and to the probable order of entry of units into action.

Artillery is placed within the column so as to insure its protection but primarily to insure its availability for early and adequate support of the security forces and the initial action of the main body.

Antitank weapons must be so disposed and employed as to provide protection to the moving column. Antitank weapons are attached to security detachments.

Motor vehicles required in the exercise of command and control of the column ordinarily advance by bounds in the interval between the main body and the security detachment. Other motor elements pertaining to staff parties march at the head of their units.

Trains are so placed in the column as to be available to their units when required. Trains not immediately required may be held in protected areas in rear and sent forward when the situation permits.

■ 361. Orders for troop movements must be issued sufficiently in advance to permit preparation by the troops. For items to be included in a march order, see FM 101–5.

■ 362. The *routes should be reconnoitered* and marked prior to the commencement of the march. Timely measures are taken for preparation of stream crossings and for the removal of obstacles and other possible causes of delay.

Careful examination is made of fords, bridges, and ice before attempting a stream crossing.

■ 363. *Cross-country marches* usually will be necessary in the development and approach march preliminary to battle, or in the extension of a command for the purpose of diminishing its vulnerability to air attack. Overextension in depth is avoided by increasing the number of columns on the front of advance.

In difficult terrain, foot and mounted troops constitute the elements of a command most capable of cross-country movement.

■ 364. With the approach of a column to close contact with strong hostile forces, it becomes necessary to abandon the road and to *develop* the route column into a broader formation. The development of a large command is expedited by an advance in several columns. The area where development starts ordinarily depends upon the effectiveness of the enemy's artillery fire. As a rule, time can be saved and losses avoided by detouring isolated areas under hostile observation or fire rather than by starting early development.

■ 365. The *development* of the column is effected by breaking the single column into several roughly parallel columns, each of which is assigned a march objective. As contact with the enemy becomes imminent, these columns themselves are developed into smaller columns.

Time is generally gained in the execution of the development by assigning the longest routes to the leading units of the column.

■ 366. The result of the complete development of the command is to distribute the troops in accordance with the commander's plan of action.

The development of a division usually terminates in the occupation of *assembly positions* by front line units preliminary to deployment for attack or defense.

■ 367. Assembly positions are so selected as to be, as far as practicable, screened from air and ground observation and reconnaissance. Terrain which provides turn-arounds for motor vehicles and natural protection against a mechanized attack is desirable. The position should be such that the troops have at their disposal favorable lines of advance to their combat positions. When the terrain does not afford concealment, the assembly position of a division in daylight should be beyond the effective range of hostile artillery. The assembly position is protected by antitank weapons and local security detachments. The artillery is so disposed that it can protect the occupation of the assembly position.

■ 368. Massing of units in close formation in assembly positions is avoided. Units are separated by sufficient intervals and distances to insure that concentrated targets are not offered to hostile air attack or artillery fire. Each unit makes its own provisions for local *security*.

■ 369. When a command executes its *development under cover of darkness*, all preparations for the maneuver are completed, as far as practicable, before dark. A covering force is sent forward without delay to gain contact with the enemy; routes of advance are reconnoitered and marked; if necessary, artillery protects the occupation of the assembly position by occupying suitable firing positions before dark or completing its preparations for night firing. In general the provisions for night marches apply.

■ 370. *Night marches* often are required to obtain concealment from air and ground observation and security from air attack. They may be made for the purpose of avoiding excessive heat.

When troops are being concentrated by night marches, movement before dark except by small detachments and single vehicles should be prohibited and daybreak should find the troops either in position or in concealed localities.

■ 371. Night marches must be carefully prepared. Prior reconnaissance of routes and assembly areas is important. Special precautions are taken to insure the maintenance of direction and connection within the column. Guides are furnished whenever practicable. Routes are marked at points where a wrong road might be taken. Numerous connecting groups are provided.

On good roads, foot and mounted troops usually can maintain the same rate of march as for a day march. On poor roads, on very dark nights, or in unfavorable weather the rate of march is considerably reduced. Motorized units reduce their speed at night.

■ 372. *When concealment is sought* during night marches, measures to avoid disclosure must be rigidly enforced. Such measures may include prohibiting or shading of lights; instructions to halt or to clear the road when illuminated by flares; rapid bounds by motor and mounted elements between successive areas of concealment; prohibiting smoking and visible fires; silencing all radios; and when near the enemy, the maintenance of silence by personnel and so far as practicable the suppression of noises made by vehicles, motors, and equipment.

■ 373. *Forced marches* impair the fighting power of troops and are undertaken only in cases of necessity. The completion of the march must find the troops in condition to accomplish the object of the movement. Requirements for increased rates of march are met, wherever practicable, by the use of motor transportation.

The length of marches of foot and mounted troops is increased by increasing the number of marching hours per day rather than by increasing the hourly rate of march. The march may be broken into short stretches by halts of several hours' duration. A long forced march practically becomes a succession of daily marches of greater average length with shorter intervals of rest.

MARCH TECHNIQUE

■ 374. In each arm and service, movement is based upon a *march unit* which moves and halts at the command or signal of its commander. In foot and mounted units, the battalion

or squadron constitutes the march unit. In motorized and mechanized units, the march unit will ordinarily be composed of a number of vehicles easily controlled by one commander; the company, troop, or battery, or exceptionally the battalion, is the most satisfactory march unit. Small separate units may be constituted as march units or attached to march units.

In each march unit, the order of march of the several component units is normally changed daily. Rotation in the order of the march of larger units may also be ordered when permitted by the situation.

■ 375. Distances between march units and between elements within march units are prescribed for each march in accordance with the situation.

Irregularities in the rate of march in columns composed of foot or mounted troops are absorbed as far as practicable within the space between march units. In motor columns, irregularities are absorbed between vehicles.

■ 376. A march column is formed by the successive arrival of its component units at an *initial point* located in the direction of march. It should be inconspicuous to hostile air observation and easy to identify on the ground.

■ 377. Initial points and the hour at which the heads of columns pass and the tails of columns clear the initial points are stated in the march order or in a march table accompanying it.

When a large unit marches in several columns, the march order may fix an initial point for each column, or designate an initial line to be reached or cleared at a prescribed hour by a specified element of each column. When an initial line is designated, each column commander fixes an initial point and hours of passage in such manner as to pass the initial line as prescribed in the orders of the higher commander.

■ 378. Commanders of subordinate units of a column consider the route to be followed in reaching the initial point, calculate the time required, and start their commands so that there will be neither delay nor unnecessary waiting at the initial point or elsewhere.

■ 379. When several elements of a command marching by different routes are to join on a single road or when their

routes of march cross each other, arrival at or clearing of the point of junction is so timed as to prevent interference between columns.

When an unforeseen crossing of two columns occurs and no control personnel of a superior headquarters is present, the senior commander regulates the crossing, basing his action on the situation and the missions of the two columns.

■ 380. The hour to be fixed for the start of the march depends upon the situation, the length of the march, and the hour at which the troops must arrive at their destination.

■ 381. The *rates and lengths of march* vary with the situation, weather, time of day, character of the roads, condition of the troops, nature of the terrain, and the obstacles that must be overcome. Average rates and lengths of march are given in FM 101–10.

The elongation of a column varies with speed of movement, road conditions, weather, condition of the troops, and the march dispositions adopted for antiaircraft protection.

In each march unit, the leading element under the direction of its commanding officer regulates the rate of march in accordance with instructions issued for the march.

■ 382. *Motor columns* may move in open or close column formation at prescribed rates or by infiltration at high speed. (See FM 25–10.)

■ 383. Ordinarily, troops keep to the right of the road, leaving the left free for passage of other traffic along the column. On muddy, sandy, or dusty roads, or when both sides of the road provide concealment from air observation, or when attack by hostile combat aviation is probable, troops may be directed to march on both sides of the road; the middle of the road is kept clear for other traffic.

■ 384. *Rest periods during a march* are a necessity and are habitually taken at regular intervals to rest men and animals, to service vehicles, to adjust equipment, and for other purposes. Halts generally are regulated by standing procedure. Unit commanders are promptly notified of the time and approximate length of any halts not provided for in the march order.

■ 385. After the first halt, which usually lasts 15 minutes, columns containing foot elements halt 10 minutes each hour; mounted troops halt from 5 to 10 minutes each hour. The halts of motor columns are made every 2 or 3 hours and are regulated with reference to the location of facilities for servicing vehicles and making adjustments.

Each march unit of foot troops halts and resumes marching simultaneously; each march unit of mounted, motorized, or armored troops may halt and resume marching simultaneously or successively. At the signal for the halt, units bear to the side of the road and troops fall out or dismount to rest. The road must be left clear by units at a halt.

Shortly before the termination of the halt, the commander of each march unit gives the preparatory signal for the resumption of the march. Foot troops fall in, mounted men remount, drivers resume their seats. Each unit moves out at the signal of its unit commander.

■ 386. It is desirable to finish the day's march early. However, the length of the march or the desirability of avoiding excessive midday heat may render it advantageous to make a long halt toward the middle of the day.

At long halts, each unit or group moves to a previously reconnoitered location in proximity to the route of march. Mounted units are located near sources of water supply.

■ 387. Men are not permitted to fall out during the march or to leave the immediate vicinity of their unit during halts without the specific authority of an officer of their unit. An officer marches at the tail of each march unit. He is charged with keeping the unit closed up and with preventing *straggling*. He examines men who fall out on account of sickness or sore feet. He gives them a written note to the surgeon or requires them to continue the march.

A small guard marches at the tail of each regiment and separate unit to control stragglers not admitted to the medical vehicle by the surgeon.

A detachment of military police marches in rear of the combat troops of a division. It arrests men found absent from their units without authority and, except in cases of men apprehended for serious offenses, turns them over to their units at the first opportunity with a statement of the circumstances of their apprehension. For organization and duties of military police, see FM 29–5.

■ 388. One of the medical officers attached to a troop unit marches at the tail of the unit. He examines men authorized to await his passage. He admits them to the medical vehicle or authorizes them to place arms and equipment (in whole or in part) on that vehicle or other transportation provided for that purpose, or directs them to report to the guard at the tail of the regiment. One or more medical vehicles march at the tail of each regiment and similar unit for the transportation of men who become sick or disabled.

For details concerning collection and evacuation of casualties, see FM 100–10.

■ 389. A vehicle which is compelled to halt moves off to one side of the road. Disabled vehicles are promptly removed from the road.

■ 390. Assemblies from march columns occur incident to long halts, occupation of assembly positions during development for combat, entrucking and detrucking, and for other purposes. The column commander selects the assembly area in accordance with the situation or instructions received. He allots portions of the area to component elements according to the situation and probable future action. Whenever practicable, arrangements for the occupation of the area are based upon detailed reconnaissance.

■ 391. Assembly areas may be announced in the initial march orders or during the course of the movement. In either case, subsequent arrangements are greatly facilitated by having representatives of the major units march near the head of the column. The column commander announces the location of his command post and indicates to the representatives of the major units their respective areas in sufficient detail to prevent congestion and delay in clearing the roads. These representatives, after reconnoitering their respective areas and routes thereto, meet their units and conduct them to their assembly areas.

Provision is made for traffic control and security. (See FM 25–10 and ch. 6.)

Roads are promptly cleared. This is expedited and wear and tear on motor vehicles are reduced by preparing turnouts at places where motor columns leave the roads. For this purpose, motorized engineers equipped with tractor-bulldozers are especially useful.

■ 392. Special precautions are taken to avoid congestion and delay during the *passage of obstacles and defiles.* Provision is made promptly for antiaircraft protection. The massing of troops, especially in the vicinity of an obstacle or defile, is to be avoided.

■ 393. *Fordable streams* are reconnoitered, and provisions are made in advance for avoiding confusion and unnecessary delay at crossings to include the regaining of distances and the preparation of additional crossings.

When a road leads through swamps or quicksand or across a stream with treacherous bottom, the limits of the road are marked or warnings are placed at dangerous points.

■ 394. The engineer officer in charge of a *bridge* is responsible for its structural adequacy and the regulation of traffic on the bridge and its approaches. Instructions issued by the engineer officer and the engineer bridge guard relative to the use of the bridge are strictly obeyed.

March commanders are responsible that vehicles exceeding the maximum load capacity of the bridge are cut out of the column for crossing at some other bridge or by ferry.

■ 395. Foot troops crossing bridges march without cadence. In crossing on a ponton bridge, mounted men lead their animals in column of twos; pairs of draft animals in front of the wheel pair are led; motor vehicles travel slowly, holding to the center of the bridge and maintaining the distance prescribed by the engineer officer.

■ 396. In case of an air attack during a crossing, all commanders of units en route to the bridge halt their troops to prevent jamming at the bridge approaches. Troops on the bridge and its approaches are evacuated as directed by the engineer officer in charge.

■ 397. In *ferrying foot troops* by assault boats, individual ponton boats, ponton rafts, or other means, troops first are brought to assembly areas under cover in the vicinity of the embarkation point. Here they are organized into tactical groupings corresponding to the capacity of the means for ferrying. Engineer equipment needed for the crossing but not already at the river, such as assault boats or foot bridge equipment, is issued to troops at the final assembly area where instructions for embarking and disembarking and for con-

duct during the crossing are given. At the proper time, each tactical grouping is conducted by an engineer guide to the point of embarkation. Movement from the final assembly area to the river is under control of the engineer troops.

On arrival at the embarkation point, troops enter the boat or raft in the manner directed by the engineer in charge. The engineer in charge is responsible for the arrangement of the loads and the handling of the boats. Individual equipment is loosened so that it may be removed easily.

■ 398. Vehicles may be ferried on a standard ponton raft ferry, or on an existing or improvised ferry. Vehicles awaiting passage are held under cover at a point where they will not block the approaches. Vehicles are loaded as directed by the engineer officer in charge. They usually are secured by brakes and blocking. Horses may be crossed by swimming. In unloading, the debarkation point is cleared promptly.

MOVEMENTS BY RAIL

■ 399. The general organization, operation, and control of rail transportation are discussed in FM 100–10.

■ 400. The larger aspects of rail movements are covered in FM 100–15.

■ 401. The time required by a unit to prepare for a rail movement, assemble at entraining stations, load equipment, clear entraining stations, unload equipment and re-form or redistribute its forces in the detraining area determines the minimum distance over which troops can be moved more rapidly by rail than by marching. The time required for the transfer by rail of an infantry division from one area to another can seldom be reckoned at less than 4 days; rail movement will seldom be more rapid than marching for distances less than 150 miles. For distances less than 150 miles, it is generally expedient to move an entire infantry division by marching or by a combination of marching and rail or motor transportation; smaller units may be moved by rail over shorter distances.

■ 402. In order that they may make timely preparations for a movement by rail, units are given timely notification of impending movements.

■ 403. Orders directing the movement of a unit by rail generally designate the stations at which the entrainment of the unit will take place, indicate the number of trains and the hours of departure, and state the detraining area or destination of the movement; the detraining stations may also be designated when these are definitely known and considerations of secrecy do not oppose. The movement is, however, frequently directed to a regulating station from which the several units are routed to detraining stations.

■ 404. In conjunction with a representative of the railway transportation service, the commander of the troops prepares a table regulating the entrainment and departure of the various elements of his command. The services of qualified commercial railroad employees should be utilized to the maximum in planning troop movements by rail.

■ 405. The order in which troops of a division or other unit are dispatched varies with the situation.

When the movement is carried out in connection with the execution of a tactical mission, tactical considerations influence the priority in which the troops are moved. In movements which merely involve the transfer of a unit from one quartering area to another, the order of movement is influenced chiefly by considerations of administration and convenience.

Command elements, antiaircraft and ground security forces, signal communication troops, military police, medical, and engineer units generally are placed early on the schedule of movement.

Unit trains usually move with their units.

The reestablishment of the normal system of supply is facilitated by forwarding a part of the division supply column on the early railway trains.

Quartering detachments are forwarded on one of the first trains when it is impracticable to send them to the new area in advance of the troop movement.

Usually echelons of signal, military police, and medical units, and occasionally elements for antiaircraft and antimechanized protection will be required in the old area until evacuation of the area is nearly completed. Their movement is regulated accordingly.

■ 406. The assignment of units to entraining stations is determined by the loading facilities available at the several stations, the character of the matériel of the several units, the desirability of equalizing the number of trains leaving from each station, and the priority fixed for the arrival of the several elements of the command in the detraining area.

Units equipped with exceptionally heavy vehicles are assigned to stations provided with loading facilities adequate to the handling of such special matériel.

As far as practicable, other units are assigned according to their accessibility to entraining stations and with a view to equalizing as nearly as possible the number of trains leaving from each station. The priority fixed for the arrival of the several elements of the command in the detraining area may, however, require the assignment of a unit to a station other than the one most accessible to it.

■ 407. Check lists for orders and entraining and detraining tables are contained in FM 101–5. Technical and logistical data pertaining to rail movements are contained in FM 101–10.

■ 408. A transportation grouping consists of the troops, equipment, and supplies transported on one train. The order of entrainment of the several transportation groupings at each entraining station is fixed in accordance with the priorities established for the arrival of the several elements of the command in the detraining area. So far as is consistent with these priorities, it will usually be advantageous to regulate the order of entrainment in the order of the proximity of units to the entraining stations.

■ 409. An officer is detailed in charge of each entraining station. He supervises the entrainment, police, and antiaircraft security at the station and is furnished with the necessary guard, transportation, and other assistance.

■ 410. Each unit moves to its entraining station in time to complete its entrainment before the scheduled hour of departure. Units should be directed to arrive at their designated entraining points at an hour amply sufficient to allow entraining but not so early as to result in congestion on routes to or at the entraining station. Premature entraining of personnel should be avoided.

The commander of each transportation grouping furnishes the representative of the railway transportation service at the entraining station with a statement showing the number of officers, men, horses, mules, vehicles by type, and the amount of baggage to be transported on his train.

■ 411. The commander of the transportation grouping causes the cars to be numbered in serial order, beginning at the head of the train. He then prepares a list showing the number of each car and the purpose to which it is assigned.

Methods to be employed in loading animals and equipment are indicated in the basic field manuals.

Troops are formed in the vicinity of the railroad station, and are divided into carload groups, each of which is assigned a car number, a noncommissioned officer is placed in charge of each group, and the command is marched to the train. Each carload group halts alongside the car to which it is assigned, the noncommissioned officer in charge regulates the boarding of the car and the distribution of the men.

■ 412. The commander of the transportation grouping details a guard and provides for the antiaircraft defense of his train, supplementing when necessary the antiaircraft weapons on the train with weapons of his own troops.

The commander of the transportation grouping is responsible for the maintenance of order, but exercises no control over the operation or movement of the train. The noncommissioned officer in charge of each car is responsible for the maintenance of order in his car; he does not permit soldiers to leave the train without authority or to ride on the top of the car.

■ 413. A representative of the command and an officer of the railway transportation service proceed to the detraining area in advance of the troops or arrive on the first train of the troop movement. The representative of the command determines the distribution of the troops in the detraining area in accordance with the commander's instructions, and, in conjunction with the representative of the railway transportation service, locates the detraining stations for each transportation grouping and prepares a detraining table. When the movement is not directed through a regulating sta-

tion already in operation, they establish a regulating station on the side of the detraining area from which the troops are due to arrive. The representative of the railway transportation service gives the necessary instructions to the railway personnel for routing each train to its detraining station. As each train arrives at the regulating station, the representative of the command gives the commander of the transportation grouping an extract of the detraining table pertaining to his unit and such other instructions as may be required.

■ 414. Units which consist largely of foot troops and ordinary motor vehicles may be moved rapidly and economically without special entraining or detraining facilities by a combination of movement by rail and marching, the foot troops only being moved by rail. When the available rolling stock is limited, the normal density of car loading may be greatly increased for short moves or the normal loads of motor vehicles may be moved by rail, foot troops being transported by the motor transportation thus made available. This latter method also may be advantageous when a well-balanced motorized covering force is desired, or when the threat of air attack requires a lesser density of loading of personnel in railway cars.

MOVEMENTS BY AIR

■ 415. *Air transport* may be employed advantageously for moving troops and supplies over great distances at high speed. The ability of troops transported by aircraft to land at any point permitted by the terrain with a great radius of action facilitates surprise.

■ 416. Troops transported by air are formed into tactical groupings which correspond to the carrying capacity of the available transport. These groupings are constituted according to their tactical missions and are landed in accordance with the requirements of security and in the order of their probable participation in subsequent operations.

■ 417. Because of the possible loss of individual airplanes, essential items of equipment and special weapons are duplicated and transported separately. Personnel and equipment essential in the exercise of command are distributed among the available airplanes.

Provision is made for security. Security of the landing areas is essential to a successful movement by air.

■ 418. For operations by troops transported by aircraft, see chapter 13.

SECURITY DURING MOVEMENT

■ 419. The *march order* for a command includes instructions relative to security. Additional instructions are given from time to time in accordance with the situation. Provision is made for cooperation between the security detachments and advanced reconnaissance elements.

■ 420. In a large command, some security is provided by the reconnaissance detachments or other troops operating between the enemy and the moving columns.

Each column provides for its own security to the extent required by the situation. A force in two or more columns may employ one security detachment for the whole force.

■ 421. Elements of antiaircraft artillery moving by bounds along the route of movement or on parallel roads protect the passage of defiles and points of congestion. To protect a motor movement, sufficient antiaircraft artillery to cover all such dangerous points at the same time is required since the speed of the column makes moving by bounds impracticable. For a short column or a particular unit within a column whose uninterrupted progress is particularly important, it is sometimes feasible to afford continuous protection by providing sufficient automatic antiaircraft weapons to accompany it throughout the march.

It must be expected that moving columns will be attacked by low-flying aircraft. All troops therefore must be thoroughly instructed in protective measures against such attacks and they must be permeated with the conviction that their organic weapons, especially automatic weapons, are effective in shooting down these low-flying planes.

■ 422. Security detachments regulate their movements so as to give the main body the protection required by the tactical situation and the terrain. When contact is imminent, the detachments having a higher rate of march than the main body move by bounds to successive critical terrain lines, halting on each line a sufficient time to assure the uninter-

rupted advance or retirement of the main body. Terrain lines which may be used to cover the passage of rivers and defiles are of special importance.

■ 423. A mechanized or motorized security detachment operates at greater distance from the main body. Its mobility permits early contact with the enemy. It is supplemented by other security forces operating between it and the main body.

■ 424. The *mission of an advance guard* is to prevent unnecessary delay of the main body and to protect it against surprise and observation. The advance guard insures for the main body the time and space required for its deployment for action. When contact with important enemy forces is made, the action of the advance guard depends upon the plan for the employment of the main body. The advance guard commander is given early information of this plan.

■ 425. The *strength and composition of an advance guard* vary with the strength and mobility of the command, its mission, the situation, the terrain, and the time of day. It should be no stronger than is necessary for security. Greater strength is required as the distance from the enemy decreases. For large commands it comprises components of all arms.

When contact is imminent, light artillery and engineers usually are attached to an advance guard. Medium artillery is attached when its need can be foreseen as, for example, to interdict distant defiles. In large advance guards, a portion of its artillery may be attached to the support.

Observation aviation transmits pertinent information directly to advance guards and to the column commanders.

In a march conducted entirely under cover of darkness, the advance guard needs less strength and less support. It may comprise only infantry and engineers.

■ 426. The *distance* between the advance guard and the main body is sufficient to preserve for the commander his freedom of action in the employment of the main body, but is never so great as to expose the advance guard to defeat before assistance can reach it. Distances are reduced at night, in close terrain, under conditions of low visibility and restricted observation, or when the advance guard is small.

■ 427. The *formation* of the advance guard is such as to assure its own security and provide sufficient distribution in

depth and width for its maneuver. From front to rear, it is divided into the advance guard cavalry or motorized detachment, the advance party, the support, and the reserve. In small advance guards the reserve may be omitted, the support then performing the functions of the reserve.

■ 428. The *support* is given sufficient strength for the execution of its security and reconnaissance missions. An artillery liaison section habitually marches with the support. Motorcycle and other messengers are attached for purposes of signal communication.

■ 429. The infantry strength of the *advance party* sent forward by the support seldom exceeds one platoon. The attachment of antitank weapons and mechanized vehicles may be desirable.

■ 430. The *reserve* constitutes the principal maneuvering and offensive element of the advance guard. It comprises as large a part of the strength of the advance guard as is consistent with its own security and the preservation of its freedom of maneuver. The bulk of the artillery and other auxiliary troops attached to the advance guard usually marches with the reserve.

■ 431. The order of the advance guard commander gives such information of hostile and friendly forces as is necessary for the guidance of subordinates, states the zone or route and objective of the march, designates the troops for the several elements of the advance guard, fixes the hour at which the support and, when necessary, the advance guard cavalry or motorized detachment will reach or clear the initial point, and gives such instructions to the several fractions and elements of the advance guard as may be required by the mission and the situation. (For further details, see FM 101–5.)

■ 432. The advance guard accomplishes its mission by reconnoitering the terrain to the front and on each side of the line of march, overcoming isolated hostile resistance, reconnoitering and preparing so far as practicable the route of advance for the movement of the troops (removal of obstacles, repair of bridges and roads, construction of turn-outs for motor columns, etc.). It reconnoiters those points which afford extended observation of the dispositions of the main body or which provide concealment for hostile recon-

noitering or harassing detachments. In proximity to the enemy, it seizes and holds important features of the terrain, particularly those that will cover the deployment of the main body from hostile observation and provide good observation and deflade for the employment of the artillery. According to circumstances, it pushes back hostile covering detachments, or opposes an enemy advance in force long enough to permit the main body to make its dispositions.

■ 433. The *cavalry* or other highly mobile reconnaissance detachments of the advance guard reconnoiter far enough to the front and flanks of the line of march to guard the column against surprise by hostile mechanized forces and artillery fire, and to secure timely information of the enemy and the terrain. If sufficient in strength and the situation so demands, they seize and hold terrain features covering river crossings, town exits, defiles, and the like. They thus assure as far as practicable the continuous movement of the advance guard and the possession of ground facilitating its deployment. In close proximity to the enemy, the requirements of local security and the necessity for flank protection increase, and cavalry of the advance guard is employed in the exploration of the terrain on the immediate front and flanks of the advance guard.

■ 434. The *advance party* protects the march and deployment of the support. It sends forward a *point* and other necessary patrols for local reconnaissance of the front of advance.

■ 435. The *support* protects the march of the reserve and executes the necessary local reconnaissance on the front of advance. It precedes the reserve at a distance sufficient to enable the reserve to deploy effectively. In the face of an enemy advance in force, it offers sufficient resistance to permit the reserve to prepare for action.

■ 436. As soon as hostile resistance is encountered, the leading elements of the advance guard move on a broader front. Zones of action may be assigned to components. Prompt support of the leading elements in dealing with hostile resistance is necessary. At the earliest indication of contact, the advance guard artillery occupies positions to render timely support and thereafter displaces or resumes the march as

appropriate. Provision is made to prevent infiltration of hostile mechanized elements seeking to attack the main body or rear subdivisions of the advance guard.

■ 437. The combat action of the advance guard is regulated by the contemplated maneuver of the main body. The mass of the advance guard is therefore put into action only for the purpose of gaining or retaining advantages which contribute to the tactical success or security of the main body.

■ 438. When a marching command develops for combat, the advance guard is employed as a covering force to protect the development. It seizes or holds the terrain requisite to the development and the contemplated scheme of maneuver.

■ 439. When the command makes a long halt during the course of a march, the advance or rear guard establishes a *march outpost*, usually from the support. Units of the support occupy critical terrain features controlling the approaches to the column, establish outguards or lookouts at commanding points, and when necessary send out patrols.

■ 440. The considerations governing the advance guard of a combined force of all arms also apply to the security of the more *mobile forces*, cavalry, armored, and completely motorized units. The principal modifications result from superior mobility of these units. Advance guards operate at greater distances from the main body and with greater distances between their own elements. The zone of reconnaissance is more extensive, both to the front and flanks. Close cooperation of observation aviation is of special importance.

■ 441. In addition to the reconnaissance carried out by the supports of advance and rear guards, it sometimes is necessary for the reserve and the main body to send patrols to the flanks of the line of march. These special flank reconnaissances are ordered by the commander of the advance guard and the commander of the troops.

■ 442. When the flanks of the command are not protected by adjacent units, it frequently will become necessary to provide stronger flank protection by the detail of a *flank guard*.

Flank guard duty is most efficiently performed by troops of high mobility. Greater distances must be covered than by troops of the main body. Frequently there is need to move

rapidly from one position to another. When available, Cavalry or motorized Infantry comprise the principal force. Flank guards are reinforced by artillery, engineers, chemical troops, and antitank units; they are given special matériel such as antitank mines and chemicals, and the means for constructing obstacles and executing demolitions. In some situations they are supported by combat aviation. Observation aviation transmits pertinent information directly to flank guards.

■ 443. The operations of flank guards are conducted with especial reference to the routes which favor attack against the flanks of the command. When the locality from which an attack can be expected is well defined, a flank guard occupies a position covering the routes of hostile approach until the command has passed. Full use is made of the available means of antimechanized defense. Infantry on foot assigned a mission of this kind must start its march in advance of the movement of the main body; on the completion of its mission, it joins the rear of the column.

When several such localities must be passed during the progress of a march, echelons of the flank guard move by bounds from one position to another. The execution of a mission of this character requires especially mobile troops.

When a route generally parallel to the line of march of the main body exists, and more or less continuous flank protection is required throughout the depth of the column during the march, the flank guard marches parallel to the main body, distributed in detachments over sufficient depth to be able to offer resistance to attack at various points on the flank of the main body and to deal with the inroads of small hostile detachments.

■ 444. When the main body executes a flank march in proximity to the enemy, flank protection assumes great importance; a strong flank guard is detailed. The advance guard may be converted into a flank guard to provide protection required by a change in the direction of march.

■ 445. During movements by shuttling, the flank guards may establish progressively a screen on the exposed flanks and thus provide a protected corridor which is maintained until the completion of the movement. When only minor forces

are likely to be encountered or when a protected corridor is impracticable, each contingent provides for its own protection and an escort is provided for the protection of returning transportation.

■ 446. A flank guard makes the necessary provision for its own frontal and flank security.

■ 447. A retiring force covers its retirement by the detail of a *rear guard.* For the strength, mission, and operations of a rear guard for a retiring force, see chapter 11.

■ 448. A force advancing toward the enemy details a rear guard if attack or harassing action, especially by mechanized or other highly mobile forces, is possible.

The mission of the *rear guard for an advancing force* is to assure the uninterrupted movement of the main body and its protection from hostile attack and ground observation from the rear. Its strength and composition are such as to permit the execution of its mission without the intervention of the main body. Usually a small detachment strong in engineers, automatic weapons, and antitank guns will suffice for the rear guard of an advancing force. Cavalry or mechanized vehicles are desirable to forestall attempts to pass the rear guard on the flanks.

The formation and method of operation of the rear guard are adapted to the situation. When the distance from the enemy permits, the rear guard retires in march formation. When in contact with the enemy, the rear guard distributes groups over a wide front and opens fire at long range in order to force the enemy to deploy and thus delay his advance. According to the requirements for protection of the main body, the rear guard attacks, defends, conducts delaying action on successive positions, or retires.

The rear guard of an advancing force executes only such demolition of bridges as are authorized by the commander of troops. If it appears necessary to prevent the destruction of important bridges by the enemy, the rear guard commander details the necessary bridge guards and notifies the commander of troops of his action.

■ 449. *Troop movements by air transport* in areas subject to attack from the air or ground require special security measures; transport aircraft are particularly vulnerable to attack

by hostile aviation and troops at loading and unloading points afford excellent objectives for attack either from the air or from the ground.

In flight, security is provided for such movements by flying in formation under escort of pursuit aviation, by dispersing, or by flying at night or under other conditions of low visibility.

Loading and unloading points in areas under our control are protected by pursuit aviation and ground forces, including antiaircraft artillery and antitank weapons.

Unloading points within the hostile lines are protected by pursuit and bombardment aviation and by parachute troops dropped in advance augmented, when necessary, by detachments landed on the ground by airplaines. Surprise, boldness, and detailed planning are the essence of such operations.