DEPARTMENT OF THE ARMY FIELD MANUAL

FM 100–5

This manual supersedes FM 100–5, 15 June 1944

FIELD SERVICE REGULATIONS

OPERATIONS



DEPARTMENT OF THE ARMY *AUGUST 1949*

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FM 100–5, Field Service Regulations—Operations, is published for the information and guidance of all concerned.

[AG 300.7 (9 Jun 49)]

BY ORDER OF THE SECRETARY OF THE ARMY:

OMAR N. BRADLEY
Chief of Staff, United States Army

OFFICIAL:
EDWARD F. WITSELL
Major General
The Adjutant General

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FOREWORD

FM 100–5, Field Service Regulations, Operations, contains the doctrines of leading troops in combat and the tactics of the combined arms. It constitutes the basis of instruction of all arms and services for field service.

These field service regulations will be interpreted in the light of FM 27–10, Rules of Land Warfare, and should be studied in connection with FM's 31-35, Air-Ground Operations; 100-10, Field Service Regulations, Administration; and 100–15, Field Service Regulations, Larger Units.

While the fundamental doctrines of combat operations are neither numerous nor complex, their application sometimes is difficult. Knowledge of these doctrines and experience in their application provide all commanders with a firm basis for action in a particular situation. Knowledge and experience also enable the commander to utilize the flexible organization with which he is provided to group his forces into task units most suitable for the accomplishment of his mission.

Set rules and methods must be avoided. They limit imagination and initiative which are so vital in the successful prosecution of war. They provide the enemy a fixed pattern of operations which he can counter more easily.

The fundamental principles of combat remain unchanged, but doctrine and tactics must be modified with each major advance in weapons, transportation, and other devices applicable to warfare. In general, developments favorable to the offensive are followed by developments or measures which counter their effectiveness. If decisive effect and surprise are to be achieved, it is essential that the tactics and technique of employment of a new development are kept abreast of the progress of the development itself.

The projection of the tactical effect of a new development must be based upon a realistic consideration of the characteristics of the development, and an equal progression in development in all other fields. Thus a weapon, whose deadliness dictates increased dispersion to reduce casualties, may be offset by developments in signal communication and transportation, which permit the desired dispersion without reduction in cohesion and control.

Reasoned conclusions concerning the actical effect of a new development form the basis for new tactical doctrine. In the vast majority of instances, a new development merely extends the capabilities of existing agencies without necessitating radical revision of existing doctrine. Thus within the scope of existing tactics and doctrine, ground launched guided missiles extend the range and power of artillery. In exceptional cases a development may possess potentialities which dictate radical revision of the conduct of tactical operations. Thus the crossbow, firearms, the machine gun, and the airplane, in turn resulted in major changes in the tactical doctrine of their periods.

The analysis of the impact of new developments upon the doctrine and tactics of the combined arms must be accurate, constant, and detailed. Military thought must be realistic and alert to modify the doctrine set forth in these regulations in the light of new developments. A considered balance between the conflicting dictates of secrecy and the dissemination of information requisite to the development of sound doctrines of employment must be maintained, if timely realistic employment is to be practicable.

These field service regulations reflect policy, doctrine, and procedures current at the time of preparation. Tactical and technical developments and organizational changes of the Army will necessitate correction and modification of the manual from time to time. Recommendations for corrections or changes should be forwarded to the Commandant, Command and General Staff College, for consideration and inclusion in future changes to the manual.

Modern warfare demands close coordination of the tactics and techniques and careful evaluation of the capabilities and limitations of Army, Navy, and Air Force. A salient function of command is the development, in the forces employed on a given task, of the teamwork essential to success.

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624.11 For further details, see FM 31-20.

952. (Superseded) For further details of the conduct of guerilla operations, see FM 31-20.

953. Rescinded.

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BY ORDER OF THE SECRETARY OF THE ARMY:

OFFICIAL:
WM. E. BERGIN
Major General, USA
The Adjutant General

J. LAWTON COLLINS
Chief of Staff, United States Army

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CHAPTER 1

ORGANIZATION

Section I. TERRITORIAL ORGANIZATION

1. The *theater of war* comprises those portions of land, sea, and air which are directly involved in the conduct of war.

2. A *theater of operations* comprises a designated portion of the land, sea, and air in the theater of war in which military operations are conducted. Territorial responsibilities are assigned and are under the direction of the theater commander.

3. The *combat zone* comprises that part of the theater of operations required for the conduct of war by the field forces. Its depth may be dependent upon the size of the forces assigned, the nature of the operations contemplated, the character of the lines of communications, the important terrain features, and the enemy capabilities. It may be divided for tactical control into army group, field army, corps, and division areas; each is controlled by the commander of the corresponding unit. The rear boundary of the combat zone is designated by the theater commander and is changed to conform to the movement of the armed forces.

4. The *communications zone* includes all the territory of the theater of operations between the rear boundary of the theater and the rear boundary of the combat zone. Laterally, it usually is coextensive with the theater boundaries. The communications zone also provides area for the operation and defense of the supply, evacuation, transportation, service, and other administrative agencies required for rendering support to the combat zone.

For military terms not defined in this manual, see TM 20–205; for list of training publications, see SR 310–20 series; for training films, film strips, and film bulletins, see FM 21–7; and for training aids, see FM 21–8.

It may include areas necessary for the operation or support of Air Force units based outside the combat zone. It is a link in the chain of supply and evacuation between the combat zone and the zone of interior.

5. The *zone of interior* comprises the area of national territory exclusive of theaters of operations but, under certain circumstances, may include foreign territory, either allied, neutral, or hostile.

Section II. TROOP ORGANIZATION

6. Troop organization includes command, combat (tactical), and service (administrative) elements. Most tactical units contain service elements and have some administrative functions. Troop units, either combat or service, are not designated as administrative unless they perform all, or nearly all, administrative functions for their components.

7. The Army of the United States is organized to provide, under the Secretary of the Army and the Chief of Staff, a Department of the Army general staff, a special staff, and administrative and technical staffs and services; and such army areas in the zone of interior and in overseas commands as may be necessary to the national security. The organization also includes the Office, Chief, Army Field Forces, which is the field operating agency of the Department of the Army within the continental limits of the United States, for the general supervision, coordination, and inspection of all matters pertaining to the training of all individuals and units utilized in a field army.

8. The mission of the Army is to provide field units properly organized, trained, and equipped for combat operations; to provide Army units for attachment to the Air Force for performance of prescribed functions; to provide common type support for the Navy and Air Force as directed; and under the general plan of the Department of the Army to prepare for, and on order or in imminent emergency to execute, planned operations for the defense of the United States.

9. The armed forces in the field consist of components of the Army, Navy, and Air Force organized separately, or in combination, into commands in theaters of operations, task forces, defense commands, and the other commands as may be required for national defense.

10. Several field armies may be organized into a *group* of armies under a designated commander. Such a group is primarily a tactical command.

11. A *field army* is composed of a headquarters, certain organic army troops, a variable number of corps, and a variable number of divisions. Some or all of the divisions may be assigned or attached from time to time to corps. The army is an administrative as well as a tactical unit.

12. A *corps* consists of a corps headquarters, certain organic and attached corps troops, and such combat divisions as may be attached to it. The corps is primarily a tactical unit. In some situations, it also may be an administrative unit.

13. The *division* is the basic large unit of the combined arms. It comprises a headquarters; infantry, armored, or airborne units; artillery units; and certain other troops of the arms and services. It is an administrative as well as a tactical unit.

14. A *brigade* is primarily a tactical unit composed of two or more regiments or groups of the same arm, together with a headquarters and headquarters company, or similar unit. A brigade may include units of other arms and services and may have administrative functions.

15. A *group* is a flexible organization consisting of a headquarters and two or more attached units, usually battalions, combined under one superior headquarters for the purpose of accomplishing a tactical, logistical, or administrative mission.

16. The *regiment* is a fixed unit which includes both administrative and tactical units. Ordinarily, the regiment consists of a headquarters; a headquarters company, and a service company, either separate or combined; and two or more battalions or similar units. It also may include one or more companies or similar units in which certain special weapons and means are assembled for tactical purposes, economy, instruction, and administration.

17. The *battalion* or similar unit is the basic tactical unit. It is composed of a headquarters; two or more companies or similar units; and certain special units, organic or attached. Unless organized as a separate battalion, it has few administrative functions.

18. In each arm or service, the *company, battery,* or similar unit is the basic administrative unit. It contains all the agencies re-

quired for subsistence, interior economy, and administration. For purposes of tactical control and training each company is subdivided into smaller units.

19. For economy and flexibility in the assignment of tasks, the means not habitually required by a unit are pooled and organically assigned to a higher unit. This facilitates the allotment of weapons and services to subordinate units, in accordance with their requirements for particular operations. Examples of this type organization are the heavy weapons company of the infantry battalion, the service company of the infantry regiment, and the artillery units of General Reserve Artillery.

20. a. To insure unity of effort, or to increase readiness for combat, part or all of the subordinate units of a command may be formed into one or more temporary tactical groupings (task forces), each under a designated commander. In each task force, the integrity of component tactical units is preserved as far as practicable.

b. In an armored division, the "combat command" is a tactical headquarters with its own headquarters company, designed for the tactical control of suitable temporary tactical groupings of armored cavalry and armored infantry battalions and essential elements of other arms in suitable proportion.

c. In an infantry division, the "combat team" normally will be composed of an infantry regiment, a light field artillery battalion, an antiaircraft artillery battery, and a company of combat engineers. In some situations a combat team may need other attachments, such as an ambulance platoon and a clearing platoon from the medical battalion, a signal detachment from the signal company, additional field artillery, or other units. The combat team will operate under the command of the infantry regimental commander.

21. a. For details of organization of the field forces and major items of equipment, including weapons and transportation, see current Department of the Army tables of organization and equipment.

b. For additional details relative to territorial organization, see FM 100–10.

CHAPTER 2

ARMS AND SERVICES

Section I. GENERAL

22. a. The terms "arms" and "services" are used to designate the branches of the Army. The term "arms" is used to designate those branches of the Army whose primary mission is combat and combat support. The term "services" refers to those branches of the Army primarily concerned with combat support and/or administration. Some of the branches have essential missions in both fields.

(1) *Arms*—
- (*a*) Infantry.
- (*b*) Armored Cavalry.
- (*c*) Field Artillery.
- (*d*) Coast Artillery.
- (*e*) Corps of Engineers.
- (*f*) Signal Corps.

(2) *Services*—
- (*a*) Adjutant General's Department.
- (*b*) Chemical Corps.
- (*c*) Chaplains.
- (*d*) Corps of Military Police.
- (*e*) Finance Department.
- (*f*) Inspector General's Department.
- (*g*) Judge Advocate General's Department.
- (*h*) Medical Department.
- (*i*) Ordnance Department.
- (*j*) Quartermaster Corps.
- (*k*) Signal Corps.
- (*l*) Corps of Engineers.
- (*m*) Transportation Corps.

b. Branches having missions in the service fields are grouped as follows:

(1) *Administrative Service*—
- (*a*) Adjutant General's Department.
- (*b*) Chaplains.
- (*c*) Corps of Military Police.
- (*d*) Inspector General's Department.
- (*e*) Judge Advocate General's Department.
- (*f*) Finance Department.

(2) *Technical Services*—
- (*a*) Chemical Corps.
- (*b*) Corps of Engineers.
- (*c*) Quartermaster Corps.
- (*d*) Transportation Corps.
- (*e*) Ordnance Department.
- (*f*) Signal Corps.
- (*g*) Medical Department.

c. For details of Army administration and logistical functions in the theater of operations, including logistical support of the Air Forces in the combat zone see FM 100–10.

23. No one arm wins battles. The combined coordinated action or team work of all arms and services is essential to success. The characteristics of each arm and service adapt it to the performance of its special functions. The higher commander coordinates and directs the action of all, exploiting their powers to attain the ends sought.

Section II. INFANTRY

24. The infantry is essentially an arm of close combat. Its primary mission in the attack is to close with the enemy and destroy or capture him; in defense, to hold its position and repel the hostile attack.

25. The weapons of infantry are rifles, bayonets, automatic rifles, machine guns, mortars, carbines, pistols, grenades, light antitank weapons, recoilless rifles, flame throwers, and tanks.

26. Infantry fights by combining fire, movement, and shock action. By fire, it inflicts losses on the enemy and neutralizes his combat power; by movement, it closes with the enemy and makes its fire more effective; by shock action, it completes the destruction of the enemy in close combat.

27. Infantry can maneuver over difficult ground. Its ability to move in small and inconspicuous formations enables it to take advantage of covered routes of approach and minor accidents of

the terrain. It must utilize the terrain intelligently to attain maximum fire effect, to conserve personnel, to conceal movement, and to facilitate the maneuver and employment of reserves Among other factors, the battle effectiveness of infantry is affected by conditions of morale, weather, terrain, physical efficiency, and the nature of the operations. Continued operation under adverse conditions will render infantry less effective. Commanders must insure rest and reorganization within the command by rotating units, by close supervision of supply of critical items necessary for the comfort of the command, and by proper and adequate medical care and evacuation.

28. Infantry is capable of some limited independent action by employing its own weapons. Acting alone, its offensive power decreases appreciably when its freedom of maneuver is limited or when it is confronted by an organized defensive position. For decisive operations, infantry must be reinforced adequately by artillery, armored cavalry, and engineers. Coordination with combat aviation is also essential. The defensive power of infantry reaches its maximum when it occupies a strongly organized defensive position and the enemy's freedom of maneuver is restricted.

29. Infantry units completely motorized are suited especially for the close support of armored units or for prompt dispatch as mobile reserves to distant areas accessible by road. Infantry troops, with equipment and supplies, also may be moved by air or water transport to seize decisive objectives or to operate in the enemy's rear area.

30. For infantry organization and tactics, see tables of organization and equipment and FM's, series 7.

Section III. ARMORED CAVALRY

31. Armored cavalry is an arm of mobility, armor-protected fire power, and shock action. It uses its mobility in exploitation, in pursuit, in seizing objectives deep in enemy rear areas, in reconnoitering over broad frontages, and providing depth and wide radius of action in defense. It concentrates its fire power at the decisive area of action to lead, accompany, or support infantry in the penetration of the enemy's defenses, and to destroy enemy penetrations. It utilizes its shock action to close with and destroy the enemy.

32. The weapons of the armored cavalry are tanks, self-propelled guns and howitzers, machine guns, mortars, rocket launchers, sub-

machine guns, carbines, pistols, rifles, bayonets, automatic rifles, and grenades. Of these, the tank is the principal weapon. While these weapons correspond closely in type to those found in the infantry, the proportion of the numbers of each is different and is based on the different requirements and missions assigned to armored cavalry units.

33. Reconnaissance usually is performed by light armored cavalry units which employ rapidity and flexibility of movement, communication facilities, and fire power. Sustained offensive or defensive combat is avoided. The capabilities of light armored cavalry include both distant and close ground reconnaissance, counterreconnaissance, seizing and holding critical terrain features for a limited time, march and battlefield security, flank security, combat liaison, and delaying and harassing action. Reconnaissance units fight on a relatively broad front and in slight depth. In performing any of their missions these units customarily contribute to the security of the larger command and its elements by reporting locations and strengths of enemy forces and by providing timely warning of impending ground and air attacks. Information is transmitted directly to higher headquarters and to units whose security is threatened.

34. The armored attack is thrust quickly through the enemy defensive organization on a relatively narrow front. It employs a mass of armor in close coordination with other arms and supported by tactical air. Armored action requires large quantities of supplies and effective periods of vehicular maintenance. It is restricted by unfavorable terrain, obstacles, and weather.

35. The defense is assumed when the situation requires it. The armored cavalry is primarily an arm of offense with characteristics and capabilities designed for that role. Vigorous defense, however, is included in the capabilities of the armored cavalry. Even when pressing the attack, there are times a portion of the armored cavalry force engaged will temporarily assume the defensive while reorganizing, resupplying, or preparing to resume an attack which has not gained its final objectives.

36. For armored cavalry organization and tactics, see tables of organization and equipment and FM's, series 17.

Section IV. ARTILLERY

37. a. The artillery comprises two general types: field and antiaircraft. Its armament consists of guns, howitzers, mortars,

rockets, guided missiles, automatic weapons, and controlled submarine mines.

b. For artillery organization and tactics see tables of organization and equipment and FM's, series 6 and 44.

FIELD ARTILLERY

38. a. Field artillery is the principal arm of fire support. Its missions are the close support of the other arms; counterbattery fires to gain superiority over the hostile artillery; fires against hostile reserves and command, communication, and supply installations; and other long-range fires.

b. Field artillery is equipped with mobile guns, howitzers, rockets, and the equipment required for observation, fire control, and signal communication.

39. Field artillery fire possesses great power of destruction and neutralization. It compels hostile troops in the open to adopt widely deployed formations and has adverse morale effect. Fire from curved-trajectory weapons reaches objectives lacking adequate overhead cover and those defiladed against flat-trajectory weapons.

40. Field artillery fire possesses a high degree of flexibility. Field artillery is capable of intervening over a zone of great width and depth, and of rapidly shifting and concentrating its fire without changing its position. This characteristic makes it possible to concentrate the fire of large masses of field artillery under a common fire direction. Through the maneuver of artillery fire, commanders possess a powerful means of influencing the course of combat. The efficiency with which artillery fires are maneuvered is dependent upon adequate control. Control is effected by command and by liaison. Control depends on close liaison with supported, supporting, and adjacent units, on sufficient observation, efficient survey, and dependable signal communication. Adequate intelligence, particularly accurate and complete information of artillery targets, also is essential.

DIVISION FIELD ARTILLERY

41. The principal mission of division field artillery is support by fire on those targets which interfere with the execution of the mission of the supported units. Division field artillery is employed also to neutralize enemy observation, to interdict hostile

movements, and to assist corps artillery in counterbattery. It must be prepared to engage promptly hostile tanks within its field of fire. Field artillery should not be diverted unnecessarily from its primary mission and employed strictly as an antitank weapon. In order to carry out its principal combat missions, division field artillery ordinarily is subdivided for combat so that certain units are assigned to the direct support of specified infantry, armored cavalary, or airborne units, and the remainder is retained in general support of the division as a whole.

42. The assignment of direct support missions to field artillery units insures close cooperation with the supported units and enables such artillery to act with greater promptness in meeting the requirements of a rapidly moving situation on the front of the supported units. A field artillery unit in direct support establishes liaison and signal communication with the supported unit and as far as possible executes the missions requested by the supported unit. Direct support artillery remains under the command of the the next higher artillery commander. It renders maximum fire support to the supported unit. On orders of the task force or division commander, its fires may be shifted to targets that are outside of the supported unit's zone of action. The commander of a field artillery unit in direct support is free to maneuver as necessary in order to furnish maximum fire support to the supported unit.

43. Whenever the situation permits, both direct support and general support artillery are retained under the command of the division artillery commander. Field artillery operates most effectively in this manner. When the division artillery commander cannot control efficiently the fire of all of his artillery because of the character of the operations, unusual extension of frontage, difficulties of terrain, lack of suitable observation, or difficulties of signal communication, such artillery should be promptly attached to the infantry and armored cavalry units which it is to support.

CORPS ARTILLERY

44. a. Corps artillery consists of the organic corps artillery headquarters and headquarters battery; the organic observation battalion, which includes sound and flash ranging elements; and such additional field and antiaircraft artillery units as may be attached from time to time by higher headquarters and retained under the direct control of the corps commander.

b. The mission of corps field artillery is to support the action

of the corps by reinforcing the fires of the division field artillery, by engaging targets which are beyond the range or power of the division field artillery, by neutralizing or destroying enemy artillery, by fire on hostile reserves, and by disrupting hostile command, communication, and other important installations.

c. The mission of corps antiaircraft artillery is to provide maximum protection against hostile aircraft for units and installations located in the corps area. The amount of antiaircraft artillery attached to the corps will depend on the air and ground tactical situation. So long as the situation permits, the employment of the corps antiaircraft artillery should rest directly with the corps commander. This will insure coordination of means and maximum protection for the vital installations within the corps area of operations. When the fluidity of the situation or the dispersion in the area of operations makes centralized control impractical, antiaircraft artillery units may be attached to subordinate units.

45. The degree to which command of the corps artillery is decentralized is based on the same principles enunciated for division artillery. In general, the light field artillery battalions of the General Reserve Artillery which have been attached to the corps are reattached to subordinate divisions. After attachments have been made to the divisions, the artillery remaining under the command of the corps artillery commander is organized to give maximum support to the corps as a whole. This support is assured by the assignment to the corps artillery units of general support and reinforcing missions, counterbattery missions, and long-range missions.

GENERAL RESERVE ARTILLERY

46. General Reserve Artillery consists of all artillery units not organic to divisions and corps. It consists of separate batteries, battalions, groups, and brigades. These units are available as a pool for allotment to theaters, army groups, armies, or task forces, according to their needs.

ARTILLERY IN RESERVE

47. Artillery is effective only by its fire; ordinarily, it should not be held in reserve. Artillery earmarked for support of a unit held in reserve should be placed in general support of the engaged force if time will permit its employment with the reserve when the reserve is committed.

HARBOR DEFENSE

48. Mobile artillery, either field or antiaircraft, may be used to reinforce harbor defense measures as required.

49. Submarine mines are underwater mines planted in considered patterns across a harbor entrance in such a manner as to insure the closure of that entrance to enemy vessels, particularly submarines Submarine mines can destroy enemy submarines which have not been detected by any other surveillance means. This is especially important because submarines are the only enemy craft, air or waterborne, capable of approaching our shores undetected by long-range surveillance means. Since the firing of controlled submarine mines is regulated from a shore station, friendly shipping can be safely passed through a submarine mine defense. Precautions must be taken to prevent hostile submarines from entering with such shipping.

ANTIAIRCRAFT ARTILLERY

50. Antiaircraft artillery is equipped with antiaircraft guns, automatic weapons, rockets, guided missles, and the equipment required for observation, warning, and fire control. The primary mission of antiaircraft artillery is to provide local protection for field forces and important ground establishments against all forms of enemy air attacks and activities by day and by night.

51. Antiaircraft artillery also may be used against ground targets. Due to the characteristics of its weapons—high muzzle velocity and flat trajectory—these weapons may be used effectively for direct fire against tanks, fortifications, and small naval or land craft. It may be used for indirect fire in the role of field artillery. When used on these missions, little air defense should be expected; consequently, it should not be employed against these targets unless the air threat is secondary. Antiaircraft artillery will not be diverted from its primary role without authority of division or higher commanders, except when the unit position is threatened with hostile ground attack. Since the dispositions of antiaircraft matériel for ground role and air role differ materially, the change from air to ground role should not be made without careful estimate.

52. An essential agency of antiaircraft artillery is its intelligence service (AAAIS). This service gathers and transmits information of the enemy's air activities for use in connection with the employment of the antiaircraft artillery units. Antiaircraft artil-

lery also is provided with information about hostile aircraft by the aircraft warning service. Rapid interchange of information between these services is essential.

Section V. CORPS OF ENGINEERS

53. The Corps of Engineers has the primary combat mission of increasing the combat power of the field forces by construction or destruction, especially that which facilitates the movement of friendly troops or impedes that of the enemy.

54. Engineers facilitate the movement of troops by providing passage through obstacles, both natural and man-made, or by removing those obstacles. Any operation, therefore, in which the physical characteristics of terrain constitute a major obstacle to success, is of paramount interest to the Corps of Engineers. Examples include defile operations, river crossings, bridging, passage of obstacles, beachheads, airheads, and demolitions.

55. The mission of hindering enemy movement is often of great importance. The inherent mobility of enemy motorized and armored forces and the threat of airborne forces must be countered by coordinated and intensive use of obstacles and demolitions. Obstacles may consist of hastily erected barriers, such as road blocks and mine fields, as well as deliberately prepared zones of obstacles. Obstacles are of little tactical value unless they are protected by fire.

56. Engineers have many additional important missions, some of which are water supply; production, reproduction, and supply of maps, mosaics, map substitutes, and relief models as required; reproduction and distribution of aerial photographs; operation of utilities; supply of construction, fortification, and camouflage materials and other engineer equipment; operation of landing craft in amphibious operations; beach operations; combat as infantry; and battlefield illumination.

57. For details of Corps of Engineers organization and functioning in the field, see tables of organization and equipment and FM's, series 5, and FM 100–10.

Section VI. SIGNAL CORPS

58. The Signal Corps has the primary combat mission of furnishing the signal communication essential to the performance of the over-all mission of the field forces.

59. Signal Corps troops establish, operate, and maintain signal communication systems with facilities for wire, radio, messenger, and visual communication, and provide signal supply, repair, and photographic service. It also operates the signal intelligence service.

60. The Signal Corps exercises technical supervision over the entire signal service of the Army. It supplies other arms and services with the technical equipment required for the installation of their signal communication and warning systems.

61. For details of Signal Corps organization and functioning in the field, see tables of organization and equipment and FM's, series 11.

Section VII. CHEMICAL CORPS

62. Combat troops of the Chemical Corps have the mission of assisting other units of the field forces by the use of chemical agents, smoke, incendiaries, and high explosives. The Chemical Corps exercises technical supervision over chemical warfare matériel of the Army. Chemical Corps service units are provided field armies and the theater to perform such missions as maintenance of Chemical Corps matériel, operation of chemical depots, field impregnation of clothing, decontamination of areas and matériel, and laboratory analysis of chemical agents.

63. Chemical units in the combat zone are army troops. They are attached to lower units as the situation requires. Chemical units may be employed profitably in mass for large-scale gas or smoke operations, or in small units for minor operations under division or lower unit control.

64. Operations of chemical units are coordinated by the higher commander as may be necessary to avoid interference by gas or smoke with the operations of other friendly troops.

65. For details of Chemical Corps organization and functioning in the field, see tables of organization and equipment and FM's, series 3.

Section VIII. MEDICAL DEPARTMENT UNITS

66. Medical Department troops are organic to all units of all arms and services of battalion size and larger, except the battalions of an infantry regiment; medical service for these battalions is pro-

vided by the regimental medical company. Organic medical troops have the primary mission of providing emergency medical care on the battlefield, on the march, and in bivouac. They also evacuate to and treat at dispensaries, battalion aid stations, and regimental collecting stations.

67. Medical units, such as battalions, groups, mobile hospitals (surgical, evacuation, and convalescent), medical depots, and sanitary units, are assigned or attached to divisions, corps, or field armies to provide for evacuation, hospitalization, medical supply, and sanitation. Similar medical units are employed in the communications zone with the addition of such units as hospital trains and ships, and fixed hospitals.

68. For details of Medical Department organization and functioning in the field, see tables of organization and equipment and FM's, series 8.

Section IX. QUARTERMASTER CORPS

69. Quartermaster Corps troops have the primary mission of providing supply and service support to combat units and to other supporting troops. With the exception of organic divisional troops, quartermaster units in the combat zone are field army troops.

70. Quartermaster supply includes food, general supplies, individual clothing and equipment, quartermaster organizational clothing and equipment, animals, and petroleum products for cooking, lighting, space heating, vehicles, and internal combustion engines.

71. Quartermaster service includes laundry, mobile bath, bakery, mobile refrigeration, salvage collection and evacuation, animal transportation, maintenance and repair of quartermaster items of clothing and equipment, sales stores, collection and disposition of personal effects, graves registration and burials, and troop labor.

72. For details of Quartermaster Corps organization and functioning in the field, see tables of organization and equipment and FM's, series 10.

Section X. ORDNANCE DEPARTMENT

73. The mission of the Ordnance Department is to design, develop, procure, store, issue, maintain, modify, renovate, repair, and sal-

vage ordnance supplies and ammunition. It also trains and furnishes specialized ordnance troops. The Ordnance Department exercises technical supervision over ordnance items throughout the Army. By means of a technical intelligence service, it keeps abreast of world developments in weapons and other ordnance supply and equipment.

74. Ordnance units in the combat zone are field army troops, except those organic to the infantry, airborne, and armored divisions.

75. For details of Ordnance Department organization and functioning in the field, see AR 45–60, tables of organization and equipment, and FM's, series 9.

Section XI. TRANSPORTATION CORPS

76. The mission of the Transportation Corps is to move troops, equipment, and supplies required for the conduct and support of military operations, except those moved by organic transportation.

77. Truck battalions, car companies, and other transportation units attached to divisions, or assigned or attached to corps, armies, task forces, and theaters, may be employed under centralized control or attached to subordinate units in accordance with the situation and policies of the commander.

78. Amphibious truck battalions, port battalions, truck battalions, and other transportation units, normally will be utilized, in amphibious operations, to unload ships and to move troops and supplies from ship to shore and over beaches. Amphibious truck battalions also may be utilized in river crossings and in shore-to-shore operations.

79. For details of Transportation Corps organization and functioning in the field, see FM 100–10, tables of organization and equipment, and FM's, series 55 and, until superseded, series 10.

CHAPTER 3

LEADERSHIP

80. Leadership is the art of influencing and directing people to an assigned goal in such a manner as to command their obedience, confidence, respect, and loyal cooperation.

81. Man is the fundamental instrument in war; other instruments may change but he remains relatively constant. Unless his behavior and elemental attributes are understood, mistakes will be made in planning operations and in troop leading.

82. In the training of the individual soldier, the essential considerations are to integrate individuals into a group and to establish for that group a high standard of military conduct and performance of duty without destroying the initiative of the individual.

83. War severely tests the physical endurance and moral stamina of the individual soldier. To perform his duties efficiently, he must not only be well equipped and technically trained but he also must be physically qualified to endure the hardships of field service and be constantly fortified by discipline based on high standards of military conduct. Strong men, inculcated with a proper sense of duty, a conscious pride in their unit, and a feeling of mutual obligation to their comrades in the group, can dominate the demoralizing influences of battle far better than those imbued only with fear of punishment or disgrace. Patriotism and loyalty coupled with the knowledge of, and a firm belief in, the principles for which the war is being fought also are essential.

84. In spite of the advances in technology, the worth of the individual man is still decisive. The open order of combat accentuates his importance. The dispersion of troops in battle caused by the influence of modern weapons makes control more difficult. Every individual must be trained to exploit a situation

with energy and boldness and must be imbued with the idea that success will depend upon his initiative and action.

85. Cohesion within a unit is promoted by good leadership, discipline, physical fitness, proficiency in weapons, sound tactical training, pride in the accomplishments and reputation of the unit, mutual confidence and comradeship among its members, and knowledge of the tasks to be accomplished by the unit and by its adjacent and supporting elements.

86. Leading troops in combat, regardless of the echelon of command, calls for cool and thoughtful leaders with a strong feeling of the great responsibility imposed upon them. They must be resolute and self-reliant in their decisions, energetic and insistent in execution, and unperturbed by the fluctuations of combat.

87. A leader must have superior knowledge, will power, morale and physical courage, self-confidence, initiative, resourcefulness, force and selflessness. Any show of fear or unwillingness to share danger is fatal to leadership. On the other hand, a bold and determined leader will carry his troops with him no matter how difficult the enterprise. A commander must bear in mind that physical unfitness will undermine his efficiency. He owes it to the men under his command to conserve his own fitness.

88. Troops are influenced strongly by the example and conduct of their leaders. Mutual confidence between the leader and his men is the surest basis for discipline. To gain this confidence, the leader must find the way to the hearts of his men. This he will do by acquiring an understanding of their thoughts and feelings, and by showing a constant concern for their comfort and welfare.

89. A good commander avoids subjecting his troops to useless hardships and danger. He guards against dissipating their combat strength in inconsequential actions or harassing them through faulty staff management. He keeps in close touch with all subordinate units by means of personal visits and observation. It is essential that he know from personal contact the mental, moral, and physical state of his troops, the conditions with which they are confronted, their accomplishments, their desires, and their needs.

90. The commander should extend prompt recognition for services well done, lend help where help is needed, and give encouragement

in adversity. Considerate and loyal to those whom he commands, he must be faithful and loyal to those who command him. A commander must live with his troops and share their dangers and privations as well as their joys and sorrows. By personal observation and experience he then will be able to judge their needs and combat value. The proper expenditure of combat strength is in proportion to the objective to be attained. When necessary to the execution of the mission, the commander requires and receives from his unit the complete measure of sacrifice.

91. A spirit of unselfish cooperation with their fellows is to be fostered among officers and men. The strong and the capable must encourage and lead the weak and less experienced. On such a foundation, a feeling of true comradeship will become firmly established and the full combat value of the troops will be made available to the higher commander.

92. The combat value of a unit is determined in great measure by the soldierly qualities of its leaders and members, and by its will to fight. Outward marks of this combat value will be found in the set-up and appearance of the men, in the condition, care, and maintenance of the weapons and equipment, and in the readiness of the unit for action. Superior combat value will offset numerical inferiority. Superior leadership combined with superior combat value of troops equipped with superior weapons constitutes a sure basis for success in battle.

93. A poorly trained unit is likely to fail at a critical moment because of demoralizing rumors, impressions, and hallucinations caused by unexpected events in combat. This is particularly true in meeting engagements and among troops entering combat for the first time. Therefore, training and discipline are of great importance. Every leader must take energetic action against lack of discipline, panic, rumor, pillage, and other disruptive influences. Discipline is the main cohesive force that binds the members of a unit.

94. A wise and capable commander will so regulate the interior administration of his unit that all groups perform the same amount of work and enjoy the same amount of leisure. But in so doing he will preserve tactical unity in assignment of tasks wherever this is possible. He will see that demonstrated efficiency is promptly recognized and rewarded. He will set before all a high standard of military conduct and apply to all the same rules of discipline.

95. Good morale and sense of unity in a command cannot be provised; they must be thoroughly planned and systematic promoted. They are born of just and fair treatment, a cons concern for the soldier's welfare, thorough training in basic du confidence in weapons and combat ability, comradeship an men, and pride in self, organization, and country. The estab ment and maintenance of good morale are incumbent upon e commander and are marks of good leadership.

96. The first demand in war is decisive action. Commanders spire confidence in their subordinates by their decisive con and their ability to gain material advantage over the enemy. reputation for failure in a leader destroys morale.

CHAPTER 4

THE EXERCISE OF COMMAND

Section I. PRINCIPLES OF WAR

THE OBJECTIVE

97. The ultimate objective of all military operations is the destruction of the enemy's armed forces and his will to fight. The selection of intermediate objectives whose attainment contributes most decisively and quickly to the accomplishment of the ultimate objective at the least cost, human and material, must be based on as complete knowledge of the enemy and theater of operations as is possible for the commander to gain by the exploitation of all sources and means of information available to him.

SIMPLICITY

98. Plans should be as simple and direct as the attainment of the objective will permit. Simplicity of plans must be emphasized for in operations even the most simple plan is usually difficult to execute. The final test of a plan is its execution; this must be borne constantly in mind during planning.

UNITY OF COMMAND

99. Unity of command obtains that unity of effort which is essential to the decisive application of the full combat power of the available forces. Unity of effort is furthered by full cooperation between elements of the command. Command of a force of joint or combined arms is vested in the senior officer present eligible to exercise command unless another is specifically designated to command.

THE OFFENSIVE

100. Through offensive action, a commander preserves his freedom of action and imposes his will on the enemy. The selection

by the commander of the right time and place for offensive action is a decisive factor in the success of the operation. A defensive attitude may be forced on a commander by many situations; but a defensive attitude should be deliberately adopted only as a temporary expedient while awaiting an opportunity for counteroffensive action, or for the purpose of economizing forces on a front where a decision is not sought.

MANEUVER

101. Maneuver in itself can produce no decisive results, but if properly employed it makes decisive results possible through the application of the principles of the offensive, mass, economy of force, and surprise. Better armament and equipment, more effective fire, higher morale, and better leadership, coupled with skillful maneuver, will frequently overcome hostile superior numbers.

MASS

102. Mass or the concentration of superior forces, on the ground, at sea, and in the air, at the decisive place and time, and their employment in a decisive direction, creates the conditions essential to victory. Such concentration requires strict economy in the strength of forces assigned to secondary missions. Detachments during combat are justifiable only when the execution of tasks assigned them contributes directly to success in the main battle.

ECONOMY OF FORCES

103. The principle of economy of force is a corollary to the principle of mass. In order to concentrate superior combat strength in one place, economy of force must be exercised in other places. The situation will frequently permit a strategically defensive mission to be effectively executed through offensive action.

SURPRISE

104. Surprise must be sought throughout the action by every means and by every echelon of command. Surprise may be produced by measures which deny information to the enemy or deceive him as to our dispositions, movements, and plans; by variation in the means and methods employed in combat; by rapidity and power of execution; and by the utilization of terrain which appears to impose great difficulties. Surprise may compensate for numerical inferiority.

105. Adequate security against surprise requires a correct estimate of enemy capabilities, resultant security measures, effective reconnaissance, and readiness for action. Every unit takes the necessary measures for its own local ground and air security. Provision for the security of flanks and rear is of special importance.

Section II. COMMAND

106. Command is the authority which an individual in the military service lawfully exercises over subordinates by virtue of rank or assignment. In joint commands, the commander may be an officer of the Army, Navy, or Air Force.

107. Command and leadership are inseparable. Whether the force is large or small, whether the functions of command are complex or simple, the commander must be the controlling head.

108. Decision as to a specific course of action is the responsibility of the commander alone. While he may accept advice and suggestions from any of his subordinates, he alone is responsible for what his unit does or fails to do.

109. A willingness to accept responsibility is an essential trait of leadership. Every individual from the highest commander to the lowest private must always remember that inaction and neglect of opportunities will warrant more severe censure than an error of judgment in the action taken. The subordinate unit is a part of a tactical team employed by the higher commander to accomplish a certain mission, and any independence on the part of a subordinate commander must conform to the general plan for the unit as a whole.

110. The commander's mission is contained in the orders which he has received. Nevertheless, a commander of a subordinate unit cannot plead absence of orders as an excuse for inaction. If the situation does not permit communication with the superior commander and the subordinate commander is familiar with the general plan of operations or the mission of the whole command, he should take appropriate action and report the situation as early as practicable.

111. In spite of the most careful planning and anticipation, unexpected obstacles, frictions, and mistakes are common occur-

rences in battle. A commander must school himself to regard these events as commonplace and not permit them to frustrate him in the accomplishment of his mission.

112. Personal conferences between the higher commander and his subordinates who are to execute his orders usually are advisable so that subordinates may arrive at a correct understanding of the plans and intentions of their superior.

113. All the troops assigned to the execution of a distinct mission should be placed under one command, not only to insure the unified execution of the mission, but also to insure a single chain of command during the operation. A commander should not bypass other commanders in the chain of command except in emergency. When a commander bypasses another commander in the chain of command in an emergency, he should insure that the bypassed subordinate commander is informed, at the earliest opportunity, of the instructions issued.

114. A commander who is advanced to a higher command should be relieved from the responsibility of direct command of his former unit.

115. For details of command responsibility and organization, particularly territorial, see FM 100–10.

116. A staff assists the commander in the exercise of his command by providing information, by making studies and recommendations, by preparing and distributing orders, and by supervision. Staff officers must have a thorough understanding of the policies of the commander and be acquainted with subordinate commanders and units. A commander should guide his staff by clearly enunciating directives and policies. A commander alone is responsible for all that his command does or fails to do; he cannot shift this responsibility to his staff or to subordinate commanders. A staff officer, as such, does not exercise command.

117. As much and possibly more may be learned by a study of failure as from a study of success. See the lessons of the defense of Pearl Harbor contained in the appendix.

Section III. ESTIMATE OF THE SITUATION

118. In any operation, the commander must evaluate all the available information bearing on his task, estimate the situation, and

reach a decision. The estimation of the situation is a continuing process, and changed conditions may call for a new decision at any time.

119. The estimate often requires rapid thinking, with consideration limited to essential factors. In campaign, complete information concerning the enemy seldom can be obtained. To delay action in an emergency because of incomplete information shows a lack of energetic leadership, and may result in lost opportunities. The situation, at times, may require the taking of calculated risks.

120. The mission is the basic factor in the commander's estimate. This frequently may be resolved in terms of terrain. See paragraphs 124-126. Thus, it may be vital to hold certain dominating ground, to protect a certain defile, or to capture such features.

121. The capabilities of the opposing forces and the possible effect of their employment must be continually evaluated. The commander must guard against ignoring other lines of action open to the enemy in the belief that the enemy's intentions have been discovered.

122. In estimating the capabilities of forces, both friendly and hostile, the commander also must be provided with full and up-to-date information on the existing and probable future weather conditions.

123. For details relative to contents of the estimate of the situation, see FM 101–5.

Section IV. TERRAIN AND WEATHER

124. Terrain always should be evaluated in terms of the following five factors: features critical to either combatant, routes of communication and avenues of approach, obstacles, concealment and cover, and observation and fields of fire. Weather and climatological data also must be considered since weather and climate may initially affect the employment of aviation, and armored elements, and they also can affect visibility, camouflage requirements, trafficability (both on roads and off), stream levels, temperature, and wind.

125. a. That part of the commander's estimate dealing with the terrain and weather often exercises a decisive influence upon his decision and plan. Proper evaluation and utilization of the terrain and of weather and climatological information reduce the

disadvantages of incomplete information of the enemy. The more important features to be considered in evaluating terrain include not only natural ground forms such as mountains, ridges, streams, bodies of water, swamps, bogs, woods, and open spaces, but also artificial features such as roads, railroads, dams, bridges, towns, and cultivated areas (as distinct from natural vegetation). The type, moisture content, drainage and surface and sub-surface conditions (due to frost, precipitation or physical obstructions) of the soil are of great importance in armored operations.

b. Weather information includes forecasts as to precipitation, temperature, fog or ground haze, cloud conditions, phases of the moon, periods of daylight and darkness, the wind and other predictable phenomena. Climatological information consists essentially of a summation and averaging of weather conditions over long periods of time. It affords a means for the evaluation of terrain and weather at a given season in the future, beyond the range of normal and accurate prediction. The studies of terrain and weather are inseparable; terrain always must be evaluated in consideration of predictable weather. The commander seeks always to utilize the terrain and weather to his own advantage and to the enemy's disadvantage.

126. Topographical maps are the basis for terrain studies, but must be checked through use of trafficability studies, air reconnaissance, air photos, and ground reconnaissance. Changes in the terrain, especially in the road net, occur continually. When discovered, such changes must be reported promptly to higher headquarters.

Section V. CONDUCT IN BATTLE

127. The commander's decision for his unit as a whole, and the missions to subordinate units, are communicated to subordinates by clear, concise, and timely orders.

128. After providing for the issuance of orders, the commander places himself where he can best control the course of action and exert his leadership. When opportunity offers and when his presence at the command post is not urgently required, he will visit his subordinate commanders and his troops in order to inspire confidence and to assure himself that his orders are understood and properly executed. During the decisive phase of battle, the place of the commander is near the critical point of action.

129. Whenever the commander leaves his command post, he should orient his staff as to further plans to be prepared or measures

to be taken in anticipation of future contingencies, and should inform his staff where he can be reached.

130. A commander influences the course of subsequent action by his leadership, by the maneuver of subordinate elements to include reserves, by the concentration of artillery fires, by the fires of other supporting units, and by the effective use of available combat aviation.

131. The duration of a tactical operation seldom can be predicted. Successful engagements sometimes progress so slowly that the gains made are not immediately apparent. At other times, they progress so rapidly that the gains made can be capitalized only by the most aggressive and farsighted leadership.

132. Losses must be anticipated by the commander and his staff. Timely measures are taken for replacement of men, units, transport, and weapons, and for replenishment of ammunition and other supplies. Commanders must take appropriate steps to permit unit rotation from combat. Failure to provide for rotation results in lowered battle efficiency and higher casualty rates. When the situation permits, troops which have been heavily engaged are rested, losses in personnel and equipment are replaced, the unit is reorganized, and time is allotted for training to weld replacements into the team before the unit is assigned a new and important mission.

Section VI. OPERATION ORDERS

133. The authority to issue orders is an inherent function of command. Orders normally are issued to next subordinate commanders. Bypassing the normal channels of command is resorted to only in urgent situations; in such cases both the commander issuing and the commander receiving the order should notify intermediate commanders of its content as soon as possible.

134. Orders should be originated and disseminated in time to permit subordinate commanders the maximum periods to reconnoiter, to estimate their own situations, to issue their orders, and to prepare their troops for the contemplated operation. Commanders must anticipate the delays involved in the successive dissemination of orders. When complete orders cannot be issued, essential details should be issued in fragmentary form.

135. Usually it is desirable to issue warning orders of impending operations. The principal purpose of the warning order is to

gain time for preparatory measures and to conserve the energy of the troops. During the planning stage it usually is desirable to confine knowledge of contemplated operations to the minimum number of commanders and staff officers.

136. An order should not trespass upon the province of a subordinate. It should contain everything that the subordinate must know to carry out his mission and to further the mission of the next higher unit. It tells the subordinate what to do but not how to do it.

137. Orders must be clear and explicit and as brief as is consistent with clarity. Short sentences are easily understood. Clarity is more important than technique. The more urgent the situation, the greater is the need of conciseness in the order. Any statement of reasons for measures adopted should be limited to what is necessary to obtain intelligent cooperation from subordinates. Detailed instructions for a variety of contingencies or prescriptions that are a matter of training impair confidence and have no place in an order.

138. Orders which attempt to regulate action too far in the future result in frequent changes. Such frequent changes overload the means of signal communication, cause confusion and misunderstanding, impose needless hardships on the troops, and injure their morale.

139. In every unit, standing operating procedure is prescribed by the commander whenever desirable. This procedure covers those features of operations which lend themselves to a definite or standardized course of action without loss of effectiveness. It assists in reducing the detail incorporated in the operation order. It must be remembered that newly-attached units are not familiar with SOP's of the unit to which attached.

140. For further details of operation orders, see FM 101–5.

Section VII. COMMAND POSTS

141. The tactical situation usually requires that the headquarters of large units be divided into more than one echelon, normally into a forward and a rear echelon. When desirable, headquarters of smaller units may be similarly divided.

142. The forward echelon consists of those staff agencies required to assist the commander immediately in tactical operations. The

command post is the location of the forward echelon of a headquarters. All agencies of signal communication center at the command post. The rear echelon, primarily administrative, consists of the remaining staff agencies.

143. A commander frequently places himself forward of the command post, better to observe and direct the action. In such cases, he should be in communication with his command post. He may be accompanied by a small staff.

144. In the selection of a command post, primary consideration is given to the requirements of signal communication to facilitate command and control of subordinate units. Due regard is given to the disposition of troops, routes of communication, space for staff activities, cover, concealment, and security. Generally, when the command post is located at an existing or potential center of signal communication facilities, the other requisites of a command post will be found there also.

145. The number of moves of a command post should be held to a minimum. Each movement of a command post, even when skillfully accomplished, causes a temporary reduction in staff efficiency and in the effectiveness of control of subordinate units. However, there must be no delay in moving the command post when there is danger of sacrificing control. The aggressive forward displacement of the command post must be balanced against the requirements for adequate signal communication control. Before a change of location is made, the necessary means of signal communication for the new command post must be established. This requires that the signal officer be notified well in advance of such a movement.

146. On the march, a command post may move by bounds along a designated route, or it may move at a designated place in a column.

147. A commander must keep superior and subordinate units informed of the location and contemplated movement of his command post. Each large unit announces the location of its command post and, when practicable, the general location of the command post of each of its major subordinate units. In operations requiring the movement of command posts, each large unit may designate its own axis of signal communication by naming the probable successive locations of its command post, and may similarily assign an axis of signal communication to each of its

major subordinate units, in order to insure an integrated signal communication system.

143. The maintenance of secrecy as to the location of command posts, particularly of large units, is of great importance. They are the special objectives of hostile artillery, air attack, armored units, airborne troops, and raiding parties. This threat makes it necessary not only to provide security against surprise attack from either the air or ground, but also to use great care not to disclose the command post location to the enemy. Concealment from the air is of major importance. Traffic in and out of command posts is rigidly controlled. Landing fields, drop and pick-up grounds, and radio stations are placed at a distance. Signs to mark their locations and the routes thereto are used sparingly. When the danger is great, signs are not used; in their stead guides are posted to point the way and messengers are given more precise instructions.

Section VIII. SIGNAL COMMUNICATION

149. The efficient exercise of command and the prompt transmission of information and instructions require the establishment of reliable means of signal communication. Entire dependence cannot be placed upon any one means; alternate means must be provided.

150. Every commander is responsible for the establishment and maintenance of the signal communication system of his unit and for its efficient operation as a part of the system of the next higher command. The command posts are the control points of the signal communication system. When headquarters are in movement, signal communication is maintained between command posts and with columns.

151. The establishment and maintenance of signal communication between superior and subordinate units are the responsibility of the superior commander; between adjacent units, as directed by their common superior. A supporting unit is responsible for the establishment and maintenance of signal communication with the supported unit.

152. Means of signal communication include wire, radio, visual, sound, pigeon, and messenger. The various means of signal communication are employed so that they supplement each other. The means which provide the maximum in reliability, flexibility,

secrecy, and speed with the minimum of effort and material generally will be the basic means in a given situation.

153. Early information must be given to the signal or communication officer of a unit about projected operations in order to facilitate the prompt establishment of signal communication. The necessary instructions therefor are prepared by the unit signal or communication officer in accordance with the directions of the commander. The signal officer of a higher unit maintains close liaison with the signal or communication officer of the subordinate unit.

154. Communication centers are operated by signal or communication personnel at all battalion or higher command posts and at the rear echelons of large unit headquarters for the purpose of speeding message transmission. In general, the choice of the means of sending messages, and the cryptographing and decryptographing of messages are the responsibility of the communication center. The writer may confer with the communication center about the means of transmission. In large units, a more positive means of staff message control is employed. The communication center transmits messages in accordance with precedence indicated by the writer.

155. Additional communication centers are established whenever needed for the reception and relay of messages. Information as to their location must be transmitted promptly to all concerned.

156. Wire communication (telephone, facsimile, and teletypewriter) constitute the basic means of signal communication for the infantry division and the larger unit headquarters. It is not always practical, however, when forces are operating at a considerable distance from each other. The time required for installation of wire communication diminishes its value in moving situations. Wire communication is susceptible to interception and seldom should be used to transmit clear-text classified messages.

157. Radio communication is especially applicable in spanning distances between widely separated mobile forces, between ground and air, and in the fire-swept zone of the forward area. It is less vulnerable than wire communication to hostile fire and is, therefore, a valuable supplement to wire systems in combat. It is subject, however, to static, to willful interference created by the enemy, and to electrical and mechanical failures. Its operational capabilities are affected by time of day, season of the year, and by the number of channels available.

158. Enemy interception of all radio messages must be presumed. Discretion must be used even in the sending of messages in code or cipher. When prompt action is called for, the commander must decide whether the urgency of sending the message in the clear outweighs the value of the information to the enemy. Radio transmission in the clear is justified in situations when the time available to the enemy is insufficient for exploitation of the information contained in the message. During certain phases of operations, use of radio must be rigidly restricted or prohibited.

159. Visual signal communication (lamps, flags, pyrotechnics, panels, and airplane maneuvers) is not suitable for long messages or over great distances, but finds especial application for communicating within and between small units and with airplanes.

160. Sound communication (principally public address sets, horns, bugles, whistles, gongs, sirens, and small arms fire) is used chiefly to spread an alarm, as a means to attract attention, and to transmit short prearranged messages.

161. The use of pigeon communication is nearly obsolete due to the widespread use of radio in conjunction with the airplane to contact and supply isolated parties. Training in pigeon communication will be conducted only when the need for it is foreseen.

162. a. In spite of the advances of technical means of signal communication, the messenger system still is essential to Army signal communication. The efficiency of the messenger system depends on the individual messenger. He must be chosen for his sturdiness, courage, self-reliance, and extreme loyalty.

b. Messengers are required to transport maps and overlays, and to deliver messages which require additional clarification. The failure of technical means of communication does not relieve the commander of his communication responsibilities. Messenger communication is needed and used by all units from the smallest to the largest. Scheduled messenger service is established when locations are fixed for a sufficient length of time to warrant the service. Special messengers always should be available at the communication center; they are dispatched on special missions as required by the situation. Local messengers serve the units located around the division command post or rear echelon.

c. Messengers are dispatched by the most efficient means of transport available. In addition to runners, other methods of transportation may include airplanes, motors, bicycles and animals.

Messengers are extremely vulnerable to enemy action. The provision of an armed escort sometimes is required when in or near hostile territory. It is advisable to send important messages by two or more messengers who travel by separate routes. All commanders will assist messengers in expediting delivery of messages.

163. Early signal communication in amphibious and airborne operations is paramount. This requires combat loading of signal personnel with signal equipment and coordination of signal procedure for ground, air, and naval forces prior to embarkation or emplaning.

164. For details relative to signal communication, see FM's of the 11 and 24 series.

CHAPTER 5

COMBAT INTELLIGENCE, RECONNAISSANCE, AND COUNTERINTELLIGENCE

Section I. COMBAT INTELLIGENCE

165. Information of the enemy and of the area of operations must be evaluated to determine its probable accuracy and must be interpreted to determine its probable significance. It then becomes combat intelligence. From adequate and timely intelligence the commander is able to draw logical conclusions concerning enemy courses of action. Combat intelligence is thus an essential factor in the estimate of the situation and in the conduct of operations.

166. The commander is responsible for all intelligence activities of his unit. Thus, he is responsible that his command, within its capabilities and mission, gathers all possible information of the enemy, terrain, and weather that is pertinent to operations; and that his command transmits this information to appropriate higher, lower, and adjacent units.

167. The commander is responsible also for the conversion into intelligence of all information of the enemy and area of operations that is pertinent to his command and mission, and for the dissemination of this intelligence to superior, subordinate, and adjacent units. To aid him in carrying out these duties and responsibilities, the commander is provided with staff officers and agencies trained in intelligence procedures.

168. The gathering of information and the production of intelligence must be based not only upon our own plans and intentions but also upon a consideration of enemy capabilities. Intelligence activities must be coordinated with one another so as to provide complete coverage, to eliminate all unnecessary duplication of effort, and to fit such activities harmoniously into the entire operation.

169. Combat intelligence functions, procedures, and forms are covered in detail in FM 30 series.

170. The attention and activities of all information-collecting agencies and intelligence personnel are focused on that specific intelligence which, from the commander's viewpoint, is needed at a particular time in order to make a sound decision, to carry out a decision already made, to avoid surprise, or to arrive at a decision for future operations. The requirements for such specific intelligence are announced by the commander as *essential elements of information* (EEI). In other words, the EEI are a statement of the specific intelligence needed by the commander at a particular time.

171. In the combat zone the following items usually are included among the essential elements of information—what is the strength, composition, and disposition of the enemy; what courses of action that can affect our mission are within the physical capabilities of the enemy; when and under what circumstances can he put each course of action into effect; and whether, when, and in what strength, can he be reinforced? The essential elements also include unknown details of the area of operations that may affect our own maneuver. They also may include items of information desired by higher, lower, or adjacent units; and data on suitable distant objectives for air, amphibious, mechanized, or other highly mobile units, and on meteorological and hydrographic conditions enroute to such objectives.

172. The essential elements of information constitute the basis for orders, instructions, and requests governing the search for information. They do not impose limitations on reporting other information. While the primary mission of all collecting agencies is to satisfy the requirements arising from the essential elements of information, these agencies must also transmit all additional enemy information that comes to their attention. Ordinarily, the intelligence of the enemy that is required by the essential elements of information is deduced from numerous *indications* of the enemy's activities. Reconnaissance and other agencies are therefore directed to search primarily for these indications.

173. *Collection* is the exploitation of sources of information by collection agencies and the prompt delivery of the information secured to the commander. The information should be as complete and accurate in detail as circumstances permit. It must be transmitted to the headquarters requiring it in time to be of use.

174. Collecting agencies available to a commander of any combat unit are the troops themselves, particularly reconnaissance and observation elements, both ground and air; elements of the Air Force or Navy operating with or in support of the unit; intelligence staff personnel, assigned or attached, including technical and scientific intelligence teams; and intelligence liaison with higher, lower, and adjacent headquarters. Additional collection agencies may be made available to units that are operating alone or for special purposes.

175. The principal sources of intelligence initially available in the theater of operations are the intelligence studies made by the Department of the Army and furnished the field forces prior to operations. These sources are supplemented by more detailed information obtained in the field from study of recent maps and map supplements; captured documents and equipment; the hostile and neutral press and radio; interrogation of inhabitants, repatriates, prisoners, and deserters; the observation of enemy activity by agents; air and ground reconnaissance and observation; troops in contact with the enemy; and special information services of component units such as aircraft warning service, radio direction finding, and interception.

176. Collected information must be processed to make it intelligence. The *processing* may take place entirely in the mind of the commander or may take place as a routine function of the intelligence section of the commander's staff. The critical step of processing is evaluation and interpretation. These procedures transform raw information into intelligence by establishing its pertinence, the reliability of its source, the accuracy of its content and, in addition, its significance in the light of intelligence already on hand.

177. The combat intelligence produced is disseminated within the headquarters and to higher, lower and adjacent units by means of operation orders, messages, periodic reports and summaries, or by any other convenient form. The object of dissemination is to insure that intelligence reaches the individuals or units concerned in time to serve its intended purpose. Special attention must be given to the transmission of specifically requested information as soon as it is obtained. Special signal communication measures, such as flash warnings, must be taken for the dissemination of urgent information. Intelligence of the fighting characteristics of the enemy soldier, the characteristics of his weapons, his tactics, and the terrain he occupies must be disseminated to all

troops with first priority to those in closest contact with or proximity to the enemy.

178. The primary *use* of intelligence is to assist all commanders to make sound and timely decisions. Commanders use this assistance by incorporating the latest intelligence into the continuing estimate of the situation. The purpose of the intelligence estimate is to determine, on the basis of the latest information available, the capabilities of the enemy. When reliable, factual indications of future enemy actions are available, the intelligence estimate should state the capability that the enemy is most likely to adopt, together with the resources and methods he is most likely to employ. Whenever this indicated course of enemy action is not the most disadvantageous to our mission, the indications must be re-examined for reliability and accuracy.

Section II. RECONNAISSANCE

179. a. Reconnaissance is directed effort in the field by military units to gather information of the enemy, weather, terrain, or resources. It is classified as distant, close, and battle. The techniques of reconnaissance employed by the several arms are described in their respective field manuals.

b. The purpose of reconnaissance is to gain information for use as a basis for tactical or strategical operations.

180. a. Information concerning the enemy may include his identification, location, dispositions, strength, organization, composition, movements, attitude, equipment, supply, morale, and condition. Evidence of changes in these factors is of particular importance.

b. Information concerning the terrain may include battle positions and the approaches thereto, character of roads, routes of communication, soil trafficability, streams, obstacles, cover, concealment, fields of fire, observation, and bivouac areas.

c. Information concerning weather may include precipitation, temperature, fog, cloud conditions, moon phases, wind, sunrise, sunset, and magnetic phenomena, as well as tide and surf conditions, if applicable.

181. The methods of obtaining information are varied and include actual observation of terrain or physical objects, ground and air reconnaissance, and the examination and identification of inhabitants, prisoners, spies, documents, and air photographs. Although

reconnaissance missions generally require secrecy of movement it may be necessary to resort to combat for the purpose of obtaining information.

182. Ground reconnaissance elements can maintain continuous contact, operate under weather conditions which preclude air reconnaissance, and can determine details of enemy activity, strength, composition, and combat efficiency. However, unless they are balanced, mobile, combat forces, they cannot obtain a complete picture of the enemy situation to any great depth in rear of the hostile screen. They should be complemented by air reconnaissance elements.

183. Armored reconnaissance units are balanced combat forces, capable of executing distant reconnaisance missions, operating on an extensive front, operating beyond the supporting range of other ground combat units and, in general, of executing any mission within the limitations of their organization and equipment. It may be desirable to reinforce armored reconnaissance units with other arms; it is especially desirable to augment their operations with air reconnaissance.

184. Close and intensive reconnaissance by infantry, artillery, and engineer units supplements the more distant reconnaissance. Infantry reconnaissance assumes special importance when armored reconnaissance units are lacking or weak. In such cases a reconnaissance unit consisting of available armored reconnaissance elements and motorized infantry or motorized infantry exclusively, may be employed. It may be desirable to reinforce such a unit with other arms. Infantry reconaissance is constant and intensive when the opposing forces are in contact and especially during combat. Light aircraft, within their limitations, are used by infantry, armored cavalry, artillery, and engineers in reconnaissance.

185. Small engineer parties may constitute a portion of ground reconnaissance units or other units on reconnaissance missions or they may operate independently to obtain and report detailed or technical information about routes of communication and movement, demolitions, land mines, obstructions, and bridges.

186. Reconnaissance is executed so as to secure information. Information on the location, strength and movement of hostile troop units must be gained at the earliest practicable moment. Contact with the enemy, once gained, must be continuously maintained.

The nearer the approach to the enemy, the more intensive is the reconnaissance.

187. Effective reconnaissance requires concentration of the available means on the most important missions. Depending on the situation, some reconnaissance elements may be held in reserve to reinforce the reconnaissance which is in progress, and to project reconnaissance in a new direction.

188. Ground reconnaissance elements gain and maintain contact with the enemy and, by working through gaps and around the flanks and the rear, endeavor to ascertain the strength, movements, composition, and dispositions of the enemy's main force, and the approach of enemy reinforcements. Light aircraft organic within ground units may be employed to supplement and complement the execution of reconnaissance by ground units with due regard to the vulnerability of light aircraft to hostile action.

189. Orders for the development of a command frequently assign zones of reconnaissance to subordinate units. Units maintain liaison and contact with adjacent units on their interior flanks. Flank units are usually given specific orders about reconnaissance on an open flank. However, even without orders from the higher commander, each unit executes such reconnaissance within its own zone of action and toward unsupported flanks as is necessary to gain information and to avoid surprise.

190. Ground forces assigned to reconnaisance missions secure information chiefly through the use of patrols. When, because 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.

191. The most detailed information will be required concerning areas of importance in the combat zone. Detailed information of the terrain in the possible areas of combat is essential. Terrain features that afford observation of the hostile dispositions constitute special objectives of reconnaissance. Active and aggressive action of patrols in seizing critical terrain features is imperative.

192. a. Frequently essential information can be obtained only through attack. Reconnaissance units attack when the mission requires it.

b. When hostile resistance is encountered which cannot be penetrated or enveloped, a reconnaissance in force constitutes the

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b. When hostile resistance is encountered which cannot be penetrated 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 be prepared also for the possibility that such reconnaissance may bring on a general engagement. If the situation is suitable, as for example where contact has been fully established and the attacker is probing for a weak spot, reserves should be available to exploit success.

193. It is a responsibility of the tactical air force to provide air reconnaissance for the army. Air reconnaissance covers areas which cannot be reached by ground reconnaissance. It provides rapid, fragmentary information gathered photographically and visually. It is limited by hostile action, inclement weather, darkness, and vegetation. Increased aircraft speed may provide additional limitations.

194. Night photographic reconnaissance by means of artificial illumination may detect heavy troop and vehicle movements. Reconnaissance flights made shortly after dawn and before dark offer a favorable opportunity for discovery of night movements already accomplished or contemplated.

195. Requests for air reconnaissance must be planned to insure continuity of observation of critical areas to discover the location, disposition, and movement of the enemy's forces. These objectives are closely observed both day and night to discover the enemy's main forces and reinforcements, and their direction of movement.

TRANSMISSION OF INFORMATION

196. The best information will be of no use if it arrives too late at the headquarters for which it is intended. Prompt transmittal of all information and dissemination of pertinent intelligence is the responsibility of all commanders.

197. While a commander who is in need of information from other headquarters is responsible for requesting it, adjacent units should habitually exchange pertinent information regardless of whether or not such a request has been made.

198. *a.* Generally, no attempt will be made by a collecting agency to evaluate information prior to its transmittal to higher head-

quarters. In order to eliminate a mass of detail, higher headquarters may indicate the extent of screening to be accomplished in subordinate units. All items of information that may pertain in any way to the essential elements of information or to specific directives or requests should be reported, as they may be of significance to a higher commander when considered in conjunction with other information.

b. Negative information frequently is important as confirmation that the situation during a specific period of time has remained unchanged. First contact with the enemy and new identifications always are reported by the most rapid means available. Other results of reconaissance are reported as required in orders.

199. a. 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.

b. 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.

200. During pauses in combat, or whenever the situation demands, subordinate commanders make brief reports to the next higher headquarters on their own situation and on the enemy situation to their front. Periodic reports are made as directed.

COUNTERRECONNAISSANCE

201. a. Counterreconnaissance includes the active measures employed by a commander to screen his command from hostile reconnaissance. It is executed principally by aviation, antiaircraft artillery, armored cavalry, and other ground security detachments. A commander coordinates the action of all his ground force counterreconnaissance agencies by assigning to each a mission in accordance with its capabilities. The air force commander will coordinate his forces in a similar manner, maintaining close liaison with the ground forces commander.

b. Reconnaissance and counterreconnaissance on the ground complement one another and cannot be readily separated. Good ground reconnaissance assures simultaneously a certain amount of security. On the other hand, the activity of a counterreconnaissance force provides a certain amount of reconnaissance. Reconnaissance forces direct themselves against the enemy and move

freely about the terrain, while counterreconnaissance forces are fixed in relatively definite areas.

c. Should it be necessary to assign a force simultaneously to the mission of reconnaissance and counterreconnaissance, the order must state explicitly which has precedence. In forces of sufficient size, a portion may be assigned each task.

202. By attacking all hostile aviation, our aviation contributes materially to counterreconnaissance on fronts where it is important to conceal our own activity from hostile air reconnaissance. Complete elimination of hostile air reconnaissance cannot be expected. Where secrecy is desired, ground forces must conceal their movements and dispositions.

203. In its counterreconnaissance missions, aviation is supplemented by antiaircraft artillery and the suitable weapons of other ground 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, and that camouflage and concealment may better serve our purposes.

204. a. 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.

b. Offensive counterreconnaissance is most effectively executed by the defeat of the hostile reconnaissance force.

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

d. Aviation assisting in counterreconnaissance attacks hostile aviation attempting to cross the zone of counterreconnaissance and reports hostile ground movements, especially the approach of highly mobile units.

205. A counterreconnaissance screen may be either moving or stationary. A moving screen is especially applicable to a situation where the movement of a force must be screened; a stationary

screen is applicable in screening a concentration of troops or in preventing the enemy from reconnoitering an area.

Section III. COUNTERINTELLIGENCE

206. The primary object of counterintelligence is to neutralize or destroy the effectiveness of hostile or potentially hostile intelligence and subversive efforts.

207. Surprise is highly important to the success of any operation. Counterintelligence, by denying information to the enemy or misleading him as to our capabilities and intentions, assists the commander in achieving surprise. In any operation, regardless of type, it is imperative that knowledge of the time and place of decisive action be kept from the enemy. All other information should be kept from the enemy to the maximum extent consistent with efficient execution of the operation.

208. Counterintelligence activities and functions within a command normally include secrecy discipline; concealment; communication security; restrictions on the preparation, transmission, and use of documents; deceptive measures including feints, demonstrations, and ruses; regulation of the activities of press correspondents, photographers, radio broadcasters, visitors, and such other persons as may accompany or visit the command; censorship; countersabotage; security control of civil population; counterespionage. Counterintelligence personnel also assist psychological warfare agencies in the conduct of counterpropaganda activities (see par. 217). Counterintelligence functions, procedures, and forms are covered in detail in FM 30 series.

209. Security and operational efficiency are harmonious only up to a certain point, where their interests will inevitably clash. When this point is reached, the responsible commander must decide which will take precedence. Furthermore, care must be exercised in prescribing counterintelligence measures, as troops tend to disregard those which obviously are unnecessary or unreasonable.

210. a. Personnel must be trained to the constant observance of secrecy under all conditions. Military information such as instructions, plans, operations, movements, and the strength, composition, or location of units never must be discussed except in line of duty and then-only with persons whose duties require such information.

b. Personnel will be trained with regard to their conduct if

captured. Each individual will be directed to reveal to the enemy his name, rank, and serial number only, and to maintain absolute silence when asked any other questions; to exercise utmost discretion in conversations with other prisoners.

211. In preparing operations, it frequently will be advisable to take special precautions to maintain secrecy. Such precautions, however, must not be so restrictive as to jeopardize the success of operations by withholding information necessary to the forces involved.

212. a. Maximum use must be made of natural and artificial concealment. Natural concealment should be supplemented by camouflage, where necessary. Since photographs will disclose things not visible to a observer's unaided eye, commanders must prevent the making of tracks or other telltale marks in the vicinity of any installation, position, or other area occupied by the command.

b. Hostile air activity may require that troop movements in exposed areas should be made under cover of darkness and with restrictions on the use of lights and radios. When the enemy possesses an effective air force, a blackout system must be employed. Whenever possible, artificial means should be employed to mask the sounds of movement, especially in armored or motorized units.

c. Under favorable conditions, smoke can be placed over restricted areas for limited periods of time to conceal information of importance.

213. a. Strict observance of regulations governing the preparation, transmission, and use of classified documents and other material (AR 380–5) is essential.

b. Personnel in the front lines, on reconnaissance, or on missions over enemy territory, or other circumstances where capture is possible, will not have in their possession, under any conditions, any documents, official or personal, except those absolutely essential to the execution of the mission.

c. Before leaving a camp, concentration area, bivouac, or rest area, and in withdrawals from defensive postions, troops will make a systematic search of the area to insure that no documents, material, or other items of intelligence value to the enemy, remain behind.

214. Commanders are responsible for the establishment and maintenance of signal communication security within their commands.

Strict observance of regulations regarding preparation, transmission, and use of classified messages, including clear-text copies and paraphrases thereof, is of the utmost importance. Units of the Army Security Agency are responsible for the security surveillance of friendly signal communication. Use of codes and ciphers is generally restricted to personnel specially trained in and cleared for cryptography.

215. Regulations governing the activities of press correspondents, photographers, radio broadcasters, and visitors must be carefully prepared and enforced. The activities of such persons are normally supervised by the public information officer of the command. He is guided in all security matters by the intelligence officer.

216. Censorship is the systematic channeling and technical examination of all communications, other than official matter, for the purpose of suppressing information of value to the enemy, of detecting illicit hostile activities, of insuring the accuracy of releasable military information, and of collecting information helpful to intelligence. The effectiveness of unit censorship and the efficiency of attached censorship teams is a responsibility of the commander.

217. The psychological warfare branch of higher headquarters such as army, army group, and theater, carry out counterpropaganda measures. Assistance is rendered by counterintelligence agencies which detect the covert means employed by the enemy for dissimination of propaganda. It is essential that counterpropaganda measures be controlled and coordinated by the highest echelon concerned so that conflicting statements may not be given to the enemy.

218. Security measures applying to the civilian population are based upon policies announced by theater and higher headquarters and are normally executed by civil affairs or military government personnel in close coordination with Counter Intelligence Corps detachments and other counterintelligence agencies.

219. a. The mission of the Counter Intelligence Corps includes the conduct of counterespionage, countersabotage, and countersubversive activities. Each echelon of command, down to and including the division, has its own assigned or attached Counter Intelligence Corps detachment.

b. Regulations governing command responsibilities, adminis-

duration, and employment of Counter Intelligence Corps detachments are contained in TM 30–215.

c. Counter Intelligence Corps detachments operate within the area under control of the headquarters to which attached or assigned, without regard to boundaries of subordinate units. Generally, Counter Intelligence Corps operations involve the employment of measures and techniques which are designed to detect and apprehend enemy agents, prevent sabotage, uncover subversive activities within or pertaining to the military and civil populations, and such other related tasks as may be required.