

Staff officers' field manual ...

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WAR DEPARTMENT

STAFF OFFICERS' FIELD MANUAL



PART ONE - 3
STAFF DATA

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STAFF OFFICERS' FIELD MANUAL

PART ONE STAFF DATA

PREPARED UNDER DIRECTION OF THE
CHIEF OF STAFF

1932



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1932

For sale by the Superintendent of Documents, Washington, D. C. - Price 20 cents

WAR DEPARTMENT,
WASHINGTON, *September 26, 1932.*

Part One, Staff Data, Staff Officers' Field Manual, is published for the information and guidance of all concerned.

[A. G. 062.11 (2-20-32).]

BY ORDER OF THE SECRETARY OF WAR:

GEO. VAN HORN MOSELEY,
Major General,
Acting Chief of Staff.

OFFICIAL:

C. H. BRIDGES,
Major General,
The Adjutant General.

II

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LIST OF FIELD MANUALS

MANUAL FOR COMMANDERS OF LARGE UNITS. (M. C. L. U.)

- I. *Operations*.—A guide for commanders and staffs for tactical operations of large units.
- II. *Administration*.—A guide for the administration of large units in a theater of operations.

STAFF OFFICERS' FIELD MANUAL. (S. O. F. M.)

- I principles and functions applicable to the staffs of all units, together with pertinent reference data

BASIC FIELD MANUALS (B. F. M.)

ing, administrative, and reference data applicable to more than one arm, with special reference to the smaller units

- I. *Field Service Pocketbook*. (F. S. P.)—The individual.
- II. *Infantry Drill Regulations*. (I. D. R.)—Drill, dismounted ceremonies and inspections; the infantry pack, display of equipment, and tent drill.
- III. *Basic Weapons*. (B. W.)—Marksmanship and mechanical training of the rifle, automatic rifle, machine gun, 37-mm. gun, 3-inch trench mortar, bayonet, and grenade instruction, technique of fire (37-mm. gun, 3-inch trench mortar, and machine gun); musketry and combat practice of small units; instruments.
- IV. *Signal Communication*. (S. C.)—Signal regulations and technical information needed by officers and enlisted men on signal communications duty of arms other than the Signal Corps.
- V. *Transport*. (T.)—Equitation, training remounts, use and care of animals, and of animal-drawn, pack, motor, and tractor transport.
- VI. *Administrative Regulations*. (A. R.)—Army Regulations essential to small units.
- VII. *Military Law*. (M. L.)—The Manual for Courts-Martial including the Articles of War; the Rules of Land Warfare, including recent conventions relative to the sick and wounded of armies in the field, and to prisoners of war; an epitome of the legal principles applicable to military forces when aiding the civil power.
- VIII. *Operations of Combined Arms (Small Units)*. (O. C. A.)—The principles, doctrines, and methods governing the tactical employment of combined arms with reference to the small units.

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FIELD MANUALS FOR THE ARMS

The manual for each arm contains, primarily, the principles, doctrines and methods governing the employment of that arm and pertinent reference data.

Infantry Field Manual. (I. F. M.)

- Vol. I. *Units other than Tanks.*
II. *Tank Units.*

Cavalry Field Manual. (C. F. M.)**Field Artillery Field Manual. (F. A. F. M.)**

- Vol. I. *Organization and Drill.*
II. *Tactics and Technique.*

Coast Artillery Field Manual. (C. A. F. M.)

- Vol. I. *Harbor Defense, Railway and Tractor-drawn Units.*
II. *Antiaircraft Artillery Units.*

Air Corps Field Manual. (A. C. F. M.)**Engineer Field Manual. (E. F. M.)**

- Vol. I. *Engineer Troops.*
II. *Military Engineering.*

Signal Corps Field Manual. (S. C. F. M.)

- Vol. I. *Signal Corps Troops.*
II. *Signal Corps Operations.*

FOREWORD

The **Staff Officers' Field Manual** should be considered as a compilation of principles, information, and data to be used as a guide for the operation of the staffs of all units and territorial commands, in peace and war, rather than a set of rules and regulations to be rigidly and blindly followed.

The manual will be published in three parts as follows:

PART ONE. Staff data.

- Chapter 1. Staff principles and functions.
2. Orders, reports, forms, and abbreviations.
 3. Maps and special military symbols.

PART TWO. Technical and logistical data.

- Chapter 1. Weapons and ammunition data.
2. Field engineering data.
 3. Signal communication data.
 4. Evacuation data.
 5. Supply and transport data.

PART THREE. Organization, road spaces, and camping areas.

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STAFF OFFICERS' FIELD MANUAL

PART ONE

STAFF DATA

(Chapter 1 supersedes Chapter 1, Staff Officers' Field Manual, June 25, 1923, and paragraphs 22 to 24, inclusive, Field Service Regulations, 1923; Chapter 2 supersedes Chapter III and Appendices I and II, Field Service Regulations, 1923, paragraph 3, AR 850-150, September 10, 1926, and paragraph 17, TR 190-10, March 25, 1924; Chapter 3 supersedes paragraphs 15, 16, 18, and 19, TR 190-10.)

CHAPTER 1

STAFF PRINCIPLES AND FUNCTIONS

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SECTION I

GENERAL PRINCIPLES

1. **Military organization.**—The fundamental elements in any military organization are:

a. Command elements, consisting of a single head or commander, together with such assistants or staff officers as are necessary to relieve him of the burden of details and enable him to exercise adequate control over his command.

b. Combat elements, consisting of such combat troops as are necessary to carry out the combat mission assigned the organization.

c. Service elements, consisting of such technical, supply, or administrative services as are necessary to maintain the fighting efficiency of the combat elements, as well as to carry out any service mission assigned the organization.

2. Development of the staff.—As the number of elements or units grouped under one commander is increased, a point is soon reached where the multiplicity of details requiring consideration by the commander is so great that they can not be handled by one person. Beginning at this point, each unit commander is provided with an appropriate staff.

3. Definition of staff.—The staff of a unit or organization consists of those officers specifically provided for the purpose of assisting the commander in exercising his command functions. Certain of these officers have no duties other than staff duties while others have staff duties in addition to their primary functions as commanders of combat or service troops.

4. Classification of staff officers.—*a.* The staff of any unit may be divided into two groups as follows:

(1) A *general staff* group consisting of those officers who, with the staff assistants of the commander, are organized so as to comprehend all the functions of command. In the division and higher units, officers of the General Staff Corps are assigned for this purpose while in the brigade and lower units these duties are performed by officers of the arm or service to which the unit belongs, detailed as staff officers in accordance with Tables of Organization.

(2) A *special staff* group consisting of all other officers specifically provided for the purpose of assisting the commander in exercising his command functions. This group includes the heads of technical, supply, and administrative services, and certain technical specialists.

b. In divisions and higher units, these two groups are separate and distinct; while in brigades and lower units, they merge into each other, and one staff officer frequently is charged with duties of the general staff group as well as those pertaining to one or more of the special staff group.

c. Personal aides, as authorized by law for certain general officers, form a part of the commander's staff, but are not included in the unit staff. Their duties are prescribed by the general officer to whom they are assigned. They should keep the chief of staff or executive informed of the whereabouts of the commander and of the purport of any verbal instructions issued by him. They may be utilized as assistants in the general staff sections if so authorized by the commander.

d. Liaison officers are sent to adjacent coordinate units or from supporting to supported units for the purpose of procur-

ing and transmitting promptly such information as is needed to insure effective cooperation between the two units. Liaison officers from supporting units act as tactical and technical advisers to the commander of the unit to which attached on matters concerning the supporting arm.

5. Command responsibility.—*a.* The commander of any unit is alone responsible to his superior for all the unit does or fails to do. Although he may be provided with a staff to relieve him of the burden of details and allow him time for consideration of the broader phases of his duties, he can not avoid his responsibility for all policies, plans, or basic decisions which affect the condition, morale, training, or employment of his command.

b. All orders and instructions from a higher unit to a subordinate unit are given to the commander thereof, and each individual is accustomed to look to his immediate superior for orders and instructions. By this means alone, authority and responsibility are definitely fixed and the channels of command definitely established.

6. Staff authority.—*a.* A staff officer, as such, has no authority to command. All policies, basic decisions, and plans, whether originating with the commander or with his subordinates, must be authorized by the commander before they are put into effect.

b. When the commander has decided upon a plan or policy, it is the duty of the staff officers of the general staff group to prepare and issue the orders or letters of instruction necessary to their execution and to follow up their execution. Where letters of instruction are issued, these staff officers will see that such orders as are necessary in the case are prepared and issued. When it becomes necessary for a staff officer to issue an order in the name of the commander, responsibility for such an order remains with the commander even though he may not have seen the order as actually written or heard it as actually issued if given orally.

c. Staff officers of the special staff group may exercise similar authority with respect to orders only when specifically authorized by the commander or pursuant to routine established policies. Their staff functions are mainly advisory in nature to the commander and his general staff group. They have authority, however, to make such technical inspections in subordinate units and call for such technical reports from similar special

staff officers of subordinate units as are necessary in supervising the execution of the work with which they are charged.

d. Certain special staff officers are also commanders of troops, or heads of technical, supply, or administrative services, and as such have the usual functions of command or control over such troops or services. These two functions of staff and command, although vested in a single individual, are separate and distinct in that each involves different responsibilities and duties, and the exercise of one should not be confused or permitted to interfere with the exercise of the other. On the contrary, this dual function of certain officers has many advantages in facilitating the proper discharge of both staff and command duties of the officers concerned.

e. The staff officer must not only have a thorough knowledge of the will and policies of his commander, but he must also have a full, first-hand knowledge of and sympathetic acquaintance with subordinate commanders and their units in order to operate successfully. In general, a staff officer should be an active, thoroughly posted assistant to the commander and an adviser and helper to subordinate commanders.

7. General functions of the staff.—The staff assists the commander in carrying out his command functions. It constantly anticipates and provides for the needs of the troops. It secures information for the commander, works out the details of his plan, translates his decision and plan into orders, causes such orders to be transmitted to the troops, observes the execution of these orders, and anticipates and initiates action, within the scope of its authority, to complete the carrying out of the commander's intentions.

8. Staff cooperation.—*a.* Teamwork is essential for efficient staff functioning. It is assured by proper cooperation and collaboration within and between all sections of the staff, between the staff and the troops of the unit, and with the staffs of lower higher, and adjacent units.

b. It is the duty of the general staff group to consult the special staff as to the ability of their respective services to perform the duties required of them in contemplated operations, and to give the special staff the earliest practicable information of such operations in order that they may have the necessary time for preparation.

c. It is the duty of each special staff officer to keep the general staff group constantly informed as to the condition and

abilities of his particular combat or service element in order that the commander and his general staff group may have at all times the necessary information on which to base plans and orders.

8. Staff conferences presided over by the unit commander, or in his absence by the chief of staff, held daily, or at more infrequent intervals, provide the commander with prompt verbal reports as to the condition of the command, promote cooperation and dissemination of information, and provide a means for settling difficulties which may have arisen, before they have had time to affect the efficiency of the command. Such conferences will include the commander and his general staff group and such additional special staff officers or commanders of combat elements as are deemed necessary by the commander.

9. Staff visits.—In order to obtain information for his command as to the situation or condition of the command or to observe the execution of orders or instructions previously issued, a staff officer should visit subordinate units. Such visits are made in the name of the commander as his duly delegated representative. When making such a visit, the staff officer conducts himself so as to promote cordial relations and cooperation between the staff and the troops. He first calls on the commander of the unit concerned, informs him of the purpose of the visit, requests such assistance as is necessary, and before making reports to the commander such facts as have been noted. He carefully avoids criticism or unauthorized interference with the responsibilities of the subordinate commander. If it appears that the superior commander's wishes have been misunderstood, he furnishes the subordinate commander such additional information as is necessary, or in any other legitimate way does his utmost to assist the subordinate commander in comprehending the exact desires of his superior.

10. Staff organization.—*a. Basis of organization.*—The organization of a staff is based upon the duties of the commander whom it serves and is prescribed in Tables of Organization.

(1) The duties of all commanders can be divided into four principal functional groups as follows:

- (a) Personnel.
- (b) Military intelligence.
- (c) Operations and training.
- (d) Supply.

(2) These four subdivisions, together with a coordinating head, exist in the staffs of all units from the battalion to general headquarters of the field forces. In the staffs of smaller units of certain arms or services, the duties of two or more of these subdivisions may be performed by one staff officer but the functional division of duties still exists.

b. Organization of general staff group.—(1) *Division and higher units.*—The general staff group of the division and higher units is organized into four sections with duties corresponding to the four principal functions indicated in *a* (1) above, together with the necessary coordinating personnel depending upon the size of the unit served. The chiefs of these four sections are designated as assistant chiefs of staff, G-1, G-2, G-3, and G-4, respectively. The organization of the general staff group includes—

(a) A chief of staff.

(b) A deputy chief of staff (for army and higher units).

(c) A secretary of the general staff (for army and higher units).

(d) A personnel section (first section).

(e) A military intelligence section (second section).

(f) An operations and training section (third section).

(g) A supply section (fourth section).

(2) *Brigade, regiment, and battalion.*—In the brigade, regiment, and battalion, the general staff group as organized in the division is represented by the officers listed below. The officers, in so far as they perform the staff functions of the general staff group in the higher echelons, are designated as S-1, S-2, S-3, and S-4, respectively. (S-1, S-2, etc., stand for "Staff, first section," "Staff, second section," etc.)

(a) Chief of staff by the executive officer.

(b) Personnel section by the adjutant.

(c) Military intelligence section by the intelligence officer.

(d) Operations and training section by the plans and training officer.

(e) Supply section by S-4.

c. Organization of special staff group.—The organization of the special staff group depends largely upon the duties and functions of the unit concerned.

(1) *Divisions and higher units.*—The special staff of divisions and higher units includes such of the following officers as belong to the unit:

- (a) Adjutant general.
- (b) Inspector.
- (c) Judge advocate.
- (d) Officer in charge of civil affairs (GHQ and other territorial commands when required).
- (e) Finance officer.
- (f) Chemical officer.
- (g) Chaplain.

And the following officers who have special staff functions in addition to command duties:

- (h) Chief of artillery (artillery commander in the division).
- (i) Air officer (chief of aviation in corps and army)
- (j) Engineer.
- (k) Signal officer.
- (l) Headquarters commandant.
- (m) Provost marshal.
- (n) Quartermaster.
- (o) Surgeon.
- (p) Ordnance officer.

(2) *Brigades, regiments, and battalions.*—The special staff of brigades, regiments, and battalions includes such of the following as belong to the unit:

- (a) Adjutant.
- (b) Chaplain.
- (c) Surgeon.
- (d) Munitions officer.
- (e) Personnel adjutant.
- (f) Reconnaissance officer.

And the following officers who have special staff functions in addition to command duties:

- (g) Communication officer.
- (h) Attached technical specialists.

d. Division into two echelons.—It is frequently necessary in combat for the unit headquarters to operate in two echelons. When the headquarters is thus divided, the forward echelon will usually include—

- (1) *For divisions and higher units*—
 - (a) Chief of staff.
 - (b) Assistant chief of staff, G-1.
 - (c) Assistant chief of staff, G-2.

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- (d) Assistant chief of staff, G-3.
- (e) Assistant chief of staff, G-4.
- (f) Chief of artillery (at artillery command post which should be at or near the forward echelon).
- (g) Air officer.
- (h) Engineer (at engineer command post which should be at or near the forward echelon).
- (i) Signal officer.
- (j) Chemical officer (division).
- (k) Liaison officers from other units.
- (2) *For brigades and lower units—*
 - (a) Executive.
 - (b) Intelligence officer, S-2.
 - (c) Plans and training officer, S-3.
 - (d) Reconnaissance officer (artillery).
 - (e) Communication officer.
 - (f) Liaison officers from other units.

11. **Staff functions applicable to all units.**—The functions of corresponding staff officers in all headquarters of combat units are generally similar in character but differ in scope and detail depending upon the size and nature of the units concerned. For this reason, the functions of the various staff officers or sections as enumerated herein have been made comprehensive enough to be applicable to all units. Those duties or functions which are not applicable to the staffs of smaller units or special arms may be disregarded when considering such staffs.

SECTION II

FUNCTIONS OF THE GENERAL STAFF GROUP

12. **General statutory duties.**—The duties of the general staff with troops shall be to render professional aid and assistance to the general officers over them; to act as their agents in harmonizing the plans, duties, and operations of the various organizations and services under their jurisdiction, in preparing detailed instructions for the execution of the plans of the commanding generals, and in supervising the execution of such instructions.—*Section 5, national defense act, as amended by act June 4, 1920.*

13. **The chief of staff (or executive in brigades and lower units).**—The chief of staff, or executive, is the principal assist-

at and adviser of the commander. He transmits the will of the commander to those who execute it and is the principal coordinating agency which insures the efficient functioning of the staff and of all troops of the command. He performs the following specific duties:

a. Formulates and announces policies for the general operation of the staff.

b. Directs and coordinates the work of the four staff sections of the general staff group in all their relations with the special staff, with the troops, and with each other.

c. Keeps the commander informed of the enemy situation and of the situation of the command as to location, strength, morale, training, equipment, supply, and general effectiveness.

d. Prepares an estimate of the situation when called for.

e. Represents the commander during his temporary absence or when authorized to do so. In certain regiments and certain battalions, the second in command is designated by Tables of Organization as executive and succeeds automatically to the command when the commander ceases to function.

f. Obtains basic decisions from the commander and takes the following action:

(1) Makes necessary decisions supplementary thereto and gives necessary instructions to the staff in furtherance of the basic decisions of the commander.

(2) Allots the detailed work of preparing plans and orders, obtains drafts of plans and orders from the four staff sections, and submits to the commander a completed plan developed from the section plans.

g. Reviews and coordinates all instructions that are to be published to the command and assures himself that they are strictly in accord with policies and plans of the commander.

h. By personal observation and through the four staff sections, sees that the orders and instructions of the commander are executed.

i. Makes a continuous study of the situation with a view to being prepared for future contingencies.

j. Assembles the routine staff section reports and, after their approval by the commander, forwards copies to higher headquarters.

14. The deputy chief of staff (in army and higher units only).—The relations of the deputy chief of staff to other members of the staff and to the troops are similar to those of the

chief of staff. The deputy chief of staff assists the chief staff and acts for the latter in his absence.

15. The secretary of the general staff (in army and high units only).—The duties of the secretary of the general staff are—

a. To act as executive officer for the chief of staff and deputy chief of staff.

b. To maintain an office of temporary record for the chief staff and deputy chief of staff.

c. To route papers received in the office of the chief of staff to their proper destinations.

d. To forward to their destinations in the headquarters papers emanating from or returning from consideration by the general staff of the command and to establish a follow-up system to insure prompt action on and return of papers.

e. To receive officials visiting headquarters for the purpose of conferring with the commander or with the chief of staff and deputy chief of staff.

f. To collect statistical data for the commander, chief of staff, and deputy chief of staff.

16. The personnel section.—In brigades, regiments, and battalions, the personnel section is represented by the adjutant. It is charged with general staff functions which relate to the personnel of the command as individuals and therefore brought closely in contact with the following agencies: The Adjutant General's Department, the Inspector General's Department, the Chaplains, the Judge Advocate General's Department, the Medical Department, the Provost Marshal, and the Headquarters Commandant. It is charged specifically with the supervision of activities concerning—

a. Classification, reclassification, assignment, promotion, transfer, retirement, and discharge of all personnel.

b. Replacement of personnel in accordance with priorities formulated by the operations and training section.

c. Decorations, citations, honors, and awards.

d. Leaves of absence and furloughs.

e. Reward, discipline, and punishment.

f. Sanitation and sanitary inspections.

g. Headquarters arrangements.

h. Military government.

i. Postal service.

j. Military police relations with military personnel and civilians.

k. Location of straggler line and collecting points for stragglers and disposition of stragglers.

l. The furnishing of information to the supply section as to the amount and location of shelter necessary for the command and for the activities under its supervision. Administration of quartering areas.

m. Morale and welfare including religious, recreational, and welfare work, and nonmilitary agencies devoted to such work, except that all programs of time are arranged in agreement with the operations and training section.

n. Reports concerning and the handling of prisoners of war and enemy civilians. Questions concerning our prisoners of war in hands of enemy.

o. Strength reports and graphs, casualty reports, station lists, and other personnel statistics. For the duties in this connection of the adjutant of brigades and lower units see paragraph 24 *a* (6), (7), (8), (9), and (10).

p. General regulations and routine administration which especially concern individuals, or routine not specifically assigned to another staff section.

q. Preparation of such parts of administrative orders or instructions as relate to the personnel section.

17. The military intelligence section.—In brigades and lower units the military intelligence section is represented by the intelligence officer. It is charged, in general, with the collection and evaluation of information concerning the enemy and the dissemination of the resulting military intelligence. Its primary function is to keep the commander and all others concerned informed regarding the enemy's situation and probable intentions. It maintains close liaison with the intelligence sections of higher, lower, and adjacent units, with the air officer in arranging for aerial reconnaissance, and with the engineer in arranging for suitable maps. It performs the following specific duties:

a. Collects information concerning—

(1) Enemy's front line or nearest elements (identity and location).

(2) Enemy's strength, disposition, and movements.

(3) Enemy's supply and equipment (including supply systems and installations).

(4) Enemy's operations.

(5) Enemy's casualties, including prisoners.

(6) Enemy's organization of the ground.

(7) Terrain as it affects the enemy.

(8) Enemy's knowledge of our situation.

(9) Enemy's resources, characteristics of his people, and methods of combat. (GHQ only.)

b. Evaluates the information obtained by critical and systematic analysis for the purpose of determining its probable accuracy, significance, and importance.

c. Disseminates the military intelligence obtained to all concerned.

d. Supervises and coordinates the training and activities of all intelligence personnel, in agreement with operations and training section.

e. Supervises radio intercept and goniometric activities.¹

f. Supervises and coordinates the measures necessary to prevent enemy agents from gaining information.²

g. Prepares rules for the regulation of the activities of officers, servers, press correspondents, and civilians who may be attached to the unit.

h. Determines the need for military maps and surveys for general military purposes; determines the general character of such maps as are to be produced; prepares schedules of distribution;³ supervises map reproduction and distribution.³

i. Supervises the preparation and use of codes and ciphers and the solution of enemy secret communication.¹

j. Prepares rules for and controls operations of censorship.¹

k. Makes translations.

l. Formulates plans for and coordinates and supervises the dissemination of information to the public.

m. Inaugurates necessary measures to combat enemy propaganda and prepares publicity material and arranges for its distribution among enemy troops and in enemy territory as directed by higher authority.

¹ Ordinarily not the duty of intelligence officers of units below the army, unless such units are acting independently.

² Ordinarily not the duty of intelligence officers of units below an army corps, unless such units are acting independently.

- p. Maintains liaison with other intelligence agencies of the Government and duly accredited foreign attachés and missions.
- o. Receives and conducts visitors. (See par. 15 e.)

18. The operations and training section.—In brigades and lower units the operations and training section is represented by the operations and training officer. It is charged, in general, with those functions of the staff which relate to organization, training, and operations. From the nature of its duties, it must maintain the closest cooperation and collaboration with the other staff sections. It confers directly with the commanders of all combat arms and technical units within the command, with the commanders of supporting units, and with the commanders of other units with which the command may be associated. One of its most important duties is to arrange the details for coordination of effort and employment in combat of the combined arms. To this end full use is made of the expert advice and assistance of the commanders of artillery, Air Corps, and engineer troops, and of other special staff officers such as the signal or communication officer. When necessary, these officers are called upon for plans, special maps, reports, or annexes to field orders. In this manner full advantage is taken of the detailed technical knowledge of these officers while at the same time causing their plans to harmonize with the general plan of action and the employment of the other arms and services. It performs the following specific duties:

a. Prepares plans for, secures approval thereof, and supervises—

- (1) Mobilization of the command.
- (2) Organization and equipment of combat units.
- (3) Training, including—
 - (a) Selection of training sites.
 - (b) Preparation of training programs and orders.
 - (c) Organization and conduct of schools.
 - (d) Rendition of training reports and maintenance of records of training.
- (4) Attachment of units for tactical operations.
- (5) Movement of combat troops.
- (6) Tactical dispositions of combat troops, including the allotment of quartering areas.
- (7) Security measures, reconnaissance, and maintenance of lateral communication in combat.

(8) Liaison with adjacent units.

b. Keeps informed of and studies—

(1) Location, effective strength, and morale of combat troops.

(2) Needs for replacements and reinforcements.

(3) State of equipment and supplies.

(4) Enemy situation.

(5) Adaptability of terrain to combat operations.

(6) Instructions, tactical plans, and field orders received from higher or adjacent units.

c. Prepares field orders and, when approved, is responsible for their timely delivery to the troops; prepares estimates of the situation and plans for combat when required.

d. Recommends priorities for the assignment of replacements and equipment.

e. Supervises the system of signal communication.

f. Keeps in touch by personal visits with the commanders of subordinate combat units and with commanders of attached units and technical troops. Personally, or by means of assistants, maintains direct observation of combat operations and troop movements.

g. Makes a continuous study of the situation in order to be prepared for contingencies that may arise and to recommend such changes in attack formations or combat methods as may be necessary.

h. Keeps the diary of the unit.

19. The supply section.—In brigades, regiments, and battalions, the supply section is represented by S-4. In some organizations there is a separate staff officer for S-4 duties; in others the duties of S-4 are performed by the unit supply officer who also commands the service company, battery, or detachment of the unit. The supply section is charged, in general, with all supply arrangements. It keeps in constant touch with the operations and training section so as to keep informed of changes in the tactical or strategical situation which will necessitate changes in the supply arrangements and in the traffic circulation and control. It is responsible for the assurance of such supply arrangements as will accord the utmost freedom of action to the command. It is charged specifically with the supervision of activities concerning—

a. Procurement in the theater of operations, storage, and distribution of all supplies including ammunition and animal

b. Transportation by land and water, including the operation of such ports of embarkation and debarkation and necessary auxiliaries as lie in the theater of operations of the unit concerned, and the control of which is not held by the zone of the interior.

c. Highway circulation and control of traffic therein; circulation maps.

d. Recommendations as to the new types of equipment with concurrence of operations and training section.

e. Procurement of real estate, shelter, and facilities, including their leasing, repair, maintenance, and disposition.

f. Construction of facilities relating to supply, shelter, transportation, and hospitalization, but exclusive of fortifications.

g. Preparation and distribution of administrative instructions and administrative orders pertaining to field operations.

h. Hospitalization and evacuation of men and animals, including nonmilitary agencies such as the Red Cross, or parts of such agencies, as may be wholly devoted to hospital and medical relief work.

i. Utilities.

j. Assignment and movement of supply, technical, and labor troops not employed as combat troops. Orders for movement of these troops are issued or controlled by the operations and training section.

k. Salvage and burial.

l. Collection and disposition of captured animals and matériel.

m. Property responsibility and accountability.

n. Funds, and priority of expenditure of same.

o. Tonnage.

p. Continual study of the situation so as to be ready to meet prospective or emergency changes with adequate supply arrangements.

20. Records, reports, and maps.—a. Office of record.—The office of the adjutant general is the office of record for the headquarters. Each staff section keeps temporarily copies of such documents as are required in the transaction of its business.

b. Journals.—(1) In divisions and higher units each staff section keeps a journal of its activities. This journal contains briefs or references to important written or verbal messages sent or received and notation of reports, orders, and similar

matter pertaining to the section. Copies of important papers sent or received are filed as supporting documents with the journal.

(2) In brigades and lower units it is not necessary for each section to keep a separate journal, but all may be combined in one "unit journal" kept by the adjutant or plans and training officer, as directed by the unit commander.

(3) As the journal is the permanent record of the operations of the unit, entries should be made immediately as the events occur. Original entries should not be altered, but may be supplemented by later entries if necessary.

c. Situation maps.—(1) In divisions and higher units, each staff section keeps a situation map constantly up to date showing graphically thereon such data as pertain to the activities of the section.

(2) In brigades and lower units, it is usually not necessary for each section to keep a separate situation map, but the data from each section are entered on one map usually kept under the supervision of the unit executive.

d. Operations maps and circulation maps.—These maps, prepared by the third and fourth sections, respectively, are issued when required.

e. Reports.—(1) In divisions and higher units, each staff section prepares and submits such periodic or special reports pertaining to its activities as may be required. A situation report is usually prepared at stated intervals and furnished other sections of the staff and higher headquarters for their information.

(2) In brigades and lower units, a single unit report prepared under the supervision of the executive is usually all that is required.

(3) Every effort should be made to hold to the minimum the number of written reports required from subordinate units. Wherever possible, personal or telephone conference should be used in place of a written report.

f. Diary.—(1) The diary is a brief synopsis of the activities of the entire unit for the day and is submitted in the space provided on the Basic Strength Return (W. D., A. G. O. Form No. 73).

(2) The diary is not intended as a complete history of the activities of the unit in detail. Its purpose is to convey to

higher commanders a summary of the principal events for the day, which, taken in conjunction with the strength return, would contain the basis for a brief but accurate analysis of the condition of the unit.

(3) The diary will, for units smaller than the army, be sent to the next superior in duplicate who will examine and sign the original and forward it, together with any remarks that may be necessary, direct to The Adjutant General. A copy of the diary will be retained for file except in the case of a battalion which is serving under regimental control when the copy will be forwarded to regimental headquarters for file.

21. Preparation of combat orders.—In formulating and working up plans and orders for combat operations, each section of the general staff group proceeds along the following lines:

a. Furnishes information and data within the province of the section and bearing on the situation to the chief of staff or executive for the attention of the commander.

b. Receives the commander's decision and any special instructions from the chief of staff or executive.

c. Gives information relative to the plan and any special instructions on matters within the province of the section to the special staff officers concerned and calls for their recommendations.

d. Takes steps to procure necessary additional information by personal reconnaissance or other means.

e. Receives the recommendations of the special staff officers concerned.

f. Coordinates the recommendations received and the data at hand.

g. Drafts that part of the plan or order which pertains to its functions and turns it over to the operations and training section for field orders or the supply section for administrative orders. The third section and fourth section are responsible for completing, submitting for approval, and issuing after approval, field and administrative orders, respectively. In the preparation of orders, the staff officer in many situations must work quickly as well as accurately. Time is often a vital factor. One of the ideals of successful staff work is to provide troops in the field necessary accurate orders in sufficient time to permit subordinate commanders to carry them out without delaying the movement or activities of the troops concerned.

h. Prepares and issues supplementary orders within the province of the section to insure proper execution of the plan.

i. Inspects to insure that so much of the order as applies to matters within the province of the section is understood, and executed in conformity with the commander's will.

j. Records the results and draws lessons therefrom on matters within the province of the section.

SECTION III

FUNCTIONS OF THE SPECIAL STAFF

22. Relations with subordinate units.—*a.* It is a fundamental principle of command that the commander of any military organization is in full control of all personnel assigned thereto, and is alone responsible to higher authority for the results obtained by his organization.

b. In accordance with this principle, special staff officers, though charged in the following paragraphs with certain duties and functions which apply to the unit as a whole, must remember that these duties and functions are primarily the responsibility of unit commanders, and any directions or instructions issued subordinate units must be transmitted through the proper channels of command and not directly from one special staff officer to the corresponding special staff officer in a subordinate unit. (See pars. 6 *c* and 9.)

23. Special staff of divisions and higher units.—*a. Adjutant general.*—The duties of the adjutant general are—

(1) The handling of all official correspondence, except that pertaining to combat orders and instructions, in accordance with regulations and approved policies. In cases for which no policy has been established, he initiates action to secure policy covering such cases.

(2) Authentication and distribution of all orders and instructions, except those pertaining to combat operations.

(3) Maintenance of the office of record for the headquarters.

(4) Operation of the Army Postal Service.

(5) Operations, in accordance with approved policies, of activities at the headquarters pertaining to—

(*a*) The classification of all individuals joining the command, their subsequent assignment, reclassification, and reassignment, their promotion, transfer, retirement, and discharge.

- (b) Procurement and replacement of personnel.
- (c) Decorations, citations, honors, and awards.
- (d) Leaves of absence and furloughs.
- (e) Education, recreation, and welfare, exclusive of religious matters.
- (6) Custody of the records of all personnel belonging to the command which are not kept in some subordinate unit.
- (7) Preparation and distribution of the station list.
- (8) Preparation and submission of reports on strength, casualties, captured matériel, prisoners of war, and incidental returns.
- (9) Supplying of blank forms, publications, and instructional matter furnished by the Adjutant General's Department.
- (10) Operation of a general "follow-up" system for the headquarters as regards administrative matters, including recommendations as to similar arrangements in headquarters of subordinate units.

b. Inspector.—The duties of the inspector are—

- (1) Inspections other than tactical, including money accounts and property.
- (2) Investigations.

c. Judge advocate.—The duties of the judge advocate are—

- (1) Adviser to the commander and other members of the command, in proper cases, on questions of law.
- (2) Supervision of the administration of military justice within the command.

(3) Review and recommendation as to the action to be taken upon the proceedings of military courts.

d. Officer in charge of civil affairs (GHQ and other territorial commands when required).—The duties of the officer in charge of civil affairs are—

(1) Adviser to the commander and the staff on matters pertaining to the administration of civil affairs in occupied territory.

(2) Handling for the commander in accordance with his orders, regulations, or approved policies, matters in connection with such military supervision or control of civil affairs as is necessary in the territory occupied by the command.

(3) Supervision within limits prescribed by the commander of civil affairs in subordinate territorial commands.

e. Finance officer.—The duties of the finance officer are—

- (1) Payment of the command.

(2) Payment for supplies purchased or requisitioned, and for damages or claims.

(3) Payment for labor hired.

(4) Audit of property accounts.

(5) Custody and disbursement of all Government funds, including such special funds pertaining to the headquarters as the commander directs.

(6) Custody of financial records.

(7) Adviser to the commander and the staff on fiscal matters.

f. Chemical officer.—The duties of the chemical officer are—

(1) Adviser to the commander and the staff on matters pertaining to chemical warfare.

(2) Supervision, within limits prescribed by the commander of all chemical warfare training.

(3) The collection of information concerning methods of utilization of chemical substance, the results obtained therefrom and the nature thereof.

(4) Supply of chemical warfare equipment and supplies except chemically filled ammunition.

(5) Supervision of the salvage and repair of chemical warfare equipment.

g. Chaplain.—The duties of the chaplain are—

(1) Adviser in all religious and moral activities of the command.

(2) Supervision of the spiritual welfare of the command.

(3) The conduct of religious services, including funeral services.

(4) Spiritual ministrations to the sick and wounded.

(5) Correspondence with relatives of deceased officers and enlisted men.

(6) Coordination of the religious work of the various welfare societies.

(7) In the theater of operations in the absence of graves registration personnel, the coordination of the preparation of records and reports of burials and inventories of personal effects of deceased members of the command.

(8) The following additional duties pertain only to the chaplains of divisions and higher units:

(a) Supervision and coordination, within limits prescribed by the commander, of the work of the chaplains of subordinate units.

(b) Recommendations as to assignments and transfers of chaplains.

(c) Provision of the services of chaplains for units not specifically provided with a chaplain by Tables of Organization.

h. Chief of artillery (artillery commander in the division).—The duties of the chief of artillery or artillery commander are—

(1) Commander of the artillery not assigned or attached to subordinate units.

(2) Tactical and technical adviser to the commander and the staff on the use of artillery, including dispositions for anti-aircraft defense.

(3) Preparation of plans for the use of artillery, including recommendations for its allotment to lower units.

(4) Liaison with the artillery of higher, lower, and neighboring units.

(5) Allocation and distribution of ammunition for the artillery of lower units.

(6) Coordination, within limits prescribed by the commander, of the utilization of artillery in subordinate units.

(7) Preparation of plans for use of air observation for artillery.

i. Air officer (chief of aviation in corps and army).—The duties of the air officer or chief of aviation are—

(1) Command of the Air Corps troops not assigned or attached to subordinate units.

(2) Tactical and technical adviser to the commander and the staff on all Air Corps matters.

(3) Preparation of plans for the use of Air Corps troops, including recommendations for their allotment to lower units.

(4) Supply of Air Corps equipment and supplies.

(5) Procurement and operation of Air Corps storage, maintenance, and repair facilities.

(6) Coordination, within limits prescribed by the commander, of the utilization of Air Corps troops in subordinate units.

j. Engineer.—The duties of the engineer are—

(1) Command of the engineer troops not assigned or attached to subordinate units.

(2) Tactical and technical adviser to the commander and the staff on engineer and fortification matters.

(3) Preparation of plans for the use of engineer troops, including recommendations for their allotment to lower units.

(4) Supply of engineer equipment and supplies.

(5) In the theater of operations, construction, repair, and maintenance of roads, bridges, and structures.

(6) In the theater of operations, construction, repair, maintenance, and operation of railways, portable and fixed electric light plants, water-supply systems, and all other utilities and general service not otherwise assigned.

(7) Military mining, demolitions, and removal of obstacles.

(8) Surveys, mapping, and the procurement, production, and distribution of maps.

(9) Collection of information needed in engineer operations.

(10) Recommendations as to traffic regulations required on roads or bridges due to their physical condition.

(11) Preparation and posting of signs for marking routes.

(12) Supervision, within limits prescribed by the commander of engineer and camouflage activities in subordinate units, including such work performed by troops other than engineers.

k. Signal officer.—The duties of the signal officer are—

(1) Command, in so far as relates to operations, of signal troops not assigned or attached to subordinate units.

(2) Adviser to the commander and the staff on signal matters.

(3) Preparation of signal operation instructions and signal annexes.

(4) Supply of signal equipment and supplies.

(5) Procurement and operation of signal maintenance and minor repair facilities.

(6) Technical inspection of signal equipment within limits prescribed by the commander and recommendations relative to its care and utilization.

(7) Technical supervision, within limits prescribed by the commander, of all signal operations of the command, including training, assignment, replacement, and utilization of signal and communication personnel of units.

(8) Supervision of the installation, maintenance, and operation of the signal communication system, including the message center, of the unit.

(9) Supervision of the meteorological activities and of the photographic work for historical purposes within the unit.

(10) Operation of the signal intelligence service, including all activities connected with the preparation and revision of

odes and ciphers; the preparation and detection of secret inks; the interception of enemy radio and wire communication and cryptometric work incident thereto; the solution of enemy codes and ciphers. Signal intelligence sections are not ordinarily assigned to units below a field army unless such units are acting independently.

l. Headquarters commandant.—Normally the commanding officer of special troops is the headquarters commandant. In the division the commanding officer of special troops is the headquarters commandant and provost marshal.

(1) As headquarters commandant, his duties are—

(a) Technical training and operation of the headquarters detachment and headquarters company (troops).

(b) Safety and internal administration of the headquarters.

(c) Arrangements for the moves of the headquarters.

(d) Detail of orderlies and messengers.

(e) Supervision of headquarters mess.

(f) Messing and quartering of casuals.

(g) Supervision of headquarters garage and stables.

(2) As commanding officer of special troops, he is responsible for administration and discipline of all special troops.

m. Provost marshal.—The duties of the provost marshal are—

(1) Command of the military police organizations not assigned or attached to subordinate units.

(2) Enforcement of traffic-control regulations.

(3) Apprehension and disposition of stragglers, absentees, and deserters, including recommendations as to location of straggler lines.

(4) Collection, evacuation, and custody of prisoners of war, including recommendations as to location of collecting points and inclosures, and the operation of a prisoner of war information bureau when necessary.

(5) Maintenance of order and enforcement of police regulations among members of the military forces and in areas occupied by troops.

(6) Cooperation with allied or civil police authorities when necessary.

(7) Control of enemy civilians and of civil population when necessary.

(8) Criminal investigation activities.

(9) Control of circulation of individuals.

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(3) Performance of topographical operations necessary for establishing the unit in position.

e. Communication officer.—The duties of the communication officer are—

(1) Command of the communication section or platoon of the headquarters company of his unit. He is responsible for its technical training and functioning.

(2) Adviser to the commander and the staff on matters relating to signal communication, including the location of command posts.

(3) Establishment and operation of the signal communication system, including the message center, for which his unit commander is directly responsible.

f. Supply officer (in some organizations the commander of the service troops also serves as S-4 and as the unit supply officer).—The duties of the supply officer are—

(1) Such of the duties regarding the procurement and distribution of supplies of all classes, listed in paragraph 23, as pertain to the lower unit and are not specifically charged to some other staff officer.

(2) Keeping prescribed records regarding supplies and equipment of the unit.

g. Attached technical specialists.—The commanders of attached chemical warfare, artillery, Air Corps, or engineer troops act as tactical and technical advisers to the commander and staff on matters pertaining to their arm or service with duties similar to those outlined in paragraph 23 *f*, *h*, *i*, and *j*.

CHAPTER 2

ORDERS, REPORTS, FORMS, AND ABBREVIATIONS

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SECTION I

GENERAL INFORMATION ON ESTIMATE OF THE SITUATION, ORDERS, AND ANNEXES

25. General.—The art of properly framing orders so as to assure effective action by subordinates is an important feature in the exercise of command. Effective orders are the result of clear thinking, definite decisions, and clear, straightforward language designed to translate the decision into action.

26. Classification of orders.—Orders are divided into two general classes; routine orders and combat orders.

a. Routine orders include general orders, court-martial orders, special orders, bulletins, circulars, and memoranda. For regulations governing such orders see AR 310-50.

b. Combat orders are orders of any type which contain instructions for subordinate units pertaining to any phase of operations in the field.

27. Estimate of the situation (par. 38).—*a.* Before attempting to draft a combat order, the commander must first make an estimate of the situation in which he considers the main factors affecting the operations of his command and arrives at a definite decision as to his plan of action. Such an estimate may be merely a brief mental review of the situation, or it may be a carefully prepared written document, but in any case an estimate in some form is an essential preliminary to every combat order.

is prescribed. This sequence divides the field order into the following principal parts:

Heading.

Distribution of troops (in certain orders only).

Body.

Ending.

(1) The *heading* contains the title; the place, date, and hour of issue; the number of the order; and reference to the maps or maps used.

(a) The title is the official designation of the command; as 5th Division, VI Corps, Second Army. It may, where circumstances require, be shown by a code name.

(b) If the need for secrecy requires it, the place of issue is omitted.

(c) The date is written in sequence; day, month, and year.

(d) The hour given in the heading is the hour when the order is signed.

(e) Field orders of a command are numbered consecutively for the period of the war. If two or more are issued on the same day they are given separate numbers.

(f) The map reference designates the maps required, giving the scale and the names of sheets and the year of the edition (where necessary), in sufficient detail to identify the exact maps used in the preparation of the order.

(2) The *distribution of troops* shows the tactical components into which the command is divided (advance guard, main body, etc.) and the troops assigned to each. Its use is generally limited to march and outpost orders and to the first field order issued by a newly created command. When a distribution of troops is used, it is headed *TROOPS* and follows paragraph 2 of the order, without number, or is placed on the left of the body occupying about one-third of the page. The tactical components are marked with lettered subheads *a*, *b*, *c*, etc., the troops listed under each performing the task prescribed in the correspondingly marked subparagraphs of paragraph 3 of the order.

(3) The *body* of the field order contains information and instructions for the command and is divided into five paragraphs as follows, each containing one of the five essentials of every field order:

Paragraph 1. Information.

2. The decision and general plan.
3. Tactical instructions to subordinate units.
4. Administrative instructions.
5. Provisions for the maintenance of signal communication.

(a) *Paragraph 1* contains such information of the enemy and of friendly troops as subordinates should know in order that they may cooperate effectively in the performance of their assigned tasks. It is devoted exclusively to information and contains no part of the plan or instructions of the commander. It is usually divided into two lettered subparagraphs: *a*, information of the enemy; and *b*, information of friendly troops. The amount of information to be included must be carefully determined. If too verbose, important information is lost in a mass of unimportant detail, and if too brief, information essential for the effective action of subordinates may be omitted. A distinction should be made between information based on established fact and that which is based on conjecture.

(b) *Paragraph 2* contains the general plan of the commander or so much thereof as embodies his decision and general plan for the employment of the command as a whole to meet the immediate situation. The amount of detail given in this paragraph is sufficient to insure a clear comprehension on the part of subordinates as to what, in general, is to be accomplished by the force as a whole. It will include, when appropriate, certain details applicable to the command as a whole which are necessary to coordinate the action of subordinate units; e. g., the main objective, time of movement, line of departure, direction of movement, zone of action for the whole command, and the boundaries between subordinate units.

(c) *Paragraph 3* gives a definite task to each of the several combatant fractions of the command in order to carry out the main plan outlined in paragraph 2. These tasks are given under as many lettered subparagraphs, *a*, *b*, *c*, etc., as may be necessary to assign one subparagraph to each tactical unit to which instructions are given. The leading unit or the one having the most important duty to perform is usually considered first. The complete task of each subordinate unit with its zone of action or location and its scheme of maneuver or mission is embodied in its lettered subparagraph. The amount of detail to be given in this paragraph depends upon the situation.

The order should not trespass upon the province of the subordinate. *The general rule is that the commander of each subordinate unit should be told what he is to accomplish, but not how to do it.* A final subparagraph of paragraph 3, always lettered *x*, contains general instructions applicable to two or more elements of the command which do not properly belong elsewhere.

(*d*) Paragraph 4 contains administrative instructions. In commands smaller than a division, this paragraph usually contains all necessary information or instructions pertaining to trains, ration and ammunition distributing points, refilling points, collecting and aid stations, or other administrative matters. In divisions and higher units, these instructions are usually so voluminous as to require the issuance of a separate administrative order. When an administrative order is issued, paragraph 4 of the field order is merely a reference to the administrative order, together with such special administrative details as affect immediately and directly the tactical dispositions of subordinate combat units.

(*e*) Paragraph 5 contains instructions providing for the maintenance of signal communication. This requires that the following be included when appropriate:

1. Brief reference to the signal communication annex (if any) or to the index of signal operation instructions.
2. Axes of signal communication for the issuing commander's unit and for the principal next subordinate units.
3. Command posts of the issuing commander and of the principal next subordinate commanders.

(4) The *ending* contains the signature, authentication, a list of annexes, if any, and a statement showing the distribution given the order.

(*a*) Field orders are signed by the commander in person or by his principal staff assistant. Copies of the order are authenticated by the staff officer who is responsible for the preparation of the order.

(*b*) The statement showing the distribution is essential in order to insure that the order is distributed to every officer or unit directly concerned with its execution. This statement may be in detail on the order, or a reference made to a standard distribution list (e. g., "Distribution A") already adopted,

which shows in detail the distribution used. Each copy of a combat order is usually numbered, and a record is kept showing the specific copy numbers distributed to each officer or unit.

b. Method of issue.—(1) In active operations field orders frequently will be issued in fragmentary form as messages or oral orders, especially by commanders of smaller units; but however issued, the matter contained therein should, whenever possible, follow the sequence prescribed above.

(2) The field orders of divisions and higher units are almost invariably written. When conditions demand that oral orders be issued, written orders confirming those issued orally follow as soon as practicable. The field orders of brigades and regiments are usually written or dictated; those of lower units dictated or oral. (Par. 34.)

30. Annexes to field orders.—*a.* Annexes giving details are employed to amplify the field orders of divisions and higher units whenever the detailed instructions are too long to be included in the field order. Annexes to the same field order are numbered serially and reference is made to them in the proper paragraph of the order. Even when accompanied by annexes, the field order should contain within itself all information and instructions essential to the general coordination of the elements of the command. If an annex should be lost, subordinate commanders must know from the order itself the prescribed teamwork of the various arms.

b. Annexes, when necessary, are prepared by the appropriate staff officers or subordinate commanders and submitted to the commander for approval prior to issue. They are signed by the chief of staff and authenticated by the appropriate assistant chief of staff. The following are types of annexes that may be required:

- (1) Artillery.
- (2) Aviation (normally for armies and higher units only).
- (3) Machine gun.
- (4) Chemical.
- (5) Signal communication.
- (6) Organization of the ground.
- (7) Engineer.
- (8) Intelligence.
- (9) March tables.
- (10) Entraining tables.
- (11) Relief tables.

- (12) Situation maps.
- (13) Operation maps.
- (14) Intelligence maps.
- (15) Entrucking (detrucking) table.

31. Distribution of orders.—Field orders should be issued in time to give subordinate leaders an opportunity to study the situation and to issue their own instructions. The time required for an order to reach the lowest units charged with its execution depends not only on the size of the unit but also on several other factors, such as the length of the order, the efficiency of the various staffs, the dispersion of subordinate units, the availability of communication, state of the weather, and enemy activity. Careful consideration of these factors shows that it takes considerable time to prepare and distribute orders based on proper reconnaissance and sound estimates of the situation; however, in a moving situation the ideal is to have all orders anticipate the movement or progress of the troops. The infantry battalion commander should receive his order from his regimental commander at least 1 hour and 15 minutes before the time designated for the attack.

32. Technique of orders.—*a. Amount of detail.*—The amount of detail in an order depends upon the composition, size, and training of the force for which the orders are issued, the time available, and the situation. When the transmission of orders involves a considerable period of time during which the situation may change, detailed instructions are avoided. The same rule applies when orders may have to be carried out under unforeseen circumstances. In these cases it is better to give general directions, stressing the object to be attained but leaving to subordinate commanders the choice of the means to be employed. Orders attempting to arrange matters too far in advance may have to be recalled and others substituted, thereby causing needless hardships to the troops as well as injury to their morale. When the troops must be engaged quickly without detailed information or reconnaissance, general tasks are assigned subordinates, and detailed instructions are avoided. A combat order should not trespass upon the province of a subordinate.

b. Scheme of maneuver.—(1) All plans of offensive action include a definite scheme of maneuver. Schemes of maneuver contemplate a decisive blow made effective by teamwork, com-

nations of fire power, shock action, and the utilization of the rain to the best advantage of all concerned.

(2) It is important that orders for combat convey a clear idea of the scheme of maneuver. This usually requires a statement not only of the movement to be made, but also a statement of the effect to be obtained as a result of the movement. While the giving of lines of departure, zones of action, and directions of attack, or even the locations of troops, indicates generally the scheme of maneuver, it does not necessarily express the effect intended; for example, the scheme of maneuver and effect intended might be expressed as follows: "The 1st Brigade will attack at 2:00 PM, enveloping the hostile right"; or "it will penetrate the hostile position and by flank- ing action to its right will assist, etc.," or "moving by the avenues A, B, C, etc., it will secure the high ground north of ———, etc."

c. Zones of action.—Zones of action in movement or attack, sectors in a defensive situation, and boundaries between units are described in orders by specifying for each boundary prominent and easily distinguishable features from rear to front (or in retrograde movements from front to rear) and connecting them with dashes. Each terrain feature named must be definitely assigned to a particular unit. This is done in the case of zones of action or sector boundaries by placing the word exclusive or inclusive after the terrain features named, and in the case of boundaries between units by placing in parentheses after the terrain features named the designation of the unit to which they are assigned. For example:

Division zone of action:

East (or right) boundary: TWO TAVERNS—M. FINK—RJ at (361.4-755.7)—NEWCHESTER (all incl).

West (or left) boundary: WHITE RUN (excl)—GRANITE HILL (incl)—knoll at (359.8-757.5) (excl)—OAK GROVE S. H. (incl).

Boundary between brigades: LOW DUTCH ROAD (to 2d Brig)—GULDENS (to 1st Brig)—PINE CHURCH (to 1st Brig).

d. Details of time.—(1) Details of time should be carefully stated in orders, and for purposes of coordination subordinate officers and staff officers must be required to synchronize their watches with the official time kept at headquarters.

(2) Dates are stated by giving the day, month, and year (if necessary), thus: 4 February, 1923. In naming a night both days should be mentioned, thus: Night 4/5 Feb. 23. To designate "noon" and "midnight" these words are written.

(3) When orders or plans are prepared for an operation that is to take place on a date and at an hour as yet undetermined or concerning which secrecy is essential, the expressions D day and H hour are used to indicate that the date and hour of the operations are to be announced in subsequent orders. For example, Field Orders No. 7 states, " * * * the division attacks on D day at H hour * * * ".

Subsequent orders state, " * * * reference FO No. 7, D day is 15 January; H hour is 5:30 AM * * *." It is thus understood that the operation ordered by Field Orders No. 7 is to take place at 5:30 AM, 15 January. When the operations of any element of the command are to commence at some time prior or subsequent to D day or H hour, the time is indicated as D day (or H hour) plus (or minus) so many days (hours or minutes).

e. Details of place.—(1) Details of place should be stated in orders with great care and accuracy.

(2) Expressions depending upon the viewpoint of the observer, such as right, left, in front of, behind, on this side, beyond, etc., are avoided, reference being made to points of the compass instead. The terms right and left, however, may be applied to individuals or bodies of troops, to boundaries of zones or sectors, or to the banks of a stream; in the latter case, the observer is supposed to be facing downstream; in the other cases, he is facing to the front (direction of enemy).

(3) Geographical names are written or printed in capital letters. This minimizes the chance of error and makes the places mentioned stand out prominently in an order. When the spelling does not conform to the pronunciation, the latter is shown phonetically in parentheses, thus: BICESTER (Bister), GILA (Hela).

(4) When two or more places or features on the map have the same name, they should be distinguished by reference to prominent nearby points, or when maps are provided with grid lines, by giving the coordinates. This should be done whenever any doubt exists. The same rule applies to obscure places or features.

(5) A road is designated by its name as, the "BALTIMORE TURNPIKE," or by connecting two or more names of places on the road with dashes, thus: "the road: LEAVENWORTH-FRENCHMAN-KICKAPOO."

f. Designation of units.—The titles of armies are written in full as First Army; of corps in Roman numerals as, II Corps; of divisions and smaller units in Arabic numerals as, 3d Division, 4th Brigade, etc.

g. Legibility.—Written orders should be so distinct as to be legible even in a bad light. The recipient of the order may have only a candle or a flashlight by which to read it. Care should be taken to see that carbon or mimeographed copies are so distinct as to be easily read.

h. Choice of language.—(1) An order is faulty if it does not convey to the recipient the exact meaning and intention of the author. Vague and ambiguous orders indicate vacillation and the absence of definite decision on the part of a commander. Troops must be told, in terms that are direct and unmistakable, exactly what their leader wants them to do.

(2) Field orders must be brief, clear, and definite. The correct use of plain English is essential. Long involved sentences are seldom effective because they are confusing; short sentences are easily understood. Conjectures, expectations, reasons for measures adopted, and detailed instructions for a variety of possible events should be avoided because they weaken the force of an order and undermine confidence in the commander.

(3) As a rule, an affirmative form of expression is used. Such an order as, "The field train will not accompany the regiment," is defective because the gist of the order depends upon the single word "not." A better form is, "The field train will remain at LEAVENWORTH." No doubt arises in the latter case.

(4) The term "holding attack" is never used as the vigor of an attack might be lessened if the unit knew it was "holding" only. Such expressions as "attempt to capture," "try to hold," "as far as possible," "as well as you can," etc., should be avoided. They tend to divide responsibility between the commander and his subordinates, which is incompatible with command.

i. Use of abbreviations.—Only authorized abbreviations are used in combat orders, and if there is any possibility of their

being misunderstood, the words should be spelled out in full. As a rule, abbreviations, except AM, PM, No, RJ, CR, and BM are used only in messages or orders written by hand or in the heading, ending, or distribution of troops in typed orders. A list of authorized abbreviations and brief information relative to their use are given in Section III of this chapter.

83. Definition of military expressions.—*a.* The expression "advance on" or "march on" is used when doubt exists as to whether the unit will reach the destination mentioned or when two or more days' marching is necessary. On the other hand, the expression "advance to" or "march to" is used when it is reasonably certain the destination will be reached.

b. The terms "right flank" and "left flank" are fixed designations. They apply primarily to the right and left of a command when facing the enemy and *do not change* when the command is retreating. The "head" of a column is its leading element, no matter in what direction the column is facing; the other extremity is the "tail."

c. The term "front" always indicates the direction of the enemy, and "rear" the direction away from the enemy.

d. The expression "will clear" means that all elements of the designated organization shall have passed the indicated place. Thus, "The column will clear crossroads 573 by 7:00 AM," means that the tail of the column shall have passed the designated point by the hour indicated. When speaking of the head of the column, "will reach" or "will pass" are used instead of "will clear."

e. The word "precede" means that the leading element regulates its march on a rear element; thus, "The advance guard will precede the main body at 500 yards," means that the main body regulates the march.

f. The word "follow" means that a rear element regulates on an element in front; thus, "The main body will follow the advance guard at 500 yards," means that the advance guard regulates the rate of march.

g. The words "attached to" mean that the unit to which they refer actually comes under the direct orders of the commander of the unit to which attached. For example, "The 1st Field Artillery is attached to the 1st Brigade" means that the artillery regiment is detached temporarily from the tactical control of the artillery brigade commander and comes directly under the orders of the commander of the infantry brigade.

h. The words "will support" or "supported by" mean that the unit affording the support does not come under the direct orders of the commander of the unit supported. Thus, "The 1st Field Artillery will be in direct support of the 1st Brigade" allows the infantry commander to what unit he is to look for artillery support but does not give him any command or control over such artillery.

i. To "screen" conveys the idea of preventing hostile observation of the strength, dispositions, and movements of a command, usually by a detachment therefrom.

j. To "cover" conveys not only the idea of screening and concealing but also of insuring the security of another force or locality.

k. To "secure" means gaining possession of a position or terrain feature with or without force and making such dispositions as will tend to avert any danger of its destruction, obstruction, or loss.

l. To "hold" means to retain possession by force of a position or terrain feature.

m. "To seize" means to gain physical possession of some objective such as a hill, town, or other locality.

n. The "line of departure" is a line designated to coordinate the advance of the combat units before they enter the zone of effective hostile small-arms fire.

o. An "initial point" is a place at which the various subdivisions of a command are required to arrive at the proper time to join a marching column.

34. Dictated and oral orders.—*a. Form.*—The reasons heretofore given for adherence to the prescribed sequence and form in written field orders apply even more strongly to orders which are dictated or given orally. Training the mind to follow a logical and systematic method of dealing with the situation is highly important. The written order, before issue, can be corrected, modified, added to, or otherwise changed. This can be done also with dictated or oral orders, but the moment the commander starts to change his dictated or oral orders he opens the door for confusion and misunderstanding, to say nothing of the lack of confidence in him as a commander that is engendered by his apparent indecision and vagueness.

b. Technique.—(1) The formulation of an order which is to be dictated or given orally is a more delicate task than is the

case with a written order and requires more practice. No matter what the size of the unit for which issued, dictated and oral orders should follow the prescribed form. The smaller the unit, the more this is necessary in order to prevent the omission of essential details. Care and exactitude in the choice of language are also requisites. Before dictating an order or giving one orally, the commander must have his plan thoroughly crystallized, must know exactly what he is going to say, and the exact language he is going to use. When he has the time, he should block out on paper the various headings and paragraphs of the order, noting the troops to be included in each, and the instructions to be given to each unit. When time does not permit this blocking out on paper, the order should be completely arranged in his mind before he starts to give it; that is, the decision must be made, and the means for carrying that decision into effect must be determined upon before any start is made to issue the order.

(2) Dictated orders are recorded by those who take the dictation. When an order is issued orally, a record of its provisions and terms is made by the commander issuing it and by the subordinates receiving it for inclusion in the journals of their respective units. When important orders are issued orally by a headquarters which customarily issues written field orders, it furnishes to the subordinates receiving the oral orders a copy of the record which it makes for inclusion in its own journal.

35. Administrative orders.—*a. By whom prepared.*—The administrative order is prepared by the G-4 section of the general staff. The parts of the order pertaining to the first section are coordinated by G-1, and transmitted to G-4 for incorporation in the order. G-3 is consulted freely in order that there may be complete accord between the tactical and the administrative plans. The administrative order may be amended from time to time by published changes, or a new order may be issued. Administrative orders are issued by armies, corps, divisions, and smaller independent commands.

b. Basis.—(1) Fundamentally, administrative orders are based on—

- (a) The plan for the employment of the unit concerned.
- (b) The administrative plans of higher headquarters.

(2) To formulate a suitable administrative order, a thorough understanding of the tactical plan is essential. To this end,

the officers charged with its preparation must have the entire confidence of the commander and must consult frequently and cooperate constantly with the various staff sections.

(3) In general, the administrative order of the corps or of the division is based upon an army administrative order. The administrative order of the corps is primarily for the use of the corps troops. The division habitually receives direct a copy of all army administrative orders. There is but little in a division order that is based on the corps order, except when the corps has taken over certain phases of supply which are normal to the army, as when the corps is acting independently or is pushed so far to the front that normal supply from army depots is suspended.

c. How and when issued.—The administrative order does not always accompany a field order. It may be a complete order or a note or message giving changes in existing plans. When circumstances require that administrative orders be issued orally they should follow the sequence shown in the form for an administrative order on page 101.

d. Scope.—In general, the administrative order of a division gives the location of railheads; supply establishments; refilling and distributing points for rations, ammunition, and other supplies; hospitals and collecting stations for men; collecting stations for sick and wounded animals; instructions for evacuation of sick and wounded men and animals; instructions for maintenance of roads and for the circulation and restriction of traffic thereon; instructions for salvage and burial; military police; prisoners of war; and the trains. When a division is inexperienced, it may be necessary to include in an administrative order many details which otherwise might not appear. Such details include instructions with reference to replenishing reserve rations, traffic control, police arrangements, disposition of surplus baggage, use of extra trucks, movement of special units, size of quartering parties, and the posting of signs. In a well-trained and experienced division it is apparent that many of the foregoing details may be omitted as they will have become routine through training and through incorporation in standing orders. Detailed instructions to a service of interest to that service alone should be given in the form of a memorandum to the chief of the service concerned and should not be included in the administrative order.

e. References to previous orders.—When there is no change in a portion of an existing plan, an administrative order may refer to a previous order or a subparagraph of the MISCELLANEOUS paragraph may state, "Other administrative details, no change."

f. Delayed orders.—The administrative order usually is prepared in time to accompany a field order. It may be delayed. When it is known that the administrative order will be issued later, certain information contained therein may be given out orally or by memorandum to subordinate commanders and chiefs of services or included in the field order, in order that those officers may not be delayed in the preparation of their own orders. This is particularly true in a meeting engagement when time is limited. By furnishing the brigade commanders with the location of the ammunition distributing points and the collecting station, these officers need not wait for the arrival of the formal administrative order before getting out their own orders.

g. Time required to issue and distribute.—From two to three hours is required to prepare a complete formal administrative order for a division after the tactical plan is known. The usual distribution requires one hour. Hence, an administrative order requires for its preparation and distribution between three and four hours.

h. Signature, authentication, and distribution.—The ending contains the signature and authentication of the order, list of annexes, and a statement of the distribution. The order is signed by the chief of staff and is made official by the assistant chief of staff, G-4. It is important that no agency or officer to whom special instructions have been given in the administrative order is overlooked in its distribution. This is apt to occur unless the order is carefully checked against the distribution list. The order is distributed through the message center, as in the case of the field order.

i. Annexes.—(1) The administrative order may be complete within itself, or, whenever it is necessary to publish details too voluminous for inclusion in the order, any paragraph or subparagraph may be amplified by an annex, such as—

- (a) Administrative map.
- (b) Circulation map.
- (c) Quartermaster plan.
- (d) Ammunition plan.

- (e) Engineer plan (other than tactical).
 - (f) Medical plan.
 - (g) Ordnance plan.
 - (h) Signal plan (other than tactical).
 - (i) Aviation (or air force) plan (other than tactical).
 - (j) Railhead plan.
- (2) Corps and division administrative orders rarely are accompanied by (e), (g), (h), and (i).
- (3) These annexes are listed at the foot of the order and are referred to in the proper paragraphs.

36. Use of maps with combat orders.—*a.* The preparation of a combat order, except for very small units, will often consist of planning the operation on a map as far as it is practicable to picture the contemplated operations without confusing the map and then writing the order or delivering it orally with a view to supplementing and amplifying the instruction on the map to the extent necessary to insure clarity, essential cooperation, and teamwork. In such cases, the map or a sketch or overlay giving a graphical picture of the plan should be reproduced and issued with the order, and referred to in the appropriate paragraphs. The written or oral order need not repeat information that is shown on the accompanying or issued map or sketch or overlay, except in so far as repetition is necessary to insure clarity and the essential cooperation and teamwork of all elements of the command. Maps are especially useful in field orders and administrative orders and if used properly will greatly increase the clarity of orders while at the same time greatly reducing their length and verbiage.

b. Maps so used with field orders to present a graphical picture of operations are known as "operations maps" and those used with administrative orders to present a graphical picture of administrative features are known as "administrative maps," each being issued as an annex to the order to which it pertains.

SECTION II

FORMS

37. General.—In general, the forms outlined in this section are based on the division, but with the necessary modifications they are suitable for any unit. The amount of detail to be incorporated in any order or form depends upon the situation

and somewhat upon the time available. The forms do not cover all situations, nor can every item shown be applied in every situation. In making use of the forms, the units involved must be kept in mind, and the details should be incorporated, selected, and modified accordingly. For forms of orders, etc., pertaining to a particular arm, see the field manual for that arm.

38. Forms for estimate of the situation and combat orders.

A form for an

ESTIMATE OF THE SITUATION ¹

1. **MISSION.**—State the mission assigned by higher authority or deduced from the instructions from that source.

2. **OPPOSING FORCES.**

In the subparagraphs under this heading should appear a consideration of the factors affecting the combat strength of the opposing forces and a comparison from which is deduced the relative combat strength.

a. *Enemy forces.*—Consider the disposition, the numerical strength, combat efficiency (physical condition, morale, training), and composition of the forces of the enemy; the material means, including supply and equipment, at his disposal; and the assistance to be expected from neighboring troops.

b. *Own forces.*—Consider with respect to your forces the factors corresponding to those considered under *a*.

c. *Relative combat strength.*—Compare the considerations in *a* and *b* and deduce the relative combat strength of the forces that are likely to be in opposition in your attempt to execute the mission stated in paragraph 1.

3. **ENEMY SITUATION.**

In the subparagraphs under this heading should appear a full consideration of the enemy's probable mission and plans open to the enemy as they may be deduced from his dispositions relative to yours, from his relative combat strength, and from his probable knowledge of your situation and intentions. A deduction of his probable intentions also is made for use in the consideration of plans open to you.

a. *Plans open to the enemy.*—State, in general terms only, the plans regarded as open to the enemy deduced as indicated in the introduction to paragraph 3.

b. *Analyses of the enemy's plans.*—With respect to each plan open to the enemy, determine its practicability and

¹Much of the data in an estimate of the situation can be shown advantageously on a map, overlay, or sketch and without repetition in the estimate. The graphical presentation of these data should clarify and shorten the estimate and should materially assist the commander in acting on estimates submitted for his approval.

weigh its advantages and disadvantages as viewed by him. Factors which may be considered are relative combat strength of the opposing forces; time required to effect the necessary changes in disposition of his troops to accomplish the plan and, on the part of his opponent, to make troop dispositions to oppose it; influence of the weather; influence of the terrain; influence of the routes of communication on troop movement, evacuation, and supply.

- c. *Enemy's probable intentions.*—Select from the plans open to the enemy that one which he will probably adopt and state the considerations which govern the selection made. Factors which should be considered in making the selection are the practicability of the plan, the preponderance of its advantages over its disadvantages to the enemy, the present attitude and past actions of the enemy, the characteristics of the enemy's commander so far as known, and the probable knowledge possessed by the enemy of his opponent's (your) strength, situation, and intentions.

4. OWN SITUATION.

In the subparagraphs under this heading should appear a full consideration of the plans considered as open to you in view of your mission, the existing tactical situation, and of your strength and dispositions as compared with those of the enemy.

- a. *Plans open to you.*—State, in general terms only, the plans considered as open to you, deduced as indicated in the introduction to paragraph 4.
- b. *Analyses of plans open to you.*—With respect to each plan open to you, determine its practicability and weigh its advantages and disadvantages from your point of view. Factors which may be considered are generally of the same nature as those indicated in paragraph 3 b.
5. **DECISION.**—State, in general terms only, so much of the intention of the commander as applies to the command as a whole. The decision is reached as a result of the analyses and the comparisons of all of the elements of the estimate made above. The decision is brief and contains the following vital elements: What is to be accomplished and when, where, how and why it is to be accomplished.

**A form of order for an
ADVANCE IN ONE COLUMN ¹**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. Information of the enemy and friendly troops.
2. Decision of commander—generally to advance to or on a designated locality, mission, route. Reference may be made to march tables annexed.

TROOPS ²

a. Cavalry:

Commander. ³

Troops. ⁴

b. Advance guard:

Commander. ³

Troops.

¹ Usually preceded by a warning order announcing hour at which the command will be ready to move, routes, troops to move first, instructions for outpost troops, and advance administration details, if any.

² The "distribution of troops" may be placed either in paragraph 2, or on the left of the body of the order, occupying generally about one-third of the page, as shown in the succeeding form.

³ When this grouping consists of but one specific tactical organization, the name of the commander may be omitted unless special reasons exist for naming him.

⁴ When field or service trains march with any of the groupings of the distribution they will be shown. When not shown it is assumed that they are otherwise disposed of in an administrative order. When combat trains are excluded from any unit, that fact will be shown.

c. Main body—in order of march:Commander.⁵

Troops.

d. Right (left) flank guard (if any):Commander.³

Troops.

e. Rear guard (if any):Commander.³

Troops.

3. *a.* Instructions for cavalry—place and time of departure, roads or country to be covered, special missions, reconnaissance, special reports desired.
 - b.* Instructions for advance guard—place and time of departure, or distance at which it is to precede main body, route, special missions.
 - c.* Instructions for main body—place and time of departure or distance at which it is to follow advance guard.
 - d.* Instructions for flank guard—place and time of departure, route, special missions, reconnaissance.
 - e.* Instructions for aviation—reconnaissance, liaison, especially with Cavalry, selection of landing fields⁶ and time of moving thereto, instructions for balloon squadrons if march is to be made with balloon inflated.
 - f.* Instructions for the anti-aircraft artillery with the command—general missions and special anti-aircraft protection to be given during the advance.
 - x.* Instructions for outpost—when relieved, subsequent duties. Other instructions applicable to whole command including anti-aircraft protection, and special instructions for liaison.
4. When an administrative order is issued, refer to it by number. When one is not issued, give such instructions for supply, evacuation, traffic, trains, and personnel as are necessary in each case.

⁵ When this grouping consists of but one specific tactical organization, the name of the commander may be omitted unless special reasons exist for naming him.

⁶ When a commander is designated for the main body, which is unusual, his name is inserted here.

⁷ The term "landing fields" in the forms in this paragraph includes airdrome landing field or advanced landing field.

5. *a.* Signal communication—refer to annex when necessary.
- b.* Axes of signal communication—when necessary, otherwise omit.
- c.* Command posts—give successive locations and hours to be occupied when advance is by bounds, otherwise the location of commander in column or place to which messages are to be sent.

(Signature)

(Authentication)

Annexes : †

Distribution :

† Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for an
ADVANCE IN MORE THAN ONE COLUMN ¹**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

TROOPS ²

a. Cavalry:

Commander.
Troops.

b. Right column ³:

Commander.
Troops.

c. Left column ³:

Commander.
Troops.

1. Information of the enemy and of friendly troops.
2. Decision of commander—generally to advance on or to a designated place or locality, mission, zone of advance when restriction is necessary. Reference may be made to march tables annexed.
3. *a.* Instructions for Cavalry—time and place of departure, roads or country to be covered, special missions, zone of action when restriction is necessary (usually same as for unit, especially when cavalry is employed on counterreconnaissance).

¹ Usually preceded by a warning order announcing hour at which command will be ready to move, routes, troops to move first and instructions for outpost troops.

² The "distribution of troops" may be omitted and the composition of each column given in the appropriate subparagraphs of paragraph 3, or the "distribution of troops" may be given in paragraph 2, as shown in the preceding form. When field or service trains march with any of the groupings of the distribution, they will be shown. When not shown it is assumed that they are otherwise disposed of in an administrative order. When combat trains are excluded from any unit, that fact will be shown.

³ When a unit marches in more than one column, each column ordinarily is preceded by an advance guard detailed by and directly responsible to the column commander.

- d. Center column*³:
Commander.
Troops.
- b. Instructions for right column*—time and place of departure, special missions, contact with adjoining units, security measures, route or routes within zone of action of the command, zone of action for the column when restriction is necessary.

c. Instructions for left column—same as under *b.*

d. Instructions for center column—same as under *b.*

When center column is used as reserve, or when it follows in rear of other columns, usually all that is necessary is to prescribe route, time, and place of departure or distance at which it is to follow.

When the superior commander retains command, give order of march.

- e. Instruction for aviation*—reconnaissance, liaison, especially with cavalry, selection of landing fields⁴ and time of moving thereto, instructions for balloon squadron if march is to be made with balloon inflated.
- f. Instructions for the antiaircraft artillery* with the command—general missions and special antiaircraft protection to be given during the advance.
- g. Instructions applicable to whole command.* May include general instructions as to contact, security, and anti-aircraft protection, coordination of various columns, and special instructions as to liaison, etc.
- h. When an administrative order is issued,* refer to it by number. When one is not issued, give such instructions for supply, evacuation, traffic, trains, and personnel as are necessary in each case.
- i. a. Signal communication*—refer to annex when necessary.
b. Axes of signal communication—give, when necessary, axis of unit and axis of each column.
c. Command posts—give initial and subsequent command posts of unit and time of opening at each. When de-

³When a unit marches in more than one column, each column ordinarily is preceded by an advance guard detailed by and directly responsible to the column commander.

⁴The term "landing fields" in the forms in this paragraph includes airdrome, landing field, or advanced landing field.

sired, command posts and time of opening at each as prescribed for each column. They may be prescribed as *en route*.

(Signature)

(Authentication)

Annexes : ⁵

Distribution :

⁵ Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for an
ADVANCE GUARD**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Steps:

- . Information of the enemy and of friendly troops, including destination or direction of march of main body.
- . Mission as given by higher authority—generally a statement that the command forms the advance guard of the larger designated unit.

*TROOPS*¹

a. Cavalry:

Commander.
Troops.

b. Support:

Commander.
Troops.

c. Flank detachments (if any):

Commander.
Troops.

d. Reserve—in order of march.

- B. *a.* Instructions for cavalry—place and time of departure, roads or country to be covered, special missions.
- b.* Instructions for support—place and time of departure, route, reconnaissance, special missions.
- c.* Instructions for reserve—distance at which it is to follow support, reconnaissance.

¹ In small commands this column may be omitted, the "distribution of troops" being covered in the subparagraphs of paragraph 3.

- x.* Instructions applicable to the whole command which do not belong in another subparagraph, including anti-aircraft protection and special instructions as to liaison, etc.
- 4. Instructions covering such administrative details as affect troops of the advance guard only.
- 5. Position of commander—place to which messages are to be sent.

(Signature)

(Authentication)

Annexes:²**Distribution:**

² Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for an
ATTACK**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. **Information of the enemy**—strength, composition, position with its organization (lines, etc.), or changes in enemy's situation. Refer to *G-2 Situation Map* or *G-2 Report*, if issued, for details. Information of friendly troops, such as—position of advance units or covering troops, troops within supporting distance with mission (as units on right and left), plan of higher unit, artillery or aviation support of higher unit.
2. **Decision of commander**—designate attached units, give mission or objective, scheme of maneuver (whether envelopment, penetration, etc.), general formation, time of attack, line of departure (when entire command begins its attack from same line, otherwise give line for each unit in appropriate subparagraph of paragraph 3), direction of attack, rate of advance when a rolling barrage is used, zone of action, boundary between units.
3. **¹a. Instructions for infantry** (a separate lettered subparagraph is assigned to each infantry unit to which instructions are given)—give mission, scheme of maneuver, time of attack (when different from that given in paragraph 2), line of departure (when not given in paragraph 2), direction of attack, zone of action (when not indicated

¹Subparagraphs of paragraph 3 should each account for the entire unit concerned.

- in paragraph 2). Assistance to be given neighboring units, special instructions as to liaison, flank protection routes of advance, and assembly positions when necessary.
- b. Instructions for artillery—general tactical mission; subdivision into direct and general support groupings; scheme of fire for artillery in general support; instructions concerning fire prior to preparation, during preparation (including time allotted), during attack; use of gas and smoke; instructions as to movement into position and forward displacement. Refer to artillery annex for further details when annex is issued.
 - c. Instructions for cavalry—position, reconnaissance, special missions, as flank protection, in reserve, or preparation for pursuit.
 - d. Instructions for aviation—reconnaissance, combat and special missions, balloon observation and surveillance.
 - e. Instructions for tanks—generally attached to assaulting units.
 - f. Instructions for reserve—composition, position, special missions, as flank protection, support of assault by fire where possible.
 - g. Tactical instructions for engineers—assignments, special missions.
 - h. Tactical instructions for attached troops of Chemical Warfare Service—positions, routes, special missions, coordination with other troops, attachments, etc.
 - x. Instructions applicable to the whole command which do not belong in another subparagraph; as, action of security detachments during deployment, instructions as to reconnaissance, secrecy, antiaircraft protection, special instructions as to liaison, relief of units prior to attack, priority on roads, hour at which movements will be completed, etc.
4. When an administrative order is issued, refer to it by number. When one is not issued, give such instructions regarding supply, evacuation, traffic, trains, and personnel as may be necessary.
 5. a. Signal communication—refer to annex when necessary.
 - b. Axes of signal communication—give axis of unit and of next lower units.

c. Command post—give location of command post of unit and of next lower units.

(Signature)²

(Authentication)

Annexes :³

Distribution :

² It is not always possible to issue a complete attack order like the above, disposing of an entire command. In meeting engagements, for instance, orders will be fragmentary and must be given as the situation develops.

³ Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for an
ATTACK AGAINST A RIVER LINE**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. *a.* Information of enemy—positions, organization, location of machine guns, reserves, artillery, with strength when known. Enemy intentions or morale, etc. Refer to *G-2 Situation Map* or *G-2 Report*, if issued, for details.
b. Friendly troops—mission of higher organizations; units on flank with their missions; support by artillery, aviation, and other auxiliary arms of higher units.
2. Decision of commander—usually to cross and establish bridgehead along a designated line at a specified time, and to attack the enemy's positions, giving objective, scheme of maneuver, time of attack, line of departure, direction of attack, zone of action of the command, boundary between subordinate units, rate of advance, reference to crossing tables, when necessary.
3. *a.* Subparagraph for each infantry unit to which instructions are given—time and manner of crossing of covering troops;¹ location and limits of bridgeheads to be established, time and method of crossing of main body, mission (usually to attack or advance), objective, time of

¹ When the bridgehead is established by a special unit, use a separate lettered subparagraph to give instructions for bridgehead troops, giving time and place of assembly, manner and time of crossing, limit of bridgehead to be established, mission to cover crossing of specific units and subsequent mission.

attack, scheme of maneuver, line of departure, direction of attack, zone of action, assistance to be given to neighboring units, special instructions as to liaison, flank protection.

- b. Instructions for artillery—mission (in general terms), general locations, assignment to support bridgehead troops and assault units, organization into groupments if any, directions (missions or targets, manner of support) for fire during crossing of covering troops and of main body, preparation for attack (including time allotted) and support during the attack, special directions as to use of gas and smoke, allowance of ammunition, general instructions as to forward displacement, instructions regarding any attached artillery. (Refer to annex when one is issued.)
- c. Instructions for any attached antiaircraft artillery, including special instructions for protection of the crossings.
- d. Tactical instructions for engineers—attachment to subordinate units when necessary; instructions for ferriage of troops, if contemplated; number, location, kind, and time of completion of all bridges which are to be constructed. (Refer to annex when one is issued.)
- e. Instructions for aviation reconnaissance, combat, and special missions; balloon observation and surveillance; when necessary, amplify by annex.
- f. Instructions for cavalry—time and manner of crossing, missions, reconnaissance, flank protection.
- g. Instructions for reserve—time of crossing, fire missions to support crossings.
- h. Tactical instructions for attached troops of Chemical Warfare Service—positions, routes, special missions, coordination with other troops, attachments, etc.
- i. Instructions applicable to the whole command which do not belong in another subparagraph—reconnaissance (refer to Intelligence Annex, when necessary)—priority schedule of crossing, when necessary, stating under whose direction the crossing of bridges is made (usually engineers); precautions as to secrecy; antiaircraft defense; connection between units; conduct upon reaching objective; probable subsequent missions; priority on roads; hour of the beginning of the artillery preparation and its length.

4. When an administrative order is issued, refer to it by number; when not issued, give such instructions as to supply, evacuation, trains, traffic, and personnel as may be necessary.
5. *a.* Signal communication—refer to annex.
b. Axes of signal communication—give axis of unit and of next lower units.
c. Command posts—give location of command posts of unit and of next lower units.

(Signature)

(Authentication)

Annexes: *

Distribution:

* Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for a
FORCED LANDING ON HOSTILE SHORES**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps:

1. *a.* Information of the enemy (usually reference to G-2 reports and studies issued independently of the order).
- b.* Statement of general plan of the expedition and missions of higher units—cooperation by other friendly forces including Navy.
- c.* Support by the Navy and by the aviation and other auxiliary arms of higher units.
2. **Mission** as given by higher authority—usually to land in accordance with the provisions of Annex No. ———, Debarkation Table (prepared by the Navy), at a specified place at H hour on D day and establish a beachhead along a designated line and to attack the enemy's positions at H plus a specified number of hours, giving attack mission or objective, scheme of maneuver, line of departure, direction of attack, zone of action, rate of advance. For designation, location, marking of landing beaches and organization and duties of beach (Navy) and shore (Army) parties, see Annex No. ———, Organization of Landing Beaches. For details for the attack see Annex No. ———, Operations Map.

TROOPS

- a. Group A:*
Commander.
Troops.
- b. Group B:*
Commander.
Troops.
- c. Reserves:*
Commander.
Troops.

3. *a.* Subparagraph for each unit or group to which instructions are given—place of landing, location, and limits of beachhead to be established, objective, time of attack, scheme of maneuver, line of departure, direction of attack, zone of action, assistance to be given neighboring units, special instructions as to liaison with other landing points, flank protection.
 - b.* Instructions for artillery if its landing is to be covered by this order—place of landing, positions and missions after landing, provision for artillery liaison with the Navy.
 - c.* Instructions for any antiaircraft artillery with the command, including fire from ships—place of landing, positions, missions, liaison with antiaircraft artillery of the Navy.
 - d.* Instructions for aviation if it is to operate under this order—reconnaissance, combat and special missions, provision for liaison with the Navy aviation. When necessary amplify by annex.
 - e.* Tactical instructions for engineers—details attached to subordinate units, place of landing of remainder, special work in clearing beaches, demolition of obstacles, improvement and construction of landings and bridges.
 - f.* Instructions for signal troops—place of landing, positions and missions after landing.
 - g.* Instructions for reserves—place of landing, positions and missions after landing.
 - x.* Instructions applicable to the whole command which do not belong in another subparagraph—general conduct of landing, organization of beachhead, general plan of defense of beachhead, use of gas and smoke by troops on shore, antiaircraft protection and special instructions as to liaison, etc.
4. Refer to administrative order by number.
 5. *a.* Signal communication—refer to annex.
 - b.* Axes of signal communication—give naval axes from ships to shore, and shore axis of unit and of next lower units.
 - c.* Command posts—give location of command posts of unit and of next lower units on shipboard and on shore, if they are to be landed under the order, and time of establishing on shore (usually not later than a specified hour).

x. General instructions regarding liaison with naval commanders and designation of ships controlling naval support of the unit.

(Signature)

Authentication)

Annexes: ¹

Distribution:

¹ **Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.**

**A form of order for a
DELAYING ACTION ¹**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. Information of enemy and of friendly troops.
2. *a.* Decision of commander—to delay advance of enemy holding in single position or in successive positions; direction of withdrawal or zone of action.
 - b.* Location of delaying positions.
 - c.* Formation and boundary between units, when necessary.
3. *a.* Instructions for infantry (give separate lettered subparagraphs for each infantry unit considered)—zone of action (when not indicated in paragraph 2), time of withdrawal, positions to be occupied, routes available, flank protection, assistance to be given adjacent units, reconnaissance.
 - b.* Instructions for artillery—general tactical mission; subdivision into direct and general support groupings; instructions concerning fire during the occupation of the position and the delaying action; special instructions as to use of gas or smoke; routes for moving into position; general instructions as to rearward displacement; instructions regarding any artillery attached to infantry units.
 - c.* Instructions for any attached antiaircraft artillery.
 - d.* Instructions for cavalry—reconnaissance, contact with enemy, special delaying missions.

¹ When a delaying action takes place on a single position, the form follows closely the form for the defensive.

- e.* Instructions for aviation—reconnaissance, combat and special missions, balloon observation and surveillance.
 - f.* Instructions for reserve—composition, location, time of starting and routes available.
 - g.* Instructions for tanks—time of starting, route, location, attachment to units.
 - h.* Tactical instructions for engineers—units to be attached to infantry units, special work in connection with defensive organization, and routes of withdrawal.
 - i.* Tactical instructions for attached troops of Chemical Warfare Service—positions, routes, special missions, coordination with other troops, attachments, etc.
 - x.* Instructions applicable to the whole command which do not belong in another subparagraph—security; secrecy; outpost, when relieved, manner of withdrawal; use of local covering detachments; demolitions; priority on roads; antiaircraft protection, and special instructions as to liaison; special reports from units as to locations and movements.
- When an administrative order is issued, refer to it by number. When one is not issued, give such administrative instructions as may be necessary.
- a.* Axes of signal communication—give axis of unit and of next lower unit.
 - b.* Command posts—give location of command post of unit and of next lower units for first position.

(Signature)

(Authentication)

Annexes:²

Distribution:

²Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for a
DEFENSE OF A RIVER LINE¹**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. Information of the enemy and of friendly troops.
2. *a.* Decision of the commander—whether to make the main defense on or near the river line, or to hold the river line lightly, with the bulk of the division in rear of an organized position back from the river line, in readiness to intervene when the enemy's main crossing has been determined.
- b.* Section of the river line to be defended and location of the battle position.
- c.* Formation including boundary between units, when necessary.
3. *a.* Instructions for infantry—(a separate lettered subparagraph for each unit to which instructions are given) including attached engineers and artillery; conduct of the outpost; crossing fronts to be especially observed; tactical localities to be organized in the outpost and on the battle position.

¹ The conditions and the situation for the defense of a river line or a sector of the coast line will vary greatly and this form should be used only as a most general guide in preparing the order for a defense that is adapted to the conditions existing in an actual or assumed situation. Initial orders for defense of a river line or coast line have many of the characteristics of an order for a "Position in readiness" and the form for such an order, page 82, may in some situations form a better guide for the order than the above form.

- b.** Instructions for artillery—attachment to infantry units, assignments in direct and general support, locations in which artillery will be held in readiness; points of probable crossings which the artillery will be prepared to cover by fire.
- c.** Instructions for any attached antiaircraft artillery including protection to be provided for general reserve in movement to counterattack.
- d.** Instructions for aviation—location of landing fields; line to which reconnaissance will be made; information especially desired, such as hostile movements toward probable crossing places; initial ascension points for balloons and missions of general observation and surveillance, including observation for the artillery.
- e.** Instructions for cavalry—location and reconnaissance.
- f.** Instructions for engineers.
 - (1) Attachments to infantry units for organization of the ground.
 - (2) Special work in connection with the defense, demolitions, and obstacles.
- g.** Instructions for reserves (including tanks usually held in reserve)—composition, location, and degree of readiness; plans for counterattacks.
- h.** Instructions for any other troops not otherwise covered, particularly for chemical troops and for the quartermaster regiment for rapid movement of reserve infantry units.
- x.** Instructions applicable to the whole command.
 - (1) Measures for secrecy.
 - (2) General instructions for the conduct of the defense and line to be held by sector troops to limit hostile advance pending launching of counterattacks.
 - (3) Special instructions relative to the organization of the ground, priority of work. (Refer to annex if one is used.)
 - (4) Assistance to be given sector troops by reserve or other troops in the organization of the ground.
 - (5) Special instructions for liaison and for antiaircraft protection.

4. Refer to administrative order by number.
5. a. Signal communication—refer to annex when necessary.
b. Command posts—of unit and next lower unit.

(Signature)

(Authentication)

Annexes: ²

Distribution:

² Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for a
DEFENSE OF A COAST LINE¹
(Division sector)**

(The defense of a coast line is a special defensive operation. There are two methods of defense of a coast line: (1) The defense at the beach line or cordon system which has many of the characteristics of the passive defense. (2) The defense back from the beach line which is best accomplished by a mobile defense which has many of the characteristics of the active defense.)

The form of order used for defense at the beach line is similar to that given for zone defense. The following form is appropriate for defense back from the beach line.)

Title
Place
Date and hour

FIELD ORDERS }
No — }

Steps:

1. Information of the enemy and of friendly troops, including those assigned to harbor defenses supporting the sector.
2. a. Decision of the commander—whether to defend the coast line between specified points by a defense back from the water's edge, by holding the beach line lightly, with the bulk of the division held in mobile reserve, or by holding the beach lightly and placing the main body of the division in a defensive position.

¹The conditions and the situation for the defense of a river line or a sector of the coast line will vary greatly and this form should be used only as a most general guide in preparing the order for a defense that is adapted to the conditions existing in an actual or assumed situation. Initial orders for defense of a river line or coast line have many of the characteristics of an order for a "Position in readiness" and the form for such an order, page 82, may in some situations form a better guide for the order than the above form.

- b.** Organization of the ground, showing in general terms the organization of the outpost and delaying area, batt position, and location of the division reserves.
- c.** Formation and boundaries between units.
- 3. a.** Instructions for units assigned to outpost and defend the beach line—sectors for which responsible; location of main body of each unit; designation of probable point of hostile landing to be defended; location of observation posts by day and by night or during thick weather; location of and instructions for artillery with units outposting and defending the beach line when these details are necessary; time and routes of movement of units outposting and defending the beach line. (NOTE: Maps to be given in march tables and referred to in subparagraph *x*); areas to be patrolled and guarded by the inshore patrol flotilla (if small boats are available).
- b.** Instructions for the artillery (less units covered in subparagraph *a*)—locations in which artillery will be held in readiness; points of probable landings which the artillery should cover or prepare to cover.
- c.** Instructions for any attached antiaircraft artillery including protection for general reserve in movement to counterattack.
- d.** Instructions for aviation—observation and battle reconnaissance, giving areas within which observation is to be carried out; character of information especially desired; combat and special missions; location of landing fields; initial ascension points for balloons and missions of general observation and surveillance, including observation for the artillery.
- e.** Instructions for cavalry—location and reconnaissance.
- f.** Instructions for engineers—attachments to infantry units for organization of the ground; special work in connection with the defense; demolitions and obstacles; for other details refer to administrative order.
- g.** Instructions for the division reserves, including tanks held in reserve—designation of units; commander (when necessary); location and degree of readiness required; special missions; reconnaissance of routes and plans for counterattack.

- v. Instructions for any other troops, including chemical troops not otherwise covered.
- r. Instructions pertaining to the whole command.
- (1) Secrecy.
 - (2) General instructions for the defense and line to be held by sector troops to limit the advance of enemy troops which succeed in landing pending the launching of counterattacks.
 - (3) Instructions relative to the organization of the ground, of the outpost (including organization of favorable landing places), and of the battle position, including priority of work. (Refer to annex, if one is used.)
 - (4) Preparations for counterattack.
 - (5) Assistance to be given sector troops by reserve or other troops in organization of the ground.
 - (6) Special instructions for liaison and for antiaircraft protection.
- Refer to administrative order by number.
- a. Signal communication—refer to annex when necessary.
 - b. Command posts—of unit and next lower unit.

(Signature)

Authentication)

Annexes: *

Distribution:

* Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

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**A form of order for a
DEVELOPMENT (DEPLOYMENT) FOR COMBAT¹**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. Information of the enemy and of our own troops.
2. Decision of commander—to develop (deploy) the division (usually at once) to attack the hostile forces at — (stating general scheme of maneuver if known), to take up the defensive along certain general terrain features (known), or to take a position in readiness.
3. *a.* Instructions for cavalry—special reconnaissance, covering flanks, screening advance, delaying hostile troops, etc. as appropriate.
- b.* Instructions for advance guard or advance guards—to secure certain terrain features; to cover the development (deployment) of the division; to push reconnaissance to develop hostile strength and dispositions; to delay hostile advance, etc., as appropriate; boundaries between advance guards when necessary.
- c.* Instructions for aviation—reconnaissance; liaison with covering detachment; landing fields, ascension points for balloons, balloon missions and allocation of airplanes for command and artillery missions; special information and reports desired, including location of hostile artillery and reserves; combat missions, as appropriate.

¹The formal order for development for combat will be the exception rather than the rule, but instructions for development, however issued, should cover the appropriate subject matter given in this form. In some literature the term "development" is used to indicate initial stages of deployment.

- d. Instructions for artillery³ with the main body—position, routes, rates of advance; missions (including support of advance guards, covering development (deployment), delaying enemy, neutralizing hostile artillery) as appropriate for the artillery to go into position at once; position, routes, reconnaissance, preparation, etc., as appropriate, for remaining artillery.**
- e. Instructions for infantry—instructions for each brigade to go into a designated assembly position indicating routes or zones of action when necessary; assistance to be given advance guards, if any; flank protection; preparation for subsequent action, etc., as necessary.**
- f. Instructions for tank company—usually to move by designated route to concealed positions in the vicinity—— (near place of contemplated employment).**
- g. Tactical instructions for engineers (if any).**
- h. Tactical instructions for any other troops of the command such as chemical troops, etc.**
- x. (1) Instructions applicable to whole command which do not belong in another subparagraph, as —— instructions as to priority on roads; secrecy; security missions, including antiaircraft protection; reconnaissance and special reports desired; preparations for subsequent action, special instructions as to liaison.**
- (2) Subordinate commanders or their representatives to report at (place) for further orders at (time).**
- 4. If an administrative order is issued, refer to it by number. If one is not issued, give such instructions for trains, supply, and evacuation as are necessary in each case at this time.**
- 5. Instructions as to command post and any special instructions necessary at this time regarding signal communication.**

(Signature)

(Authentication)

Annexes:⁴

Distribution:

³The artillery, except that with advance guards, is usually held under division control.

⁴Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

A form of order for a
HALT FOR THE NIGHT—WITH OUTPOST

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps:

1. Information of the enemy and of friendly troops.
2. Decision of commander—to go into shelter, general location.
3. *a.* Instructions for cavalry—reconnaissance, contact with enemy, special missions.
b. Instructions for outpost—designation of troops and commander, general line to be held, limits of sector to be covered, special reconnaissance, connection with other outposts (if any).
c. Instructions for troops not detailed for outpost duty—shelter areas, designation of area commander,¹ observation of flanks and rear when necessary. In large commands, when shelter areas are assigned to groups, a separate lettered subparagraph may be assigned to each group, containing its composition and the special instructions for that group, and may refer to location table or operation map.
d. Instructions for aviation—location, reconnaissance, special missions.
e. Instructions for artillery, including readiness of the artillery of the main body.
f. Instructions for any attached antiaircraft artillery.
g. Instructions applicable to the whole command, which do not belong in another subparagraph, such as conduct

¹ Omitted when the superior commander exercises immediate command of the camp.

in case of attack, antiaircraft protection, special instructions as to liaison, etc.

When an administrative order is issued, refer to it by number.

When one is not issued, give such instructions as to supply, evacuation, traffic, trains, and personnel as are necessary. Command posts—of unit and principal subordinate units, when necessary.

(Signature)

Authentication)

Annexes:³

Distribution:

³Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for a
MOVEMENT BY TRUCK AND MARCHING¹**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps:

1. Information of the enemy and our own troops when advisable
2. Decision of commander or mission as given by higher authority—to move by truck and marching,² when movement begins. Destination, if known, or to be disclosed.
3. *a.* Lettered subparagraph for units moving by truck giving organizations moving by truck, duration of journey, if it can be disclosed, time, routes to place of entrucking, etc., or reference to annex giving necessary details.²
b. Lettered subparagraph for units marching² giving organizations marching and reference to march tables. If march tables are not used, then give also the following: Destination if known or to be disclosed, time of marching, initial point, route, roads available for troops marching to initial point.
c. Lettered subparagraph giving instructions to any attached antiaircraft artillery, for antiaircraft defense of the entrucking and movements.
x. (1) Precautions as to secrecy, restrictions as to roads.
(2) Precautions as to security, as against airplane attack, mounting of auxiliary weapons on vehicles, etc.

¹ For forms for entrucking table and work sheet for troop movement by motor transport, see paragraphs 39 and 41.

² Avoid interference of columns by sending marching columns by different routes or starting after the motor transport columns.

(3) Provisions for marking entrucking points, assembly of troops, at entrucking points.

(4) Detachments left behind and instructions when and where to rejoin.

(5) Precautions as to march discipline, when necessary.

If an administrative order is issued, refer to it by number.

If not issued, give instructions for trains, supply, and evacuation as necessary in each case.

Date and hour of opening and closing old and new command posts. (Some representative of division commander is maintained at old command post until last element moves.)

(Signature)

Authentication)

Annexes :³

Distribution:

³ Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

A form of order for a
MOVEMENT BY RAIL, OR RAIL AND MARCHING

Title
Place
Date and hour

FIELD ORDERS

No —

Maps :

1. Information of the enemy and our own troops when advisable.
2. Decision of commander or mission as given by higher authority—to move by rail or by rail and marching.

Destination, if known or to be disclosed.

When movement begins—reference to entraining and march tables.

3. *a.* Lettered subparagraph for each entraining point showing—

Troops to entrain.

Roads available for march to entraining point.¹

Details of and instructions for officers and men in charge of entraining points.

Reference to entraining table.

- b.* Lettered subparagraph for troops to move by marching, giving—

Organizations marching.

Route.¹

Reference to march table.

- c.* Lettered subparagraph giving instructions to any attached antiaircraft artillery for antiaircraft defense of the entraining and movements.

- x.* Duration of journey.

¹Avoid crossing of routes of units moving to entraining points and units marching.

Detail of officers in charge of detrainning points.

Precautions as to secrecy and security, including anti-aircraft protection.

Detachments left behind (if any) with instructions when and where to rejoin.

Reference to administrative order.

Date and hour of opening and closing old and new CPs.

Rear echelon moves at —— date (on last train).

(Signature)

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Annexes :²

Distribution :

***Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.**

**A form of order for establishing an
OUTPOST¹**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. Information of the enemy and of friendly troops.
2. Mission as given by higher authority—generally a statement that the command establishes the outpost; approximate line of resistance; boundaries of the outpost sector; boundaries between battalion sectors, when necessary.

TROOPS²

a. Cavalry:

Commander.

Troops.

b. Supports:³

No 1.

Commander.

Troops.

No 2.

Commander.

Troops.

No 3.

Commander.

Troops.

¹ It is sometimes necessary to issue two outpost orders; the first in the form herewith containing general instructions, the second issued after an inspection of the line and containing more definite instructions or involving changes affecting the entire outpost.

² For small outposts, the "distribution of troops" may be omitted and elements covered in appropriate subparagraphs of paragraph 3.

³ Numbered from right to left. If desired, each support may be enumerated under a separate letter, corresponding changes being made in the subparagraph of paragraph 3. Where supports are to be furnished from more than one battalion, the outpost order assigns a sector of the outpost position to each battalion furnishing the supports and leaves the numbering of supports within each battalion to its battalion commander.

c. Detached post:

Commander.

Troops.

d. Reserve:

Commander.

Troops.

- a. Instructions for cavalry**—contact with enemy, roads or terrain to be especially watched, special missions.
- b. Instructions for supports**—position each is to occupy, sections of line of resistance each is to hold, reconnaissance, intrenching, etc.
- c. Instructions for detached post**—position to be occupied, duties, amount of resistance, reconnaissance, etc.
- d. Instructions for reserve**—location, observation of flanks, etc.
- e. Instructions for artillery** (if any is attached to outpost)—positions, barrage lines, protective fire, or orders for reconnaissance and the preparation of firing data, anti-aircraft protection, etc.
- f. Instructions for machine guns, light mortars, and 37-mm. guns** (when not attached to supports or reserve)—positions, areas to be covered by fire, special duties.
- g. Instructions applicable to the whole command** which do not belong in another subparagraph, such as, conduct in case of attack, connection, mutual support, anti-aircraft protection, special instructions as to liaison, etc.
- 4. Instructions for trains, rolling kitchens, location of aid stations, etc.**
- 5. Command posts**—of outpost and of such higher or lower units as may be necessary.

(Signature)

(Authentication)

Annexes: 4

Distribution:

⁴ Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for a
POSITION IN READINESS**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps:

1. Information of enemy and of friendly supporting troops.
2. Decision of commander—to take up a position in readiness at or near ———, formation, units abreast or in column.
3. *a.*¹ Instructions for infantry—positions or places of assembly, mission, reconnaissance.
 - b.* Instructions for artillery—positions or places of assembly, orders for necessary reconnaissance, methods of support.
 - c.* Instructions for cavalry—reconnaissance, special missions.
 - d.* Instructions for security detachments—line or position to be occupied, reconnaissance, special duties.²
 - e.* Instructions for aviation—reconnaissance, special missions.
 - f.* Instructions for engineers—positions or places of assembly, special tactical work.
 - g.* Instructions for tanks—positions or places of assembly, routes to position.
 - x.* Instructions applicable to whole command which do not belong in a separate lettered subparagraph, as, precautions as to secrecy, priority on roads, security measures, antiaircraft protection, special instructions as to liaison, etc.

¹ In a large force, it probably will be necessary to assign assembly areas to the different infantry units. In such case, each unit should be given a separate subparagraph as 3 *a*, *b*.

² When these instructions are general and do not relate to a specific tactical unit, they may be placed in subparagraph *x*.

When an administrative order is issued, refer to it by number. When one is not issued, give such instructions as to supply, evacuation, traffic, trains, and personnel as are necessary.

Command posts—of unit and of next lower units.

(Signature)

Authentication)

Annexes:

Distribution:

Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to orders. See paragraphs 30 and 36.

A form of order for a

PURSUIT¹

Place
Title
Date and hour

FIELD ORDERS }
No — }

Maps: .

1. Information of the enemy and of friendly troops.
2. Decision of the commander—(generally a statement of units will pursue at once with purpose of destroying, capturing, or securing terrain features, cutting off retreat, etc.). Routes when necessary or zone of action, when special has been imposed on the command.
3. *a.* Instructions for troops on the encircling maneuver—route or zone of action if restrictions are desired, mission, time of starting, reconnaissance, special missions.
b. Instructions for infantry units in direct pressure—mission, zone of action, objective, main effort, flank protection, connection with adjacent units.
c. Instructions for any cavalry not attached to other units including route and missions, usually reconnaissance and to intercept and delay the retreating column at critical points, liaison with other pursuing forces.
d. Instructions for artillery—attachment to troops in encircling maneuver and, if necessary, to direct pressure, mission and displacement of remainder of artillery, instructions as to nature of support and use of gas.

¹ Pursuit orders immediately following a successful attack are usually fragmentary. This form is applicable to situations when time is available or the situation permits its preparation before the initiation of the pursuit. Orders for organized pursuit resemble those for advance in one or more columns.

- e. Instructions for aviation—reconnaissance, combat and special missions and reports (including reports to encircling force), landing fields, dropping grounds, instructions for balloon unit.
- f. Instructions for tanks—assignment to reserve or to units, routes, positions.
- g. Instructions for flank guard when necessary—composition, time of departure, route, mission.
- h. Instructions for reserve—composition, position, route, special missions.
- i. Tactical instructions for engineers.
2. Instructions applicable to the whole command which do not belong in another subparagraph—formation of columns, any details of conduct of pursuit, limitations upon the pursuit, antiaircraft protection, special instructions as to liaison, etc.

When an administrative order is issued, refer to it by number. When one is not issued, give such instructions regarding supply, evacuation, traffic, trains, and personnel as are deemed necessary.

- a. Axes of signal communication—give axis of unit and of each subordinate unit, unless the route of each unit is definitely prescribed.
- b. Command posts—give location of command post of unit, command posts of subordinate units, if established.

(Signature)

(Authentication)

Annexes :²

Distribution :

² Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for a
REAR GUARD**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. Information of the enemy and of friendly troops, including destination or direction of march of main body.
2. Mission as given by higher authority—generally a statement that the command forms the rear guard of the large designated unit.

TROOPS

a. Reserve—in order of march:
Troops.

b. Support:
Commander.
Troops.

c. Flank detachments (if any):
Commander.
Troops.

d. Cavalry:
Commander.
Troops.

3. *a.* Instructions for reserve—place and time of departure, approximate distance from main body, reconnaissance, special mission, location and occupation of delaying positions.
- b.* Instructions for support—time the outpost (if any) is to be relieved or withdrawn, place and time of departure, or

distance from reserve, any special reconnaissance, delaying positions.

Instructions for cavalry—place and time of departure, roads or country to be covered, special missions, demolitions.

Instructions applicable to whole command, including use of chemical agents, antiaircraft protection, and special instructions as to liaison, etc., which do not belong in another subparagraph.

Such administrative details as affect the troops of the rear guard only—usually instructions for the trains of the rear guard to join train of main body.

1. Axis of signal communication—of main body when prescribed.

2. Command post—initial location, or place to which messages may be sent.

(Signature)

Authentication)

Annexes: ¹

Distribution:

¹Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

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A form of order for a
RELIEF TO CONTINUE ATTACK

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. Information of the enemy—strength, composition, position with its organization (lines, etc.), or changes in the enemy's situation. Refer to *G-2 Situation Map* or *G-4 Report*, if issued, for details. Information of friendly troops, such as position of advance units or troops to be passed through; troops within supporting distance with missions (as units on right and left); plan of higher units; support by artillery, aviation and other auxiliary arms of higher units.
2. Mission as given by higher authority—to relieve and pass through a unit in the line and attack, attack mission or objective, general formation, scheme of maneuver, time of attack, line of departure (when the entire command begins its attack from the same line, otherwise give line for each unit in appropriate subparagraph of paragraph 3), direction of attack, rate of advance,¹ zone of action, boundary between units, time command passes to relieving units.
3. *a.*¹ Instructions for infantry (give separate lettered subparagraphs for each infantry unit considered)—elements to be passed through, time and place of starting, routes available or to be followed, formations for ad-

¹ When a rolling barrage is to be employed, the rate of advance must be given.

vancing, zone of action for advancing, instructions for attack, mission or objective, scheme of maneuver, time of attack (when different from that given in paragraph 2), line of departure (when not given in paragraph 2), direction of attack, zone of action (when not given in paragraph 2), assistance to be given neighboring units, special instructions as to liaison, flank protection.

Instructions for artillery—mission (in general terms); general location; organization of command (groupments or other method of coordinating employment of different units); assignments to direct and general support, directions (missions or targets, manner of support) for fire during preparation, during attack; special directions as to use of gas and smoke; designation of routes for incoming units; general instructions as to forward displacement; instructions regarding any attached artillery (this may include artillery of unit being relieved). Reference to artillery annex when one is issued.

- . Instructions for cavalry—position, reconnaissance, combat and special missions, as flank protection, in reserve, or preparation for pursuit.**
- l. Instructions for aviation—reconnaissance, combat, and special missions.**
- 3. Tactical instructions for engineers—units to be attached to infantry or artillery units, combat missions.**
- f. Instructions for tanks—time and place of starting, route, position, or, if attached to infantry units, show attachment, time and place of joining.**
- g. Instructions for reserve—composition, time and place of starting, routes, locations for attack, special missions as flank protection and support of assault by fire where possible.**
- h. Tactical instructions for attached troops of Chemical Warfare Service—positions, routes, special missions, coordination with other troops, attachments, etc.**
- g. Instructions applicable to whole command which do not belong in another subparagraph—reconnaissance (refer to Intelligence Annex when necessary), provision for meeting points for guides, hour at which troops must be in position, routes and formation for advance (when**

not covered elsewhere), restrictions as to roads, instructions as to secrecy; antiaircraft protection, special instructions as to liaison, etc.

4. When an administrative order is issued, refer to it by number. When one is not issued, give such instructions as supply, evacuation, traffic, trains, and personnel as necessary.
5. *a.* Signal communication—refer to annex when necessary.
- b.* Axes of signal communication—prescribe axis for unit and for next lower units.
- c.* Command posts—prescribe location and time of opening for unit and next lower units.

(Signature)

(Authentication)

Annexes: ²

Distribution:

² Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

A form of order for a
RELIEF TO MAINTAIN DEFENSE

Title
Place
Date and hour

FIELD ORDERS }
No — }

aps :

- a. Information of the enemy.
 - b. Information of friendly troops, including dispositions of relieved (or relieving) unit.
- Mission as given by higher authority—to relieve (or to be relieved by) a designated unit, date and time of commencement, and completion of relief, passage of command to relieving unit, destination of relieved unit. Refer to march and relief tables, when issued, for details of movement.
- a. Infantry—dates on which the relief of infantry units is to be carried out; details of relief, or instructions that they will be arranged between commanders concerned.
 - b. Artillery—general plan and dates of artillery relief, details to be arranged by artillery commander.
 - c. Tanks—details of tank relief, or instructions that they will be arranged between commanders concerned.
 - d. Signal units—details arranged between commanders concerned.
 - e. Aviation—hour at which relief, generally made at air-drome, will be effective.
 - f. Engineers—details arranged between commanders concerned so as not to interfere with movement of other troops.

- g.* Tactical instructions for attached troops of Chemical Warfare Service—positions, routes, special missions, coordination with other troops, attachments, etc.
- x.* Instructions applicable to the whole command which do not belong in another subparagraph—passage of command of subordinate units, restrictions as to formation and hours of movement, areas or places to be avoided, guides, adoption of existing dispositions and plans for defense, advance parties, headquarters companies, special anti-aircraft protection, and special instructions as to liaison, etc.
4. Reference to administrative order by number.
5. *a.* Signal communication—refer to annex.
- b.* Axes of signal communication—prescribe axis for unit and for next lower units, when necessary.
- c.* Command posts of units and next subordinate units—prescribe hour of closing of old and the place and hour of opening of new command posts.

(Signature)

(Authentication)

Annexes:¹**Distribution:**

¹ Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

A form of order for a

RETIREMENT¹

Title
Place
Date and hour

FIELD ORDERS }
No — }

Steps:

- 1. Information of the enemy and of friendly troops.
- 2. Decision of commander—(to withdraw from action if engaged and) to retire to or in the direction of ———; time or priority of withdrawal from action of major units; number of columns for the retirement.

TROOPS²

- a. Instructions for covering force—commander, composition, position, routes to position, time command of outpost passes to covering force commander in case of a retirement initiated at night, mission during withdrawal from action, route of retirement and missions during retirement. (Usually constitutes the rear guard.)
- b. Instructions for cavalry not an element of covering force—reconnaissance, contact with enemy, special missions during the withdrawal from action and the retirement.

¹ When a retirement is made by a force not engaged in actual combat with the enemy, the appropriate order follows the form of a march order which provides for a rear guard with the command in one or more columns.

² Under "Troops," give composition of each column with its commander. When field or service trains march with any of the groups given in the distribution, they will be shown. When not shown, it is assumed that they are otherwise disposed of in an administrative order. When combat trains are excluded from any unit, that fact will be shown.

- c. A separate lettered subparagraph for each column giving its route; initial point; time of clearing initial point (assembly position in a daylight retirement is given instead of an initial point, the command being formed in column from the former); other instructions applicable to the situation such as flank protection.
 - d. Instructions for aviation—reconnaissance, combat and special missions and reports, landing fields, dropping grounds; balloon observation and surveillance (or disposition of balloons).
 - e. Instructions for artillery—elements attached to rear guard or covering force, mission of units supporting the withdrawal, instructions for withdrawal by echelon including time of withdrawal and routes to assembly positions; special missions.
 - f. Instructions for rear guard—when not formed by covering force, give initial position, time it is to be assembled, distance from main body, reconnaissance, successive positions, special instructions.
 - g. Instructions for flank guard—give place and time of departure, route, reconnaissance, special instructions.
 - h. Instructions for any attached antiaircraft artillery, including special protection to be given during withdrawal, assembly and retirement.
 - i. Tactical instructions for engineers not attached to other units including especially instructions for obstacles and demolitions and for organization of any new defense positions.
 - j. Tactical instructions for attached troops of Chemical Warfare Service—special missions during withdrawal, attachments to covering force or rear guard, instructions for withdrawal.
 - o. Instructions applicable to the entire command which do not belong in another subparagraph—security, antiaircraft protection, special instructions as to liaison, etc., secrecy, priority on roads, reconnaissance of routes and positions, special reports as to location of units and situation.
4. When an administrative order is issued, refer to it by number. When one is not issued, give such instructions re-

garding supply, evacuation, traffic, trains, and personnel as may be necessary.

- a. Signal communication—refer to annex when necessary.
- b. Axes of signal communication—prescribe that of unit and of subordinate units when the latter is considered necessary.
- c. Command posts—prescribe initial and subsequent command posts of unit and time of opening; if desired, the command posts, with time of opening, of subordinate units may be prescribed. These may be prescribed as *en route* but their location for the night should be designated when possible.

(Signature)

Authentication)

Annexes:

Distribution:

*Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for a
WITHDRAWAL FROM ACTION**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. Information of the enemy and of friendly troops.
2. Decision of commander—to withdraw from action, time of movement is to begin, general purpose (usually to withdraw to and occupy a position), order in which units to withdraw, zone of action, defensive or assembly position to be occupied, subsequent mission.

TROOPS ¹

3. *a.* Instructions for covering force—commander, composition, mission, covering position and when it is to be occupied, routes, time of withdrawal.
- b.* Instructions for cavalry not an element of covering force—reconnaissance, contact with enemy, special missions.
- c.* Instructions for infantry (give separate lettered subparagraph for each infantry unit considered)—zone of action, time of withdrawal, assembly positions or sectors to be occupied in a defensive position, special missions.

¹A "distribution of troops" is necessary only in those cases in which the unit withdraws from action in more than one column or in which separate mixed commands are desirable. It is particularly applicable to a withdrawal from action made at night. It should show the composition of the several elements—covering forces, right and left columns, etc. When field or service trains march with any of the groupings given in the distribution, they will be shown. When not shown, it is assumed that they are otherwise disposed of in an administrative order. When combat trains are excluded from any unit, that fact will be shown.

- d. Instructions for artillery—elements attached to subordinate units or covering force, mission of units supporting the withdrawal; instructions for withdrawal by echelon, routes and new positions; special missions.
 - e. Instructions for aviation—reconnaissance, combat and special missions and reports, landing fields, dropping grounds; balloon observation and surveillance (or disposition of balloons).
 - f. Instructions for any attached antiaircraft artillery, including special protection during withdrawal and at critical points.
 - g. Tactical instructions for engineers.
 - h. Tactical instructions for attached troops of Chemical Warfare Service—special missions during withdrawal, attachments to covering force, new positions, routes, missions.
 - i. Add subparagraphs for other troops not part of covering force or attached to subordinate units.
 - x. Instructions applicable to the whole command which do not belong in another subparagraph—guides, concealment, secrecy, special security measures, antiaircraft protection, special instructions as to liaison, hour of passing of command of attached or special units, demolitions, obstructions, the time the movement is to be completed, special reports, etc.
4. When an administrative order is issued, refer to it by number. When one is not issued, give such instructions as to supply, evacuation, traffic, trains, and personnel as are deemed necessary.
 5. a. Axes of signal communication—prescribe that of unit.
b. Command posts—prescribe for unit and for subordinate units when required.

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Annexes :²

Distribution :

²Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form of order for a
ZONE DEFENSE¹**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. *a.* Information of the enemy.² (Refer to *G-2 Report* and *G-2 Situation Map* for details.)

b. Information of friendly troops.

2. *a.* Decision of commander—general line to be defended.

b. Organization of the ground.²

Show in general terms, the location of the line of resistance of the outpost area, the battle position, the reserve battle position, and switch positions. (In regimental, brigade, division, and when time for planning permits, in corps orders, the regimental reserve line of the battle position is shown.)

c. Boundaries of sectors occupied by the command and by subordinate units or the boundary between subordinate units.

3. *a.* Infantry—assignment to sectors, special missions; use a separate subparagraph for each infantry unit holding a sector.

¹This form applies particularly to the organization of a defensive zone. For deployed and for position defense modify paragraph 2 *b* so as to apply to a defensive position, omit the clause of paragraph 3 *b* relating to artillery support of outpost area and battle position, and make appropriate changes in paragraph 3 *a* which will be much simplified.

- b. **Artillery**—assignment and location of units for direct and general support, special missions; indication of the amount of artillery to support the outpost area and battle position (amount to be given in percentages, proportion, or number of batteries), provisions for antitank defense, instructions relative to time of opening fire, and the use of smoke and gas. (Amplify by annex.)²
- c. **Reserves**—designation of units; commander; positions; degree of readiness; work to be done in organization of position, preparation of plans for counterattacks or extension of flanks.
- d. **Tanks**—assignment to reserve or to primary subdivisions; positions.
- e. **Cavalry**—position (to cover one or both flanks, or main force held in suitable position to act in crises of engagement); reconnaissance.
- f. **Aviation**—reconnaissance and observation; character of information especially desired; combat and special missions; balloon observation and surveillance.
- g. **Engineers**—organizations attached to infantry and artillery units for organization of positions; special work in connection with defensive organization.³
- h. **Tactical instructions for attached troops of Chemical Warfare Service**—positions, routes, special missions, coordination with other troops, attachments, etc.
- i. **Instructions applicable to the whole command which do not belong in another subparagraph.**

Conduct of defense:

- (1) **Mission assigned the outpost troops.**
- (2) **Strength of outpost troops to be employed.**
- (3) **Conduct of the outpost troops in case of a general attack**—definite instructions to withdraw or to hold designated tactical localities to the last, depending upon the mission and situation.
- (4) **Counterattack**—when made, by what units and by whom ordered.
- (5) **Directions for coordination of infantry and artillery defensive measures, fire plan.**
- (6) **General instructions as to missions of machine guns of reserve units; arrangements for coordi-**

nation within organization and with adjacent organizations.²

- (7) Instructions for gas defense; gas alert and danger zones.
 - (8) Special instructions for organization of the ground; priority of work.
 - (9) Special instructions regarding anti-aircraft protection.
 - (10) Special instructions as to liaison.
 - (11) Instructions regarding gathering of information (Refer to Intelligence Annex.)
4. Refer to administrative order by number.
 5. a. Signal communication—refer to annex.
 - b. Command posts—prescribe for unit and for next lower unit.

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Annexes:³

Distribution:

² When time permits and the situation requires, the various paragraphs of the field order are supplemented by annexes which contain details. These annexes are referred to at the end of appropriate paragraphs as follows:

- | | |
|-----------------|--|
| Annex No. _____ | Intelligence. |
| Annex No. _____ | Organization of the ground. |
| Annex No. _____ | Artillery (may not be required in position defense, not usually required in deployed defense). |
| Annex No. _____ | Aviation. |
| Annex No. _____ | Machine guns (generally in form of map showing machine-gun fires). |

³ Much of the information given in combat orders can be shown advantageously on maps, sketches, or overlays issued as annexes to the orders. See paragraphs 30 and 36.

**A form for an
ADMINISTRATIVE ORDER**

Title
Place
Date and hour

ADMINISTRATIVE ORDERS }
No — } To accompany Field Orders No —¹

Notes:

SUPPLY.

*a. Railroad.*²—Location, date of opening, and hour of arrival of daily train when change of railroad is involved.

b. Class I supplies:

(1) Distributing points—Locations, organizations served at each, and time schedule of distribution.

NOTE.—Time schedule for distribution to army troops is frequently published as an annex to the army administrative order.

(2) Special instructions. (Seldom with a division.)

(3) See *Annex No. —, Plan of Class I Supply.* (Army, and less frequently the detached corps.)

c. Ammunition:

(1) Refilling point(s). (All classes, or designation of kind served at each.) Location, date, and hour of opening.

(2) Distributing points. (Artillery and small arms.) Location, and organizations served at each.

(3) See *Annex No. —, Plan of Ammunition Supply.* (Army, and less frequently the detached corps.)

d. Water:

(1) Refilling point(s)³—Location, date and hour of opening.

¹All formal field orders which make changes in the administrative or supply situation should be accompanied by administrative orders. The orders, however, should include only the necessary changes referring to previous administrative orders in force for other details or stating in the "MISCELLANEOUS" paragraph, "Other administrative details: no change."

²The term "refilling point" is used when Class I supplies are delivered at points not on a railroad.

³Used only when water must be brought into the area in the same manner as other supplies, exceptional.

- (2) Distributing points—Location, and organization served at each.
- (3) Special instructions, when necessary.

c. Engineer supplies:

- (1) Refilling point(s). Designation of character of supplies at each, when necessary; location, date and hour of opening.
- (2) Distributing point(s) (when necessary)—Designation of character of supplies provided; location, date and hour of opening, and organizations served at each.
- (3) Special instructions, when necessary.

NOTE.—Subparagraphs similar to *c*, *d*, and *e* reference refilling and distributing points for medical, signal, chemical, Air Corps, and other quartermaster and ordnance supplies are added as necessary.

2. EVACUATION.

a. Casualties:

(1) Personnel:

- (a) Collecting station(s), location. (Division.)
- (b) Hospital station(s), location. (Division and corps.)

Hospitals: Evacuation and convalescent, locations. (Army.)

(2) Animals:

- (a) Collecting station(s), location. (Division and corps.) Or hospitals: Evacuation, location. (Army.)
- (b) Special instructions, when necessary.

(3) See *Annex No.—, Medical Plan*. (Army, and less frequently the detached corps.)

b. Burial.—Location of cemeteries; instructions reference burial and reports.

c. Salvage.—Instructions reference collection, disposition, and reports.

d. Captured material.—Instructions reference disposition and reports.

e. Prisoners of war.—Instructions reference location of collecting points, inclosures, responsibility for evacuation, and reports.

TRAFFIC.**Circulation.**

- (1) Designation of axial road. (Division and corps).
- (2) Instructions reference motor reserved roads, when necessary.
- (3) Assignment of routes for special purposes, when necessary.
- (4) Instructions reference marking of routes, when necessary.
- (5) Instructions reference priority of specified classes of traffic, as ambulances, ammunition, signal, and engineer vehicles, when necessary.
- (6) See *Annex No. —, Circulation Map*, when issued.

b. Restrictions.

- (1) Instructions reference limits of daylight traffic and use of lights, when necessary.
- (2) Instructions reference distances to be maintained between vehicles, groups of vehicles, and troop units, when necessary.
- (3) Instructions reference disabled vehicles, when necessary.

c. Control.—Instructions reference the establishment of traffic control posts, and officers' control stations, when necessary.

d. Construction and maintenance of routes.

- (1) **Roads.**—Instructions reference priority of work on roads and bridges; general character of maintenance; bridge loads; coordination with road work of higher and lower units.
- (2) **Railroads.**—Same general character of instructions as for roads, including yards and sidings. (Rarely in a division order.)
- (3) See *Annex No. —, Engineer Plan*. (Army, and less frequently the detached corps.)

TRAINS.**a. Service.**

- (1) Instruction reference movement on the march or release from march control; assignment of special missions, when necessary.
- (2) Instruction reference control in bivouac and assignment of bivouac areas.

b. Field.

- (1) Instruction reference movement, release from n control; assignment of special missions, when essary.
- (2) Instruction reference control in bivouac, and as ment of bivouac areas.

c. Combat.—Same as *b*, when necessary.

5. PERSONNEL.**a. Stragglers.**

- (1) *Straggler line.*—Location; instruction referenc ordination on boundaries of subordinate u when necessary.
- (2) *Collecting points.*—Location.

b. Surplus baggage.—Instruction reference disposition. (ally refers to packs and extra clothing.)

c. Mail.—Instruction reference collection and distributio

d. Shelter.—Instruction reference quartering parties.

6. MISCELLANEOUS.

a. Attachment of service troops.—Instruction referenc tachment of service troops to subordinate units, v necessary.

b. Movement of service troops.—Instructions covering cha of location in rear areas usually refer to troop move table. (Army, less frequently detached corps.)

c. Rear boundary.—Location, and time when effective.

d. Rear echelon of headquarters.—Location, and hour of c ing.

e. Administrative matters not otherwise covered.

f. Other administrative details: No change (when applica

(Signature)

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Annexes: ⁴ . . .

Distribution:

⁴Much of the information belonging in an index to a combat c can be shown advantageously on maps, sketches, overlays, charts tables which are attached to or accompany the annex and, by suit reference therein, are made a part of the annex. See paragraphs and 36.

39. Forms for annexes to field orders.

A form for an

ARTILLERY ANNEX (For attack or defense) ¹

ANNEX NO — TO FIELD ORDERS NO —,
CORPS (ARMY)

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. Pertinent references to the corps field order, annexes, and appropriate summaries of intelligence; additional information of the enemy or supported troops, when necessary or desirable.
2. The general mission of the artillery with the corps (army).
3. *a. Division artillery.*
 - (1) Attachments to each division to include attachment of field artillery units (including sound and flash ranging units), balloon and antiaircraft units; time and place of attachment and time and place of relief if known.

¹ This form applies specifically to a corps artillery annex. When used for an army artillery annex, substitute "Artillery with the corps" for "Division artillery," "Army artillery" for "Corps artillery," and "Artillery with the army" for "Artillery with the corps." While the form includes those items usually necessary, additional items are included as necessary or desirable. Further, while the listing of the items is that often most appropriate, the general rule for combat orders is that items governing a single unit are listed in the paragraph pertaining to that particular unit; and items governing more than one unit, in the general paragraph. Thus, in the case of an artillery annex to a corps field order, any particular item applying to a division would be listed in the paragraph applying to the particular division, or in the general paragraph applying to divisions, or in the general paragraph applying to the artillery with the corps, as appropriate.

(2) Etc. A separate numbered paragraph for each division to which it may be necessary to give particular instructions, such as for contingent zones, coordination of fires along the boundaries and in depth; special missions including general location of fires during the preparation.

(-) A numbered subparagraph containing the miscellaneous provisions not covered elsewhere and applicable to more than one division, such as—

Time of opening fire.

Restrictions on fire.

Coordination with corps artillery units including the allocation of counterbattery missions to the division artillery.

General limits in depth for harassing and interdiction fires and fires on transient targets.

Use of accompanying artillery, antitank guns and roving artillery.

Movement into position and changes of position.

Allotment of observation facilities (both air and ground) and communication therewith.

Use of special ammunition including gas and smoke.

b. Corps artillery.

(1) Organization of the corps artillery into groupments or other units, listing the composition and commander of each when any change has been made from that given in Tables of Organization.

(2) Etc. For each of the above designated units, a separate numbered paragraph giving—

Missions, to include—

Zones of responsibility in depth and width for interdiction and harassing fires, fires on transient targets, and counterbattery.

Contingent zones.

Coordination of fires in depth.

Special missions including general location of fires during the preparation or counterpreparation, and reinforcement of the fires of the division artillery on call.

Position areas, routes, movement into position, organization of the position, and priority of selection in reserved areas.

Changes of position during action including time or priority, and routes to new position areas.

(-) **A numbered subparagraph containing instructions for the antiaircraft units including missions, positions, movements, and cooperation with aviation.**

(-) **A numbered subparagraph containing instructions for attached balloon units and instructions regarding all aviation available for observation for the corps artillery including cooperation with the antiaircraft units.**

(-) **A numbered subparagraph containing instructions for sound and flash units.**

(-) **A numbered subparagraph containing the miscellaneous provisions not covered elsewhere and applicable to more than one subdivision of the corps artillery, such as—**

Reconnaissance.

Use of special ammunition including gas and smoke.

Liaison instructions.

Establishment of dumps.

Rear echelons.

6. Artillery with the corps.—Miscellaneous provisions applicable to both the division and corps artillery not specifically covered elsewhere, such as—

General nature of the fires prior to the attack or counterpreparation.

General instructions covering schedule fires including preparation and counterpreparation.

Measures to insure secrecy including limitations on registration.

Limitations on ammunition expenditure.

Topographical and meteorological data.

Defense against tanks and aviation.

. Reference to the corps administrative order; additional instructions, when necessary or desirable.

5. Instructions covering command posts and signal communication, as necessary or desirable.

(Signature)

(Authentication)

Annexes :³

Distribution :

³ Much of the information belonging in an annex to a combat map can be shown advantageously on maps, sketches, overlays, charts and tables which are attached to or accompany the annex and, by suitable reference therein, are made a part of the annex. See paragraphs 35 and 36.

A form for an

ARTILLERY ANNEX (For attack or defense) (Division)

ANNEX NO — TO FIELD ORDERS NO —,¹
DIVISION

ARTILLERY

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps:

1. *a.* Information of the enemy—general information that subordinates should have to understand the enemy's situation.
- b.* Information of friendly troops.
 - (1) Mission and scheme of employment of the division.
 - (2) Zones of action or defensive sectors of units to be supported. The location of the different lines in a defensive situation are to be included.
 - (3) Information of artillery of higher or adjacent units which will deliver fire within or along the boundaries of the zone of action or sector of the supported unit; location of balloons which may have been directed to assist the artillery.
2. Mission as given by higher authority and character of the support to be given.

¹ This is the form for the Field Order of the Artillery Brigade with the annex caption added. It is the usual form of Artillery Annex to a Division Field Order.

3. a. Designation of unit—a subordinate unit or group of units

- (1) Missions—Assignments to support, methods of support, special fire missions.
- (2) Positions.
- (3) Routes, when applicable.

Similar subparagraphs designated *b*, *c*, etc., are given each subordinate unit or group.

- a.** (1) Organization of position (including camouflage, gun pits, shelters, defense sectors, and disposition of machine guns, or any other measure for the protection of the unit).
- (2) Reconnaissance—General instructions for preliminary reconnaissance.
- (3) Initial fire—Time for opening fire; instructions for covering deployment or organization of position.
- (4) Preparation—

Counterpreparation.
Other defensive fires.
- (5) Accompanying artillery.
- (6) Antitank guns.
- (7) Roving guns.
- (8) Gas and smoke—Often includes prohibitory instructions.
- (9) Ammunition expenditure—Restrictions, when necessary; instructions as to amounts to be dumped at battery positions.
- (10) Hours of firing—When firing is to be limited to designated periods.
- (11) Observation—Allotment of observation facilities (both air and ground) and communication therewith.
- (12) Secrecy—Precautions to be taken, including circulation restrictions.
- (13) Displacement—Orders for movement during action or warning to be prepared for such movement.

General instructions intended for more than one subordinate unit are given under such of the above subparagraph headings as are applicable or under additional headings.

- 4. a. Reference to division administrative order by number.**
- b. Instructions concerning ammunition or other supply details which are not given in the administrative order (when necessary), or which it is necessary to issue at the time the field order is issued.**

a. Axes of signal communication.

- (1) Division and field artillery brigade and next subordinate artillery units, when necessary.
- (2) Infantry brigade and next subordinate units, when necessary.

b. Command posts.

- (1) Division and field artillery brigade, and next subordinate artillery units, when necessary.
- (2) Infantry brigade and next subordinate units.

Command posts of smaller supported units may also be included in **ove subparagraphs.**

(Signature)

Authentication)

nnexes: ²

istribution:

² Much of the information belonging in an annex to a combat order can be shown advantageously on maps, sketches, overlays, charts, or tables which are attached to or accompany the annex and, by suitable reference therein, are made a part of the annex. See paragraphs 80 and 36.

**A form for an
AVIATION ANNEX (Army) ¹**

**ANNEX NO — TO FIELD ORDERS NO —,
— ARMY AVIATION**

Title
Place
Date and hour

FIELD ORDERS }
No — }

Maps :

1. For details of information of enemy, see G-2 Air Situation Map. Probable intentions of the enemy as estimated to the commander. Enemy aviation (what enemy observation, pursuit, attack, and bombardment aviation have been doing, and an estimate as to what enemy aviation will do). For detailed information of location of friendly forces, see G-3 Air Situation Map. The decision of the commander as given in paragraph 2 of the field order. The operations of any air or ground troops with which aviation is to operate direct, such as army or independent cavalry and army artillery. The plan or any change in the established plan for the operation of antiaircraft artillery.
2. Mission as given by higher authority.
3. a. Instructions for combat aviation, if any assigned or attached.
 - (1) Pursuit aviation—missions, instructions for cooperation with other branches of aviation including, if necessary, time and place of rendezvous, time and place of attack, or zone of action (when it is to be limited). The area, if any, and period

¹An aviation annex will rarely be used in units smaller than an army.

of time for protection of ground units or establishments by pursuit aviation from hostile attack or observation.

- (2) **Attack aviation**, if any assigned or attached—missions, objectives, time and place of attack (if known), time and place of rendezvous, route and altitude (when necessary), extent of cooperation with ground troops.
 - (3) **Bombardment aviation**, if any assigned or attached—missions, objectives, rendezvous point, and altitude, and time of rendezvous when supported by other classes of aviation, route, time of attack (or of departure).
- b. Instructions for observation aviation.**
- (1) **Airplane observation—detachments.** Limits of area of responsibility for reconnaissance. Special locations and/or troops to be observed or particular information to be obtained. Hours for special missions if reports are desired at a particular time. Observation for artillery. Photographic missions. Airplanes for command missions and where available.
 - (2) **Balloon group(s)—detachments.** Control of movement, location (when necessary), missions, sector of observation, special instructions as to day and/or night observation. Observation for artillery.
- c. Any instructions for the establishment or change in airdromes, landing fields, etc. Any assignment or change in assignment of airdrome squadrons.**
- a. Special instructions for liaison and communication with ground troops, including antiaircraft artillery (when necessary), and other instructions applicable to operations of more than one unit.**
- 4. Instructions concerning supplies.**
- 5. a. Signal communication—refer to the signal annex (either old or new) which will control the air-ground or any other signal communication of aviation.**
- b. Command posts—air units (division, corps, and army), and such other subordinate and adjacent units as may be necessary.**

c. Dropping ground(s)—location(s) if other than at command posts.

(Signature)

(Authentication)

Annexes: ²

Distribution:

² Much of the information belonging in an annex to a combat order can be shown advantageously on maps, sketches, overlays, charts, or tables which are attached to or accompany the annex and, by suitable reference therein, are made a part of the annex. See paragraphs 30 and 36.

**A form for a
DEBARKATION TABLE**

ANNEX NO — TO FIELD ORDERS NO —
DIVISION

(Date)

DEBARKATION TABLE

Wave No.	Composition	Boats	Time D day	Movement of boats

(Signature)

Authentication)

Distribution :

NOTES

1. Beaches are usually designated by letter, and waves are designated by reference to the numerical order of landing and to the beach at which the wave is to land. For example, Wave No. 6B is the sixth wave to land at Beach B.
2. In the two right columns indicate the time that the boats for each wave are scheduled—
 - a. To leave transports.
 - b. To arrive at the beach.
 - c. To leave the beach.
 - d. To arrive at the transports for Wave—(indicate next wave to use the same boats).

**A form for an
ENTRAINING TABLE**

ANNEX NO — TO FIELD ORDERS NO —, ——— DIVISION

(Date)

ENTRAINING TABLE

Entraining points:

X _____
Y _____
Z _____

Detraining points:

X _____
Y _____
Z _____

Train numbers from points			Type	Transportation groupings	Date, month	Time of departure	Time of arrival destination
X	Y	Z					

(Authentication)

(Signature)

NOTES

1. Part of engineer regiment, medical regiment, quartermaster regiment, division headquarters and special units, and quartering detachments should be sent on early trains.
2. Detachments of medical troops and detachments of service companies (and batteries) that normally function with units are included in the respective transportation groupings.
3. Heavy equipment entrained and detrained at points having good facilities.
4. Consider possible use of division upon arrival. Tactical situation may require a reinforced brigade; all the infantry, artillery, or machine guns on early trains.
5. Detraining points of organizations selected so as to facilitate concentration of organization.
6. The detraining point and time of arrival at destination will be given unless secret or the data are unknown.

**A form for an
INTELLIGENCE ANNEX**

**ANNEX NO — TO FIELD ORDERS NO —
INTELLIGENCE**

Title
Place
Date and hour

(G-2 file number)

Maps :

1. **RÉSUMÉ OF ENEMY'S SITUATION.**—Refer to *G-2 Situation Map* and *G-2 Report* for details.
2. **ESSENTIAL ELEMENTS OF ENEMY INFORMATION REQUIRED.**—
Items pertaining to the tactical and logistical situation of the enemy, the terrain, or anything else relative to the enemy situation concerning which information is important in the highest degree to a commander as the basis for the formulation of plans and the issue of orders. (Tabulate.)
3. **MEASURES TO OBTAIN INFORMATION.**¹—(With particular reference to essential elements.)
 - a. *Aviation.*
 - (1) Aerial reconnaissance—distant, close, and battle.
 - (2) Balloon observation and surveillance—supplements ground observation.
 - (3) Aerial photography—areas to be covered by different units with relative importance of objectives in each area.
 - b. *Cavalry reconnaissance.*—Distant, close, and battle.
 - c. *Infantry reconnaissance.*—Close and battle.
 - d. *Ground observation.*—General plan, including specification of areas of most importance and the general assignment

¹ Paragraphs 3 a, b, c, and f elaborate general instructions contained in the field order. Missions, especially for aerial reconnaissance and for obtaining photographs, should also be shown graphically on a map. There may be an annex to each subparagraph of paragraph 3 of the intelligence annex in which special instructions are given to secure information, or there may be a separate subparagraph of 3 e containing instructions regarding intelligence services.

of observation posts and areas to be watched in order to prevent duplication and gaps or the too close grouping of observation posts; particular information desired from observers; special assignment and missions of headquarters observation groups.

e. Radio intelligence.—Intercepts, goniometry, and listening-in. Fronts to be covered, special information wanted and relative importance of different parts of the front.²

f. Counterespionage, censorship, press, and propaganda.—Any instructions of general interest to the command.

g. Antiaircraft intelligence.—Any instruction relative to reporting activities of enemy aviation.

x. Matters of interest to two or more intelligence agencies.

4. MEASURES FOR HANDLING PRISONERS, CAPTURED DOCUMENTS AND MATERIAL, AND MAPS.

a. Prisoners, deserters, and other persons.—Plan for handling prisoners of war, deserters from the enemy, and inhabitants, either as laid down in regulations or according to special plan. Location of sorting and examining stations (by arrangement with G-1 and G-4). Manner of sending prisoners to the rear and the extent of delay permissible at lower headquarters (by arrangement with G-1 and G-4). Special reports and classification of prisoners required.

b. Documents and captured material.—Provisions for collecting documents. Manner of sending to the rear, with delay permissible at lower headquarters for examination or use. Particular kind of material required for examination. Manner of obtaining material (through intelligence personnel with troops and from salvage officers) and manner of sending it to the rear (by arrangement with G-1 and G-4).

c. Maps.—List of maps that will be supplied, with number of each class to each unit (when not covered by regulations). Instructions concerning special requisitions and distribution.

² Included only in annexes of detached corps, armies, and higher units.

k. Photographs.—Both vertical and oblique. Same as for maps.

REPORTS AND DISTRIBUTION.

- a. Period to be covered by routine reports.
- b. Special reports required from lower units (information to be sent, time to be made, etc.).
- c. Means to be used in making reports (message centers, messenger, radio, telegraph, telephone, etc.).
- d. Distribution of routine and special reports from higher headquarters.
- e. Distribution of G-2 situation maps (usually the same as routine reports).
- f. Periodic or special conferences of G-2 officers; who is to attend, time and place of meeting.

(Signature)

Authentication)

Annexes: *

Distribution:

* Much of the information belonging in an annex to a combat order can be shown advantageously on maps, sketches, overlays, charts, or tables which are attached to or accompany the annex and, by suitable reference therein, are made a part of the annex. See paragraphs 30 and 36.

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A form for a

MARCH TABLE

ANNEX NO — TO FIELD ORDERS NO —, — DIVISION

(Date)

MARCH TABLE

Serial No.	Organization and commander	Present location (date) if necessary	Zone of action or route	Location by (date)	Remarks
				<p>May specify that advance or rear elements shall clear or be (north, etc.) of a certain line by a given time. Additional columns are used for each day's march.</p>	<p>Instructions for preventing interference among series, to include hours of departure, clearing of initial or other designated points, for dispositions en route or at destination, and for connection to be maintained between units.</p>

(Authentication)

(Signature)

Annexes:¹

¹ Much of the information belonging in an annex to a combat order can be shown advantageously on maps, sketches, overlays, charts, or tables which are attached to or accompany the annex and, by suitable reference therein, are made a part of the annex. See paragraphs 30 and 36.

A form for an

ORGANIZATION OF THE GROUND ANNEX

**ANNEX NO— TO FIELD ORDERS NO—, —DIVISION
ORGANIZATION OF THE GROUND¹**

Title
Place
Date and hour

Maps :

1. *a. Decision of commander.*—To defend a given front.
 - b. (1) General plan for organization of the ground giving form of defense, designating position or zone, and stating which of the following elements in addition to the battle area or position are to be employed: Outposts area or position, reserve battle position, switch positions, other areas or positions.
 - (2) Sector boundaries.
2. *a. Battle area or position:*
 - (1) Line of resistance—location, at least to the extent of giving accurately the points of intersection with sector boundaries (limiting points).
 - (2) Regimental reserve line—location as in (1) when prescribed by division or higher headquarters.
 - (3) Tactical localities to be organized when prescribed by division or higher headquarters.
- b. Outpost area or position:*
 - (1) Line of resistance—location as in *a* (1).
 - (2) Tactical localities—as in *a* (3).

¹ This form is applicable to situations where a complete and detailed study can be made, and the work carefully planned; or where organization of the ground can be perfected during prolonged occupation. In other situations, items not pertinent should be omitted.

a. Reserve battle position:

Same as in *a*.

d. Switch positions:

Each as in *b*.

e. Other areas or positions:

Each as in *b*; also give its purpose if special.

g. Works to be constructed:

(1) Types of machine gun emplacements, trenches, obstacles, command and observation posts, artillery emplacements, shelters, etc., to be constructed in each area or position. Locations, when necessary.

(2) Special works—demolitions, inundations, tank obstacles, or tank mines, roads, trails, etc.

3. Construction of works:

a, b, c, etc.—Assignment of units not already assigned, or of civilian labor when such is employed.

a. (1) Priority in construction of areas or positions, and of works in each.

(2) Instructions relative to camouflage.

(3) Hours for work or instructions as to time of completion.

(4) Other instructions relative to conduct of work.

(5) Instructions directing the submission of periodic reports on the progress of work.

4. Locations of engineer supply establishments furnishing tools and materials for the work including, when necessary, a statement of the kinds furnished by each.

5. Location of command post of engineer officer supervising the work.

(Signature)

(Authentication)

Annexes.³

Distribution:

³ Much of the information belonging in an annex to a combat order can be shown advantageously on maps, sketches, overlays, charts, or tables which are attached to or accompany the annex and, by suitable reference therein, are made a part of the annex. See paragraphs 30 and 36.

A form for a

SIGNAL COMMUNICATION ANNEX ¹

ANNEX NO — TO FIELD ORDERS NO —, ——— DIVISION
SIGNAL COMMUNICATION ORDERS

Title
Place
Date and hour

Notes:

- Such information of the enemy and of our own troops as is necessary for the signal communication troops. This may include the commander's general plan of action, boundaries of the unit and its major subdivisions, axes of signal communication and location of command posts, observation posts, supply and medical establishments which may require signal communication, and information relative to any existing signal facilities in the area.
1. General plan for the installation, operation, and maintenance of signal communication. If special considerations require an hour to be fixed for the establishment of signal communication, this hour will be stated.
 - a. Orders to the signal troops operating at the headquarters of the unit.
 - b. Etc. Orders to lower units necessary for the coordination of signal communication within the command as a whole.
 - c. Orders applying to signal agencies of more than one unit not covered in the preceding subparagraphs.
 2. Priority of signal troops on roads; location of signal supply distributing point and signal dump, park, or depot; special instructions relative to the issue of signal supplies, including pigeons; charging and replacement of storage batteries.

¹ See p. 263, Basic Field Manual, Vol. IV.

5. *a.* Reference to the index of signal operation instructions
b. Location of the signal office.

(Signature)

(Authentication)

Annexes:³

Distribution:

Same as field order—extra copies as necessary.

³ Much of the information belonging in an annex to a combat order can be shown advantageously on maps, sketches, overlays, charts, tables which are attached to or accompany the annex and, by suitable reference therein, are made a part of the annex. See paragraphs 35 and 36.

ANNEA NO. 19

Entrucking Table¹
FOR TROOP MOVEMENT BY MOTOR TRANSPORT

1	2	3	4	5	6	7	8	9	10
Group No.	Troops and material, if any	Motor transport assignment	REGULATING POINT and date and hour head passes same	Route, from regulating point to entrucking point	ENTRUCKING POINT and hour head reaches same	Hour entrucking begins	Hour head leaves entrucking point	Route from entrucking point to initial point	INITIAL POINT and hour head passes same

(Authentication)

(Signature)

Column clears initial point at -----

¹This form will be used for a detrucking table by substituting detrucking for entrucking.

40. Forms for journal and staff reports.

Journal¹

Time ²		Serial No.	Time dated ³	Incidents, messages, orders, etc.	Disposition
In	Out				
				(Day and date)	

¹ The journal is the daybook of the section or unit. It contains briefs of important written and verbal messages received and sent and notations of periodic reports, orders, and similar matters that pertain directly to the section or unit. Copies of messages and other data pertaining to the section or unit and furnished by it for purposes of information of other sections or units are not entered in the journals. If any item is received or issued in verbal form, the entry herein is detailed; if in document form, the entry may be a notation referring to a file or a brief synopsis of contents. (See par. 20.)

² Refers to time of receipt or sending in this office.

³ Refers to time information originated, and thus calls attention to age of the information.

⁴ Following symbols may be used: M = noted on situation map; S = standard distribution at CP; T = information furnished troops.

**A form for a
G-1 OR S-1 PERIODIC REPORT**

REPORT¹

From: (Date and hour)

To: (Date and hour)

(Unit)

(Date)

Maps:

1. **LOCATION OF REAR ECHELONS.** (Situation at close of period.)
2. **STRENGTH OF THE COMMAND.** (By organization.) (Men, animals.)
3. **EVACUATIONS.** (By organization.)
4. **CASUALTIES.** (By organization.)
 - a. Killed.
 - b. Sick.
 - c. Gas cases.
 - d. Wounded.
 - e. Captured.
 - f. Missing.
5. **REPLACEMENTS.** (Received or expected.)
6. **PRISONERS OF WAR.**
7. **CAPTURED MATERIAL.**
8. **STRAGGLERS.**
9. **MORALE.** (Show state of subdivisions if not uniform.)

(Signature of chief of section)

¹ Submitted as ordered by the commander. To be supported by such maps and appendices as are necessary to make a complete record of the existing situation and of the operations during the period. When any part of the subject matter of the report can be shown clearly on a map, this should be done. In such cases no entry need be made under the appropriate heading of the report except the statement, "See map attached." Brigades and lower units usually submit one report based on the appropriate topical headings of the four section reports. When a marked change has occurred in any organization, this fact will be noted.

A form for
G-2 OR S-2 PERIODIC REPORT

—————
REPORT¹

From: (Date and hour)
To: (Date and hour)

(Unit)
(Date)

No ———

Maps:

1. **ENEMY FRONT LINE** (or nearest elements).
2. **ENEMY'S STRENGTH, DISPOSITIONS, AND MOVEMENTS.²**

a. Units in contact.

Unit—location of flanks; estimated combat efficiency (strength, training, physical condition, morale, and other pertinent factors).

b. Reserves.

Unit—kind of reserves; location; estimated combat efficiency (strength, etc.); time necessary to engage.

c. Changes since last report.

Unit—nature of change, time.

¹ Submitted as ordered by the commander. To be supported by such maps and appendices as are necessary to make a complete record of the existing situation and of the operations during the period. When any part of the subject matter of the report can be shown clearly on a map, this should be done. In such cases no entry need be made under the appropriate heading of the report except the statement, "See map attached." Brigades and lower units usually submit one report based on the appropriate topical headings of the four section reports.

² Whenever possible a conclusion should be stated under each main heading of the report indicating the enemy's probable intentions as deduced from the information contained therein.

d. Movements.

Kind; amount { from _____
to _____
or
direction } time; unit if known or
deducible.

ENEMY'S SUPPLY AND EQUIPMENT (including supply system and location of establishments).

WEATHER AND VISIBILITY.

ENEMY'S OPERATIONS DURING THE PERIOD.³

- a. Cavalry.
- b. Infantry and auxiliary weapons.
- c. Artillery.
- d. Tanks.
- e. Airplanes.
- f. Balloons.
- g. Chemical warfare.
- h. Miscellaneous.

MISCELLANEOUS.

- a. Estimated enemy's casualties (including prisoners).
- b. Enemy's defensive organization (trenches, emplacements, observation posts, command post, etc.).
- c. Terrain as it affects the enemy.
- d. Any enemy intelligence not specifically covered by headings of this report.

7. ENEMY'S KNOWLEDGE OF OUR SITUATION.

- a. Observation.
- b. Reconnaissance.
- c. Our prisoners and documents lost; inhabitants.

8. ENEMY'S PROBABLE INTENTIONS.

- a. Lines of action open to enemy (with discussion of each).
- b. Conclusion as to line of action that will be adopted.

(Signature of chief of section)

³Omit any subheading under which there is nothing to report.

**A form for a
G-3 OR S-3 PERIODIC REPORT**

—————
REPORT¹

From: (Date and hour)

To: (Date and hour)

(Unit)

(Date)

No _____

Maps:

1. **OUR FRONT LINE** (or most advanced elements).
2. **LOCATION OF TROOPS.** (Situation at close of period, including command posts, boundaries, or any troops in movement.)
3. **INFORMATION OF ADJACENT UNITS AND SUPPORTING TROOPS.**
4. **WEATHER AND VISIBILITY.**
5. **OUR OPERATIONS FOR THE PERIOD.²**
 - a. Cavalry.
 - b. Infantry and auxiliary weapons.
 - c. Artillery.
 - d. Tanks.
 - e. Airplanes.
 - f. Balloons.
 - g. Chemical troops.
 - h. Miscellaneous.
6. **COMBAT EFFICIENCY.** (Arrived at by consideration of the status of training, the losses in officers, men, animals, and material, the morale, and any other conditions peculiar to the unit considered. For divisions, this report should show efficiency of combat regiment; it may include other units, as special troops.)
7. **RESULTS OF OPERATIONS.**

(Signature of chief of section)

¹ Submitted as ordered by the commander. To be supported by such maps and appendices as are necessary to make a complete record of the existing situation and of the operations during the period. When any part of the subject matter of the report can be shown clearly on a map, this should be done. In such cases no entry need be made under the appropriate heading of the report except the statement, "See map attached." Brigades and lower units usually submit one report based on the appropriate topical headings of the four section reports.

² Omit any subheading under which there is nothing to report.

A form for a
G-4 OR S-4 PERIODIC REPORT

—————
REPORT¹

From: (Date and hour)

To: (Date and hour)

(Unit)

(Date)

ps :

LOCATION OF TECHNICAL, SUPPLY, AND ADMINISTRATIVE TROOPS, TRAINS, RAILHEAD, AND ESTABLISHMENTS. (Changes during and locations at close of period.)

STATUS OF SUPPLY. (Including losses of material and possibilities of resupply.)

a. Rations; garrison, field, reserve.

b. Munitions situation report; caliber, type, fuzes, expenditures, receipts, and balance. For division and larger units, reduce to rounds per piece for artillery ammunition. Credits at depots and when it can be received in unit.

c. Equipment.

d. Other supplies.

. STATUS OF EVACUATION. (By whom made and progress of.)

. CONDITION OF ROADS AND STATUS OF CIRCULATION.

. SALVAGE AND CAPTURED MATERIAL. (Amounts, kinds, reissues, and evacuations of.)

. BURIALS. (Progress of, location of cemeteries.)

. ACTIVITIES. (Should cover those of section, and technical, supply and administrative staff other than routine; namely, those of a particular important or of unusual nature.)

(Signature of chief of section)

¹ Submitted as ordered by the commander. To be supported by such maps and appendices as are necessary to make a complete record of the existing situation and of the operations during the period. When any part of the subject matter of the report can be shown clearly on a map, this should be done. In such cases no entry need be made under the appropriate heading of the report except the statement, "See map attached." Brigades and lower units usually submit one report based on the appropriate topical headings of the four section reports.

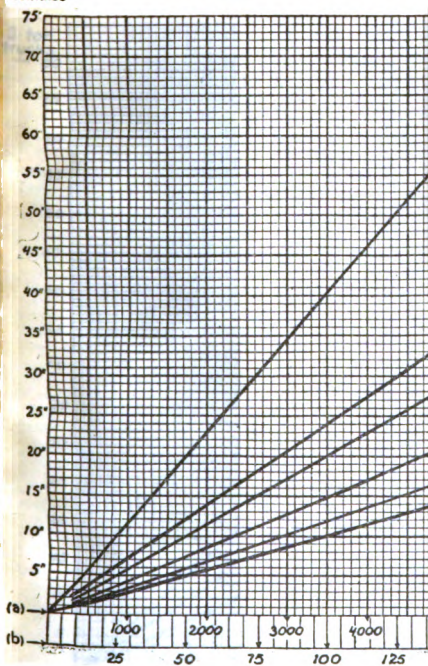
41. Miscellaneous forms.

Work sheet
 (For preparation of entrucking table)
 (See F O No. --- Division ---)

1	2	3	4	5	6	7	8	9	10
Group number (order of clearance of IP)	Number of trucks assigned	Time-length of motor transport (minutes)	Hour head passes RP (for second and succeeding groups, add time-length of preceding group plus delay at RP)	Time distance RP to EP (minutes)	Hour head arrives at EP (4+5)	Time distance EP to IP (minutes)	Hour head passes IP (for second and succeeding groups, add time-length of preceding group) 1 1/2	Hour head leaves EP (8 minus 7)	Hour entrucking begins (from column 9 subtract 15 minutes, if loading personnel only; subtract 30 minutes, if loading personnel and animals or matériel)

1. Hour to be entered for Group No. 1 under column 8 equals hour of arrival of head of truck column at RP plus total delay of all groups at RP. Time-length of longest route through area at RP to head of group clears area, add last entry in column 8. Total entry in column 8 plus total delay of all groups at RP equals total entry in column 9. Total entry in column 9 plus 30 minutes for inspection and entrucking.

Minutes



Motor transport conversion

(For converting yards into time distance: 1
verted. Follow a vertical line over this poi
ing the proper rate per hour. Read off on
For converting trucks to be loaded into time
on scale (b) the number of trucks in group.
section with the diagonal indicating the rate 1
marginal scale the "time length" of the gro

Example of Index No. — to —

SIGNAL OPERATION INSTRUCTIONS

1st Division,
GETTYSBURG, PA.
14 November 1931, 10:00 AM

Title of item	Serial No.	Remarks ¹
GENERAL:		
Index to Signal Operation Instructions.	5	Supersedes No. 4, 15 Nov 1:00 AM.
Index to Regulations and Orders on Signal Communication.	1	Effective 15 Nov 1:00 AM.
Distribution "S" for Signal Operation Instructions.	2	Supersedes No 1, 15 Nov 1:00 AM.
CODES AND CIPHERS:		
Army Field Code (AFC).....	1	Effective 15 Nov 1:00 AM.
Geographical Appendix to AFC-2....	4	Supersedes No 3, 15 Nov 1:00 AM.
Division Field Code (DFC).....	1	Effective 15 Nov 1:00 AM.
Geographical Appendix to DFC-4....	3	Supersedes No. 2, 15 Nov 1:00 AM.
Radio Service Code (RAD).....	1	Effective 15 Nov 1:00 AM.
Air-Ground Liaison Code (AGC)....	1	Effective 15 Nov 1:00 AM.
Fire-Control Code (FCC).....	1	Effective 15 Nov 1:00 AM.
Map Coordinate Strips.....	5	Supersedes No. 4, 15 Nov 1:00 AM.
Decoding Chart, Map Coordinate Strips.	5	Supersedes No 4, 15 Nov 1:00 AM.
Cipher Key, for Cipher Device M-94.	5	Supersedes No 4, 15 Nov 1:00 AM.
Pyrotechnic Code.....	1	Effective 15 Nov 1:00 AM.
RADIO COMMUNICATION:²		
Call Signs and Frequencies, I Corps Net.	3	Supersedes No 2, 15 Nov 1:00 AM.
Call Signs and Frequencies, 1st Division Net.	4	Supersedes No 3, 15 Nov 1:00 AM.
Call Signs and Frequencies, 1st Brigade Net.	4	Supersedes No 3, 15 Nov 1:00 AM.
Call Signs and Frequencies, 2d Brigade Net.	4	Supersedes No 3, 15 Nov 1:00 AM.
Call Signs and Frequencies, 1st Field Artillery Brigade Net.	4	Supersedes No 3, 15 Nov 1:00 AM.
Call Signs and Frequencies, 1st Infantry Net.	4	Supersedes No. 3, 15 Nov 1:00 AM.
Call Signs and Frequencies, 2d Infantry Net.	4	Supersedes No 3, 15 Nov 1:00 AM.
Call Signs and Frequencies, 3d Infantry Net.	4	Supersedes No 3, 15 Nov 1:00 AM.
Call Signs and Frequencies, 4th Infantry Net.	4	Supersedes No 3, 15 Nov 1:00 AM.
Call Signs and Frequencies, 1st Field Artillery Net.	4	Supersedes No 3, 15 Nov 1:00 AM.

¹ The date and hour items of signal operation instruction become effective will be shown under remarks together with items superseded, if any.

² When necessary, all radio call signs and frequencies may be combined in one item.

Signal operation instructions—Continued

Title of item	Serial No.	Remarks
RADIO COMMUNICATION—Continued		
Call Signs and Frequencies, 2d Field Artillery Net.	4	Supersedes No 3, 15 Nov 1:00 A.M.
Call Signs and Frequencies, 3d Field Artillery Net.	4	Supersedes No 3, 15 Nov 1:00 A.M.
Call Signs and Frequencies, 101st Observation Squadron.	2	Supersedes No 1, 15 Nov 1:00 A.M.
VISUAL COMMUNICATION:		
Call Signs, Visual Stations.....	1	Effective 15 Nov 1:00 A.M.
Airplane Identification.....	1	Effective 15 Nov 1:00 A.M.
WIRE COMMUNICATION:		
Telephone Code Numbers, Officers and Offices.	1	Effective 15 Nov 1:00 A.M.
Telephone Code Names.....	3	Supersedes No 2, 15 Nov 1:00 A.M.
Telegraph Call Signs.....	1	Effective 15 Nov 1:00 A.M.

BY COMMAND OF MAJOR GENERAL A :

X
Chief of Staff.

OFFICIAL :

Y

Assistant Chief of Staff, G-3.

Distribution: S-10-11-12-13-14-16.

A form for a

DISTRIBUTION LIST

Document _____ Division _____

Identify by office mark when possible)

Number of copies _____ (Date and hour) _____

To message center for transmission as checked below

(Sign) _____

Standard distribution				Special distribution	Organization or office
A		B			
Number of copies ¹	Copy number	Number of copies ¹	Copy number		
1	1	1	1	-----	Commanding general.
1	2	1	2	-----	Aides.
1	3	1	3	-----	Chief of staff.
1	4	3	4-6	-----	G-1.
1	5	1	7	-----	G-2.
2	6-7	1	8	-----	G-3.
2	8-9	5	9-13	-----	G-4.
1	10	1	14	-----	Signal officer.
1	11	1	15	-----	Chemical officer.
1	12	1	16	-----	Air officer.
1	13	3	17-19	-----	Engineer.
1	14	2	20-21	-----	Surgeon.
1	15	1	22	-----	Adjutant general.
1	16	1	23	-----	Inspector.
1	17	4	24-27	-----	Quartermaster.
-----	-----	1	28	-----	Finance officer.
1	18	1	29	-----	Ordnance officer.
-----	-----	1	30	-----	Judge advocate.
-----	-----	1	31	-----	Chaplain.
1	19	3	32-34	-----	Headquarters commandant and provost marshal.
1	20	1	35	-----	----- Signal company.
1	21	1	36	-----	----- Tank company.

A—Field orders. B—Administrative orders.

¹ Number of copies to be issued to subordinate units, offices, etc., should conform to actual requirements.

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Distribution list—Continued

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				-----	----- Infantry.
				-----	----- Infantry.
4	26-29	4	41-44	-----	----- Brigade (Inf.).
				-----	----- Infantry.
				-----	----- Infantry.
6	30-35	6	45-50	-----	----- Field artillery brigade.
				-----	----- Field artillery.
				-----	----- Field artillery.
				-----	----- Ammunition train.
1	36	1	51	-----	----- Engineers.
1	37	1	52	-----	----- Medical regiment.
1	38	1	53	-----	----- Quartermaster regiment.
1	39	1	54	-----	----- Army.
1	40	1	55	-----	----- Corps.
1	41	1	56	-----	----- Division (on right).
1	42	1	57	-----	----- Division (on left).
1	43	1	58	-----	----- Division (in reserve).
1	44			-----	----- Reserve.
					Attached
					Troops

- (3) Time allotted for duties other than training, holidays, etc.
- (4) Time remaining at the disposal of subordinate commanders.

c. Date the training program becomes effective.

3. DETAILED PLAN.

a. Instructions governing the training of the unit as a whole giving—

- (1) Dates and general character of such training (In company programs an allotment of hours for instruction in the various subjects is given here.) (Detailed schedules covering this training are issued separately later.)
- (2) Instructions as to tactical and training inspection with dates of tactical inspections by issuing an higher authority and instructions for proficiency tests by or under the direct supervision of the issuing commander.

b. Training to be conducted by subordinate commanders. separate subparagraph for each next subordinate unit giving—

- (1) Its mission or training objective.
- (2) Division of the training into phases or periods if necessary, and a training objective or subject for each period or phase.
- (3) Allocation of training facilities with dates and hours available.
- (4) Special instructions, if any, necessary for its training.
- (5) Inspection calendar showing dates the next subordinate unit will be inspected for proficiency in various subjects.

c. Instructions in regard to schools.

- (1) Instructions governing the conduct of post or troop schools or enrollment in extension courses schools conducted by the issuing officer or higher authority.
- (2) Instructions in regard to schools to be conducted by subordinate commanders.

x. General instructions applicable to the unit as a whole or to more than one unit.

- (1) Instructions as to training standards, proficiency tests, and records of progress.
- (2) Special features of training, if any, which must be stressed.
- (3) Instructions as to the submission of programs or schedules by subordinate commanders.
- (4) Instructions, if any, for the keeping of training charts or other training records.
- (5) Instructions in regard to special subjects, such as—
 - (a) Physical training.
 - (b) Athletics.
 - (c) Practice marches.
 - (d) Target practice.
 - (e) Defense against chemical attacks.
 - (f) Antiaircraft defense.
 - (g) Ceremonies.
 - (h) Riot duty.

5. ADMINISTRATIVE INSTRUCTIONS.

a. Instructions, if any, for the regulation of administrative duties, guard, and fatigue so as to provide the maximum time and personnel for training.

b. Instructions, if any, for the submission of estimates of funds required for training purposes.

c. Instructions, if any, for the use, care, and maintenance of training facilities.

d. Instructions, if any, relating to leaves of absence and furloughs in their relation to training.

e. Instructions, if any, relating to uniforms and equipment in their relation to training.

(Signature)

(Authentication)

Distribution:

**A form for a
 UNIT TRAINING SCHEDULE**

TRAINING SCHEDULE. From (Date) to (Date) Hq (Unit) (Station) (Date)									
Day and date	Hours		Personnel participating	Character of training	Place	Officer or NCO in charge	Uniform and equipment	Text references, if any, including paragraphs	Remarks
	From	To							

SECTION III

ABBREVIATIONS

12. Abbreviations.—*a. General.*—In general, the use of abbreviations on account of the liability of their being misunderstood is not favored. However, the desirability of saving time and space has led to the authorization of certain simple, widely known abbreviations and to the formulation of rules for their use in order to obviate the objection to their employment.

b. Classification.—With respect to their use in combat orders including their annexes and in field messages, abbreviations are classified as follows:

(1) Certain conventions that have been generally adopted by the public at large and are universally understood, such as, *M* and *PM* for the periods of the day before and after noon, respectively, and *No* for number.

(2) Specific conventions that have been adopted in the military service, as *RJ* for road junction, *CR* for crossroads, and *M* for bench mark, when these terms are used as part of the designation of a particular point (e. g., *RJ 601*, *BM 890*; *CR 601 (350.5-750.3)*), and *incl* and *excl* for inclusive and exclusive, respectively.

(3) Standard abbreviations used to designate grade, abbreviations covering military organizations and fractions thereof, a few military terms, the names of the months, and the names of the States and Territories of the United States and similar subdivisions of foreign countries.

c. Use of abbreviations.—(1) The use of the abbreviations named in *b* (1) and (2) above are usual in all parts of written combat orders including their annexes and in written field messages. Abbreviations, except *AM* and *PM* when referring to the hours of the day, are not ordinarily used in orders which are dictated or given orally nor in telephone messages.

(2) Except as noted in (3) below, the use of the class of abbreviations referred to in *b* (3) above is optional. Clearness is essential. When one of this class of abbreviations is used in one place in an order, it should be used, where authorized, throughout the order. Only abbreviations that are familiar to subordinates should be used. As a rule, these abbreviations are used only in messages or orders written by hand. In typed orders, it is usually quicker and easier to write out the words in full.

(3) Abbreviations are always used in lists of annexes and in the distribution at the end of orders.

d. Dates.—When abbreviations are used, dates are written thus, 1 Jan 24.

e. List.—(1) *General.*—The list in (2) below contains only the authorized abbreviations frequently used in combat order messages, records, and reports in the field. It should be noted that with few exceptions all abbreviations are written without spacing and that periods are not used. Whenever practicable abbreviations have been grouped in order to economize space. In each case the abbreviation not inclosed in parentheses plus any one of those inclosed will give a proper abbreviation, and for example:

Hq (Btry) (Co)—Hq Btry; Hq Co.

When an abbreviation is not made up by grouping the abbreviations of the component words, the special abbreviation is given separately, as, for instance, DHQ for division headquarters instead of Div Hq. For a more detailed list of abbreviations, see paragraph 2, AR 850-150.

(2) *List of abbreviations.*

Acting	Actg
Adjutant (section)	Adj (Sec)
Adjutant (1st staff section, brigades and lower units)	S-1
Adjutant General's Department	AGD
Administrative (orders)	Adm (O)
Advance	Adv
Advance guard	Adv Gd
Afternoon (i. e., from 12:00 noon to 12:00 midnight)	PM
Aide-de-camp	ADC
Air Corps	AC
Airdrome	Adrm
Air intelligence (section) (officer)	A Int (Sec) (O)
Airplane	Ap
Airship	Ash
Ambulance (battalion) (company) (section)	Amb (Bn) (Co) (Sec)
Ambulance (company, animal-drawn) (company, motor)	Amb (Co Anl) (Co M)
American Expeditionary Forces	AEF

ammunition (company) (distributing Am (Co) (DP) point) (train)	(Tn)
animal or animal-drawn	Anl
antiaircraft	AA
antiaircraft artillery	AAA
april	Apr
armored car	Armd-C
army engineer service	A Engr Serv
army headquarters	AHQ
army medical (laboratory) (service)	A Med (Lab) (Serv)
army Regulations	AR
artillery (brigade) (horse) (liaison officer)	Arty (Brig) (H) (Ln O)
artillery information service	AIS
assistant	Asst
assistant chief of staff	AC of S
assistant chief of staff for personnel	G-1
assistant chief of staff of military intelligence	G-2
assistant chief of staff for operations and training	G-3
assistant chief of staff for supply	G-4
attack (group) (squadron) (wing)	Atk (Gp) (Sq) (Wg)
auxiliary	Aux
August	Aug
Automatic	Auto
aviation	Avn
axis or axes of signal communication	Ax Sig Com
Bakery	Bkry
Balloon (group) (squadron) (wing)	Bln (Gp) (Sq) (Wg)
Battalion (combat train) (commander)	Bn (C Tn) (Comdr)
Battalion adjutant	S-1
Battalion intelligence officer	S-2
Battalion plans and training officer	S-3
Battalion supply officer	S-4

Battalion reserve line.....	BRL
Battery (commander).....	Btry (Comdr)
Bench mark.....	BM
Bombardment (day) (group) (night).....	Bomb (Day) (Gr (Nt)
Boundary.....	Bd
Bridge train (heavy) (light).....	Bdg Tn (Hv) (L)
Brigade (commander).....	Brig (Comdr)
Brigade adjutant.....	S-1
Brigade intelligence officer.....	S-2
Brigade plans and training officer.....	S-3
Brigade supply officer.....	S-4
Brigade headquarters.....	BHQ
Brigadier general.....	Brig Gen
Caliber.....	cal
Camouflage (battalion) (company).....	Cam (Bn) (Co)
Captain.....	Capt
Cavalry (brigade) (division).....	Cav (Brig) (Div)
Cavalry division headquarters.....	Cav DHQ
Cemetery.....	Cem
Center.....	Cen
Chaplain (section).....	Ch (Sec)
Chemical (ammunition train).....	Cml (Am Tn)
Chemical (battalion) (company) (officer).....	Cml (Bn) (Co (O)
Chemical (regiment) (section).....	Cml (Regt) (Sec)
Chemical Warfare Service.....	CWS
Chief of artillery.....	C of A
Chief of aviation.....	C of Avn
Chief Signal Officer.....	C Sig O
Chief of staff.....	C of S
Clothing and bath unit.....	C & BU
Coast Artillery Corps.....	CAC
Coast defense.....	CD
Collecting (battalion) (company) (point) (station).....	Coll (Bn) (Co) (Pt) (Sta)
Colonel.....	Col
Combat (train) (zone).....	C (Tn) (Z)
Command.....	Comd

Commandant -----	Comdt
Commander -----	Comdr
Commander in chief -----	C in C
Commanding -----	Comdg
Commanding general -----	Cg
Commanding officer -----	CO
Command post -----	CP
Communication (officer) (platoon) (section).	Com (O) (Plat) (Sec)
Communications zone -----	Com Z
Company (commander) (headquarters) -----	Co (Comdr) (Hq)
Construction (company) (platoon) (section).	Cons (Co) (Plat) (Sec)
Convalescent hospital -----	Conv (Hosp)
Corporal -----	Corp
Corps headquarters -----	CHQ
Corps of Engineers -----	CE
Crossroads -----	CR
December -----	Dec
Dental Corps -----	DC
Department -----	Dept
Depot (battalion) -----	Dep (Bn)
Deputy chief of staff -----	DC of S
Detachment -----	Det
Distributing point -----	DP
Division -----	Div
Division (adjutant) (aviation) (commander).	Div (Adj) (Avn) (Comdr)
Division (engineer) (finance officer) -----	Div (Engr) (Fin O)
Division headquarters -----	DHQ
Division (headquarters commandant and provost marshal).	Div (Hq Comdt & PM)
Division (judge advocate) (munitions officer).	Div (JA) (Mun O)
Division (quartermaster) (signal officer) (surgeon).	Div (QM) (Sig O) (Surg)
Dump (truck) -----	Dp (Trk)

East	E
Echelon	Ech
Embarkation	Emb
Engineer (battalion) (company) (officer) (train).	Engr (Bn) (C) (O) (Tn)
Engineers (combat) (general service).....	Engrs (C) (G Serv)
Enlisted men.....	EM
Entrucking point.....	EP
Evacuation (hospital).....	Evac (Hosp)
Exclusive	excl
Executive (officer).....	Ex (O)
February.....	Feb
Feet or foot.....	ft
Field (train).....	F (Tn)
Field Artillery (brigade).....	FA (Brig)
Field manual.....	FM
Field orders.....	FO
Field (remount depot).....	F (Rmt Dep)
Finance (Department) (officer).....	Fin (Dept) (O)
First lieutenant.....	1st Lt
Flash ranging.....	FR
Flight (commander).....	Flt (Comdr)
Forward communication center.....	FCC
Forward echelon.....	Fwd Ech
General (hospital) (service).....	Gen (Hosp) (Serv)
General headquarters.....	GHQ
General service.....	Gen Serv
General staff (Corps).....	GS (C)
First section.....	G-1
Second section.....	G-2
Third section.....	G-3
Fourth section.....	G-4
Geological (survey).....	Geol (Surv)
Graves registration unit.....	GRU
Group.....	Gp
Groupment.....	Gpmt
Guard.....	Gd

armor defense.....	HD
headquarters (battery) (company) (platoon) (section) (troop).	Hq (Btry) (Co) (Plat) (Sec) (Tr)
headquarters and headquarters (battery) (company) (troop).	Hq & Hq (Btry) (Co) (Tr)
headquarters commandant.....	Hq Comdt
headquarters and service (battery) (company).	Hq & Serv (Btry) (Co)
heavy.....	Hv
high explosive.....	HE
highway.....	Hwy
hospital (battalion) (company) (train)---	Hosp (Bn) (Co) (Tn)
howitzer (company) (section).....	How (Co) (Sec)
inch.....	in
inclusive.....	incl
infantry (brigade) (division).....	Inf (Brig) (Div)
initial point.....	IP
inspector general.....	IG
Inspector General's Department.....	IGD
intelligence (platoon) (section).....	Int (Plat) (Sec)
intelligence officer.....	S-2 or Int O
January.....	Jan
judge advocate (section).....	JA (Sec)
Judge Advocate General's Department.....	JAGD
Kitchen.....	Ki
Laboratory.....	Lab
Liaison (officer).....	Ln (O)
Lieutenant (colonel) (general).....	Lt (Col) (Gen)
Light (machine gun).....	L (MG)
Lights.....	Lts
Line of departure.....	LD
Machine gun (company) (squadron) (troop).	MG (Co) (Sq) (TR)
Machine rifle (platoon) (squad).....	MR (Plat) (Sqd)

Main line of resistance.....	MLR
Maintenance (section).....	Maint (Sec)
Maintenance of equipment.....	M of E
Maintenance of way.....	M of W
Major (General).....	Maj (Gen)
March.....	Mar
Mechanized.....	Mecz
Medical (regiment) (supply depot).....	Med (Regt) (Sup Dep)
Medical Corps.....	MC
Medical Department.....	MD
Message (center).....	Msg (Cen)
Messenger (section).....	Mmgr (Sec)
Meteorological company.....	Met Co
Mile.....	mi
Military intelligence.....	MI
Military police (battalion) (company).....	MP (Bn) (Co)
Millimeter.....	mm
Months.....	mos
Morning (i. e., from 12:00 midnight to 12:00 noon).....	AM
Motor.....	M
Motor car company.....	MC Co
Motorcycle (company).....	Mtel (Co)
Motor repair (battalion) (company) (sec- tion).....	M Rep (Bn) (Co) (Sec)
Motor transport (command) (company) (of- ficer).....	MT (Comd) (Co) (O)
Motor truck (company).....	M Trk (Co)
Motorized.....	Mtz
Mounted.....	Mtd
Munitions (officer).....	Mun (O)
Night.....	Nt
Noncommissioned officer.....	NCO
North.....	N
November.....	Nov
Number.....	No
Observation (battalion) (flash) (group) (squadron).....	Obsn (Bn) (Fl) (Gp) (Sq)

server-----	Obsr
servation post-----	OP
tober-----	Oct
icer, order, or orders-----	O
dnance (company) (depot) (section)-----	Ord (Co) (Dep) (Sec)
dnance officer-----	OO
tpost line of resistance-----	OPLR
ck (train)-----	Pk (Tn)
rk-----	Prk
rsonnel (adjutant) (section)-----	Pers (Adj) (Sec)
otographic (section)-----	Photo (Sec)
geon company-----	Pgn Co
oneer-----	Pion
oneer and demolition section-----	P & D Sec
ans and training officer-----	S-3
atoon (commander) (headquarters)-----	Plat (Comdr) (Hq)
int-----	Pt
nton-----	Pon
ostal (section)-----	Post (Sec)
rivate-----	Pvt
rovisional-----	Prov
rovost marshal-----	PM
rovost Marshal General-----	PMG
ursuit (group) (squadron)-----	Pur (Gp) (Sq)
uartering (detachment) (officer)-----	Qr (Det) (O)
uartermaster (Corps) (section)-----	QM (C) (Sec)
adio (company)-(section)-----	Rad (Co) (Sec)
adio and panel section-----	R & P Sec
ation distributing point-----	RDP
ailhead (detachment)-----	Rhd (Det)
ailhead officer-----	RHO
ailroad-----	RR
ailroad transportation officer-----	RTO
ailway (battalion)-----	Ry (Bn)
ear (echelon) (guard)-----	Rr (Ech) (Gd)
Reconnaissance (officer)-----	R (O)

Reconstruction park.....	Recons Prk
Refilling point.....	RP
Regiment.....	Regt
Regimental.....	Regtl
Regimental adjutant.....	S-1
Regimental headquarters.....	RHQ
Regimental intelligence officer.....	S-2
Regimental plans and training officer.....	S-3
Regimental reserve line.....	RRL
Regimental supply officer.....	S-4
Regulating (officer) (point) (station).....	R (O) (P) (Sta)
Remount (depot) (officer) (service).....	Rmt (Dep) (O) (Serv)
Repair (section).....	Rep (Sec)
Replacement.....	Repl
Reproduction.....	Repr
Reserve.....	Res
Rifle (company) (platoon) (squad).....	R (Co) (Plat) (Sqd)
Road.....	Rd
Road junction.....	RJ
Sales commissary unit.....	Sales Com U
Salvage (company).....	Salv (Co)
Sanitary.....	Sn
School.....	Sch
Searchlight.....	Slt or SL
Second lieutenant.....	2d Lt
Section.....	Sec
Separate.....	Sep
September.....	Sept
Sergeant.....	Sgt
Service (battalion) (battery) (company) (troop).....	Serv (Bn) (Btry) (Co) (Tr)
Signal (battalion) (company) (depot) (officer) (section).....	Sig (Bn) (Co) (Dep) (O) (Sec)
Signal Corps.....	Sig C
Small arms (ammunition).....	SA (Am)
Sound ranging.....	SR
Sound and flash battalion.....	S & F Bn
South.....	S

Special troops-----	Sp Trs
Squad-----	Sqd
Squadron (headquarters) (headquarters and headquarters detachment).	Sq (Hq) (Hq & Hq Det)
Station-----	Sta
Submachine gun-----	SMG
Supply (company) (section) (troop)-----	Sup (Co) (Sec) (Tr)
Supply officer-----	S-4 or Sup O
Support line-----	SL
Surgeon-----	Surg
Surgical (hospital)-----	Surgl (Hosp)
Survey-----	Surv
Waggoner line-----	Strag L
Watchboard-----	Sb
Tables of Basic Allowances-----	T/BA
Tables of Organization-----	T/O
Tank (battalion) (company)-----	Tk (Bn) (Co)
Technical-----	Tech
Technical Regulations-----	TR
Telegraph (section)-----	Tg (Sec)
Telephone (section)-----	Tp (Sec)
Theater of Operations-----	T of Opns
Topographic-----	Top
Tractor-----	Trac
Tractor-drawn-----	TD
Train-----	Tn
Training Manual-----	TM
Training Regulations-----	TR
Transport or transportation (company) (of- ficer) (platoon)-----	T (Co) (O) (Plat)
Trench mortar (battery)-----	TM (Btry)
Troop (s)-----	Tr (s)
Truck (section)-----	Trk (Sec)
Veterinary or veterinarian-----	Vet
Veterinary Corps-----	VC
Veterinary (company) (evacuation hospital) (service).	Vet (Co) (Evac Hosp) (Serv)
Visual-----	Vis

Wagon (company) (master) (section) (train).	Wag (Co) (M) (Sec) (Tn)
War Department.....	WD
Warrant officer.....	WO
Water supply.....	W Sup
Water tank (battalion) (train).....	W Tk (Bn) (Tn)
West.....	W
Wing.....	Wg
Yard.....	Yd
Year.....	Yr
Zone.....	Z
Zone of the interior.....	Z of I

(3) *Examples.—(a) Abbreviations used with units of an infantry division.*

1st Division ¹	1st Div
1st Brigade ¹	1st Brig
Special Troops, 1st Division.....	Sp Trs 1st Div
Headquarters Company, 1st Division.....	Hq Co 1st Div
Forward Echelon, Headquarters, 1st Division.	Fwd Ech Hq 1st Div
Rear Echelon, Headquarters, 1st Division.....	Rr Ech Hq 1st Div
1st Signal Company.....	1st Sig Co
1st Tank Company (light).....	1st Tk Co
1st Ordnance Company (maintenance).....	1st Ord Co
Service Company, 1st Division.....	Serv Co 1st Div
1st Military Police Company.....	1st MP Co
Headquarters Company, 1st Brigade.....	Hq Co 1st Brig
Headquarters and Headquarters Company, 1st Brigade.	Hq & Hq Co 1st Brig
1st Infantry.....	1st Inf
Headquarters Company, 1st Infantry.....	Hq Co 1st Inf
Headquarters and Headquarters Company, 1st Infantry.	Hq & Hq Co 1st Inf

¹The abbreviations "1st Div" or "1st Brig" always imply an infantry division or an infantry brigade. Cavalry divisions or brigades and field artillery brigades are always designated by including the abbreviations "Cav" or "FA," as, "1st Cav Div," "1st FA Brig."

telligence Platoon, Headquarters Com-	Int Plat Hq Co
pany, 1st Infantry.	1st Inf
ioneer Platoon, Headquarters Company, 1st	Pion Plat Hq Co
Infantry.	1st Inf
ommunication Platoon, Headquarters Com-	Com Plat Hq Co
pany (1st Infantry) (1st Battalion).	(1st Inf) (1st
	Bn)
ervice Company, 1st Infantry-----	Serv Co 1st Inf
eadquarters, Platoon, Service Company, 1st	Hq Plat Sery Co
Infantry.	1st Inf
ansportation Platoon, Service Company, T	Plat Serv Co
1st Infantry.	1st Inf
t Battalion, 1st Infantry-----	1st Bn 1st Inf
eadquarters and Headquarters Company,	Hq & Hq Co 1st
1st Battalion, 1st Infantry.	Bn 1st Inf
ompany A, 1st Infantry-----	Co A 1st Inf
owitzzer Company, 1st Infantry-----	How Co 1st Inf
t Field Artillery Brigade-----	1st FA Brig
t Field Artillery-----	1st FA
t Battalion, 1st Field Artillery-----	1st Bn 1st FA
ombat Train, 1st Battalion, 1st Field Ar-	
tillery-----	C Tn 1st Bn 1st FA
attery A, 1st Field Artillery-----	Btry A 1st FA
t Ammunition Train-----	1st Am Tn
attery A, 1st Ammunition Train-----	Btry A 1st Am Tn
1st Field Artillery (155-mm. howitzer)-----	101st FA (155-
	mm. How)
t Division Aviation-----	1st Div Avn
t Observation Squadron-----	1st Obsn Sq
t Photo Section-----	1st Photo Sec
t Engineers-----	1st Engrs
t Battalion, 1st Engineers-----	1st Bn 1st Engrs
ompany A, 1st Engineers-----	Co A 1st Engrs
t Medical Regiment-----	1st Med Regt
ervice Company, 1st Medical Regiment,---	Serv Co 1st Med
	Regt
ollecting Battalion, 1st Medical Regiment---	Coll Bn 1st Med
	Regt
st Collecting Company, 1st Medical Regi-	1st Coll Co 1st Med
ment.	Regt

Ambulance Battalion, 1st Medical Regiment.	Amb Bn 1st M Regt
1st Ambulance Company, 1st Medical Regiment.	1st Amb Co 1 Med Regt
Hospital Battalion, 1st Medical Regiment....	Hosp Bn 1st Med Regt
1st Hospital Company, 1st Medical Regiment	1st Hosp Co 1 Med Regt
1st Veterinary Company.....	1st Vet Co

(b) *Examples of abbreviations for units that may be attached to an infantry division.*

Battery A, 501st Coast Artillery (antiaircraft) (searchlight).	Btry A 501st C (AA) (SL ¹)
Battery E, 501st Coast Artillery (antiaircraft) (machine gun).	Btry E 501st C (AA) (MG ¹)
1st Platoon, Company A, 301st Chemical Regiment.	1st Plat Co 301st Cml Reg
421st Field Artillery (75-mm. Portée).....	421st FA (75-m Portée ¹)
402d Field Artillery (155-mm. howitzer)....	402d FA (155-m How)
360th Engineers (general service).....	360th Engrs (G Serv ¹)
699th Battalion of Engineers (separate)....	699th Bn Eng (Sep ¹)
70th Surgical Hospital.....	70th Surgl Hosp
351st Observation Squadron (separate)....	351st Obsn S (Sep ¹)
301st Balloon Squadron.....	301st Bln Sq
1st Quartermaster Regiment.....	1st QM Regt
Motor Battalion, 1st Quartermaster Regiment.	M Bn 1st Q Regt
1st Motor Transport Company, 1st Quartermaster Regiment.	1st MT Co 1st Q Regt

¹ Not required, may be added if desirable for ready identification.

Motor Maintenance Company, 1st Quarter- **M Maint Co 1st**
master Regiment. **QM Regt**
Wagon Battalion, 1st Quartermaster Regi- **Wag Bn 1st QM**
ment. **Regt**

(c) *Abbreviations used with units of a cavalry division.*

1st Cavalry Division	1st Cav Div
1st Cavalry Brigade	1st Cav Brig
Headquarters and Headquarters Troop, 1st Cavalry Brigade	Hq & Hq Tr 1st Cav Brig
Special Troops, 1st Cavalry Division	Sp Trs 1st Cav Div
Headquarters Troop, 1st Cavalry Division ..	Hq Tr 1st Cav Div
1st Signal Troop	1st Sig Tr
1st Ordnance Co (light maintenance)	1st Ord Co (Cav)
Forward Echelon, Headquarters, 1st Cavalry Division	Fwd Ech Hq 1st Cav Div
Rear Echelon, Headquarters, 1st Cavalry Division	Rr Ech Hq 1st Cav Div
1st Cavalry	1st Cav
1st Squadron, 1st Cavalry	1st Sq 1st Cav
Troop A, 1st Cavalry	Tr A 1st Cav
1st Armored-car Squadron	1st Armd-C Sq
Troop A, 1st Armored-car Squadron	Tr A 1st Armd-C Sq
Machine-Gun Troop, 1st Cavalry	MG Tr 1st Cav
1st Field Artillery (horse)	1st FA (H)
1st Battalion, 1st Field Artillery (horse) ..	1st Bn 1st FA (H)
Battery A, 1st Field Artillery (horse)	Btry A 1st FA (H)
1st Engineer Squadron	1st Engr Sq
1st Medical Squadron	1st Med Sq
Ambulance Troop, 1st Medical Squadron	Amb Tr 1st Med Sq
Veterinary Troop, 1st Medical Squadron	Vet Tr 1st Med Sq
1st Cavalry Division Train	1st Cav Div Tn
Pack Train No. 1	Pk Tn No 1

CHAPTER 3

MAPS AND SPECIAL MILITARY SYMBOLS

43. Standard maps.—The standard 15-minute quadrangle sheets of the United States Geological Survey, with wooded areas and road data, have been adopted as tactical maps of terrain so covered. The United States Geological Survey Standard maps, scale 1:500,000, have been adopted as strategic maps pending the issue of War Department strategic maps.

	Fire-control or training map	Tactical map
Scale	1:20,000 (about 3 in. = 1 mi.).	1:62,500 ¹ (about 1 in. = 1 mi.).
Area covered.....	Limited to important areas.	United States and possessions.
Sheets.....	Preferably a 5-minute quadrangle ² (about 8,000 yards east and west by 10,000 yards north and south).	15 minutes by 15 minutes ² (about 25,000 yards east and west by 30,000 yards north and south).
Contour interval.....	20 feet.....	Multiple of 10 feet.
Grid	1,000-yard squares.....	5,000-yard squares.

	Strategic map	Air navigation maps	General and geographic maps
Scale	1:500,000 (about 1 in. = 8 mi.).	1:500,000 (about 1 in. = 8 mi.).	1:1,000,000 (about 1 in. = 16 mi.) to 1:16,000,000 (about 1 in. = 250 mi.).
Area covered..	Not yet provided...	Strips about 80 miles wide along airways.	United States.
Sheets		About 80 miles wide, variable length.	Variable.
Contour interval.....		Elevations are shown by color gradients in accordance with scale shown on each chart.	
Grid			

¹ In the Philippine Islands 1:63,360.

² In the Philippine Islands 20 minutes by 20 minutes.

³ Variations occur but do not in general exceed 12,000 by 20,000 yards.

44. Special maps.—Standard maps are used as the basis. The preparation of special maps in scales larger than 1:20,000 not encouraged. When necessary, scales of 1:10,000 and 1:5,000 may be used. Normal scales will be 1:62,500 (1:63,360 in the Philippine Islands) and 1:20,000. Contour intervals for maps normally are as follows:

Scale	Contour interval (feet)
1:62,500-----	20
1:20,000-----	20
1:10,000-----	10
1:5,000-----	5

45. Grid.—The grid system of standard maps of continental United States is based on zones 9° in longitude, the zones overlapping one degree and lettered from A to G, inclusive, from east to west. The zone letter is printed on all maps containing grids. In designating points by grid coordinates, the name of the map sheet not the zone letter is used as a primary reference.

46. Reproduction.—Rate at which reproduction work in single color can be done by well-trained men with equipment furnished for field use is as follows:

	1 copy	20 copies	200 copies	1,000 copies
	Hours	Hours	Hours	Hours
Blue print-----	3 ³ / ₄	3	-----	-----
Duplicator-----	2	2 ¹ / ₂	-----	-----
Hand lithograph-----	1 ³ / ₄	3	6 ³ / ₄	26 ³ / ₄
Power lithograph-----	1 ³ / ₄	2	2 ¹ / ₂	3 ¹ / ₂

47. Distribution and disposition.—The engineer officer of each unit is charged with map distribution, except for confidential or secret maps requiring special distribution. He will requisition maps as needed.

48. Special military symbols.—*a. General rules.*—(1) The special military symbols given herein will be used for graphical representation on military maps.

(2) When colors are used, military symbols representing objects in territory occupied or controlled by our forces are shown in blue; those in territory occupied or controlled by

the enemy are shown in red. The only exceptions are the following:

(a) Symbols for areas to be covered by friendly fire or gas though always located in enemy territory are executed in blue.

(b) Symbols for gassed areas, wherever located, are always executed in red.

(3) The position of the various letters, numbers, or abbreviations designating definite units with respect to the symbol representing the type of unit will be as follows:

(a) Serial numbers of armies, corps, divisions, brigades, regiments, separate battalions, separate companies, or similar separate units are placed on the right.

(b) Numbers designating battalions in a regiment are placed on the left.

(c) Letters designating companies, troops, or batteries are in capitals and are placed on the left. Companies, troops, or batteries (not separate), and other elements of a unit are designated by name instead of by letter; as for example "Howitzer Company, 3d Infantry" or "Service Troop, 3d Cavalry" will be designated by the use of the proper abbreviation in capital letters on the left.

(d) Abbreviations for explanatory purposes will be in small letters on the right. Abbreviations may be used instead of symbols to show information that can not be indicated by a single symbol; such as, the area occupied by the service trains of a division, in which case capital letters will be used.

(e) Calibers will be shown by numbers and unit of measure; as, 37-mm, 42-cm, 12''.

(4) Abbreviations used will conform to those listed in Section III, Chapter 2.

b. Basic symbols.—(1) *Indicating purpose or character of activity.*






















Military post or station; command post or headquarters...

(Lower end of staff or symbol will terminate at point of establishment represented.)


Troop unit.....

(On large scale maps where troop units can be shown to scale, this symbol may be modified so as to show area occupied by units in column or line, thus:

Line Column .)

senal, manufacturing establishment, or shop.....	
nbarkation or debarkation point.....	
eneral hospital.....	
laboratory, experimental station, or proving ground.....	
obile train or unit.....	
Animal-drawn.....	
Motor-drawn.....	
Railway.....	
obilization point or area (capacity in figures).....	
bservation post.....	
ception center.....	
lacement center.....	
hool.....	
upply depot.....	
Dump, park, or distributing point (temporary depot in combat zone).....	
Reserve or base depot.....	
Intermediate depot.....	
Supply point.....	
 (2) <i>Indicating arm or service or activity of arm or service.</i> —These symbols will be placed generally within the symbols shown in (1) above. When none of these symbols appears within a symbol shown in (1) above, the activity is of a general nature for the use of all arms and services.	
Air Corps.....	
Balloon.....	
Airship.....	

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- Park for aviation gasoline and oil only.....
- Ammunition dump for aviation bombs only.....
- Artillery.....
- Cavalry.....
- Armored car or cars.....  arm
- (Armored car or cars of any particular arm will be indicated by the appropriate symbol of the arm superimposed on the right hand rectangle.)
- Chemical Warfare Service.....
- Engineers.....
- Infantry (except tanks and military police).....
- Tanks.....
- Military police.....
- Medical Department.....
- Veterinary service only.....
- Ordnance Department.....
- Ammunition only.....
- Prisoners of war..... PW
- Quartermaster Corps.....
- Gasoline and oil only.....
- Class I supplies.....
- Transportation service.....
- Remount service.....
- Bakery unit.....
- Signal Corps..... S


(3) *Indicating size of units.*—These symbols will be placed **ove the symbols shown in (1) above, or used for indicating boundaries as shown in (4) below.**


quad	-----	•
section	-----	••
platoon	-----	•••
company, troop, battery, or Air Corps flight	-----	l
battalion, cavalry squadron, or Air Corps squadron	-----	ll
regiment or Air Corps group	-----	lll
Air Corps wing	-----	w
brigade	-----	x
division	-----	xx
corps	-----	xxx
corps area, department, or section of communications zone	-----	ooo
communications zone	-----	oooo
army	-----	xxxx
general headquarters	-----	GHQ

(4) *Boundaries.*

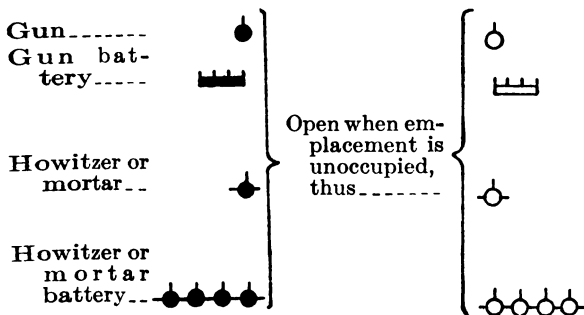
Pursuit aviation (limit of radius of action)	-----	—∞ pur —
Attack aviation (limit of radius of action)	-----	—∞ atk —
Bombardment aviation (limit of radius of action)	-----	—∞ bomb —
Observation aviation (limit of zone of reconnaissance):		
Rear limit, army aviation	-----	— xxx obsn —
Rear limit, corps aviation	-----	— xxx obsn —
Squad	-----	—•—
Section	-----	—••—
Platoon	-----	—•••—

Company or similar unit.....	-|
Battalion or similar unit.....	-||
Regiment or similar unit.....	-|||
Brigade.....	-X
Division.....	-XX
Corps.....	-XXX
Corps area, department, or section of communications zone.....	-OOO
Army.....	-XXX
Rear boundary of theater of operations.....	GH
Front line.....	////
Limit of wheeled traffic by night.....	-NT
Limit of wheeled traffic by day.....	-DY
Limit beyond which gas masks must be at ALERT	-G
Line beyond which lights on vehicles are prohibited.....	-LT
Straggler line.....	-□
Outpost line of resistance.....	OPLR
Main line of resistance.....	MLR
Support line.....	SL
Battalion reserve line.....	BR
Regimental reserve line.....	RR
Limiting point.....	-⊗
Line of departure.....	L
(5) <i>Miscellaneous.</i>	
Automatic rifle.....	→
(Dotted when emplacement is not occupied, thus).....	- - - - -


Machine gun..... 
 (Arrow to point in principal direction of fire.)


Light machine gun..... 


Machine-gun symbol under symbol of unit of any arm indicates machine-gun unit of that arm.





Sound locator..... 


Machine gun (single gun)..... 
 (Arrows to indicate sectors of fire, shaded portion to show danger space when fire is placed in final protective line.)


Machine-gun section (two guns)..... 


Normal barrage, one machine gun..... 


Antiaircraft machine gun..... 


Antitank gun..... 


Cemetery..... 

Torpedo or mine..... 















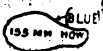


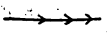
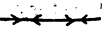



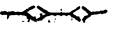
Searchlight..... 

Telephone central located at a command post..... 

Switching central..... 

Test station..... 

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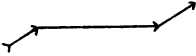
Radio station	-----	
Pigeon post	-----	
Visual signaling post	-----	
Message center	-----	
Wire line on ground	-----	
Cloud gas cylinder	-----	
Landing field	-----	
Advanced landing field	-----	 adv
Airdrome	-----	
Balloon bed	-----	
Balloon ascension point	-----	
Airship hangar	-----	
Airship mooring mast	-----	
Area to be covered by fire	-----	 (BLUE)
(Indicate character of fire by showing caliber of weapon or by an appropriate description, ab- breviation, etc., thus)	-----	 195 MM HOW (BLUE)
Area to be gassed	-----	 G (BLUE)
Gassed area to be avoided	-----	 (RED)
One-way traffic	-----	
Two-way traffic	-----	
Dugout (isolated)	-----	
Dugout (in connection with trench)	-----	
Tank trap	-----	
Tank barrier	-----	

Controlled mines..... 

(This symbol should be used to indicate one 19-mine group, and a separate symbol should be used for each group. As it appears here, the upper part of the page is to be considered the seaward direction, and on charts the symbols should be correspondingly placed, and the length of the line should be such that at the scale of the chart it represents 1,800 feet, the actual length of a mine group, and its position represents the contemplated disposition of the mine group.)

Contact mines..... 


(This symbol should be used so as to indicate on the chart the actual contemplated number of lines and disposition of lines, and the arabic figures should indicate the contemplated number of mines in each line.)

Leader gear..... 

(This symbol should be used on the chart to indicate the exact location of the leader gear.)


Torpedo net (with gate)..... 


Antisubmarine net (with gate)..... 

Obstructions (such as piles, hurdles, sunken vessels, and booms)..... 

Fixed underwater listening posts..... 


Demolitions..... 


Trenches (dotted when proposed)..... 

Trench for one squad..... 

(For each additional squad add one traverse.)

















Wire entanglement..... 

Concealed entanglement..... 





Accurately located point..... 

c. Application of special military symbols.—The following examples show the use of the special symbols as applied to various military organizations or activities. They are intended to illustrate the method of combining basic symbols and abbreviations to show the desired information and are only a few of the possible combinations.

(1) *Infantry.*

One section, Company A, 4th Infantry.....	A		4
1st Platoon, Company B, 2d Infantry.....	1B		2
Company D, 20th Infantry.....	D		20
2d Tank Company.....			
901st Light Tank Regiment.....		901	
901st Heavy Tank Regiment.....		901	ht
3d Battalion, 8th Infantry.....	3		8
Howitzer Company, 3d Infantry.....	HOW		3
5th Infantry.....			5
16th Brigade (Infantry).....			16
8th Division.....			8
Field trains, 2d Infantry.....	FTN		2
75-mm. mortar.....			75mm
37-mm. gun.....			37mm
Command Post, 3d Battalion, 4th Infantry.....	3		4
Observation Post, 6th Infantry.....			6

(2) *Cavalry.*





Troop F, 2d Cavalry.....	F		2
3d Cavalry Division Tank Company.....		3	cav div
1st Squadron, 4th Cavalry.....	1		4
18th Cavalry.....			18

Headquarters Troop, 8th Cavalry Brigade.....	HQ		8 brig
Machine-Gun Troop, 7th Cavalry.....			7
1st Cavalry Brigade.....			1
Light Machine Gun Platoon, Troop A, 2d Cavalry.....	A		2
1st Cavalry Division.....			4
Command Post, 5th Cavalry Brigade.....			5
Troop A, 1st Armored-car Squadron.....	A		1 armd











(3) *Artillery.*

Battery F, 2d Field Artillery.....	F		2
(This symbol may be used to show artillery position area.)			
Combat Train, 2d Battalion, 3d Field Artillery.....	CTN		2 3
Headquarters Battery, 2d Battalion, 4th Field Artillery.....	HQ		2 4
1st Battalion, 8th Field Artillery.....	1		8
1st Ammunition Train.....			1
Battery A, 3d Ammunition Train.....	A		3
1st Field Artillery (horse).....			21
1st Battalion, 104th Coast Artillery (AA).....	1		104 aa
2d Battalion, 104th Coast Artillery (AA).....	2		104 aa
Battery A, 104th Coast Artillery (AA).....	A		104 aa
Battery B, 104th Coast Artillery (AA).....	B		104 aa
Machine-Gun Platoon, Battery E, 104th Coast Artillery (AA).....	E		104 aa
Searchlight Platoon, Battery A, 104th Coast Artillery (AA).....	A		104 aa
103d Field Artillery (155-mm. gun).....			103 gn 155 mm
Combat Train, 1st Battalion, 301st Field Artillery.....	CTN		1 301







128255°—32—12

Command Post, 8th Field Artillery-----  8
 Observation Post, 3d Battalion, 203d Field Artillery_ 3  203
 912th Coast Artillery (12-inch guns, railway)_  912 gn 12"
 Occupied emplacement, battery 155-mm. howit-
 zers-----  155 mm








(4) *Engineers.*

Company A, 2d Engineers (combat)----- A  2
 15th Engineers (squadron)-----  15
 301st Engineers (general service)-----  301 gen serv
 302d Engineers (separate battalion)-----  302 sep
 905th Engineers (heavy ponton, motorized)_  905 hv pon mtz
 801st Engineers (water supply)-----  801 w sup
 Engineer Dump, 5th division-----  5
 Engineer Park, II Corps-----  II
 Engineer Depot No. 2, First Army-----  2  First


















(5) *Signal Corps.*

16th Signal Company-----  16
 101st Signal Battalion-----  101
 4th Signal Troop-----  4
 Pigeon Company No. 701-----  701 pgn
 Point named on axis of signal communication----- 
 Point on axis of signal communication, 1st Division----- 

(6) *Air Corps.*

1st Airdrome Squadron.....		701
1st Transport Squadron.....		901 t
h Observation Squadron.....		7 obsn
1st Attack Wing.....		701 atk
1st Balloon Squadron.....		101
1st Balloon Group.....		301
2nd Army Aviation.....		Second

(7) *Medical Department.*

Service Company, 1st Medical Regiment.....	SERV		1
2d Ambulance Company.....			202 amb
th Hospital Company.....			9 hosp
Collecting Battalion, 3d Medical Regiment.....	COLL		3
Hospital Battalion, 804th Medical Regiment.....	HOSP		804
st Medical Regiment.....			1
Medical establishment, other than veterinary.....			+
Battalion aid station.....			+
Regimental aid station.....			+
Division collecting station.....			coll
Division hospital station.....			hosp
Army hospital station.....			+
715th Evacuation Hospital.....			715 evac
2d Veterinary Company.....			2
Veterinary establishment.....			∨
Regimental veterinary aid station.....			∨
Veterinary collecting station.....			coll

801st Veterinary Convalescent Hospital..... ^{XXXX} 801 conv hosp

Hospital train.....

Army medical depot.....

(8) *Chemical Warfare Service.*

Company C, 901st Chemical Regiment..... C 901

2d Battalion, 901st Chemical Regiment..... 2 901

(9) *Quartermaster Corps.*

6th Quartermaster Regiment..... 6

6th Motor Battalion..... 6 m

11th Motor Transport Company..... 11 mt

6th Motorcycle Company..... 6 mtd

6th Motor Maintenance Company..... 6 m maint

12th Wagon Company..... 12 wag

6th Service Company..... 6 serv

2d Cavalry Division Quartermaster Service..... 2 serv

Motor transport..... 2 mt

Animal-drawn transport..... 2

Pack elements..... 2 pt

5th Pack Train..... 5 pt









I Corps Quartermaster Train..... I

Motor elements..... 1 m


I Corps Wagon Train..... I wag

First Army Quartermaster Train..... First














101st Service Battalion..... 101 serv

11st Remount Squadron.....	 101 rmt
16th Clothing and Bath Unit.....	 706 c e b
5th Division Quartermaster Dump.....	 ^{xx} 5
II Corps Quartermaster Park.....	 ^{xxx} III
1st Army Quartermaster Depot.....	 ^{xxxx} First
2nd Army Quartermaster Depot No. 1 (gasoline and oil).....	 ^{xxxx} Second ▼
3rd Army Quartermaster Depot No. 2 (motor transport).....	2  ^{xxxx} Third mt
3rd Army Remount Depot.....	 ^{xxxx} Third rmt

(10) *Ordnance.*

1st Ordnance Company (maintenance).....  3 maint

(11) *Miscellaneous.*

Air park.....	
Balloon park.....	
Gas-generating plant.....	
Railway center.....	
Tank park.....	
Distributing point for Class I supplies.....	 dp
Ammunition distributing point.....	 dp
Division infantry ammunition distributing point.....	 ^{xx} dp
Division artillery ammunition dump.....	 ^{xx}
Water-distributing point.....	 dp
Regulating station.....	 r sta
Refilling point.....	 rp
Railhead.....	 rhd

- Railhead for 1st Division.....
- Collecting Point, Prisoners of War, 10th Division.....
- Collecting Point, Straggler Line, 2d Division.....
- Prisoner of War Inclosure, IV Corps.....
- Depot, advance section, communications zone.....
- Rear Echelon, Headquarters, 8th Division.....
- Headquarters or Command Post, III Corps.....
- Corps Troops, IV Corps.....
- Boundary between II and III Corps.....

d. Special symbols for use in hasty military sketches.

- Stream.....
- Woods.....
- Brush.....
- Cultivated land.....
- Area occupied by a unit (2d Battalion, 3d Field Artillery).....
- Area occupied by corps troops (III Corps).....



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WAR DEPARTMENT

**STAFF OFFICERS'
FIELD MANUAL**

**PART TWO
TECHNICAL AND LOGISTICAL DATA**

STAFF OFFICERS' FIELD MANUAL



PART TWO TECHNICAL AND LOGISTICAL DATA

PREPARED UNDER DIRECTION OF THE
CHIEF OF STAFF

1932



UNITED STATES
GOVERNMENT PRINTING OFFICE
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For sale by the Superintendent of Documents, Washington, D. C. - Price 10 cents.

**WAR DEPARTMENT,
WASHINGTON, January 10, 1933.**

Part Two, Technical and Logistical Data, Staff Officers' Field Manual, is published for the information and guidance of all concerned.

[A. G. 062.11 (4-28-32).]

BY ORDER OF THE SECRETARY OF WAR:

DOUGLAS MACARTHUR,

*General,
Chief of Staff.*

OFFICIAL:

C. H. BRIDGES,
*Major General,
The Adjutant General.*

II

FOREWORD

The Staff Officers' Field Manual should be considered as a compilation of principles, information, and data to be used as a guide for the operation of the staffs of all units and territorial commands, in peace and war, rather than a set of rules and regulations to be rigidly and blindly followed.

The manual will be published in three parts as follows:

PART ONE. Staff data.

- Chapter 1. Staff principles and functions.
2. Orders, reports, forms, and abbreviations.
3. Maps and special military symbols.

PART TWO. Technical and logistical data.

- Chapter 1. Weapons and ammunition data.
2. Field engineering data.
3. Signal communication data.
4. Evacuation data.
5. Supply and transport data.

PART THREE. Organization, road spaces, and camping areas.

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STAFF OFFICERS' FIELD MANUAL

PART TWO

TECHNICAL AND LOGISTICAL DATA

CHAPTER 1

WEAPONS AND AMMUNITION DATA

1. **Tables.**—The following tables contain data regarding weapons and ammunition of special interest to troops in the field. Armament for the cannon and artillery vehicles in the 75-mm regiment, horse artillery, cavalry division, is the same as that listed for the 75-mm gun regiment in Table III. In horse artillery, cannoneers are mounted, whereas in horse-drawn artillery they ride on caissons and limbers.

1

Rifle, U. S. cal. .30, M1903, without bayonet.	S. 69	7, 484	5, 742	1, 458	1, 458	90	44	486	54	160
Bayonet.	1	5, 832	2, 916	1, 458	1, 458	60	99	486	54	160
Rifle, auto, cal. .30.	15.8	648	324	162	162	90	44	54	54	160
Pistol, auto, cal. .45.	2.7	4, 260	3, 050	995	995	60	99	38	38	160
Tank, 6-ton (see Table IV)										24

1 Machine gun with water jacket filled weighs 42 lbs.

2 Load includes gun and tripod, 5 filled ammunition chests (250 rds ea), 1 water chest, and 1 accessory and spare-parts case.

3 Load includes 11 filled ammunition chests (250 rds ea) and 3 water chests.

4 Issued in lieu of cart transport to organizations specifically designated by the War Department.

5 Includes cavalry-type saddle (75 lbs), machine gun and tripod (95 lbs), hangers, etc. Same as Cavalry. (See Table IX.)

6 Includes cavalry-type pack saddle (75 lbs), 8 filled ammunition chests (250 rds ea), hangers, etc. Similar to Cavalry but larger load.

7 Mounted in tank. In addition each tank carries 1 spare gun and 2 emergency tank tripods.

8 37-mm gun carriage, M1916, used with cart, 37-mm gun carriage, M1916A1, used with pack, transport. (For Cavalry, see Table IX.)

9 Includes cart, 224 rds ammunition in 14-16 rds chests, etc.

10 Includes cargo-type pack saddle (90 lbs), tripod assembly, axle assembly, accessory chest, and brush and staff.

11 Includes cargo-type pack saddle (90 lbs), gun and cradle, 2 wheels.

12 Includes cargo-type pack saddle (90 lbs), six 16 rd ammunition chests. (For similar load in Cavalry, see Table IX.)

13 Includes cart, mortar, and 36 rds ammunition (12 boxes).

14 Includes cart and 36 rds ammunition.

15 Includes cargo-type pack saddle (90 lbs), mortar, and one box (3 rds) ammunition.

16 Includes cargo-type pack saddle (90 lbs), 4 boxes (12 rds) ammunition.

17 To obtain total for one infantry division unite Tables I and II.

TABLE II.—Small arms and automatic guns in supporting units of the infantry division

Item	Weight, lbs	Total	Division headquarters and special troops				Light field artillery brigade			Engineer regiment				QM Regt					
			Div Hq & Hq Co	Hq SP Tts	MP Co	Sig Co	Ord Co	Total Brig	Two 75-mm Regts	155- How Regt	Am Tn	Total Regt	RHQ & Serv Co		One battalion				
															Total Bn	Bn Hq	3 Cos		
Gun, machine, cal. .30, with A A tripod ¹	97	67								67	36	20	11						
Rifle, U. S., cal. .30, with- out bayonet.....	8.69	1,243	61				125							611	103	254	2	252	446
Bayonet.....	1	504								463	282	132	45	504		252		252	
Rifle, auto, cal. .30 ²	15.8	487												24		12		12	
Pistol, auto, cal. .45.....	2.7	6,167	181	11	155	175	20			5,159	3,274	1,105	430	214	76	69	3	66	252

¹ The A A machine-gun tripod, M1918, weighs approximately 60 lbs.

² The automatic rifle is undergoing service test in field artillery as an A A defense weapon on the march. Allowances tentative. Priority of issues under consideration.

TABLE III.—Cannon and artillery ammunition vehicles in the light field artillery brigade, infantry division

Item	Weight, lbs	Total Brig	One 75-mm gun regiment				155-mm howitzer regiment				Ammunition train		
			Total Regt	One battalion			Total Regt	One battalion			Total Tn	Am Btry truck	Am Btry wag- on
				Total Bn	C Tn	Gun Btry		Total Bn	C Tn	How Btry			
Gun and carriage, 75-mm, M1897	4,586	48	24	12	4								
Caisson, gun, 75-mm ¹	144	{	72	36	6								
Limber, gun caisson, 75-mm ²	4,960	{	96	48	10								
Howitzer, carriage and limber, 155-mm	9,485	24				24	8	4					
Caisson, 155-mm How ⁴	3,949	72				72	24	12					
Truck, 3-ton	18,500	120				72	24	12					
Wagon, escort	2,110	24							72	24	24	24	24

¹ Includes gun caisson limber, loaded.

² Caisson and limber caisson carry total of 107 rds 75-mm gun ammunition.

³ Limber used as gun and carriage limber carries 35 rds 75-mm gun ammunition.

⁴ 155-mm howitzer caisson carries 14 rds ammunition. 2 caissons drawn by 1 tractor.

⁵ Weight without load.

⁶ Each load is 40 rds 155-mm howitzer ammunition.

⁷ 12 trucks each carry 200 rds 75-mm gun ammunition; 36 trucks each carry 40 rds 155-mm howitzer ammunition.

⁸ Each load is 100 rds 75-mm gun ammunition.

TABLE IV.—*Characteristics of tanks*

	6-ton tank, M1917	Mk VIII
Number in company.....	24; Hq Plat 9, three Plat of 5 ea.....	15; Hq Plat 6, three Plat of 3 ea.
Maximum speed; favorable ground, mph.....	5.5.....	6.5.
Maximum sustained speed, favorable ground, mph.....	4 in daylight; 2.5 at night 1.....	3 in daylight; 1 at night.
Speed, entrucked.....	3 mph at night, w/o lights; 5 mph at night w/lights; 8 mph in daylight.	
Armament.....	One 37-mm or one cal .30 machine gun.	Two 6-pounders; five cal .30 machine guns.
Ammunition, tank (see Tables V and VI).....	238 rds per 37-mm gun; 4,200 rds per machine gun.	104 rds per 6-pounder; 3,000 rds per machine gun.
Crew.....	2.....	1 officer; 10 men.
Ground pressure per sq. in., 10 inches submersion, lbs.....	4.4.....	4.9.
Length over all.....	16 feet 5 inches.....	34 feet 2.5 inches.
Length, tailpiece removed.....	13 feet 10 inches.....	
Width over all.....	5 feet 10.5 inches.....	
Dimensions.....		
Width, sponsons in.....		
Height, over all.....	7 feet 7 inches.....	12 feet 5 inches.
Ground clearance.....	16.25 inches.....	9 feet 5.5 inches.
Fuel capacity, gallons.....	30.....	10 feet 2.5 inches.
Miles per gallon, favorable conditions.....	1.1.....	20.75 inches.
Total miles (fuel distance) average.....	30.....	240.
Maximum slope (degrees) without grouzers, favorable ground.....	40.....	0.3.
Maximum height of vertical wall over which tank will climb, ins.....	36.....	72.
Maximum width of a deep revetted trench that tank will cross (feet),	7.....	40.
		54.
		16.

Forcing ability, approximate depth, ins.....	24.	24.
Armor thickness, ins.....	(1)	(1)
Front.....	0.6	0.63
Turret walls.....	0.6	0.63
Sides.....	0.6	0.47
Rear.....	0.6	0.63
Top surface.....	0.31	0.236
Weight, tons (approximate).....	76	43.5
Weight, equipped, w/o crew, tons.....	7.25	

- 1 Movement under own power on the march is undesirable on account of the resultant extensive overhaul and repair work.
- 2 With ignition protected this figure may be materially increased.
- 3 Armor gives protection against cal. .30 ammunition.
- 4 Excludes ammunition, crew and equipment for 6-ton and crew for Mk. VIII.

TABLE V.—Caliber .30 and caliber .45 ammunition in the infantry division

	Caliber .30				Caliber .45 packed in 20-rd cartons
	A. P. packed in 20-rd cartons	Ball		Tracer packed in 20-rd cartons	
		Packed in clips and bandoleers	Packed in 20-rd cartons		
Number of rounds per shipping container.....	1,500	1,200	1,500	1,500	2,000
Gross weight.....	112	100	114	114	110
Carried on individual or in organization:					
Per rifle.....		¹ 40			
Per automatic rifle.....		² 60			
Per machine gun, MG Co ³	200		3,750	50	
Per machine gun, AA ³			1,500		
Per tank machine gun, mounted in tank ⁴	840		2,520	840	
Per pistol.....					21
Carried in combat train:					
Per rifle, in Inf R Co.....	5	105		10	
Per automatic rifle, Inf R Co ²	20	500		20	
Per machine gun, Inf MG Co ³	250		2,000	250	
Per tank machine gun, Tk Plat, mounted in tank ⁴	420		1,260	420	
Per pistol.....					5
Carried in QM Regt (field train):					
Per rifle in Inf R Co.....	10	30		5	
Per automatic rifle in Inf R Co.....	10	380		10	
Per machine gun, Inf MG Co.....	150		1,200	150	
Per tank machine gun, Tk Plat, mounted in tank ⁴	420		1,260	420	
Per pistol.....					3
Carried at railhead: ⁵					
Per rifle in Inf R Co.....	10	120			
Per automatic rifle in Inf R Co.....	10	380		10	
Per machine gun in Inf MG Co.....	150		1,200	150	
Per tank machine gun, Tk Plat, mounted in tank ⁴	840		2,520	840	
Carried in corps QM Regt (corps train):					
Per rifle in Inf R Co.....	5	50		5	
Per automatic rifle in Inf R Co.....	10	250		10	
Per machine gun, Inf MG Co.....	125		1,000	125	
Per tank machine gun, Tk Plat, mounted in tank ⁴	210		630	210	
Per pistol.....					5

¹ 60 rds per rifle in Engr Regt.

² In 20-rd automatic rifle magazines; 500 rds per automatic rifle carried by Engr Regt.

³ Loaded locally in 250-rd ammunition belts.

⁴ Loaded locally in 50-rd ammunition belts. For active guns only.

⁵ Quantities for railhead are basic allowances and subject to change according to tactical situation.

⁶ Allowances are for machine guns in tank platoons, tank companies only, or 9 machine guns per company.

TABLE VI.—Infantry howitzer and light tank cannon ammunition

	37-mm gun, M1916		3-inch trench mortar	
	Shell, HE, for 37-mm gun, M1916	Canis- ter for 37-mm gun, M1916	Shell, HE	Shell, smoke
Number of rounds per shipping container.....	60	60	3	3
Gross weight, lbs.....	121	121	43.5	45.9
Carried in organizational transport:				
Per 37-mm gun, Inf How Co.....	1 224	-----	-----	-----
Per 37-mm gun, Inf Tk Co ¹	198	40	-----	-----
Per 3-inch trench mortar, Inf How Co ¹	-----	-----	66	6
Carried in combat train:				
Per 37-mm gun, Inf How Co.....	200	-----	-----	-----
Per 37-mm gun, Tk Plat, Inf Tk Co ¹	99	20	-----	-----
Per 3-inch trench mortar, Inf How Co.....	-----	-----	90	9
Carried in QM Regt (Div Tn):				
Per 37-mm gun, Inf How Co.....	100	-----	-----	-----
Per 37-mm gun, Tk Plat, Inf Tk Co ¹	99	20	-----	-----
Per 3-inch trench mortar, Inf How Co.....	-----	-----	48	3
Carried at railhead: ⁴				
Per 37-mm gun, Inf How Co.....	200	-----	-----	-----
Per 37-mm gun, Tk Plat, Inf Tk Co ¹	198	40	-----	-----
Per 3-inch trench mortar, Inf How Co.....	-----	-----	90	9
Carried in corps QM Regt (corps train):				
Per 37-mm gun, Inf How Co.....	100	-----	-----	-----
Per 37-mm gun, Tk Plat, Inf Tk Co ¹	99	20	-----	-----
Per 3-inch trench mortar, Inf How Co.....	-----	-----	48	3

¹ Transported on 37-mm gun ammunition cart in 14-16 rd chests.

² Transported in ammunition racks in tank.

³ Transported on mortar and mortar ammunition carts.

⁴ Quantities for railhead are basic allowances and subject to change according to tactical mission.

⁵ Allowances are for 37-mm guns in tank platoons, tank companies only, or 6 guns & company.

TABLE VII.—Grenades and pyrotechnics, infantry division

Unit	Grenades		Pyrotechnics	
	Hand, fragmentation	Rifle (1, 2)	Signals, ground, as-sorted	Light position
Number of rounds per shipping container.....	10		30	10
Gross weight.....	18.75		35	4
Carried in organization:				
Signal Co.....				30
Carried in combat trains:				
Per Inf R Co.....	108		120	3
Per Inf Regt and Bn Hq (incl tanks).....				3
Per Inf Regt and Bn Hq (except tanks).....			96	
Per Inf Co (except MP Co, How Co, and Serv Co) not otherwise provided for.....				3
Per Inf Co (except MP Co, How Co, Serv Co, and Tk Co) not otherwise provided for.....			24	
Carried in QM Regt (Div Tn):				
Per Inf R Co.....				1
Per Inf Regtl and Bn Hq Co (incl tanks).....				1
Per Inf Co (except MP Co, How Co, and Serv Co) not otherwise provided for.....				1
Carried at railhead:				
Per Inf R Co.....	432			3
Per Inf Regtl and Bn Hq Co (incl tanks).....				3
Per Inf Co (except MP Co, How Co, and Serv Co) not otherwise provided for.....				3
Carried in corps QM Regt (Corps Tn):				
Per Inf R Co.....	54		60	1
Per Inf Regtl and Bn Hq Co (incl tanks).....				1
Per Inf Regtl and Bn Hq Co (except tanks).....			48	
Per Inf Co (except MP Co, How Co, and Serv Co) not otherwise provided for.....				1
Per Inf Co (except MP Co, How Co, Serv Co, and Tk Co) not otherwise provided for.....			12	

¹ The lachrymatory rifle grenade is of little value in combat and is therefore not included in allowances. It is valuable in civil disturbances, and carried for these special operations.

² Pending availability of a satisfactory combination hand and rifle fragmentation grenade or a satisfactory rifle fragmentation grenade, hand fragmentation grenades only are provided. Upon availability of combination hand and rifle fragmentation grenades they will replace the hand grenades with like allowances. If the rifle fragmentation grenade is made standard the allowances of the rifle and hand grenades in the several echelons of reserve will be as follows:

	Rifle grenades	Hand grenades
Per Inf R Co:		
In C Tn.....	108	
At railhead.....	216	24
In corps Tn.....	27	24

TABLE VIII.—Ammunition for organic division artillery

Unit	75-mm gun regiment				155-mm howitzer regiment			
	Rds per piece	Rds per battery	Total rds	Vehicles used ¹	Rds per piece	Rds per battery	Total rds	Vehicles used
Each battery.....	195½	782	782	6 caissons and limbers, 107 rds ea; 4 carriage limbers, 35 rds ea.	42	168	168	12 caissons, 14 rds ea.
Each battalion combat train.....	160½	642	1,926	18 caissons and limbers, 107 rds ea.	120	480	960	24 3-ton trucks, 40 rds ea.
In artillery brigade ammunition train.....	100	400	4,800	12 3-ton trucks, 200 rds ea, and 24 escort wagons, 100 rds ea.	60	240	1,440	36 3-ton trucks, 40 rds ea.
Total within the division.....	456	1,824	21,888		222	888	5,328	
In corps QMC train ²	120	480	5,760		60	240	1,440	
Aggregate.....	576	2,304	27,648		282	1,128	6,768	

See footnotes at end of table.

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TABLE VIII.—Ammunition for organic division artillery—Continued
KIND, PERCENTAGE, AND WEIGHT OF AMMUNITION

Item	75-mm gun			155-mm howitzer			
	Type	Per cent in box	Weight, lbs	Type	Per cent	No in box	Weight, lbs
	Shell, HE (unfuzed).....	Fixed.....	66	95	Separate.....	99	Not boxed.	95
Shell, smoke (unfuzed).....	do.....	4	95	do.....	1	Not boxed.	93.11
Shrapnel (fuzed).....	do.....	30	115	do.....	(³)	2	215
Fuze, point detonating, superquick.....	Mk III.....	100	80	Mk III.....	100	50	80
Fuze, point detonating, short delay.....	Mk IV.....	15	51	Mk IV.....	22	100	51
Charge, propelling.....	.....	.....	.....	Separate.....	100	4	68.2
Primer, percussion.....	.....	.....	.....	Percussion.....	110	2,400	85

¹ An escort wagon carries 100 rds 75-mm gun ammunition, or 20 rds 155-mm howitzer ammunition. A 3-ton truck carries 200 rds 75-mm gun ammunition, or 40 rds 155-mm howitzer ammunition. A 75-mm gun caisson limber used as carriage limber carries 35 rds, and used as a caisson limber carries 37 rds ammunition. A 155-mm howitzer caisson carries 14 rds ammunition.

² The desired quantity of 75-mm ammunition is 150 rds, and 155-mm ammunition, 75 rds. The quantities 120 and 60 are based upon available transportation.

³ Not normally required with 155-mm howitzer assigned to divisions and corps.

⁴ Percentage based on HE and smoke shell.

Item	Weight, lbs	Total	One cavalry brigade										Armored-car squadron				
			Total Brig	BHQ and Hq Tr	One cavalry regiment						One cavalry squadron		Total Sq	Sq Hq	3 Arm'd-C Trs		
					Total Regt	RHQ and Hq Tr	Band	MG Tr	Total Sq	Sq Hq	2 trs						
Gun, machine, cal. .30, with ground tripod ¹	95	48	24	12					12								
Pack, machine gun, cal. .30 ²	230	48	24	12					12								
Pack, machine-gun ammunition, cal. .30 ³	220	144	72	36					36								
Gun, machine, light, cal. .30, with tripod ⁴	28	192	96	48					16					16			
Pack, light machine-gun ⁵	192	192	96	48					16					16			
Pack, light machine-gun ammunition ⁶	186	96	48	24					8					8			
Gun, machine, cal. .30, with AA tripod or mount ⁷	145	12	6	3					3								
Gun and carriage, 37-mm, M1916A2 ⁸	224	12	6	3					3								
Pack, 37-mm gun and carriage ⁹	226	24	12	6					6								
Pack, 37-mm gun ammunition ¹⁰	13.9	36															
Gun, submachine, cal. .45 ¹¹	35	72															
Gun, machine, cal. .30, tank ¹²	52	36															
Gun, machine, cal. .50, aircraft type ¹³	8.69	4,392	2,156	60	1,048	73			93	294				294	80	8	72
Rifle, U. S., cal. .30	2.7	16,050	2,886	88	1,399	147			29	176	349	3	346	278	11		267
Pistol, automatic, cal. .45																	

See footnotes at end of table.

TABLE IX.—Weapons and their transport in cavalry brigades and armored-car squadron—
Continued

Item	Weight, lbs.	One cavalry brigade						Armored-car squadron			
		Total	Total Brig	BHQ and Hq Tr	Total Regt	RHQ and Hq Tr	Band	MG Tr	Total Sq	Sq Hq	3 Armd-C Trs
Car, armored ¹⁴	9, 000	36	8	—	—	—	—	—	36	—	36
Car, light, A A machine gun ¹⁵	16	16	—	—	—	—	—	—	—	—	—
Saber, cavalry	2.8	3, 448	1, 724	20	852	39	4	271	3	268	—

¹ Machine gun with water jacket filled weighs approximately 42 lbs.
² Includes cavalry-type pack saddle (75 lbs), machine gun and tripod (98 lbs), hangers, etc.
³ Includes cavalry-type pack saddle (75 lbs), 6 ammunition chests each containing 250 rds in belts at 20.75 lbs, or 124.50 lbs, hangers, etc.
⁴ Modified tank-type machine gun, with modified tank-type emergency tripod, replacing the machine rifle.
⁵ Includes cavalry-type pack saddle (75 lbs), light machine gun (28 lbs), 2 ammunition chests 400 rds each in 150-rd belts, accessory chest with accessories, etc., and 150 rds ammunition.
⁶ Includes cavalry-type pack saddle (75 lbs), 1,000 rds ammunition in 4 ammunition chests, 400 rds each in 150-rd belts, hangers, etc.
⁷ Under development. Mounted on car, light, A A machine gun. (Note 15.)
⁸ Modified 37-mm gun carriage, without wheels and with special trails.
⁹ Includes cavalry-type pack saddle (75 lbs), 37-mm gun and carriage, hangers, etc.
¹⁰ Includes cavalry-type pack saddle (75 lbs), four 16-rd ammunition chests 34 lbs each, hangers, etc.
¹¹ Gun with empty drum magazine, 100 rd, weight 13.9 lbs, with loaded drum 18.5 lbs, 20-rd magazines or 50-rd drums may be used.
¹² Similar to light machine gun, except guns are on mounts in armored cars; one in dual mount; one in A A mount.
¹³ On mount in armored cars.
¹⁴ In future development armored cars will be designated as light, medium, and heavy. The weight shown is that applying to a medium car.

Item	Weight, lbs	Total	Division headquarters and special troops						75-mm gun Regt	Engr Sq	Div. Tn's
			Total	DHQ and Hq Tr	Hq Sp Tr	Sig Tr	Light Tk Co ¹	Ord L Maint Co			
Gun, machine, cal. .30, with A.A. tripod.....	97	18						18			
Rifle, U. S., cal. .30.....	8.69	699	166	129					303	230	
Rifle, machine, cal. .30.....		6							6		
Rifle, automatic, cal. .30.....	15.8	141						141			
Pistol, automatic, cal. .45.....	2.7	2,465	538	185	11	177	155	1,658	93	176	
Saber.....		13		13							

¹ The light tank company is attached from Infantry. For armament see Tables I and IV.

² Suitable weapon for march A.A. defense purposes not yet adopted.

³ Transported in vehicles. Will be replaced in engineer squadron by weapon not yet determined.

TABLE XI.—Small-arms ammunition in the cavalry division

	Caliber .30			Caliber .45 packed in 20-rd cartons	Caliber .50			37-mm gun		Ton- nage
	A. P. packed in 20-rd cartons	Ball			Packed in 10-rd cartons		HE shell	Can- ister		
		Packed in clips and band-oleers	Packed in 20-rd cartons		A. P.	Ball			Tracer	
Number of rounds per shipping container.....	1,500	1,200	1,500	2,000	280	280	60	60		
Gross weight, lbs.....	112	100	114	110	106	96	121	121		
Carried on individual or in organization:		90								
Per rifle, on individual.....										
Per machine gun MG Plat, MG Tr, ammunition pack 1 ³	250		3,950							
Per machine gun, AA, MG Tr ²	250		1,350							
Per light machine gun, Cav Tr ⁴	20		1,810							
Per tank machine gun, Armd-C Tr ⁵	210		1,680							
Per tank machine gun, Tk Co, mounted in tank ⁶	840		2,520							
Per cal. 50 machine gun, Armd-C Tr ⁷					150	150				
Per subcaliber machine gun ⁸				500						
Per pistol, on individual.....				21						
Per machine or automatic rifle.....	50	400								
Per A A machine gun, F A Regt.....			1,500							
Per 37-mm gun, Cav MG Tr.....							64	64		
Per 37-mm tank gun ¹¹							108	108		40

TABLE XII.—*Pyrotechnics for the cavalry division*

	Car- tridge, Very	Signal, ground, assorted	Light position
No of rounds per shipping container.....		30	
Gross weight.....		35	
Carried in combat train:			
Per projector, ground ¹		18	
Per Very pistol.....	18		
Per cavalry troop.....			
Per signal troop.....			
Carried in division train:			
Per projector, ground.....		18	
Per Very pistol.....		9	
Carried at railroad:			
Per cavalry troop.....			

¹ The projector, ground, supersedes the Very pistol.

TABLE XIII.—*Ammunition for organic cavalry division artillery*

The ammunition listed for 75-mm gun regiment in Table VIII applies to the regiment, modified by deleting the allowances for artillery brigade ammunition train and corps QMC train, and inserting the following:

Unit	Rds per piece	Rds per bat- tery	Total rds	Vehicles used
In cavalry division QMC train....	114	456	2, 736	Carried in 28 escort wagons or 1½ ton truck, 100 rds
Total within the division.....	470	1, 880	11, 280	

TABLE XIV.—Characteristics of field artillery

Caliber and type	Ammunition										Rates of fire (rds per min)	
	Kind	Projectile and fuzer		Approximate weight (lbs)		Burst effect (yds)		Day of fire	Extreme range (yds)	Traverse permitted by carriage (mils)	Prolonged	Short bursts
		Complete rd	Complete rd	Complete rd	Complete rd	Range	Lateral					
2.95-inch mountain gun.....	Shrapnel (fixed)	16	22	19	100	20	300	14,500	---	---	1	3
		12	20	150	25	300	1				6	
75-mm pack howitzer, M1.....	Shell (semifixed)	18	22	27	5	25	300	15,600	105(6°)	---	3	6
		16	20	25	150	25	300				3	6
75-mm gun, M1897, horse-drawn.....	Shell, Mk I (fixed)	12	17	22	5	25	300	8,800	105(6°)	---	3	6
		14	19	25	5	25	300				3	6
75-mm gun, M1, horse-drawn.....	Shrapnel (fixed)	17	21	35	150	25	300	(1)	---	800(45°)	3	6
		15	24	34	5	25	300				3	6
75-mm gun: When tractor drawn..... When portée.....	Shell, HE	17	21	35	150	25	300	(1)	14,880	800(45°)	3	6
		15	24	34	5	25	300				3	6
105-mm howitzer, M1.....	Shrapnel (fixed)	33	42	56	10	40	200	16,540	---	800(45°)	2	4
		33	42	56	10	40	200				2	4
4.7-inch gun, M1906.....	Shell (semifixed)	60	88	---	---	---	180	110,500	---	140(8°)	1	3
		45	73	10	50	---	180				1	3
155-mm howitzer (Schneider), M1918.....	Shrapnel (separate loading)	95	102	115	---	---	150	110,800	---	105(6°)	1	3
		96	103	107	15	70	150				1	3
155-mm gun, M1918 (GPF).....	Shell (separate loading)	96	122	148	15	70	100	17,500	1,065(60°)	---	1	3
		200	110	220	---	---	100				1	3
8-inch howitzer, Mk VIII½, M1917.....	Shell, HE	200	110	220	---	---	100	12,960	---	144(8°)	1	1½
		345	381	428	---	---	60				1	1½
240-mm howitzer, M1918.....	Shell (separate loading)	345	381	428	---	---	60	16,400	---	355(20°)	1	1½
		53	54	---	---	---	150				1	1½
Trench mortar, 6-inch model Mk I.....	Shell (fixed)	53	54	---	---	---	150	1,850	1,775	100°	4	6

See footnotes at end of table.

TABLE XIV.—*Characteristics of field artillery—Continued*

Caliber and type	Time to em- place	Approximate total weights (gun, carriage, and filled limber)	Piece		Transport		Marches		Remarks
			Method	Number of loads	Ammunition		Average rate (mph)	Average days per march	
					Method	Rounds per vehicle			
2.95-inch mountain gun.	3 minutes.	830	Pack	4	Pack	10	3½	20	Shell is HE.
75-mm pack howitzer, M1	Do.	1,300	Do.	6	Do.	8	3½	20	
75-mm gun, M1897, horse-drawn.	Do.	4,600	6-horse team.	1	Caisson body. Gun limber. Caisson limber.	35 37	3½	20	Shell is HE or chemical.
75-mm gun, M1, horse-drawn.	Do.	4,600	Do.	1	Wagon. Truck. Caisson body. Limber. Wagon. Truck.	100 200 70 11 100 200	3½	20	Do.
75-mm gun: When tractor drawn. When portée.	3 minutes. 5 minutes.	4,600	Tractor. Truck.	1 1	Caisson body. Gun truck. Ammunition truck.	70 60 200	4 8	30 60	Do. Do. Do.
105-mm howitzer, M1.	3 minutes.	5,300	{6-horse team or tractor.}	1	Caisson body. Truck.	8 80	4	30	Do.
4.7-inch gun, M1906.	5 minutes.	9,818	5-ton tractor.	1	Caisson body.	80	3½	30	Do.
155-mm howitzer (Schneider), M1918.	10 minutes.	9,600	Do.	1	Caisson body. Truck.	14 40	3½	30	

See footnotes at end of table.

155-mm gun, M1918 (CFF)	1 to 6 hours	29, 150	10-ton tractor	1 ¹ Truck	40 } 3 1/2 40 }	30	Shell is HE or chemical, under development has maximum range of 28,000 yards.
8-inch howitzer, Mk VIII 1/2, M1917	1 to 4 hours	21, 700	Do	1 { Trailer { Truck	20 } 3 1/2 10 } 3 1/2 100 } 8	30	Shell is HE.
240-mm howitzer, M1918	3 to 12 hours	58, 600	Do	3 4		30	
Trench mortar, 6-inch model Mk I	2 hours	925	Truck	1 Do		60	

¹ Limit of time fuze.

² Maximum load, 243 pounds.

³ Maximum load, 16,320 pounds.

⁴ Weights will vary, depending on model of carriage and on kind of ammunition carried.

TABLE XV.—Ammunition for organic corps artillery brigades

Unit	155-mm howitzer regiments				155-mm gun regiments			
	Rds per piece	Rds per battery	Total rds	Vehicles used	Rds per piece	Rds per battery	Total rds	Vehicles used
Each battery.....	42	168	168	12 caissons, 14 rds ea.	16	64	64	4 trailers, 16 rds ea.
Each battalion combat train.....	120	480	960	24 3-ton trucks, 40 rds each.....	60	240	480	12 3-ton trucks.
In corps Arty Brig ammunition train.....	60	240	2,880	72 3-ton trucks (3 Am btrys), 40 rds ea.	80	320	1,920	48 3-ton trucks (2 Am btrys) 40 rds ea.
In corps QM train.....	60	240	2,880		40	160	960	Quantity based on available transportation.
Total in corps.....	282	1,128	13,536		196	784	4,704	

KIND, PERCENTAGE, PACKING, AND WEIGHT OF AMMUNITION

Item	155-mm howitzer	155-mm gun			Remarks
		Kind	Per cent	No per box		Weight (lbs)
Shell, HE (unfuzed)	See Table VIII	Separate	80	Not boxed	In estimates of ammunition supply, unless specific data to the contrary are given, the following will be used: To load artillery brigade ammunition train vehicles at an ammunition refilling point. 1 hour. To unload artillery brigade ammunition train vehicles at an artillery ammunition distributing point. ¾ hour. To load artillery battalion combat train vehicles at an artillery ammunition distributing point. ¾ hour. To unload artillery battalion combat train vehicles at battery positions. ¾ hour. To load motorized artillery battalion combat train vehicles at an ammunition refilling point (the same as ammunition train vehicles). 1 hour.
Shell, smoke	do	do	10	boxed	
Shrapnel	do	do	10	2,215	
Fuze, point detonating, superquick.	do	Mk III	100	50 80	
Fuze, point detonating, short delay.	do	Mk IV	30	100 51	
Charge, propelling	do	Separate	100	2 102	
Primer, percussion	do	Percussion	110	2,400 85	

TABLE XVI.—*Ammunition for organic corps antiaircraft artillery regiment*

(Quantities are based on capacity of authorized transportation. Allowances in Tables of Basic Allowances are considered as ideal, but with present transportation can not be transported)

Unit	3-inch gun battalion, gun batteries				Machine-gun battalion, machine-gun batteries				Vehicles used
	Rds per piece	Rds per battery	Total rds	Vehicles used	Rds per piece	Rds per battery	Total rds		
Each battery.....	164	656	---	4 trucks at 132 rds each per btry, 32 rds in each gun prime mover.	2,400	28,800	---	Eight 300-rd metallic belts loaded in 8 ammunition chests transported on truck with machine gun.	
Battalion combat train. Railhead or dump.....	132	528	1,584	12 trucks at 132 rds ea.....	1,985	23,940	95,760	6 trucks at 15,960 rds ea. Held in reserve in accordance with tactical mission.	
Corps QMC train.....	231	924	2,772	21 trucks at 132 rds ea.....	2,660	31,920	127,680	8 trucks at 15,960 rds ea.	
Total.....	527	2,108	6,324	45 trucks at 132 rds ea..... 12 prime movers at 32 rds ea.....	11,055	132,660	530,640	14 trucks at 15,960 rds ea, 48 prime movers at 2,400 rds ea; remainder railroad.	
Machine guns in gun battery.....	---	---	---	---	2,400	9,600	28,800	Carried in gun batteries in eight 300-rd metallic belts in eight ammunition chests on vehicles with machine gun.	
Aggregate.....	---	---	---	---	13,455	142,260	559,440	---	

1 HE shell packed 4 per box; gross weight 155 lbs (in fiber containers).

2 Proportions are 20% armor piercing, 60% ball, and 20% tracer, each packed 280 rounds per box (28 10-rd cardboard containers). Weights are as follows: Armor piercing and ball cartridges, 106 lbs; tracer cartridges 96 lbs.

TABLE XVII.—Characteristics of coast artillery (mobile) weapons

	Caliber and type	Kind	Ammunition		Travel permitted by carriage	Rate of fire (rounds per piece per minute)	
			Approximate weight one complete round	Range extreme		Prolonged	Short bursts
RAILWAY	8-inch gun	Shell, HE ¹	Pounds 270	Yards 21,300	Degrees 360	1½	1
	12-inch mortar	do. ¹	700	14,650	360	½	1
	14-inch gun	do. ¹	1,862	40,000	37	½	½
	155-mm gun (GPF)	do.	120	17,500	60	1	3
ANTIAIRCRAFT	3-inch M1 and M3 on trailer mounts M1 and M2.	(Shrapnel, shell)	8 29	Vertical	360	25	25
				Horizontal				Feet
	3-inch M-1918 on trailer mount M1918	(HE shell)	23	25,800	360	15	15
	75-mm gun M1916 on mount M1917 on White truck.	Shrapnel, shell	26	29,100			
	Caliber .50 machine gun M1921 on tripod A A machine gun mount M-1.	do.	19	14,200	240	10	10
		Fixed ball, tracer.	(¹⁰)	19,600	360	450	450

See footnotes at end of table.

TABLE XIX.—Ammunition for organic GHQ prorata tractor-drawn and portée, light field artillery brigades
(For kind, percentage, packing, and weights of ammunition, see Table VIII)

Unit	75-mm gun regiments, tractor drawn			75-mm gun regiments, portée				
	Rds per piece	Rds per btry	Total rds	Vehicles used	Rds per piece	Rds per btry	Total rds	Vehicles used
Each battery.....	140	560	560		60	240	240	Four 3-ton trucks, 60 rds ea.
Total in regiment.....			3,360	8 caissons, 70 rds ea.....			1,440	
Total in brigade.....			10,080	48 caissons, 70 rds ea.....			4,320	
				144 caissons, 70 rds ea.....				

TABLE XX.—Small arms and automatic guns in corps troops

Total	Special troops										Corps Arty	AAA Regt	Corps Engr Serv	Corps Tn
	Total Sp Trs	Hq & Hq Co AC	Sig Bn	MP Bn	Serv Bn	Field Rmt Dep	Ord Co (Am)	Ord Co (Hv Maint)						
83											83			
7,914	1,472	124		958			124	266			125		3,926	2,391
472				95				32			472			
11,941	1,980	553	488	632	154	46					6,395	1,941	816	809

Gun, machine, cal .30
Rifle, U. S., cal .30
Rifle, automatic, cal .30
Pistol, automatic, cal .45

	Total	Special troops			Army Sig Serv	Army Ord Serv	Rmt Dep	AAA Brig	Army Arty	Army Engr Serv	Army Tn QMC
		Total Sp Tns	Hq & Hq Co	MP Bn							
Gun, machine, cal .30	13,127	86	86	854					10,876	1,311	
Rifle, U. S., cal .30	89							39			
Rifle, automatic, cal .30	15,933	1,413	626	787	1,411	523	5,582	702	2,501	499	
Pistol, automatic, cal .45											

For cavalry division see Tables IX, X, XI, and XII.

TABLE XXII.—75-mm pack howitzer and howitzer and ammunition transport

Item ¹	Weight, lbs	One regiment			
		Total Regt	One battalion		
			Total Bn	C Tn	How Btry
Howitzer and carriage, 75-mm pack, M1 (in firing position).....	1,269	24	12		
Packed as follows:					
Howitzer tube.....	340	24	12		
Cradle and top sleigh.....	335	24	12		
Bottom sleigh and recoil mechanism.....	331	24	12		
Front trail.....	352	24	12		
Rear trail and axle.....	354	24	12		
Wheel and breechblock.....	344	24	12		
Pack, ammunition ²	312	360	180	120	

¹ The types and quantities of other pack loads, all utilizing the saddle indicated in note ², are listed in Tables of Organization.

² The weight given includes one Phillips cargo type pack saddle complete (less bridle and halter rope), necessary pack load accessories, and pack load.

TABLE XXIII.—Ammunition for organic 75-mm pack artillery

Unit	75-mm pack howitzer regiment			
	Rds per piece	Rds per battery	Total rds	
Each battery.....	40	160	160	20 pack loads, 8 rds ea.
Each battalion combat train.....	80	320	960	120 pack loads, 8 rds ea.
Total in regiment.....	120	480	2,880	360 pack loads, 8 rds ea.

Item	Kind, percentage, packing, and weight of ammunition			
	Kind	Per cent	No in box	Weight, lbs
Shell, HE (fuzed) ¹	Semifixed.....	90	4	105
Shrapnel (fuzed).....	Fixed.....	10	4	107

¹ Cartridge case, loaded with zone charges; HE shell, M 41 with M39 fuze attached packed together. Weight estimated.

TABLE XXIV.—*Characteristics of chemical munitions*
(Shell and grenades filled with FM are solely for training purposes)

Munition	Agent and weight of filling (average)	Weight of complete munition (average)	Lateral distance to which agent is thrown (yards)	Persistency of agent	Effective range of weapon (yards)	Effective length of cloud from 1 munition (favorable conditions)	Marking on munition
Grenade, rifle, Mk I.	WP, 9.3 ozs...	24.3 ozs...	WP, 15...	WP, 30 secs...	265	100 yds.	WP smoke, 1 yellow band. CNS gas, 2 green bands. FM smoke, 1 yellow band.
	CNS, 7.2 ozs...	22.2 ozs...	CNS, 5...	CNS, 30 mins...			
	FM, 8.5 ozs...	23.5 ozs...	FM, 5...	FM, 30 secs...			
Grenade, hand, Mk. II.	CN, 3.5 ozs...	17.4 ozs...	CN, none...	CN, 45 secs...	35	do.	WP smoke, 1 green band. WP smoke, 1 yellow band. CNS gas, 2 green bands. FM smoke, 1 yellow band.
	WP, 9.3 ozs...	18.8 ozs...	WP, 15...	WP, 30 secs...			
	CNS, 7.2 ozs...	16.7 ozs...	CNS, 5...	CNS, 30 mins...			
Candle, lac., CN, fast, M.I.	FM, 8.5 ozs...	18.0 ozs...	FM, 5...	FM, 30 secs...	43	200 yds.	CNS gas, 1 green band. CN gas, 1 green band. CN gas, 1 green band.
	CN, 3.5 ozs...	11.9 ozs...	CN, none...	CN, 45 secs...			
	CN, 3.2 ozs...	16 ozs...	None...	2 mins...			
Candle, lac., CN, slow, M.I.	CN, 13.6 ozs...	22 ozs...	do.	5 mins...	15	500 yds.	Do.
Candle, lac., CN, slow, M.I.	CN, 4.5 ozs...	20 ozs...	do.	2 mins...	39	300 yds.	Do.
Candle, smoke, HC, M.I.	HC, 28 ozs...	32 ozs...	do.	3 mins...	15	100 yds.	HC smoke, 1 yellow band.
Candle, smoke, HC, M.II.	HC, 20.5 ozs...	25.5 ozs...	do.	2 mins., 40 secs...	34	50 yds.	Do.
Infantry, 75-mm. mortar shell, M.II.	WP, 1.8 lbs...	10.5 lbs...	WP, 10...	WP, 30 secs...	2,000	100 yds.	WP smoke, 1 yellow band.
155-mm shell, Mk II (How).	HS, 10.55 lbs...	95 lbs...	HS, 8...	HS, 1 wk ¹ ...	12,000	HS, 8 by 30 yds. CG, 100 yds. WP, 250 yds. FM, 100 yds.	HS gas, 2 green bands. CG gas, 1 green band. WP smoke, 1 yellow band. FM smoke, 1 yellow band.
	CG, 10.7 lbs...		CG, 10 mins...				
	WP, 15.2 lbs...		WP, 3 mins...				

¹ Effective length of cloud given for each munition is approximate and will vary considerably depending on terrain, weather, and degree of atomization when dispersed.
² HS persists from one day to several weeks depending on terrain, weather, and degree of atomization when dispersed.

TABLE XXIV.—Characteristics of chemical munitions—Continued

(Shell and grenades filled with FM are solely for training purposes)

Munition	Agent and weight of filling (average)	Weight of complete munition (average)	Lateral distance to which agent is thrown (yards)	Persistency of agent	Effective range of weapon (yards)	Effective length of cloud from 1 munition (favorable conditions)	Marking on munition
75-mm shell, Mk II.	HS, 1.25 lbs.	12 lbs.	HS, 4	HS, 1 wk ²	8, 500	{ HS 4 by 15 yds. CNS, 200 yds.	HS gas, 2 green bands.
	CNS, 1.25 lbs.		CNS, 4	CNS, 30 mins			
Chemical bomb, MI, (30 lbs).	WP, 1.8 lbs.	28.3 lbs.	WP, 10	WP, 30 secs	{ 8, 500	{ WP, 100 yds. FM, 50 yds.	WP smoke, 1 yellow band.
	FM, 1.65 lbs.		FM, 6	FM, 30 secs			
	HS, 8.7 lbs.	32.0 lbs.	50	HS, 1 wk ²	{ From any altitude.	200 yds.	{ HS gas, 2 green bands.
	WP, 12.5 lbs.			WP, 3 mins			
	FM, 11.75 lbs.	31.3 lbs.		FM, 3 mins			{ WP smoke, 1 yellow band.
Airplane dis- persion.	Wing tank ³	Wing tank ³	Depends on wind.	{ HS 1 wk ² . FM, 3 mins	{ Radius of action of plane.	{ 1,700 yds. long, altitude of plane, 50 to 100 ft.	HS gas, 2 green bands, FM smoke, 1 yellow band.
	HS, 159.5 lbs.	HS, 210 lbs.					
	FM, 216.5 lbs.	FM, 267 lbs.					
	Belly tank ³	Belly tank ³					
	HS, 319 lbs.	HS, 440 lbs.					
	FM, 433 lbs.	FM, 558 lbs.					

² HS persists from one day to several weeks depending on terrain, weather, and degree of atomization when dispersed.³ The belly tank is a tank suspended from the fuselage of the plane, while the wing tank is suspended from the wing of the plane. A plane carries two wing tanks, one near each end of the wing. The wing tank holds about one half as much chemical agent as the belly tank.

TABLE XXV. Characteristics of principal weapons of ammunition groups
(Shell filled with FM are solely for training purposes)

Caliber	4.2-inch chemical mortar, MI ¹	4-inch chemical mortar, MI ¹	Livens projector, MI ³	Portable chemical cylinder	DM irritant candle, MI
Number per company	8	8	200	150	As needed.
Agent and weight of filling (pounds)	(CG, 6.0. CNS, 6.2. CN, 5.3. WP, 7.45. FM, 7.45. HS, 5.6. 53	(CG, 6.6. CNS, 7. CN, 6.4. WP, 9.35. FM, 8.45. 53	(CG 28.7. 1 per projector	(CG, 32.5. CND, 28.5. One filling per cylinder. 2. 143 filled, 83 empty	DM, 2.
Number of rounds, per piece per regiment.	2	2	1	2	10.
Number of rounds per box	65	65	85	143 filled, 83 empty	140.
Weight of box of ammunition (pounds).	1.28	1.28	1.6	4	3.3.
Displacement of box (cubic feet).	25	25	65	48 filled.	9¼.
Weight, 1 round, complete (pounds).	(CG gas, 1 green band. CNS gas, 2 green bands. CN gas, 2 green bands. WP smoke, 1 yellow band. FM smoke, 1 yellow band. HS gas, 2 green bands.	Same as 4.2-inch chemical mortar.	(CG gas, 1 green band.	(CG gas, 1 green band; CND gas, 2 green bands.	(DM gas, 1 green band.
Marking on munition					

¹ Chemical regiments are GHQ troops and are not an organic part of the infantry division, but may be attached to or operate with an army, corps, or division. The chemical regiment is motorized. A mortar squad consisting of eight men and one corporal is equipped with one hand cart with a 4.2-inch chemical mortar and one hand cart loaded with 10 rounds of ammunition. For long-distant movements, the men and carts are transported in a light cargo truck which is not an organic part of the regiment. The ammunition squad is equipped with two hand-drawn carts each loaded with 10 rounds of ammunition. The ammunition squad is also transported for distant movements in a light cargo truck.

² The 4.2-inch chemical mortar has been adopted as standard and is being substituted for the 4-inch chemical mortar.

³ Livens projectors, portable chemical cylinders and irritant candles are used in large numbers for special gas operations.

TABLE XXV.—*Characteristics of principal weapons of chemical troops*—Continued
(Shell filled with FM are solely for training purposes)

Caliber	4.2-inch chemical mortar, MI	4-inch chemical mortar, MI	Livens projector, MI	Portable chemical cylinder	DM irritant candle, MI
Effective length of 4 cloud from 1 round (favorable conditions).	(CG, 100 yards. CNS, 500 yards. CN, 500 yards. WP, 250 yards. FM, 100 yards. HS, 5 by 20 yards. CG, 10 minutes. CNS, 2 hours. CN, 2 hours. WP, 3 minutes. FM, 3 minutes. HS, 1 week ⁵ 2,400 yards.	Same as 4.2-inch chemical mortar.	CG, 200 yards.	{CG, 200 yards. CND, 200 yards.	{DM, 500 yards.
Persistence of agent.		do.	CG, 10 minutes.	{CG, 10 minutes. CND, 2 hours.	{DM, 3 minutes.
Range, extreme firing table values.		1,075 yards.	1,450 yards.	Large, shoots several miles.	Large, shoots several miles.
Rate of fire per piece per minute: Prolonged Short bursts.	5. 15 to 20.	5. 15 to 20.	{1 round per projector per installation fired simultaneously by electricity. 1 night operation (1 company can install 200 projectors in 5 hours if projector close at hand).	All cylinders fired at once by hand or electrically. One night. (1 company chemical troops can install 300 cylinders in 6 hours if carry is not over 2 miles).	All fired at once by hand. 1 company chemical troops can install 300 and fire same by hand in 2 hours.
Time to emplace in firing position.	30 minutes.	30 minutes.			

Weapon transport.....	{ Truck (1 squad, complete with carts): Hand cart..... Hand carry.....	Same as 4.2-inch chemical mortar.	Hand cart, 10. Wagon, 150. Truck, 3 T, 800. Man, 4.	Hand cart, 4..... Wagon, 20..... Truck, 3 T, 120..... Man, 1.....	Base plate Projector	8 30 170 1/2
Ammunition transport.....	Hand cart, 10.....	.do	Hand cart, 10. Wagon, 150. Truck, 800.	Hand cart, 4..... Wagon, 20..... Truck, 120.....	Shell	4 15 90
Round per vehicle.....	Truck, 1 1/2-ton, 90.....	.do	Man, 1.....	Man, 1.....	Charges	25 75 550
Total weight, hand cart loaded (mortar or ammunition), pounds.....	425.....	445.....	425.....	365.....		2
Width of track, hand cart.....	3 feet 6 inches.....	3 feet 6 inches.....	3 feet 6 inches.....	3 feet 6 inches.....		
Weight of weapon (pounds).....	{ Barrel, 92..... Base plate, 99..... Bipod, 32..... Tools, 27..... 2.....	{ Barrel, 92..... Base plate, 120..... Bipod, 32..... Tools, 31..... 2.....	Barrel, 110..... Base plate, 35..... Shell, 65..... Charge 10..... 2.....	Empty, 18..... Filled, 48..... Empty boxed (2), 83..... 2.....		9 1/4 2
Marches (average miles per hour with hand carts). Average day's march with hand carts.	12 miles.....	12 miles.....	12 miles.....	12 miles.....		
Average day's march motorized.	140 miles.....	140 miles.....	140 miles.....	140 miles.....		12 miles. 140 miles.

⁴ Effective length of cloud given for each munition is approximate and will vary considerably, depending on terrain and weather.
⁵ HS persists from one day to several weeks depending on terrain, weather, and degree of atomization when dispersed.

Characteristics and physiological classification of chemical agents

Agent	Characteristic	Physiological classification
HS.....	Persistent vesicant; deadly respiratory irritant; skin and eye casualties. Principal neutralizing and interdicting agent.	Vesicant.
CG.....	Nonpersistent; deadly lung irritant. Principal surprise agent.	Lung irritant.
CNS....	CN solution, type A; persistent; tear gas. Harassing agent.	Irritant.
CN.....	Persistent; tear gas. Harassing agent.	Lacrimator.
WP.....	Screening agent.	Smoke.
FM.....	do.	Do.
CND....	CN solution, type B; persistent; tear gas. Harassing agent. For training.	Lacrimator.
DM.....	Nonpersistent; irritant smoke. Harassing agent.	Irritant.

CHAPTER 2

FIELD ENGINEERING DATA

2. Roads.—a. Construction data (1 mile; road, 9 feet wide).

	Plank	Rough macadam
Materials (weight in tons) -----	¹ 745	² 3, 115
Transportation of materials:		
Escort wagon only, loads -----	555	2, 240
1½-ton trucks only, loads -----	515	2, 080
3-ton trucks only, loads -----	258	1, 040
Labor (man hours) -----	³ 7, 000	³ 13, 000

b. Maintenance data (1 mile macadam road, 18 feet wide).—

(1) Favorable weather; average traffic: Two men and a supply of 1 cubic yard of stone per day.

(2) Very wet or thawing weather, and heavy continuous traffic: Average force of 30 men working 24 hours, and daily supply of 20 cubic yards of stone.

3. Bridges.

Floating bridges

This table gives the principal characteristics of floating bridges constructed of the standard equipage with which engineer troops are provided. In the division area the actual construction of bridges is always executed by divisional engineer troops; light ponton companies and heavy ponton battalions are transportation and maintenance organizations.)

	Footbridge	Light ponton bridge M1926 *	Heavy ponton bridge M1924
Length -----	528 feet per engineer combat regiment.	224 feet per bridge platoon. 672 feet per light ponton company.	208 feet per bridge platoon. 416 feet per company. 832 feet per heavy ponton battalion.
Traffic capacity.	Infantrymen in file at one yard distances.	Light tanks (7½ tons) and all other divisional loads except loaded 3 to 5 ton trucks.	All army loads including the 23-ton tank and the 155-mm GPF gun.

* Modified equipage, heavy, M1869 (wooden pontons), may be substituted.

¹ 11,000 pieces hardwood 5 inches thick at 140 lbs. each.

² Stone at 2,700 lbs. per cubic yard.

³ Materials delivered on work.

Floating bridges—Continued

	Footbridge	Light ponton bridge M1926	Heavy ponton bridge M1924
Ferrying capacity.	3 men per raft section.	25 infantrymen with arms per ponton, in addition to crew.	58 infantrymen with arms per ponton in addition to crew.
Roadway.....	3 feet wide.....	One way.....	One way.
Time to construct.	15 to 30 minutes including assembly.	100 to 300 feet per hour depending on working conditions.	100 to 200 feet per hour depending on working conditions.
Transportation..	88 feet of bridge per truck-ton or in escort wagons.	Animal or motor drawn ponton wagons.	Motor trucks and trailers.

Characteristics of fixed bridges

	Artillery portable	Standard trestle	Pile trestle
Purpose.....	Bridging deep trenches.	Replacing destroyed highway bridges.	Replacing destroyed highway bridges over streams with deep water or soft bottom.
Dimensions..	12 feet long; roadway 7½ feet wide. In two sections of 720 lbs. each.	Bays 15 feet long; width of roadway 10 feet. Height of trestles variable. Weight of one bay with 20-foot trestle, 5 tons.	Same as for standard trestle.
Capacity....	Divisional artillery 6,000 lbs. one 1-axle.	Heaviest army loads..	Same as for standard trestle.
Rate of construction.	10 minutes.....	An engineer combat company constructs from 30 to 100 feet of bridge per day. Materials on the site.	Same as for standard trestle.

4. Water supply.—The following shows requirements of water in gallons per day:

a. In the field.—(1) *Men.*—One gallon per man, cooking and drinking only; five gallons per man, all purposes.

(2) *Animals.*—Six to ten gallons per animal; depending on weather and amount of work done.

b. In semipermanent camp or cantonment.—Ten gallons per man and per animal.

5. Demolitions.—a. Explosives carried by—

	Pounds
Cavalry regiment.....	150
Engineer squadron (cav. div.).....	480
Engineer combat regiment.....	1, 560

b. The following charges of TNT in pounds are required to produce craters in common earth of the diameter given. Charge assumed to be at a distance below the surface equal to one-half of the diameter of the crater:

<i>Diameter of crater</i>	<i>Charge</i>
Feet	Pounds
20	50
30	140
40	290
50	570

6. Field fortifications.—a. Battle position.—For general arrangement, depth, and frontages assigned units in defense, see Figure 1. The distances given in (1), (2), and (3) below serve as a guide only. The maximum and minimum may be increased or decreased depending upon the factors affecting the particular situation.

(1) Centers of resistance.

Dimensions of: Maximum yards, 1,000 by 900; minimum yards, 500 by 400.

Intervals between: Not more than 800 yards.

(2) Strong points.

Dimensions of: Maximum yards, 400 by 300 (may be larger on battalion and regimental reserve lines); minimum yards, 200 by 200.

Intervals between: Not more than 400 yards.

(3) Combat groups.

Dimensions of: Maximum yards, 150 by 75; minimum yards, 100 by 50.

(4) Normal priority of work.—The following list of priorities does not mean that each item of work is completed before the following item is begun. In practice, work proceeds simultaneously on several items. Those items which usually can be completed within six hours and which may be said to fall in the first group priority include machine-gun emplacements (open type); reasonable field of fire; squad trenches, simple standing type, on line of resistance; continuous obstacle in front of line of resistance; shallow connecting trenches between squad trenches on

lines within combat groups; command posts, observation posts, aid stations; camouflage.

1st.—Machine-gun emplacements.

2d.—Reasonable field of fire.

3d.—Fire trenches on line of resistance and support line.

4th.—Continuous obstacle in front of line of resistance.

5th.—Obstacles protecting combat groups of front line strong points.

6th.—Temporary command posts; observation posts; aid stations; routes of communication.

7th.—Completion of trenches and obstacles in front line strong points.

8th.—Fire trenches and obstacles on battalion and regimental reserve lines.

9th.—Completion of trenches and obstacles in centers of resistance.

10th.—Permanent command posts; observation posts; aid stations; shelters.

11th.—Completion and improvement of trenches and obstacles in the position.

b. Works.—(1) *Trenches.*—Simple standing trenches requiring 9 cubic feet of excavation per linear foot generally will be constructed first and later enlarged and improved.

Rates of excavation; day work, single relief

(Hard soil must be loosened with pick. Easy soil requires little or no picking)

Nature of soil	Suitable proportion of tools		Cubic feet excavated per man			Total		
	Picks	Showels	1st hour	2d hour	3d and 4th hours	First 4 hours	Second 4 hours	8 hours
Hard.....	2	1	15	10	15	40	27	67
Average.....	1	1	23	15	22	60	40	100
Easy.....	1	2	30	20	30	80	53	133

(2) *Obstacles*.—A fully organized battle position requires obstacles approximating nine times the length of front held. A single belt of double apron fence 100 yards long requires—

34 posts, 5 feet long, 3½ to 4 inches diameter.

68 pickets, 2 to 2½ feet long, 2½ to 3 inches diameter.

1,400 yards barbed wire.

Labor: 25 man hours.

(3) *Clearing*.—Two man hours of labor required for clearing 100 square yards (10 by 10 yards) of brush wood and trees up to 2 inches in diameter.

(4) *Machine-gun emplacement*.—Simple shell hole type requires nine man hours and about 200 pounds of materials.

(5) *Shelters*.—(a) *Types*.

Splinterproof protect against rifle and machine-gun fire and splinters of high-explosive shells and grenades.

Light protect against 3-inch shells.

Light shellproof protect against 6-inch shells.

Heavy shellproof protect against 8-inch and larger shells.

Heavy should not be used in front lines on account of difficulty of exit. A heavy shelter for a platoon, with 30 feet of undisturbed earth cover, will require at least 10 days of continuous work.

(b) *Floor space provided*.

	Sq. ft.
Troop shelter per man occupying.....	9 to 12
Aid station, per litter.....	28
Command post:	
Platoon.....	100
Company.....	200
Battalion.....	400
Regiment.....	600
Brigade.....	800
Division.....	1, 600

(6) *Camouflage*.—(a) Relative importance of the elements of successful camouflage are—

	Per cent
1st.—Proper choice of position.....	40
2d.—Camouflage discipline.....	25
3d.—Proper erection of camouflage material.....	20
4th.—Camouflage material used.....	15

(b) Material for artillery and machine guns.

Gun	Sizes and weights of nets ¹
6-inch and larger.....	32 by 40 feet, 100 pounds.
3-inch.....	32 by 32 feet, 75 pounds.
Machine guns.....	10 by 10 or 16 by 16 feet, 45 pounds

7. Penetration of projectiles.—a. *Maximum penetration of 172-grain, caliber .30 bullet in inches.*

Material	Range		
	200 yards	600 yards	1,500 yards
Armor.....	0.30	0.10	0.1
Gravel or broken stone.....	8	7	6
Brick masonry ¹	4	4	4
Concrete, 1-2½-5 mix.....	1.65	1.20	1.0
Oak.....	20	20	12
Sand, dry.....	12	11	11
Earth, loam.....	27	27	27
Greasy clay.....	60	40	30

¹ Greater penetrations may occur when bricks are laid in soft mortar and bullet strike in mortar.

b. *Penetration of special weapons.*—(1) Caliber .50 machine gun bullets penetrate at short ranges up to 1-inch special steel (tank) armor.

(2) Armor-piercing bullets at most favorable ranges can penetrate special steel (tank) armor twice their caliber in thickness.

(3) 37-mm projectile fired from service piece with muzzle velocity of 1,300 feet per second penetrates .625-inch special steel (tank) armor at 300 yards.

(4) 37-mm projectile fired from service piece with muzzle velocity of 2,000 feet per second penetrates 1-inch special steel (tank) armor at 300 yards.

¹ Fish nets garnished with burlap, etc. These with posts, wire, etc., for erection are carried by the unit. In stabilized situations wire netting in rolls 6 by 30 feet is furnished.

8. Miscellaneous data.

Minimum thickness in feet of overhead cover

(Figures to the right of and below the heavy line are for shelters that normally would be constructed by cut-and-cover methods; those to the left are normally for surface shelters. The dividing line is not fixed as the determination of the type depends on the location, materials, and the labor and time available.)

Nature of cover	Size of projectile							
	Inches							
	Rifle, machine-gun fragments							
	3	4	6	8	10	12	16	18
Reinforced concrete.....	1.0	2.4	3.4	5.0	6.0	7.0		
Masonry, solid: Brick, stone, plain concrete.....	1.5	3.6	5.1	7.5	9.0	11.0		
Logs, 8-inch minimum diameter wired.....	2.0	4.8	6.8	10.0	12.0			
Crushed stone.....	3.5	8.4	11.0	17.5	21.0			
Tamped or packed earth.....	1.0	7.5	18.0	25.5	37.5			
Loose earth.....	3.0	10.0	24.0	34.0				
Cave shelters:								
Sandstone or granite.....	2.0	6.0	8.0	10.0	13.0	14.0	17.0	24.0
Soft limestone.....	3.0	9.0	11.0	15.0	20.0	21.0	27.0	36.0
Undisturbed earth.....	5.0	12.0	17.0	25.0	30.0	32.0	40.0	48.0

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Load table, engineer materials

Item	Unit	Weight per unit, lbs	Number units per load		
			Escort wagon	1½-ton truck	3-ton truck
Camouflage:					
Wire netting.....	Roll (6 feet by 30 feet).....	40	40	80	160
Fish nets.....	Net (32 feet by 32 feet)..... (32 feet by 40 feet).....	75 100	15 12	25 20	50 40
Pickets, wood, 2½ feet.....	Each.....	8	250	375	750
Posts, wood, 5 feet.....	do.....	9	200	330	500
Posts, iron, screw, 5 feet.....	do.....	9	300	330	500
Posts, iron, screw, 1½ feet.....	do.....	3	900	1,000	2,000
Road plank, 10 feet by 8 inches by 5 inches.....	do.....	140	20	22	45
Stone, broken.....	Cubic feet.....	100	28	30	60
Wire, barbed.....	50-yard coils.....	15	185	200	400
Wire, barbed, commercial.....	80 to 100 rod reels.....	100	28	30	60

Principal items of a set of intrenching equipment

(Carried by combat engineers at rate of six sets per infantry division, four sets per cavalry division)

Item	Infantry	Cavalry
Axes.....	26	12
Mattocks, pick.....	125	65
Saws.....	26	12
Shovels, D-handled.....	250	130
Sandbags.....	500	500
Tape, tracing, feet.....	3,000	3,000

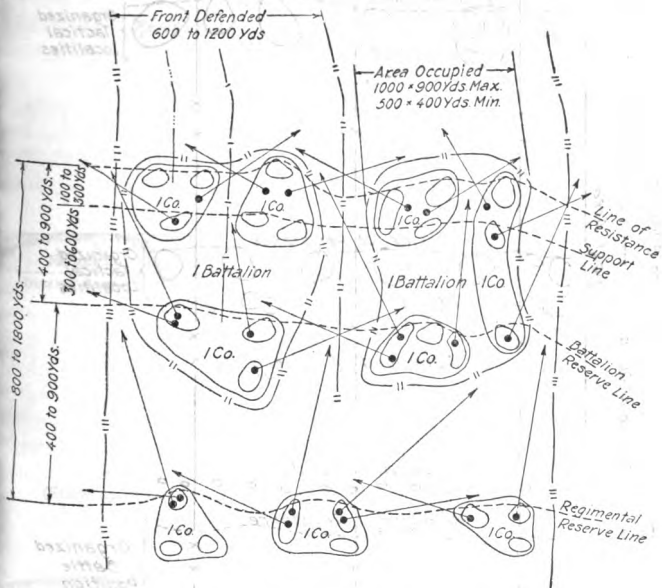


FIGURE 1.—Regimental sector of a battle position

(This diagram shows centers of resistance, strong points, combat groups, frontages, depths, and possible disposition of machine guns. Distances are in yards. The distances given serve as a guide only. The maximum and minimum may be increased or decreased depending upon the factors affecting the particular situation.)

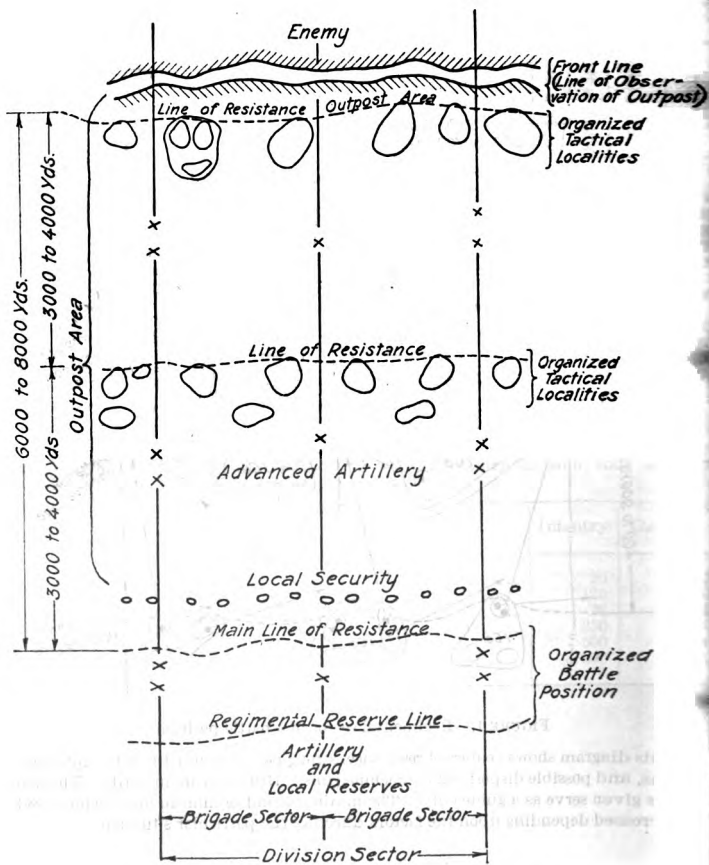


FIGURE 2.—A defensive zone with deep outpost area

(The distances given serve as a guide only. The maximum and minimum may be increased or decreased depending upon factors affecting the situation.)

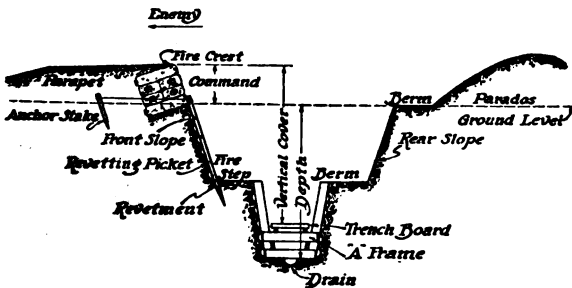


FIGURE 3.—Trench nomenclature

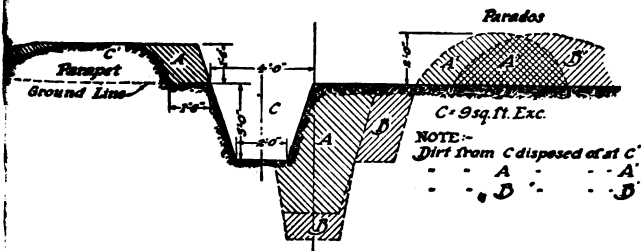


FIGURE 4.—Simple standing trench
(Showing development into standard fire trench, types A and B)

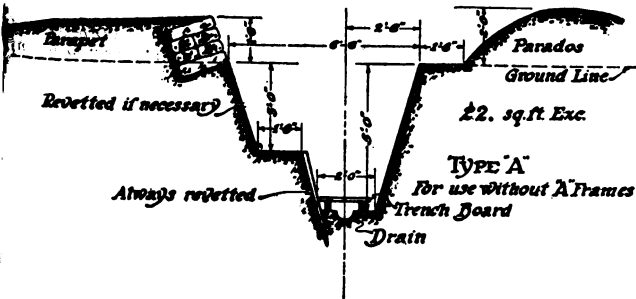


FIGURE 5.—Standard profile, fire trench, type A
(For use without A frames in firm soil)

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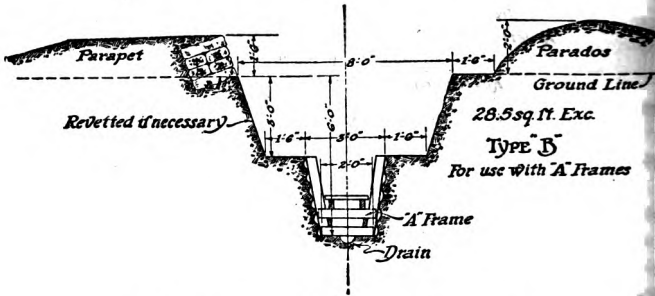


FIGURE 6.—Standard profile, fire trench, type B
(For use with A frames in loose soil)

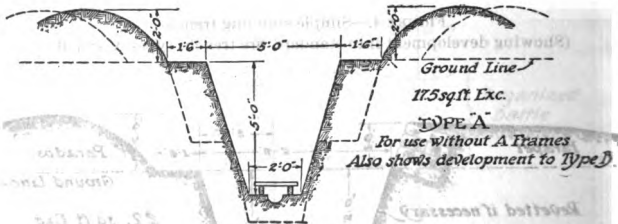


FIGURE 7.—Standard profile, communication trench, type A
(For use without A frames)

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CHAPTER 3

SIGNAL COMMUNICATION

9. General—*a.* Signal communication comprises all the means employed to transmit messages and telephone conversations except in the cases of messages transmitted by mail or direct personal agency.

b. Due to the large areas involved and also to the rapidity of movement under modern battle conditions, adequate signal communication is essential to success in combat. It should be borne in mind that any system of signal communication whether wire, radio, visual, or otherwise must be operated as a complete, coordinated unit although this unit may be composed of many smaller component systems. All of the subordinate parts must be constituted, maintained, and operated in a uniform manner, thus making signal communication possible between any two or more headquarters in the entire system without confusion or delay.

c. Combat communication systems are usually temporary in character and must be so constructed initially as to render their immediate expansion or relocation possible, especially in forward areas. Such expansion or relocation must be capable of accomplishment without interruption to signal communication service.

d. Commanding officers and their staffs should realize that the installation of a signal communication system which will come within the requirements stated above necessitates careful advance planning, and for this reason it is essential that signal and communication officers be advised as early as practicable of contemplated plans for the movement of troops and of their probable future locations. The efficiency of any signal communication system will be materially influenced by the accuracy and brevity of messages prepared by staff officers and others who have occasion to originate messages.

e. The various means normally used for the transmission of messages in combat are listed below in their usual order of relative importance.

- (1) Wire (telephone and telegraph).
- (2) Radio (telegraph and telephone).
- (3) Messengers.
- (4) Visual.

10. **Wire.**—*a.* In the United States Army wire lines are usually complete metallic circuits. From division headquarters forward, and to some extent in rear of division headquarters, wire circuits are constructed of insulated, steel and copper standard, twisted-pair wire weighing approximately 130 pounds per mile. When new and in good condition, this wire possesses a talking range of approximately 15 miles.

b. For convenient reference, the amounts of twisted-pair wire (type W-110) issued to elements of an infantry division and a cavalry division are listed below. These amounts constitute the initial issue. The average monthly replacement rate in a long campaign is estimated at 50 per cent of the initial allowance.

Infantry division

Division signal company.....	80 miles
Two infantry brigades.....	128 miles
Artillery brigade.....	308 miles

Cavalry division

Division signal troop.....	60 miles
Two cavalry brigades.....	40 miles
Artillery brigade.....	104 miles

c. Wire which has been damaged by vehicles passing over it or whose insulation has deteriorated will cause a reduction in the talking range of any circuit of which it is a part.

d. Twisted-pair wire is usually laid on the ground by means of motor vehicles, horse-drawn wire carts, and, in forward areas and other locations where the use of vehicles is impossible, by hand.

e. Where wire communication is necessary between points separated by a distance greater than the talking range of twisted-pair wire circuits, open wire construction must be resorted to. Such construction may be of a very light-weight type using small-sized bronze wire fastened to insulators on poles which are as short and light in weight as conditions will permit. The maximum talking range of circuits constructed in this manner varies

from 25 to 50 miles. Considerably more time is required for construction of this type than is required to lay the same length of twisted-pair. Depending upon conditions of ground and weather a signal company can construct from one to several miles of this type of line per day.

f. Where military requirements for wire communication are similar to those for commercial long-distance service, the wire circuits are constructed in accordance with standard commercial telephone practice, and by the use of suitable loading devices, telephone repeaters, and similar apparatus the talking range can be extended to any distance required. This type of construction is very slow, several weeks being required by a construction company for circuits of 50 to 100 miles in length.

g. It is not usual practice to construct wire lines especially for telegraph service. Such service is usually provided by simplexing or phantoming existing telephone circuits. Telegraph service over twisted-pair field lines is secured by simplexing buzzers (a special type of telegraph instrument) on these lines. International Morse (radio) code is used. On other types of circuits regular telegraph equipment is generally used and American Morse code employed.

h. Division and higher unit commanders should endeavor to so locate their headquarters that full advantage may be taken of existing commercial and military wire circuits in the area in which their units are operating and, wherever possible, movements of higher headquarters should be along the route of existing wire circuits. Such practice eliminates much useless construction of field lines and provides better and more prompt service than can be secured otherwise.

11. Radio.—*a.* In general, radio may be considered as the most important auxiliary means of signal communication. For units of certain organizations, such as aircraft, mechanized forces, and other rapidly moving troops, radio frequently must be the primary means. Usually, a very short time is required to establish radio communication. The time varies from one to two minutes in the case of small sets to perhaps one hour for large sets. This latter time may be shortened considerably provided the sets are mounted in suitable vehicles.

b. The range in miles of any particular radio transmitter depends upon the elements incorporated in its design. The amount of power required for its operation is usually a fair index of its range. The amount of power which can be provided for

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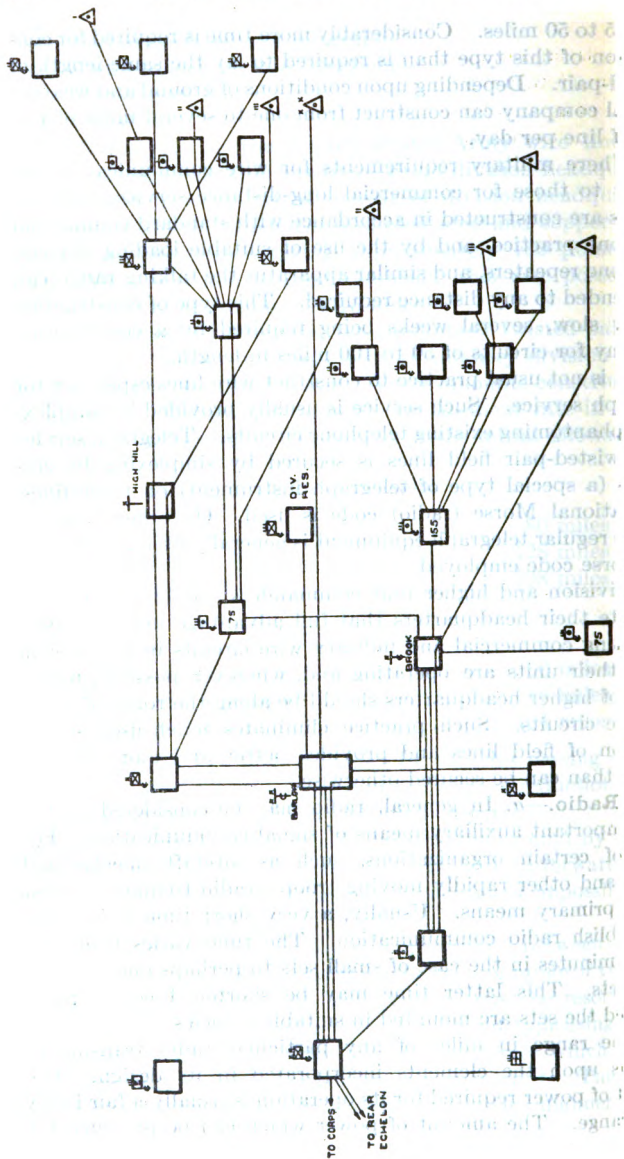


FIGURE 8.—Wire net, infantry division (local circuits are not shown)

a given type of set is governed by the tactical limitations as to size and weight.

c. Atmospheric conditions frequently limit the range of radio communication while they have but slight effect upon wire communication. Occasionally lightning storms and similar atmospheric disturbances will prevent the use of radio for a considerable period.

d. Since all radio messages are in effect broadcast in all directions, the encoding or enciphering of messages is essential in combat except when the interception of messages by the enemy can be of little value to him. When the tactical situation is such that time can not be spared for cryptographing and deencryptographing, and when the information to be transmitted can not, if picked up by the enemy, be acted upon in time to influence the situation, a commanding officer or his representative may order the transmission of a message in plain language, *provided that he makes this authorization in writing over his signature.*

e. Radio sets require expert operators and expert radio mechanics. The number of channels over which radio communication can be maintained is limited by physical laws and unless the number of radio transmitters operating within range of each other is limited and their frequency is carefully controlled, it will be found that interference between transmitters will render radio communication impossible.

Radio intercommunication chart, radio equipment, infantry division

Type No. SCR-	Organization to which issued	Transmitting frequency in kilocycles	Receiving frequency in kilocycles	Type of transmission	Can operate in net with radio set, type SCR-	Can transmit with radio set, type SCR-	Can receive from radio set, type SCR-	Source of power for transmitter	Remarks
77-B	Signal company (for training purposes only); infantry regiments and battalions (war time); artillery regiments and battalions.	4, 100-4, 400	4, 100-4, 400	CW	77-B	77-B	77-B	Storage battery	This set will soon be replaced by the SCR-131 and SCR-161 described below.
131	Signal company (for training purposes only); infantry regiments and battalions (war time); artillery regiments and battalions.	3, 960-4, 360	3, 960-4, 360	do	{ 131 161	{ 131 161	{ 131 161	Hand generator.	{ Not yet issued. Will replace SCR-77-B in infantry units.
161	Artillery brigades, regiments and battalions.	3, 760-4, 120	3, 760-4, 120	do	{ 131 161	{ 131 161	{ 131 161	do	{ Not yet issued. Will replace SCR-77-B in artillery units.
79-A	Infantry brigades and regiments; artillery brigade.	273-600	273-600	do	{ 79-A 109-A 130 132 136	{ 79-A 109-A 130 132 136	{ 79-A 109-A 130 132 136	Storage battery.	
109-A	Artillery brigades, regiments and battalions.	600-1 000	273-1, 000	{ CW MCW Telephone	{ 109-A 136	{ 109-A 130 132 136	{ 109-A 130 132 136	do	

MCW—Modulated continuous wave.

CW—Continuous wave.

Radio intercommunication chart, radio equipment, infantry division—Continued

Type No. SCR-	Organization to which issued	Transmitting frequency in kilocycles	Receiving frequency in kilocycles	Type of transmission	Can operate in net with radio set, type SCR-	Can transmit with radio set, type SCR-	Can receive from radio set, type SCR-	Source of power for transmitter	Remarks
130	Signal company and infantry brigades.....	273-545	273-857	CW	{ 79-A 109-A 130 132 136 }	{ 79-A 109-A 130 132 136 }	{ 79-A 109-A 130 132 136 }	do.....	
132	Signal company.....	150-350	100-1,000	{ CW MCW Telephone }	{ 79-A 130 132 136 }	{ 79-A 109-A 130 132 136 }	{ 79-A 109-A 130 132 136 }	Motor-generator or gasoline engine driven generator.	{ For use in corps net and communication with airplanes. For communication with airplanes and with rear echelon }
136	do.....	233-857	333-857	{ CW MCW Telephone }	{ 79-A 109-A 130 132 136 }	{ 79-A 109-A 130 132 136 }	{ 79-A 109-A 130 132 136 }	do.....	{ For communication with airplanes and with rear echelon }
134	Airplanes.....	400-850	250-1,500	{ CW MCW Telephone }	{ 79-A 109-A 130 132 136 }	{ 79-A 109-A 130 132 136 }	{ 79-A 109-A 130 132 136 }	Storage battery.	{ Set installed in airplane for air ground and interplane communications. }

CW—Continuous wave

MCW—Modulated continuous wave.

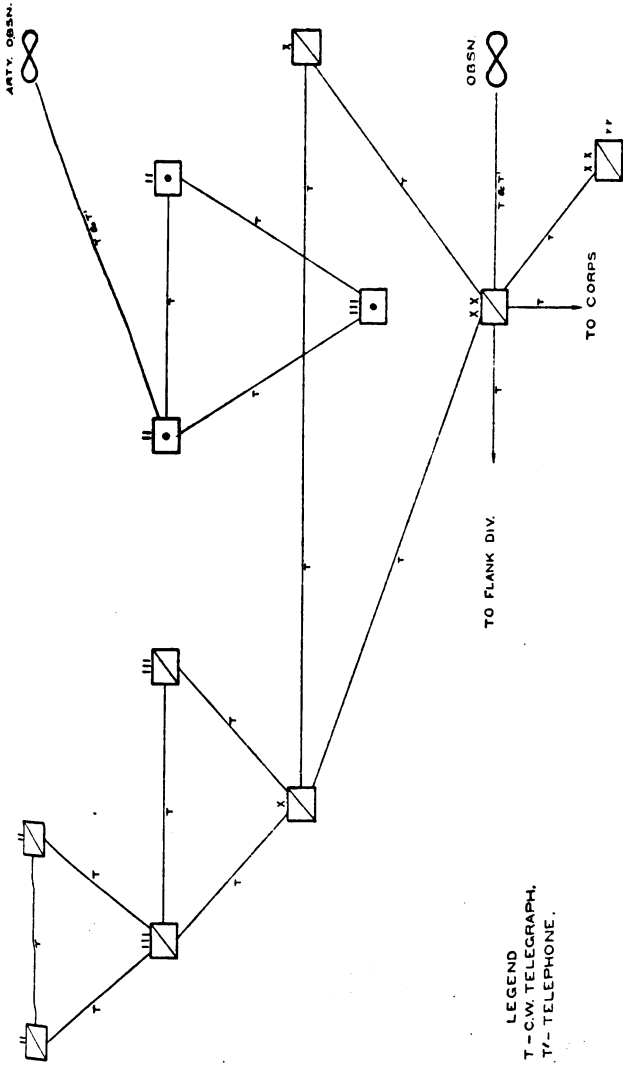


FIGURE 10.—Radio net, cavalry division (all communication is two-way)

LEGEND
 T—CW TELEGRAPH,
 T/—TELEPHONE.

Radio intercommunication chart, radio equipment, cavalry division

Type No. SCR-	Organization to which issued	Transmitting frequency in kilocycles	Receiving frequency in kilocycles	Type of transmission	Can operate in net with radio set, type SCR-	Can transmit to radio set, type SCR-	Can receive from radio set, type SCR-	Source of power for transmitter	Remarks
109-A	Signal troop; artillery regiment, battalions and batteries.	600-1,000	273-1,000	{ CW MCW Telephone }	109-A 136	{ 109-A 127 130 136 }	{ 109-A 127 130 136 }	Storage battery	
127	Cavalry brigades, regiments and in time of war to squadrons.	273-545	273-857	CW	{ 127 130 136 }	{ 109-A 127 130 136 }	{ 109-A 127 130 136 }	Hand generator.	{ Will soon be replaced by SCR-163 described below.
130	Signal troop, cavalry brigade.	(1)	(1)	(1)	(1)	(1)	(1)	Storage battery.	
136	Signal troop	333-857	333-857	{ CW MCW Telephone }	{ 109-A 127 130 136 }	{ 109-A 127 130 136 163 }	{ 109-A 127 130 136 163 }	Motor generator or gasoline engine driven generator.	{ For communication with airplanes and rear echelon.
163	Cavalry brigades, regiments and in time of war to squadrons.	3,820-4,180	3,820-4,180	CW	163	163	163	Hand generator.	{ Not yet issued. Will replace the SCR-127.
134	Airplanes	400-850	250-1,500	{ CW MCW Telephone }	{ 79-A 109-A 130 136 }	{ 79-A 109-A 130 132 136 }	{ 79-A 109-A 130 132 136 }	Storage battery	{ Set installed in airplane for air-ground and interplane communication.

1 Same as SCR-127.

CW—Continuous wave.

MCW—Modulated continuous wave.

12. Messengers.—*a.* Messengers are of several classes, including runners, mounted messengers (horse and motor cycle), and under some conditions airplane messengers. Another type of messenger, the importance of which was demonstrated by its performance during the World War, is the homing pigeon.

b. The speed of any given type of messenger except airplane messengers and homing pigeons varies with the terrain and with road conditions. Homing pigeons fly approximately 45 miles per hour.

c. Messengers should be carefully selected to insure that they possess the necessary degree of intelligence, courage, and aggressiveness. Messenger service is under the control of the message center.

13. Visual.—Visual signals include those produced by means of signal lamps, pyrotechnics, and panels.

a. Signal lamps have a range from about one mile in daylight to a maximum of about 20 miles at night depending upon the terrain and atmospheric conditions.

b. Pyrotechnics are used both from the air and from the ground for the purpose of transmitting a limited number of previously designated messages by means of a pyrotechnic code.

c. Panels are provided for the purpose of signaling from the ground to aircraft and are of three classes:

(1) Marking panels, usually issued to Infantry for the purpose of outlining front lines upon calls from friendly airplanes.

(2) Identification panels which are cut in distinctive shapes for different units are displayed upon calls from friendly airplanes. They are removed when not in use.

(3) Code and distinguishing panels, also called panel strips, are strips of cloth or other material, rectangular in shape. They are used for two purposes; First, in conjunction with identification panels for the purpose of identifying the command post, and, second, for sending prearranged signals to an airplane.

14. Message center.—*a.* A message center is established at the headquarters of all tactical organizations larger than a company. The message center acts as a distributing point to which all incoming messages are delivered and from which all

outgoing messages are sent to the transmitting agency. The message center has access to all the means of signal communication which have been installed and employs the most adequate means available for each transmission. The message center does not receive, distribute, or otherwise handle mail. It is not organized or equipped to perform stenographic or clerical work pertaining to the different sections of the staff nor to prepare additional copies of incoming messages for multiple distribution.

b. Messages are classified as follows:

- (1) Urgent (O).
- (2) Priority (P).
- (3) Routine (no symbol). All messages are considered routine unless otherwise designated.

c. Commanding officers and staff officers should be especially watchful that all messages conform to the following requirements:

- (1) They should be as brief as possible.
- (2) The means of transmission should never be designated by the originator of a message. The message center will use the best means available at the time to insure prompt delivery of the message.

15. Position of signal troops on the march.—*a.* In a command in which the commander marches in column with his troops, the signal troops should march near the normal position of the commander. This insures the maximum speed in beginning the installation of the communication system and makes it unnecessary for the signal troops to pass other troops in column. In a large command, such as a division, the signal troops move by echelon. One echelon with the necessary equipment and transportation marches near the head of the main body of the column which is following the axis of signal communication.

b. The foregoing requirements of position of signal troops on the march apply principally to a march where a meeting engagement is probable. Whenever a regiment or higher unit is being screened into the line by other troops or is marching to the relief of another unit on the front line and the new command posts' locations for the operation have been designated, detachments of signal troops sufficient to establish command post facilities should precede the columns.

c. Orders changing the location of a command post normally provide for the opening of the command post at the new location the hour the command post closes at the former location. Signal agencies are installed and put in operation at the new location before similar agencies are discontinued at the former location.

16. **Signal operation instructions.**—*a.* Signal operation instructions are issued for the technical control and coordination of signal communication. They are prepared by the signal officer of the unit and are issued by authority of the unit commander. These instructions are of primary interest to signal communication troops. Units smaller than the division have the occasion to prepare signal operation instructions.

b. Signal operation instructions for a contemplated tactical operation are generally issued in advance of the operation. They remain in effect during the entire operation or cycle of operations. They are issued or changed as circumstances require and not necessarily at fixed intervals.

c. Signal operation instructions are issued and distributed as separate items, each item being designated by a title descriptive of its contents and a number which is changed serially in successive editions.

d. (1) The items of signal operation instructions are indexed. Successive indexes are numbered serially. The index of signal operation instructions contains—

Heading: Unit, place, date and hour, title, and serial number.

Title and serial number of each item.

Date and hour each new item or change becomes effective, if subsequent to the hour stated in the heading.

Authentication: As for a field order.

Distribution.

(2) *Example of index.**Index No. 8 to Signal Operation Instructions*1st DIVISION, YORK, PA.,
29 Sept. 27, 1 a. m.

Title of item	Serial No.	Remarks
General:		
Index to Signal Operation Instructions.	7	Supersedes No. 6, 30 Sept., 1:00 A
Index to Regulations and Orders on Signal Communication.	1	
Distribution "S" for Signal Operation Instructions.	2	Supersedes No. 1, 30 Sept., 1:00 A
Codes and ciphers:		
Army Field Code (AFC).....	1	
Geographical Appendix to AFC-1.	6	Supersedes No. 5, 30 Sept., 12 noon
Division Field Code (DFC).....	5	
Geographical Appendix to DFC-5.	8	
Radio Service Code.....	2	Supersedes No. 1, 1 Oct., 1:00 A.M
Meteorological Codes.....	1	
Air-Ground Liaison Code.....	1	
Air-Fire Control Code.....	1	
Map Coordinate Strips.....	4	
Decoding Chart, Map Coordinate Strips.	4	
Pyrotechnic Code.....	2	
Cipher key for cipher, type M94....	20	Supersedes No. 19, 30 Sept., 1:00 A
Radio communication:		
Call signs and frequencies, I Corps net.	11	
Call signs and frequencies, 1st Division net.	17	Supersedes No. 16, midnight, 1/2 O
Wire communication:		
Telegraph call signs, I Corps.....	4	
Telegraph call signs, 1st Division....	7	
Visual call signs, 1st Division.....	2	

By command of Major General A:

X,
Chief of Staff.

OFFICIAL:

Y.

Asst. C. of S., G-3.

Distribution: S-2, plus 4 copies to 101st FA

e. Each item of signal operation instructions has a characteristic distribution, which includes only those units or individuals concerned. A distribution list covering all normal items of signal operation instructions is compiled, given a letter designation and is published as an item of signal operation instruction. This list shows the distribution to the major subdivisions of the unit and provides sufficient copies for redistribution to staffs and lower units.

17. Field orders for combat units.—Paragraph 5 of the field order contains the following information in the sequence indicated. If the information contained in any of the subparagraphs is not necessary, the corresponding subparagraph is omitted and its letter designation is given to the next succeeding subparagraph.

a. Paragraph 5 *a* refers to the signal communication annex, if one is issued. If an annex is not issued, reference is made to the index of signal operation instructions. For example: "5. *a.* See Annex No. 3, Signal Communication," or "See Index No. 6 to Signal Operation Instructions."

b. Paragraph 5 *b* announces the axes of signal communication of the unit and the next lower units.

c. Paragraph 5 *c* announces the locations of command posts of the unit and the next lower units. Field orders may repeat instructions from signal operation instructions when it is desired to particularly emphasize them, as, for example, a pyrotechnic signal.

18. Signal communication orders in divisions and higher units.—*a.* In divisions and higher units, orders for signal communication for a particular tactical operation may, when time permits, be issued as a signal communication annex to the field orders of the commander. These orders may also be issued in fragmentary form, verbally or in short written messages.

b. The signal communication order is prepared by the unit signal officer subject to the approval of the unit commander. It has the same distribution as a field order; in addition, copies are distributed to the signal officers of lower units.

c. For the form of a signal communication order when issued as an annex to the field order, see Chapter 2, Part One.

19. References.—For further details of signal communication pertaining to all arms and services, see Basic Field Manual, Volume IV. For further information concerning Signal Corps activities, see the Signal Corps Field Manual. A general review of signal communication will be found in Basic Field Manual, Volume VIII.

CHAPTER 4

EVACUATION DATA

20. Classification of casualties.—All casualties are classified as follows:

Sick	{	Communicable	{	Slight	{	Walking
Gassed	{	Noncommunicable	{	Medium	{	Transportable
Wounded	{		{	Severe	{	Nontransportable
Dead	{		{		{	Recumbent
						Sitting

a. Sick casualties.—(1) The number of casualties from sickness is influenced by the following factors:

- (a) Age.
- (b) Physical condition.
- (c) Length of service and training.
- (d) Presence of communicable diseases.
- (e) Type of duty.
- (f) Climate.
- (g) Race.
- (h) Nativity.

(2) (a) Casualties from sickness and nonbattle injuries from front-line troops of a seasoned command in campaign, except in a particularly unhealthful region, cause an average daily increment of sick of about three fifths of one per cent (0.6%), or 144 cases per day for a division of 24,000 men. Of these two thirds, or 96, will remain under treatment in their own organizations (at aid station or dispensary) or in the divisional hospital station; one third, or 48, will be evacuated outside the divisional area, half of them recumbent and half of them sitting.

(b) A corps of three divisions and corps troops, totaling about 97,000 men, may be expected to evacuate about 194 cases daily. This requires 32 ambulances, the equipment of two-thirds of a hospital company for shelter one-fourth the capacity of an evacuation hospital, or six ward cars on a hospital train.

(c) For an entire field force the daily admission rate to hospital for sick and nonbattle injuries will be approximately .165

r cent. This will, after some months, cause a constant non-effective rate of about 4.5 per cent.

(d) Of the sick admitted to hospital in the theater of operations about 1.5 per cent die, 3 per cent will be invalided home, and .5 per cent will be returned to duty eventually. The average stay in hospital is 27 days.

b. *Battle casualties.*—(1) Experience has shown that the number of battle casualties to be expected is dependent upon many factors, all of which must be taken into consideration. Among these are—

(a) The resistance of the enemy; all factors that go to make up his combat strength.

(b) The character of the terrain and the organization of the command.

(c) The relative amount of artillery employed on each side.

(d) The employment of gas.

(e) The equipment and state of training and discipline of our troops.

(f) Losses are usually heavier in an attacking than in a defensive force.

(g) Infantry takes by far the greatest losses of any arm.

(h) Casualties are not ordinarily distributed uniformly along the front, being heaviest in those units having the most difficult positions.

(i) In small units losses may be very high. In larger units a progressively smaller proportion are heavily engaged each day, their percentage of losses is smaller and tends to become more nearly a constant rate.

(2) The following table has been developed from the American experience in the active operations of the World War:

Battle casualties, including killed, in per cent of the unit strength

	Average for all days in line	Severe battle day	Maximum battle day
Infantry regiment.....	2.5 per cent.....	12-15 per cent.....	35 per cent.
Division.....	1.0 per cent.....	6-8 per cent.....	12 per cent.
Corps.....	0.5 per cent.....	2-3 per cent.....	5 per cent.
Army.....	0.35 per cent ¹	0.7-1.5 per cent.....	2.5 per cent.

¹ As this figure is for sustained active operations, the average for one or several times over a long period of time would be less, and may be taken as 0.2 per cent.

(3) In estimating battle casualties in an army, an estimate based on front-line divisions to be engaged will usually be more accurate than if based on a rate for corps or the army as a whole.

(4) The battle casualties from an entire expeditionary force or theater of operations can best be estimated by using the rate incurred in the component divisions or armies, as the relative proportion of front-line troops to the total force will vary widely in each situation.

(5) The following data relative to battle casualties are approximately accurate for a severe engagement and can be used as a basis for calculations:

(a) In open operations the ratio of killed to wounded is about 1:5 and in trench operations about 1:4. Hence from 16 per cent to 20 per cent of all battle casualties are classed as killed.

(b) The transportation requirements of the wounded of a division with an 8 per cent casualty list are as follows:

	Per cent	
Dead.....	20	3
Able to walk to the collecting station but requiring transportation (sitting) to the rear.....	40	7
Require transportation recumbent.....	40	7
Of all casualties, about 1 per cent or 20 are nontransportable beyond the surgical hospital.		

100 1, 98

To be evacuated from the division:

Sitting.....	749
Recumbent.....	749

1, 498

(c) Of gunshot wounded about—

8.12 per cent die in hospital.

12 per cent recover in 15 days.

12.88 per cent recover in 15 to 30 days.

21.29 per cent recover in 30 to 60 days.

9.56 per cent recover in 60 to 90 days.

16.17 per cent recover after 90 days.

20 per cent are of no further military value.

The average stay in hospital for all gunshot wounded is about 90 days.

(d) Of gas casualties—

1.73 per cent die in hospital.

25 per cent recover in 15 days.

26.81 per cent recover in from 15 to 30 days.

24.44 per cent recover in from 30 to 60 days.

16.02 per cent recover after 60 days.

6 per cent are of no further military value.

21. Formula for computing number of beds required.—

The number of beds (in fixed hospitals) required after several months accumulation equals strength times daily admission rate times average days in hospital.

Example:

Strength of force, 2,000,000.

Strength of First Army, 1,000,000.

Admission rate for sick and injured, 0.165 per cent.

Admission rate for wounded on basis of army, 0.2 per cent.

Average days in hospital for sickness, 27.

Average days in hospital for wounded, 90.

Solution:

Beds required after several months—

For nonbattle casualties, $2,000,000 \times 0.00165$
 $\times 27$ = 89, 100

For battle casualties in First Army, $1,000,000 \times 0.002 \times 90$
 = 180, 000

Total beds required = 269, 100
 = 13. 45

per cent of the total force

22. Maximum capacity of means of transportation for casualties.

	Sitting	Recumbent	Average load	Average speed, miles per hour
Standard litter.....	1	1	0	2
Wheeled litter.....	1	1	0	2½
Escort wagon.....	9	4	5	3
Ambulance, animal.....	8	4	6	4
Ambulance, motor.....	8	4	6	12
¾-ton truck.....	6	2	4	12
2½-3-ton truck.....	16	6	7	10
Hospital train.....	700	300	500	20
Day coach.....	36-48			
Box car.....	20			

a. One litter squad can dress a patient, carry him 1,000 yards, and return in one hour. Wheeled transportation can load, drive 2,000 yards, and return in 40 minutes. A motor ambulance can load, drive 4 miles, unload, and return in one hour.

b. To calculate the time required to evacuate the field, or the number of ambulances required to evacuate in a given time, the following formulæ may be used:

W —number of wounded.

t —time required for round trip.

M —number of vehicles, ambulances, or litters.

N —number of patients per load.

T —time required or allowed.

$$T = \frac{W \times t}{M \times N} \quad M = \frac{W \times t}{T \times N}$$

23. Diagrammatic representations of the medical service.—Figures 11, 12, and 13 represent the medical service of a division, the method of evacuation and hospitalization of personnel during combat operations, the evacuation and hospitalization of animals, and the disposition of cases that become fit for duty.

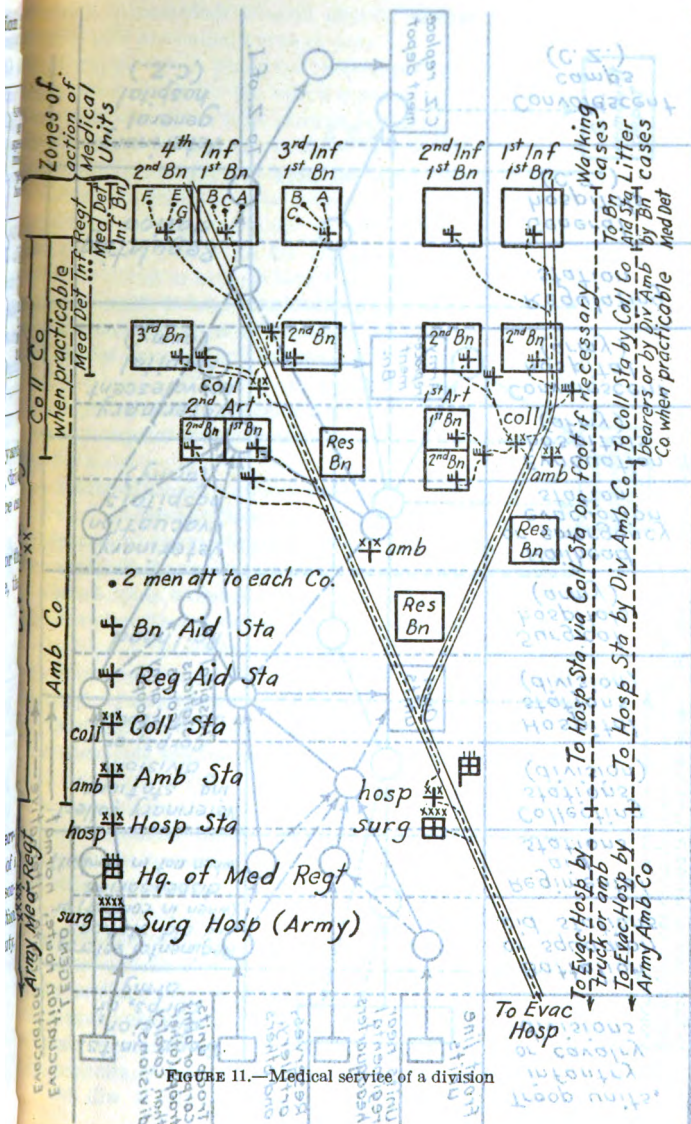
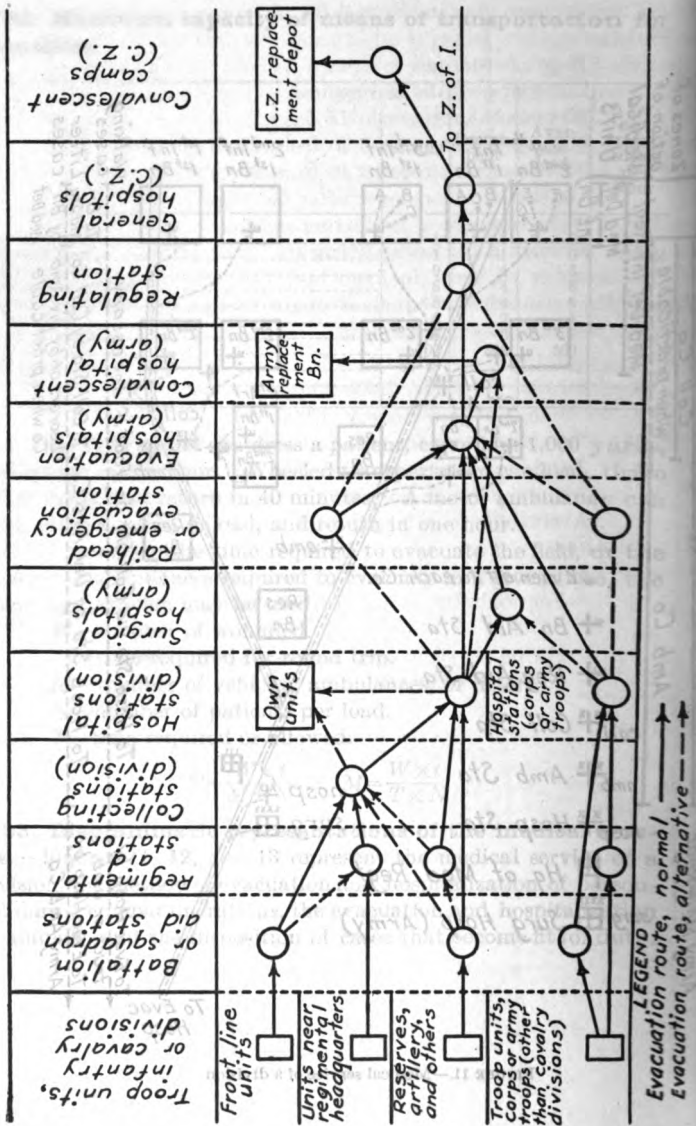


FIGURE 11.—Medical service of a division



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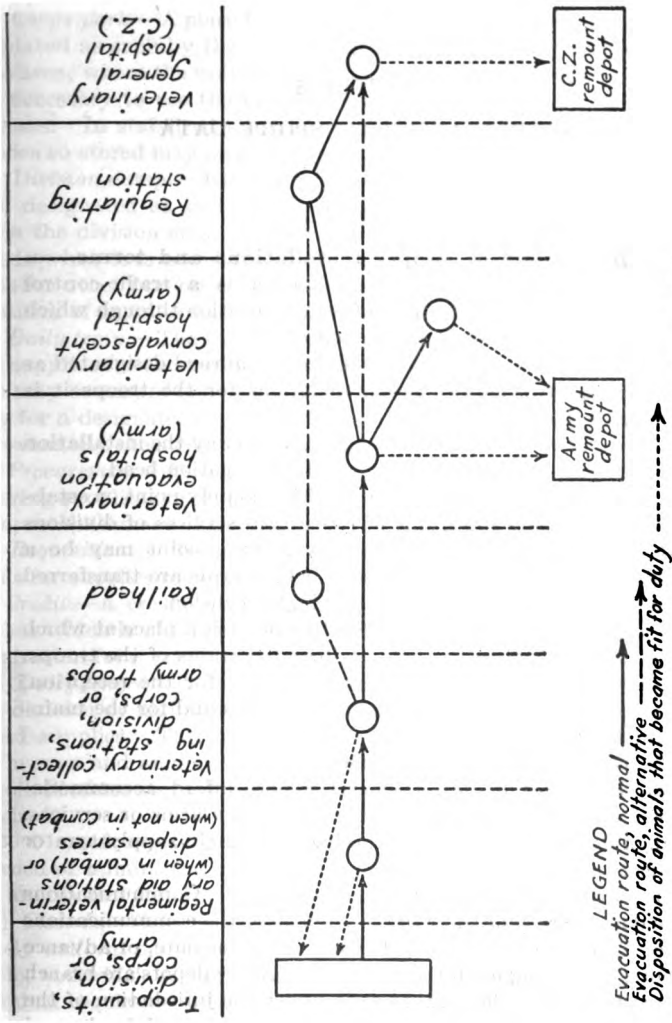


FIGURE 13.—Method of evacuation and hospitalization of animals

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CHAPTER 5
SUPPLY AND TRANSPORT DATA
SECTION I
GENERAL

24. Definitions of supply installations and terms.—*a. Regulating station.*—A regulating station is a traffic-control agency established on the lines of communication through which movements are directed and controlled.

b. Railhead.—A railhead is a point on a railroad designated as such which provides rail accommodations for the troops it is designated to serve.

c. Navigation head.—On a navigable waterway the installation corresponding to a railhead is termed a navigation head.

d. Refilling point.—A refilling point is a supply point or establishment at which the trains of the supply services of divisions and higher units draw supplies. A refilling point may be a railhead, a depot, or merely a point where loads are transferred from supply columns operated by a higher echelon.

e. Distributing point.—A distributing point is a place at which supplies are issued to the field and combat trains of the troops.

f. Depots.—(1) Depots are establishments for the reception, classification, issue, and shipment of supplies and for the maintenance of reserve stocks.

(2) Depots are classified as follows:

(a) General or branch.—General depots afford accommodations for the operation of two or more supply arms or services. Branch depots are depots pertaining to a single supply arm or service.

(b) Communications zone, army and corps.—Communications zone depots are general or branch depots of the communications zone. They may be classified as base, intermediate, or advance depots, depending upon their location. Army depots are branch depots located in the combat zone under the jurisdiction of the army. When a corps is acting independently and is charged with primary responsibility for its supply, usually it will be

necessary to establish branch depots similar to army depots. These depots are called corps depots.

g. Corps park.—A place for the temporary storage of supplies, signated as such by the corps commander, located within the corps area, where the unit reserve is stored during periods when it is necessary to use the vehicles of the corps trains for other purposes. In stabilized situations the kinds and quantities of supplies so stored may be so increased.

h. Division dump.—A place for the temporary storage of supplies, designated as such by the division commander, located within the division area, where the unit reserve is stored during periods when it is necessary to use the vehicles of the division trains for other purposes. In stabilized situations the kind and quantities of supplies so stored may be increased.

i. Daily train.—The railway train arriving daily at a railhead with supplies for the troops which the railhead serves. A daily train may consist of one or more unit sections, each unit section being for a designated division or other unit or group of units of approximately the strength of a division.

j. Procurement.—Procurement is the administrative process of acquiring supplies or services. It is effected by purchase, requisition, establishment of credits, or a system of automatic supply.

k. Requisitions.—Requisitions are authoritative original demands for supplies required.

l. Credit.—A credit is an allocation of a definite quantity of supplies which is placed at the disposal of the commander of an organization for a prescribed period of time.

m. Daily telegram.—The daily telegram is the daily call made by a division or higher unit for the unit's daily requirement of class I supplies. The daily telegram gives the strength of the unit in men and animals, the estimate of requirements of gasoline, oil, illuminants and fuel, and the railhead at which delivery is desired.

25. Classification of supplies.—*a.* For simplicity and convenience of administration, supplies required by troops in the field are divided into four classes, as follows:

(1) *Class I.*—Those articles which are consumed at an approximately uniform daily rate irrespective of combat operations or terrain, and which do not necessitate special adaptation to meet individual requirements; as rations, forage, fuel, gasoline, lubricants, and illuminants. This class embraces all articles which

can be handled in the field on the basis of a daily automatic supply.

(2) *Class II.*—Those authorized articles of equipment which though consumed at an approximately constant rate, are for personal use of the individual and necessitate special arrangements to meet individual requirements, as clothing and masks. The distribution of articles in this class is based on actual strength in men and animals of the troop units and records of sizes and experience tables. This class is furnished periodic requisitions.

(3) *Class III.*—Those authorized articles of equipment which allowances are established by Tables or Organization Tables of Allowances, as arms and engineer, medical, ordnance quartermaster, and signal equipment, including vehicles, both motorized and animal-drawn.

(4) *Class IV.*—Those articles of supplies which are covered in Tables of Allowances and the demands for which are directly related to the operations contemplated or in progress. Among the important items of supplies included in this class are ammunition, fortification materials, aircraft gasoline and fuel (for the operation of utilities), and construction materials and machinery.

b. Articles of supplies of Classes I, II, and III may, by reason of special stringency and the consequent necessity for exercising closer command control over issues, be transferred to Class IV pending the reestablishment of the normal status of supply for those articles.

c. Requirements in Class I and II supplies are relatively constant from day to day. Requirements in Class III supplies are likewise relatively constant when applied to periods of weeks or months. Requirements in Class IV supplies, however, vary between wide limits. At times they are relatively light, but they suddenly rise to large proportions, making sudden and heavy demands on supply establishments and means of transportation.

26. Basis of computations for loads of cargo vehicles.—The following table shows the information upon which to base computations for the loads of the cargo vehicles: ¹

Class	Unit	Allowances
ration weights	Garrison	5.46 pounds per ration.
	Field	5 pounds per ration.
	Reserve (individual)	3 pounds per ration.
gasoline allowances ¹	Grain ²	10 pounds per animal.
	Truck or tractor	20 gallons per day. ⁷
	Tank (in action)	30 gallons per day. ⁷
	Car or motor ambulance	10 gallons per day. ⁷
	Motor cycle	4 gallons per day. ⁷
	Airplane ³	10 gallons per 100 horsepower per day. ⁴
oil ⁵	Armored car	30 gallons per day. ⁷
	Tanks, tractors, and armored car.	1 gallon oil per 7 gallons gasoline. ⁷
	All other vehicles	1 gallon oil per 15 gallons gasoline. ⁷
ammunition weights	.30 caliber ball	In clips and bandoleers, 100 pounds per box of 1,200.
	.30 caliber ball, tracer, and A. P.	In cartons, 114 pounds average per box of 1,500.
	.45 caliber pistol	110 pounds per box of 2,000.
	.50 caliber	106 pounds per box of 280.
	3-inch trench mortar	15 pounds per round.
	37-mm. gun	2 pounds per round M1916 gun; 2½ pounds per round M2 gun.
	Grenades, hand	1.9 pounds each.
	75-mm. gun	26.45 pounds per round. ¹⁰
	155-mm. howitzer	113.8 pounds per round. ¹⁰
	155-mm. gun	147.4 pounds per round. ¹⁰
	240-mm. howitzer	430.2 pounds per round. ¹⁰
baggage allowances ⁶	3-inch A A gun	38.75 pounds per round.
	General officer	150 pounds.
	Colonel or lieutenant colonel.	100 pounds.
Wagon and cart capacity	Major	75 pounds.
	Captain or lieutenant	50 pounds.
	Company headquarters ⁹	500 pounds.
	Wagon, escort, R. & B., 4-mule.	2,500 pounds.
	Wagon, escort, combat, 4-mule.	Do.
	Wagon, combat, infantry, 4-mule.	Do.
	Wagon, spring or mountain.	1,000 pounds.
Cart, water, 2-mule	180 gallons.	
Cart, ration, 2-mule	700 pounds.	

¹ Based on Tables of Organization and fundamental allowances where available. In some instances loads have been made to conform to weight and bulk capacity of the vehicles assigned.

² 10 pounds assumed as average for horses and mules.

³ Aviation gasoline required.

⁴ Allowance made on assumption that each airplane flies 1½ hours per day.

⁵ Gasoline in containers weighs about 8 pounds per gallon; in bulk, 6.5 pounds.

⁶ Oil in containers weighs about 9 pounds per gallon; in bulk, 7 pounds.

⁷ Supply requirements are computed on the basis of an average expenditure of approximately 80 per cent of these allowances.

⁸ Assumed as reasonable in the field or campaign.

⁹ Company baggage includes such articles as necessary special tools, office facilities, records, and equipment, and which are not carried in the combat train.

¹⁰ Average weight of various types, including proper percentage of components and packing. For 75-mm. gun, 30 per cent shrapnel and 70 per cent shell are assumed.

27. Approximate weights and dimensions of heavy items of equipment which may operate in the division area.—For field operation, all vehicles are figured with normal load and with tops up. Weights of cargo trucks, as given in the last column, may be considered as a maximum; many commercial vehicles of equal capacity will weigh less.

Item	Weight on axles		Overall dimensions			Total weight
	Front	Rear	Width	Height	Length	
	Pounds	Pounds	Inches	Inches	Inches	Pounds
Ambulance, field (motor).....	1,815	2,725	74	94	192	4,540
Car, armored.....	3,500	6,500	72	84	186	10,000
Gun, 155-mm.....	11,400	18,500	106	65	339	29,900
Gun, 3-inch, AA.....	8,000	8,500	66	110	208	16,500
Howitzer, 155-mm.....	3,000	6,500	65	72	305	9,500
Tank, light fighting.....			71	91	187	15,000
Tractor, 5-ton.....			63	73	134	10,700
Tractor, 10-ton.....			84	93	162	21,500
Tractor, 2½-ton.....			58	66	120	7,700
Trailer, stock-room.....	6,500	7,500	86	101	145	14,000
Trailer, 3-inch field gun.....	5,500	8,200	91	64	169	13,700
Trailer, kitchen.....	2-wheel.		59	85	161	3,000
Trailer, cargo, 1½-ton.....	3,000	3,750	69	119	127	6,750
Trailer, tank, water, 250-gallon.....	2,300	2,900	69	65	127	5,200
Truck, balloon winch.....	6,870	10,100	72	97	260	16,970
Truck, cargo, ¾-ton.....	2,158	3,802	64	106	196	5,960
Truck, cargo, 1½-ton.....	4,000	6,000	70	112	220	10,000
Truck, cargo, 3-ton.....	6,275	11,225	86	120	219	17,500
Truck, cargo, 5-ton.....	7,800	14,700	82	126	260	22,500
Truck, gas compressor.....	6,500	8,200	80	92	212	14,700
Truck, shop, mobile maintenance (QM).....	8,450	15,700	93	126	273	24,150
Truck, shop, mobile maintenance (Ord).....	5,800	8,700	71	114	214	14,500
Truck, wrecking.....	6,000	10,730	93	126	273	16,730
Truck, 1½-ton, Signal Corps, technical.....	3,000	5,000	76	96	198	8,000
Truck, shop machine, light MI.....	5,800	8,700	71	114	214	14,500
Truck, small arms repair.....	5,800	8,700	71	114	214	14,500
Truck, spare parts (Ord).....	3,840	5,660	71	114	214	9,500
Truck, tank carrier.....	8,700	23,500	96	124	305	32,200
Truck, tank, gasoline, 750-gallon.....	6,405	11,895	85	104	276	18,300
Truck, tank, gasoline, 500-gallon.....	4,800	7,200	90	104	212	12,000

SECTION II

PRINCIPLES AND OPERATION OF SUPPLY IN THE INFANTRY DIVISION

28. Division supply principles.—*a.* From a supply view-point, there are two echelons of trains in the division from front to rear—combat and field trains (each for its own class of supply) and service trains. In theory, each echelon in rear keeps the echelon in front filled. However, this general practice is not adhered to when time and labor can be saved by any modification or when the tactical situation requires a departure therefrom.

b. In general, there are three methods of supply utilized in a division:

Automatic for Class I supplies;

Requisitions for Classes II, III, and IV supplies (except ammunition); and

Special for ammunition.

(1) Automatic supply of Class I supplies is effected normally by means of the daily train to the proper railhead. Quantities for the daily train are determined from the daily strength report of the division. On arrival of the daily train at the railhead, the railhead commander makes delivery to the division quartermaster, who, utilizing the transportation of the quartermaster regiment, takes over the supplies at the railhead and distributes them direct to organization or to their field trains at distributing points.

(2) Requisitions for Classes II, III, and IV supplies (except ammunition) may be either formal or informal, depending upon the tactical situation. Ordinarily, requisitions for these classes of supply are filled by the staff officer of the arm or service involved, either from stocks on hand or by withdrawals from depots, and are distributed through the regular Class I distributing channels. In certain situations, however, especially with field fortification materials, it may be desirable to establish special distributing points for issue of supplies of these classes.

(3) The following principles govern the system of supply of artillery and small-arms ammunition in the division:

(a) *Artillery ammunition.*

1. The allocation and distribution of ammunition, except small arms, for the Field Artillery of the division are the responsibility of the divisional artillery commander. A staff officer, known as the artillery brigade munitions officer, is provided by Tables of Organization to relieve the divisional artillery commander of the details of this and allied duties. There is also provided an artillery brigade ammunition train consisting of a train headquarters, two ammunition batteries, truck, and one ammunition battery, wagon. Each ammunition battery contains personnel for the handling of ammunition.
2. In campaign, regiments submit daily reports of ammunition expenditures to brigade headquarters. (Fig. 14.) The brigade commander causes these reports to be consolidated and forwards them to the corps chief of artillery who in turn allocates the necessary amount of ammunition to the division. (Fig. 15.) The brigade ammunition train, or such portion as is required, is sent to the refilling point designated, usually an army depot, and draws the ammunition needed. The train delivers the ammunition to destinations, usually distributing points, in the amounts and kinds that will correspond to the tactical missions assigned to the units of the brigade. The location of an artillery ammunition distributing point is selected with a view to having it—
 - (a) Readily accessible to the combat trains of the artillery battalions;
 - (b) On good motor roads from the rear providing a turn-around and connecting with other roads leading to the batteries;
 - (c) Under cover and concealed from hostile air and ground observation;
 - (d) With sufficient space available so that operations at the distributing point will not block traffic; and
 - (e) Off main traffic routes wherever possible.

One distributing point usually is sufficient for the divisional artillery. When the division is operating over a broad front or the road net is unfavorable, two distributing points may be established. The combat trains of the battalions and in emergencies

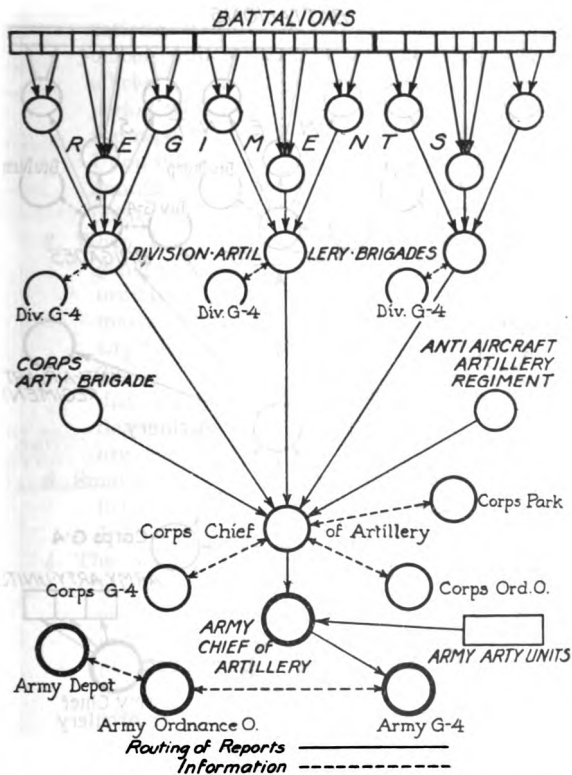


FIGURE 14.—Method of reporting expenditure of artillery ammunition

the ammunition vehicles of the firing batteries are available for drawing from the distributing points. In the usual case, the combat trains form the link between the ammunition train (distributing points) and the batteries. The selection of ammunition

distributing points is made by the munitions officer under the direction of the artillery brigade commander, subject to coordination by G-4 of the division. The allocation of ammunition to regiments is made by the divisional artillery commander, the

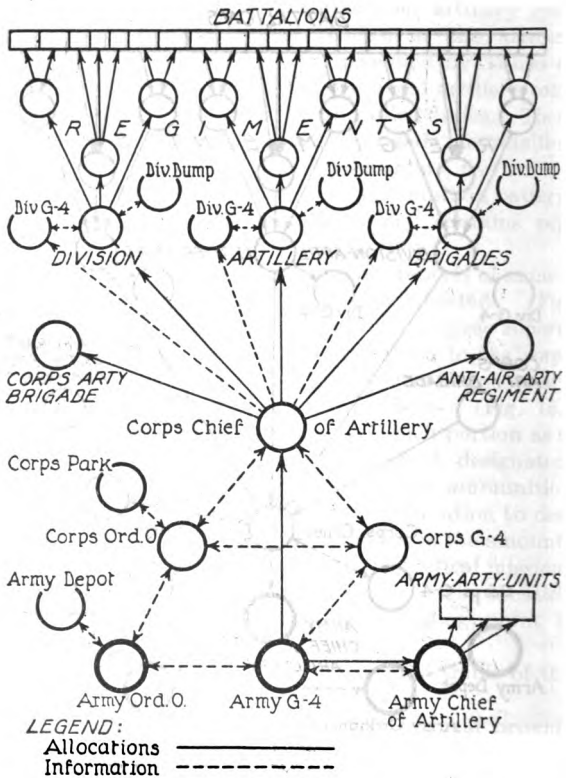


FIGURE 15.—Method of allocating artillery ammunition

- details being worked out by the munitions officer.
3. The army chief of artillery, through the army G-4, recommends to the army commander the allocation of artillery ammunition; the army commander acts on these recommendations through the same channel.

(b) *Small-arms ammunition.*

1. The supply of small-arms ammunition is a function of the ordnance officer. The division ordnance officer forwards reports of expenditures of caliber .30, 37-mm gun and light mortar ammunition, grenades and pyrotechnics received from subordinate organizations, usually regiments, to the army ordnance officer, and a copy thereof to the corps ordnance officer. (Fig. 16.) These reports cover a designated period which is usually longer than that covered by the reports of expenditures of artillery ammunition. Upon information from the army, the corps allocates ammunition to the division and designates the refilling point. (Fig. 17.)
2. When the state of supply of the division requires general replenishment from the rear, the division ordnance officer arranges with the division quartermaster for the transportation of the necessary quantity from the refilling point to the places designated. These designations may be small-arms ammunition distributing points, the division dump, or both, depending upon the urgency of the demands from organizations.
3. Small-arms ammunition distributing points are established usually at the rate of one for each brigade of Infantry in the line.
4. The small-arms ammunition dump, usually at the bivouac of the division quartermaster train and consisting of the loads of small-arms ammunition carried on that train, may be used as a distributing point, or ammunition may be transported from it to forward distributing points as the need for ammunition arises. The infantry combat trains deliver the ammunition to points forward of the ammunition distributing points.
5. The transport necessary for the supply of small-arms ammunition is provided from the quartermaster regiment.
6. At all times it is the duty of the ordnance officers to encourage the use by troops during combat of the ammunition available from casualties.

29. Trains of the infantry division.—The various trains within the division are classified as combat trains, field trains, and service trains.

a. Combat trains.—Combat trains include all personnel, vehicles, and animals employed by regiments and smaller units for transporting ammunition and the reserve and special equipment.

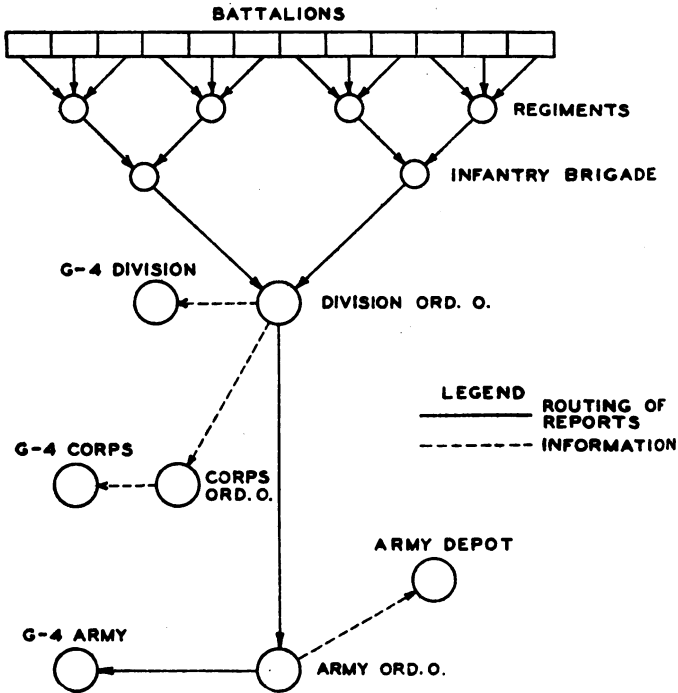


FIGURE 16.—Expenditure reports of infantry ammunition

required during combat. In addition, they include rolling kitchens and certain vehicles required for the technical service of engineer, signal, and medical troops.

(1) *Infantry and engineer.*—These combat trains carry the ammunition, rations, and other matériel which should be immediately available to the troops at all times. The new type roll-

ing kitchen has a capacity of one complete field ration and is now standard equipment for the infantry division. The remaining vehicles of the combat train carry medical supplies, signal equipment, and ammunition approximately equal in amount to that carried on the individual soldier and on the carts of auxiliary weapons.

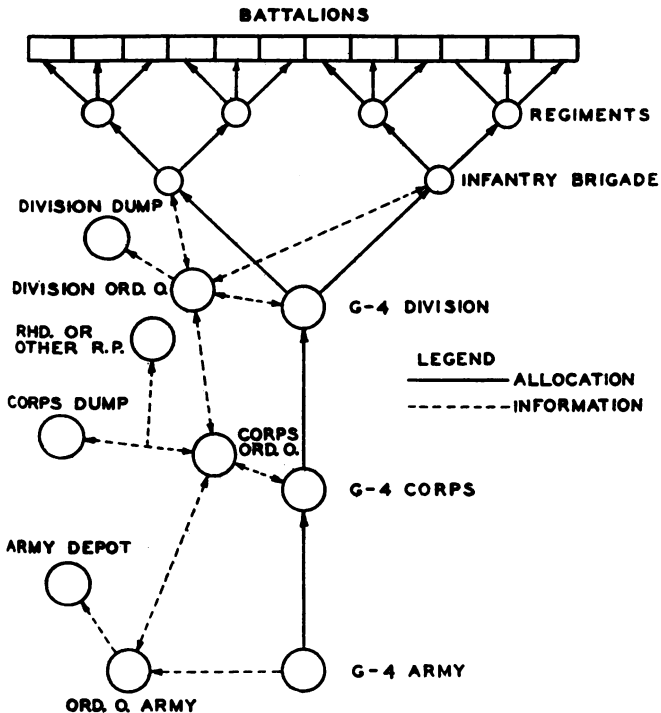


FIGURE 17.—Infantry ammunition allocations

(2) *Artillery.*—(a) The maintenance section of the artillery battery carries spare parts and the unconsumed portion of one day's ration.

(b) The battalion combat train carries approximately 160 rounds of 75-mm ammunition or 120 rounds 155-mm howitzer

ammunition for each piece of the battalion and the unconsumed portion of one day's ration for its own use.

b. Field trains.—Field trains include the personnel, vehicles, and animals of the various regimental service companies and service batteries employed for the reception, transportation, and issue of Class I supplies and the authorized allowance of baggage. On the march, the transport of the headquarters of units larger than the regiment is generally attached to some regimental field train.

(1) Present regulations prescribe that the regimental field train carry in reserve one field ration (with canned meat and hard bread components) and one grain ration in addition to baggage and other authorized equipment.

(2) Field trains may be employed under either of the following methods:

(a) Field train vehicles of organizations may be grouped so as to provide a section for each battalion or other separate unit. This method may favor the subordinate unit, but it is wasteful of cargo capacity. Field trains operating in this manner can not handle an additional day of Class I supplies without the unloading and rearranging of loads.

(b) The field train of an organization may be divided into two sections; one section carrying one day of reserve Class I supplies, and the other held available for the daily reception and issue of Class I supplies and for general haulage purposes. This system is economical of transportation, provides flexibility in the employment of the train, and is the method usually favored.

(3) All units within the division have sufficient surplus capacity in their field trains to carry one day of field and grain rations in addition to the prescribed loads.

c. Service trains.—Service trains include the transportation and accompanying personnel of those units whose functions are to serve the division as a whole rather than any particular unit. The service trains consist of the following organizations:

- (1) The quartermaster regiment.
- (2) The ammunition train.
- (3) The ordnance company.
- (4) Certain vehicles of the engineer regiment.
- (5) The medical regiment.

30. Cargo capacities and prescribed loads of unit reserves in the quartermaster regiment.—The cargo capac-

ities and prescribed loads of unit reserves in the quartermaster regiment of the infantry division are as follows:

a. Cargo capacity:

1 motor battalion (96 trucks of 1½ tons each).....	tons..	144
1 wagon battalion (124 wagons of 1¼ tons each).....	tons..	155
Total.....	do.....	299
17 tank trucks, 750 gallons each.....	gallons..	12, 750

b. Prescribed loads (unit reserves):

Small-arms ammunition.....	tons..	39
1 day's field ration.....	do.....	60
1 day's grain ration.....	do.....	35
Total.....	do.....	134

Gasoline in tank trucks.....	gallons..	12, 750
Surplus capacity over prescribed loads.....	tons..	165

31. Class I supplies prescribed for the division.—Present regulations prescribe that the following Class I supplies be kept within the division: (For ammunition reserves, see ch. 1.)

Infantry division

Where carried	Reserve ration (individual)	Field ration	Grain ration	Gasoline and oil in days of supply
On each man.....	1			
On each riding animal and on each animal-drawn vehicle for its animals.....			1	
On field trains.....		1	1	
On rolling kitchens.....		1		
On each motor vehicle.....				2
By quartermaster regiment for the entire division.....		1	1	1
Total.....	1	3	3	3

32. Basis of computation for loads of cargo vehicles.—See paragraph 26.

SECTION III

PRINCIPLES AND OPERATION OF SUPPLY IN THE CAVALRY DIVISION

33. Division supply principles.—*a.* The principles of supply for the infantry division (par. 28) are applicable, in general, to the cavalry division. However, due to the inherent characteristics of Cavalry, the methods of application of some of these principles will vary. The rapidity of cavalry action, for example, will often render impractical the issuing of formal administrative orders; administrative details being handled in such instances by means of fragmentary orders.

b. Experience has demonstrated that Cavalry must be prepared to accept at times a reduced standard of supply. Frequently it will be difficult to obtain the barest minimum of supplies, even though all available means of transportation not absolutely essential to the continuance of operations are employed in the task of collection and distribution.

c. The principles and methods for effecting automatic supply of Class I supplies for the cavalry division are, in general, similar to those given in paragraph 28 for the infantry division. However, the wide distances over which Cavalry may operate, its probable distance from a railhead, and the difficulty of dispatching and guarding convoys may at times necessitate intermittent supply at two or three day intervals, rather than daily supply. Meanwhile, the Cavalry subsists from its reserve supplies or resorts to local procurement.

d. The principles and methods of requisitioning for supplies of Classes II, III, and IV (except ammunition) for the cavalry division are, in general, similar to those given in paragraph 28 for the infantry division.

e. The following principles govern the system of supply of artillery and small-arms ammunition in the cavalry division:

(1) Since cavalry ordinarily is not called upon for sustained and continuous fire action, the ammunition within the cavalry division is usually sufficient. If, however, the projected operations of the division indicate that this supply will be insufficient, special arrangements for the supply of ammunition must be made

with higher headquarters. Refilling points must be pushed forward within reach of the trains of the cavalry division.

(2) Movement of small-arms ammunition from the refilling point is a function of the division ordnance service which arranges with the division quartermaster to furnish necessary transportation and labor.

(3) Movement of artillery ammunition from the refilling point is a responsibility of the artillery commander who, after obtaining the location of the refilling point and the amount of credit, arranges with the division quartermaster for transportation to move the artillery ammunition from the refilling point, either to a distributing point or to the battery positions direct.

(4) In the cavalry division there is no artillery munitions officer provided by Tables of Organization nor is an ammunition train an organic part of the artillery command. The cavalry division quartermaster train, however, includes in its normal load 14 rounds of ammunition for each piece in the regiment; a total of 2,736 rounds.

34. Trains of the cavalry division.—The various trains within the cavalry division are classified according to their functions as combat trains, field trains, and service trains.

a. Combat trains.—(1) *Composition.*—Combat trains include all personnel, vehicles, and animals employed by regiments and smaller units for transporting ammunition, and special equipment required during combat. In addition, they include kitchen and ration packs, spring or mountain wagons for cavalry, rolling kitchens, store and tool wagons, and certain vehicles required for the technical service of artillery, engineer, signal, and medical troops.

(a) *Cavalry troop.*—The combat train of the cavalry troop consists of six pack horses, one escort wagon, and one spring or mountain wagon. The six pack horses which frequently march with the troop carry prescribed loads as follows:

2 horses are loaded with picket line equipment.

2 horses are loaded with kitchen packs.

2 horses are loaded with rations.

The escort wagon carries approximately 105 rounds of rifle ammunition for each rifle carried by the soldier, five rounds of pistol ammunition for each pistol, and 520 rounds for each machine rifle. The spring or mountain wagons have no prescribed load. They are general utility vehicles and are loaded in accordance with the desires of the organization or higher unit commanders to meet the requirements of any particular situation.

(b) *Machine-gun troop.*—The combat train of the machine-gun troop, cavalry regiment, is composed of 18 pack horses, two escort wagons, and one spring or mountain wagon. The 18 pack horses which frequently march with the troop carry prescribed loads as follows:

2 carry picket line equipment.

2 carry kitchen packs.

2 carry rations.

12 carry machine-gun ammunition in belts packed in boxes.

The two escort wagons carry reserve ammunition and belt loading equipment for machine guns, reserve ammunition for one-pounders, and spare parts and other equipment needed in combat. The spring or mountain wagon is a general utility vehicle with no prescribed load.

(c) *Artillery.*—The maintenance section of the battery consists of a rolling kitchen and a battery and store wagon. It carries maintenance equipment for the battery and the unconsumed portion of one day's rations. The combat train of each artillery battalion is composed of 18 caissons and 18 limbers, which carry about 160 rounds for each piece in the battalion, and a maintenance section, the load of which includes the unconsumed portion of one day's rations for the personnel of the combat train.

(d) *Engineer.*—The combat train of the engineer troop consists of pack horses, which frequently march with the troops, motor vehicles, and trailers. Its loads consist of the unconsumed portion of one day's ration with kitchen trailer, reserve ammunition for the unit, and an assortment of tools, demolition supplies, and other engineer equipment for use in the field. In the squadron headquarters and service troop, there are seven tool trucks which carry intrenching tools in the ratio of one truck for each cavalry regiment and three additional trucks. When the situation does not require the use of certain vehicles of the engineers, they are marched with the service trains of the division.

(2) *Rates of march.*—As a result of the difference in mobility of the various components of combat trains, it is evident that their special grouping according to economical rates of speed must be made for marching purposes. Pack and spring or mountain wagon elements normally march with the units to which they pertain. Grouped escort wagon elements follow at a slower rate. Grouped motor elements using the same or different routes operate under a separate schedule.

b. Field trains.—(1) Field trains include such personnel, vehicles, and animals of the various troops, service platoons, and service batteries as are employed by regiments and smaller units for the reception, transportation, and issue of the authorized allowance of baggage, rations, and forage.

(2) In the Cavalry, the field trains consist of escort wagons and motor trucks.

(3) The transportation wagons within the cavalry regiment are organically a part of each troop under the orders of the troop commander. They are not a part of a regimental service unit as in infantry and artillery regiments.

(4) The simplest method of operating the vehicles of the field train is to group them under the control of the regimental or separate unit supply officer. These vehicles may then be organized into squadron sections or into a regimental pool. When so grouped, they are known as the squadron or regimental field train. Such an arrangement as this simplifies, to a considerable extent, the drawing of Class I supplies and their subsequent transfer to the several troop units. The principle of grouping elements according to their economical rates of speed also applies to the field trains of all units.

(5) In the horse artillery regiment of the cavalry division, field train transportation for the batteries is furnished from the battalion combat train which is the service organization for the battalion. Vehicles are furnished the batteries in the same manner that the infantry service company furnishes the vehicles to the infantry rifle companies.

c. Service trains.—Service trains include the transportation and accompanying personnel of those units whose functions are to serve the division as a whole rather than any particular unit. The service trains consist of the following organizations:

(1) The division quartermaster train.

(2) The ordnance company.

(3) Certain vehicles of the engineer squadron.

(4) The medical squadron (less detachments operating with combat troops).

(5) Vehicles of the attached aviation when not separated from the division.

35. Cargo capacities and prescribed loads of unit reserves carried on the division quartermaster trains.—The cargo capacities and prescribed loads of unit reserves carried on quartermaster trains, cavalry division, are as follows:

a. Cargo capacity:

1 motor transport company (24 trucks of 1½ tons each).....	tons	36
1 motor transport company (24 trucks of 3 tons each).....	do	72
Total.....		108
1 wagon company (62 wagons of 1¼ ton each).....	do	77.5
4 pack trains of 50 mules each.....	do	20.0

Total.....		205.5
5 tank trucks, 750 gallons each.....	gallons	3,750

b. Prescribed loads (unit reserves):

Ammunition, small arms.....	tons	46
Ammunition, artillery, 114 rounds per gun for 24 guns.....	do	36
1 day's field rations.....	do	21
1 day's grain.....	do	54
Part of 1 day's gasoline and oil in drums (approximate).....	do	12

Total.....		169
5 tank trucks, 750 gals. of gasoline each.....	gallons	3,750
Surplus capacity over prescribed loads.....	tons	36.5

36. Class I supplies prescribed for the cavalry division.—

Present regulations prescribe that the following Class I supplies be kept within the division:

	Reserve ration (individual)	Field ration	Grain ration	Gasoline and oil in days of supply
On each man.....	1			
On each riding animal or on each animal-drawn vehicle for its animals.....			1	
On kitchen pack or kitchen trailer.....		1		
On field trains.....	1	1	1	
On each motor vehicle (including that in vehicle tank).....				2
On the division quartermaster train for the entire division.....		1	1	1
Total.....	2	3	3	3

37. Basis of computations for loads of cargo vehicles.—

See paragraph 26.



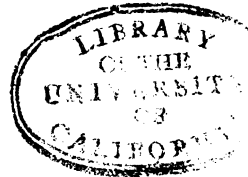
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WAR DEPARTMENT

**STAFF OFFICERS'
FIELD MANUAL**



**PART THREE
ORGANIZATION, ROAD SPACES
AND CAMPING AREAS**



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STAFF OFFICERS' FIELD MANUAL



PART THREE ORGANIZATION, ROAD SPACES AND CAMPING AREAS

PREPARED UNDER DIRECTION OF THE
CHIEF OF STAFF

1932



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WAR DEPARTMENT,

WASHINGTON, *July 25, 1932*

Part Three, Organization, Road Spaces, and Camping Area Staff Officers' Field Manual, is published for the information and guidance of all concerned.

[A. G. 062.11 (3-1-32).]

BY ORDER OF THE SECRETARY OF WAR:

DOUGLAS MACARTHUR,

General,

Chief of Staff.

OFFICIAL:

C. H. BRIDGES,

Major General,

The Adjutant General.

II

FOREWORD

The Staff Officers' Field Manual should be considered as a compilation of principles, information, and data to be used as a guide for the operation of the staffs of all units and territorial commands, in peace and war, rather than a set of rules and regulations to be rigidly and blindly followed.

The manual will be published in three parts, as follows:

PART ONE. Staff data.

- Chapter 1. Staff principles and functions.
2. Orders, reports, forms, and abbreviations.
3. Maps and special military symbols.

PART TWO. Technical and logistical data.

- Chapter 1. Weapons and ammunition data.
2. Field engineering data.
3. Signal communication data.
4. Evacuation data.
5. Supply and transport data.

PART THREE. Organization, road spaces, and camping areas.

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STAFF OFFICERS' FIELD MANUAL

PART THREE

ORGANIZATION, ROAD SPACES, AND CAMPING AREAS

(This pamphlet supersedes chapter 3, Organization Data, Staff Officers' Field Manual, United States Army, 1928)

SECTION I

ORGANIZATION (WAR STRENGTH ONLY)

1. Introduction.—*a.* The organization given in this section is based on Tables of Organization in effect July 1, 1930 (modified in minor respects prior to July 2, 1931, for units other than infantry and artillery, and prior to September 3, 1931, for artillery units).

b. The data given herein are so arranged that for all practical purposes minor revisions which may be made from time to time in Tables of Organization will not materially affect the practical usefulness of this publication.

2. Infantry division.—*a. Composition.*

Division headquarters. (See *b* (1) below.)

2 infantry brigades. (See *b* (2) below.)

1 field artillery brigade. (See *b* (3) below.)

1 combat regiment, Corps of Engineers. (See *b* (4) below.)

1 medical regiment. (See *b* (5) below.)

1 quartermaster regiment. (See *b* (7) below.)

Special troops. (See *b* (6) below.)

b. Organization of major units in the infantry division. (See par. 10 for Table of Organization numbers and strength of units in the infantry division.)

(1) *Division headquarters.*(a) *Forward echelon.*

Division commander and aides.
 General staff section.
 Signal section.
 Artillery section.
 Engineer section.
 Chemical section.
 Headquarters, division aviation.

(b) *Rear echelon.*

Adjutant general's section.
 Inspector's section.
 Quartermaster's section.
 Ordnance section.
 Judge advocate's section.
 Finance section.
 Chaplain's section.
 Division surgeon's office.

(2) *Infantry units.*(a) *Infantry brigade.*

Headquarters.
 Headquarters company.
 2 regiments.
 Attached medical and chaplains.

(b) *Infantry regiment.*

Headquarters and band.
 Headquarters company.
 Service company.
 Howitzer company.
 3 battalions.
 Attached medical and chaplains.

(c) *Battalion, infantry regiment.*

Headquarters.
 Headquarters company.
 3 rifle companies.
 1 machine-gun company.

(3) *Field artillery units.*(a) *Field artillery brigade.*

Headquarters.
 Headquarters battery.
 Ammunition train.

- (3) *Field artillery units*—Continued.
- (a) *Field artillery brigade*—Continued.
2 regiments, 75-mm gun, horse-drawn.
1 regiment, 155-mm howitzer, tractor-drawn.
Attached medical and chaplains.
- (b) *Ammunition train*.
Headquarters and headquarters battery.
2 ammunition batteries (truck).
1 ammunition battery (wagon).
Attached medical.
- (c) *Regiment, 75-mm gun, horse-drawn*.
Headquarters and band.
Headquarters battery.
Service battery.
2 battalions.
Attached medical and chaplain.
- (d) *Battalion, 75-mm gun, horse-drawn*.
Headquarters and headquarters battery.
Combat train.
3 batteries.
- (e) *Regiment, 155-mm howitzer, tractor-drawn*.
Headquarters and band.
Headquarters battery.
Service battery.
3 battalions.
Attached medical and chaplain.
- (f) *Battalion, 155-mm howitzer, tractor-drawn*.
Headquarters and headquarters battery.
Combat train.
2 batteries.
- (4) *Engineer units*.
- (a) *Combat regiment*.
Headquarters and band.
Headquarters and service company.
2 battalions.
Attached medical and chaplain.
- (b) *Battalion, combat regiment*.
Headquarters.
3 companies.

(5) *Medical Department units.*(a) *Medical regiment.*

Headquarters and band.

Service company.

Veterinary company.

Collecting battalion.

Ambulance battalion.

Hospital battalion.

Attached division surgeon's office.

(b) *Collecting battalion, medical regiment.*

Headquarters.

3 collecting companies.

(c) *Ambulance battalion, medical regiment.*

Headquarters.

1 ambulance company (animal-drawn).

2 ambulance companies (motor).

(d) *Hospital battalion, medical regiment.*

Headquarters.

3 hospital companies.

(6) *Special troops.*

Headquarters.

Headquarters company.

Light tank company.

Military police company.

Ordnance company, medium maintenance.

Signal company.

Attached medical.

(7) *Quartermaster Corps units.*(a) *Quartermaster regiment.*

Headquarters.

Service company.

Motor battalion.

Wagon battalion.

Attached medical.

(b) *Motor battalion, quartermaster regiment.*

Headquarters.

2 motor transport companies.

1 motor maintenance company.

1 motor-cycle company.

(c) *Wagon battalion, quartermaster regiment.*

Headquarters.

2 wagon companies.

3. Cavalry division.—*a. Composition.*

Division headquarters. (See *b* (1) below.)

2 cavalry brigades. (See *b* (2) below.)

1 regiment, 75-mm gun, horse artillery. (See *b* (3) below.)

1 squadron, Corps of Engineers. (See *b* (4) below.)

1 armored-car squadron. (See *b* (5) below.)

1 medical squadron. (See *b* (6) below.)

1 division train. (See *b* (7) below.)

Special troops. (See *b* (8) below.)

b. Organization of major units. (See **par. 12** for Table of Organization numbers and strength of units in the cavalry division.)

(1) *Division headquarters.*(a) *Forward echelon.*

Division commander and aides.

General staff section.

Signal section.

(b) *Rear echelon.*

Adjutant general's section.

Inspector's section.

Quartermaster's section.

Ordnance section.

Judge advocate's section.

Finance section.

Chaplain's section.

(2) *Cavalry units.*(a) *Cavalry brigade.*

Headquarters.

Headquarters troop.

2 cavalry regiments.

Attached medical and chaplains.

(b) *Cavalry regiment.*

Headquarters and band.

Headquarters troop.

Machine-gun troop.

3 squadrons.

Attached medical and chaplain.

(c) *Squadron, cavalry regiment.*

Headquarters.

2 troops.

(3) *Artillery units.*(a) *Regiment, 75-mm gun, horse artillery.*

Headquarters and headquarters battery.

Service battery.

2 battalions.

Attached medical and chaplain.

(b) *Battalion, 75-mm gun regiment, horse artillery.*

Headquarters and headquarters battery.

Combat train.

3 batteries.

(4) *Engineer units:*

Squadron.

Headquarters and headquarters and service troop.

1 troop.

2 troops (motorized).

Attached medical.

(5) *Armored-car units.*

Armored-car squadron.

Headquarters.

3 troops.

(6) *Medical Department units.*

Medical squadron.

Headquarters.

Collecting troop.

Ambulance troop.

Hospital troop.

Veterinary troop.

Attached division surgeon's office.

(7) *Quartermaster Corps units.*

Division quartermaster train.

Headquarters.

2 motor transport companies.

1 motor repair section.

1 wagon company.

4 pack trains.

Attached medical, dental, and veterinarian.

(8) *Special troops.*

Headquarters.

Headquarters troop.

Signal troop.

Light tank company.

(8) *Special troops*—Continued.

Ordnance company, light maintenance.

Attached medical.

4. Army corps.—*a. Composition of the army corps.*—The army corps is composed of a headquarters and a body of auxiliary troops and trains called corps troops, and two or more infantry divisions temporarily assigned, the number of divisions depending on the nature of the service expected of the corps. The organization of a typical corps is as follows:

(1) *Corps troops.*

Corps headquarters. (See *b* (1) below.)

Special troops. (See *b* (3) below.)

Corps artillery. (See *b* (4) below.)

Regiment, antiaircraft artillery, Coast Artillery Corps.
(See *b* (4) (b) 8 below.)

Corps engineer service. (See *b* (5) below.)

Corps aviation. (See *b* (6) below.)

Corps medical service. (See *b* (7) below.)

Corps train, Quartermaster Corps. (See *b* (8) below.)

(2) *Three infantry divisions.* (See par. 2.)

b. Composition and organization of major units. (See par. 14 for Table of Organization numbers and strength of major units in the army corps.)

(1) *Corps headquarters.*(a) *Forward echelon.*

Corps commander and aides.

General staff section.

Signal section.

Corps artillery headquarters.

Corps engineer headquarters.

Headquarters, corps aviation.

(b) *Rear echelon.*

Adjutant general's section.

Inspector's section.

Quartermaster's section.

Ordnance section.

Judge advocate's section.

Finance section.

Chemical section.

Chaplain's section.

Headquarters, corps medical service.

(2) Infantry units.

Infantry division. (See par. 2.)

(3) Special troops.**(a) Composition.**

Headquarters.

Headquarters company.

Military police battalion.

Signal battalion.

Ordnance company (heavy maintenance).

Ordnance company (ammunition).

Field remount depot, Quartermaster Corps.

Service battalion.

Attached medical.

(b) Organization of major units.**1. Military police battalion.**

Headquarters.

4 companies.

Attached medical.

2. Signal battalion.

Headquarters.

Headquarters company.

Construction company.

Operation company.

Attached medical.

3. Service battalion.

Headquarters.

Headquarters and service platoon.

4 companies.

Attached medical.

4. Field remount depot, Quartermaster Corps.

1 remount troop.

Attached medical and veterinarian.

(4) Artillery units.**(a) Composition.****1. Corps artillery.**

Headquarters.

Artillery brigade.

Attached ordnance company.

Attached medical and chaplains.

2. Regiment, antiaircraft artillery, Coast Artillery Corps.

lery Corps.

(4) Artillery units—Continued.**(b) Organization of major artillery units.****1. Artillery brigade, corps artillery.**

Headquarters and headquarters battery
(motorized).

Ammunition train (motorized).

Sound and flash battalion (motorized).

2 regiments, 155-mm howitzer, tractor-drawn.

1 regiment, heavy field artillery, 155-mm gun (motorized).

Attached ordnance company.

Attached medical and chaplains.

2. Regiment, 155-mm howitzer, tractor-drawn.

(See par. 2 b (3) (e) for organization of a regiment of 155-mm howitzer, tractor-drawn.)

3. Battalion, 155-mm howitzer, tractor-drawn.

(See par. 2 b (3) (f) for organization of a battalion, 155-mm howitzer, tractor-drawn.)

4. Regiment, heavy field artillery, 155-mm gun (motorized).

Headquarters and band.

Headquarters battery.

Service battery.

3 battalions.

Attached medical and chaplain.

5. Battalion, heavy field artillery, 155-mm gun (motorized).

Headquarters and headquarters battery.

Combat train.

2 batteries.

6. Sound and flash battalion (motorized).

Headquarters and headquarters battery.

2 batteries.

Attached medical.

7. Ammunition train (motorized).

Headquarters and headquarters battery.

5 ammunition batteries (truck).

Attached medical.

(4) *Artillery units*—Continued.(b) *Organization of major artillery units*—Contd.

8. Regiment, antiaircraft artillery, Coast Artillery Corps.

Headquarters and band.

Headquarters battery.

Service battery.

1st battalion (gun).

2d battalion (machine-gun).

Attached medical and chaplain.

9. First battalion (gun), antiaircraft regiment, Coast Artillery Corps.

Headquarters and headquarters battery and combat train.

Searchlight battery.

3 gun batteries.

10. Second battalion (machine-gun), antiaircraft regiment, Coast Artillery Corps.

Headquarters and headquarters battery and combat train.

4 batteries.

(5) *Engineer units.*(a) *Composition.*

Corps engineer service.

Headquarters.

3 separate battalions.

1 general service regiment.

1 light ponton company (animal).

1 depot company.

Attached medical and chaplain.

(b) *Organization of major engineer units.*

1. General service regiment.

Headquarters and band.

Headquarters and service company.

2 battalions.

Attached medical and chaplain.

2. Battalion, general service regiment.

Headquarters.

3 companies.

(5) *Engineer units*—Continued.(b) *Organization of major engineer units*—Contd.

3. Separate battalion.

Headquarters.

Headquarters and service company.

4 companies.

Attached medical.

(6) *Air Corps units*.(a) *Composition*.

Corps aviation.

Headquarters.

Observation group.

Balloon group.

Attached medical and chaplain.

(b) *Organization of major Air Corps units*.

1. Corps observation group.

Headquarters and headquarters squadron.

Service squadron.

4 observation squadrons.

Attached medical.

2. Balloon group.

Headquarters and headquarters squadron.

Service squadron.

4 balloon squadrons.

Attached medical and chaplain.

(7) *Medical Department units*.(a) *Composition*.

Corps medical service.

Headquarters.

Medical regiment.

(b) *Organization of major Medical Department units*.—

For organization of the medical regiment, see paragraph 2b (5) (a).

(8) *Quartermaster Corps units*.(a) *Composition*.

Corps train, Quartermaster Corps.

Field remount depot, Quartermaster Corps.

Service battalion.

(8) *Quartermaster Corps units*—Continued.(b) *Organization of major Quartermaster Corps units.*

1. Corps train, Quartermaster Corps.

Headquarters.

Motor transport.

Wagon train.

Attached medical, dental, and veterinarian.

2. Headquarters, corps train.

Corps transport officer.

2 motor transport commands.

3. Motor transport, corps train.

5 motor transport commands.

25 motor transport companies.

2 motor-cycle companies.

8 motor repair sections.

Attached medical, dental, and veterinarian.

4. Wagon train.

Headquarters.

3 wagon companies.

Attached medical, dental, and veterinarian.

5. Field remount depot, Quartermaster Corps.

(See (3) (b) 4 above.)

6. Service battalion. (See (3) (b) 3 above.)

5. Cavalry corps.—a. *Composition.*

(1) *Organic troops.*—The cavalry corps may function with no troops other than those shown under this heading. It can still function even though the number of cavalry divisions be reduced from three to two. Ordinarily, however, it includes all of the organic troops listed herein, as well as appropriate attached troops given in (2) below.

Corps headquarters. (See b (1) (a) below.)

Headquarters troop.

Signal troop.

Headquarters and headquarters battery, field artillery brigade.

3 cavalry divisions. (See par. 3.)

(2) *Attached troops.*—When circumstances so require, part or all of the following troops may be attached to the cavalry corps from troops especially assigned or attached to the army for this purpose. The strength of the attached units may at times be considerably greater or less than is indicated below. From time to time, in order to enable the cavalry corps to per-

from a particular mission, additional units may be attached and withdrawn when necessity for their use has passed.

1 armored-car troop.

1 observation group, Air Corps, and such additional aviation as may be needed. (See *b* (2) (c) below.)

1 regiment, 105-mm howitzer (horse-drawn). (See *b* (2) (a) 1 below.)

2 regiments, 75-mm pack howitzer. (See *b* (2) (a) 2 below.)

1 battalion, light tanks. (See par. 7 *b* (3).)

1 combat regiment, Corps of Engineers (or such part thereof as may be needed). (See par. 2 *b* (4).)

1 ordnance company (light maintenance).

1 medical regiment (or such part thereof as may be needed). (See par. 2 *b* (5).)

1 corps train. (See *b* (2) (f) below.)

1 field remount depot. (See pars. 4 *b* (3) (b) 4 and 6 *b* (4) (b) 3.)

Antiaircraft artillery. (See pars. 4 *b* (4) (b) 8 and 6 *b* (7) (b) 2.)

Portée artillery. (See par. 7 *b* (1) (j), (k), and (l).)

Tractor-drawn field artillery. (See par. 2 *b* (3) (e).)

Ponton units (light and heavy). (See pars. 4 *b* (5) (a) and 6 *b* (8) (b) 6.)

Additional pack trains.

b. Composition and organization of major units. (See pars. 4, 15, and 16, for Table of Organization numbers and strength of major units in a cavalry corps.)

(1) *Major organic units.* (See *a* (1) above.)

(a) *Corps headquarters.*

1. Forward echelon.

Corps commander and aides.

General staff section.

Signal section.

2. Rear echelon.

Adjutant general's section.

Inspector's section.

Quartermaster's section.

Ordnance section.

Judge advocate's section.

Finance section.

Chaplain's section.

Medical section.

(1) *Major organic units*—Continued.(b) *Cavalry division.* (See par. 3 for composition and organization of a cavalry division.)(2) *Units sometimes attached to the cavalry corps.* (See a (2) above.)(a) *Artillery units.*

1. Regiment, 105-mm howitzer, horse-drawn
(See par. 2 b (3) (e) for organization of
regiment, 155-mm howitzer, tractor-drawn
The organization of a regiment of 105-mm
howitzer, horse-drawn, is similar to that of
the regiment of 155-mm howitzer, tractor
drawn.)

2. Regiment, 75-mm pack artillery.

Headquarters.

Headquarters battery.

Service battery.

2 battalions.

Attached medical and chaplain.

3. Battalion, 75-mm pack artillery.

Headquarters and headquarters detach-
ment.

Combat train.

3 batteries.

4. Antiaircraft artillery, Coast Artillery Corps.

(See pars. 4 b (4) (b) 8 and 6 b (7) (b)
2.)

5. Portée artillery. (See par. 7b (1) (j), (k),
and (l).)

6. Tractor-drawn field artillery. (See par. 2 b
(3) (e).)

7. For types of medium and heavy field artillery.
(See par. 7 b (1).)

(b) *Engineer units.*

1. Combat regiment. (See par. 2 b (4).)

2. Ponton units. (See pars. 4 b (5) (a) and 6 b
(8) (b) 6.)

(c) *Air Corps units.*

1. Observation group. (See par. 4 b (6) (b) 1.)

2. Other Air Corps units. (See pars. 4 b (6) (b)
2, 6 b (9), and 7 b (5).)

(2) Units sometimes attached to the cavalry corps—Con.**(d) Tank units.**

Light tank battalion. (See par. 7 b (3).)

(e) Medical Department units.

Medical regiment. (See par. 2 b (5).)

(f) Quartermaster Corps units.

1. Corps train. (See par. 4 b (8) (b) 1 for organization of a corps train.) However, in the cavalry corps, the corps train normally consists of—

Headquarters.

2 wagon companies.

4 pack trains.

12 motor truck companies.

2. Field remount depot. (See pars. 4 b (3) (b) 4 and 6 b (4) (b) 3.)

6. Field army.—a. Composition.—A field army is composed of a headquarters and a body of auxiliary troops and trains called army troops, and two or more corps, temporarily assigned, the number of corps depending on the nature of the service required. In addition, certain troops of GHQ reserve are attached from time to time as their special services are needed. As thus constituted, the army has both territorial and tactical functions. It is organized in all its branches for operation and administration, and is capable of independent action, whenever required. The organization of a typical field army is as follows:

(1) Army troops.

Army headquarters. (See b (1) below.)

2 cavalry divisions. (See par. 3.)

Special troops. (See b (4) below.)

Army signal service. (See b (5) below.)

Army ordnance. (See b (6) below.)

Army artillery. (See b (7) below.)

Brigade antiaircraft artillery, Coast Artillery Corps.
(See b (7) (b) 2 below.)

Army engineer service. (See b (8) below.)

Army aviation. (See b (9) below.)

Army medical service. (See b (12) below.)

Army train, Quartermaster Corps. (See b (13) (b) below.)

(1) *Army troops*—Continued.

Attached, when necessary, from GHQ reserve—

Tanks. (See par. 7 b (3).)

Chemical units. (See par. 7 b (4).)

(2) *Three army corps*. (See par. 4.)

b. Composition and organization of major units. (See par. 15 for Table of Organization numbers and strength of major units in a field army.)

(1) *Army headquarters*.(a) *Forward echelon*.

Army commander and aides.

General staff section.

Army artillery headquarters.

Army engineer headquarters.

Headquarters, army aviation.

Headquarters, army signal service.

(b) *Rear echelon*.

Adjutant general's section.

Inspector's section.

Quartermaster's section.

Judge advocate's section.

Finance section.

Chemical section.

Chaplain's section.

Army ordnance headquarters.

Headquarters, army medical service.

(2) *Army corps*. (See par. 4 for composition and organization of an army corps.)

(3) *Cavalry division*. (See par. 3 for composition and organization of a cavalry division.)

(4) *Special troops*.(a) *Composition*.

Headquarters.

Headquarters company.

Military police battalion.

8 service battalions.

Field remount depot, Quartermaster Corps.

Chemical field laboratory.

Chemical depot company.

Chemical maintenance company.

Attached medical.

(4) *Special troops*—Continued.(b) *Organization of major units.*

1. Military police battalion.

Headquarters.

5 companies.

Attached medical.

2. Service battalion. (See par. 4 b (3) (b) 3 for organization of a service battalion.)

3. Field remount depot, Quartermaster Corps.

Headquarters and headquarters detachment.

3 remount troops.

Attached medical, dental, and veterinarian.

(5) *Signal Corps units.*(a) *Composition.*

Army signal service.

Headquarters.

2 signal battalions.

Meteorological company.

Photographic company.

Pigeon company.

Radio intelligence company.

Attached medical.

(b) *Organization of major Signal Corps units.*

Signal battalion. (See par. 4 b (3) (b) 2 for organization of a signal battalion.)

(6) *Ordnance units.*

Army ordnance.

Headquarters.

Ordnance company (headquarters).

3 ordnance companies (ammunition).

3 ordnance companies (depot).

Ordnance company (medium maintenance).

(7) *Artillery units.*(a) *Composition.*

1. Army artillery.

Headquarters.

Ammunition train.

Attached medical.

2. Brigade antiaircraft artillery, Coast Artillery Corps.

(7) *Artillery units—Continued.*(b) *Organization of major units, army and antiaircraft artillery.*1. *Ammunition train, army artillery.*

Headquarters and headquarters battery.

6 ammunition batteries (truck).

Attached medical.

2. *Brigade, antiaircraft artillery, Coast Artillery Corps.*

Headquarters and headquarters battery.

3 regiments.

Attached medical and chaplains.

3. *Regiment, antiaircraft artillery, Coast Artillery Corps. (See par. 4 b (4) (b) 8 for organization of a regiment, antiaircraft artillery, Coast Artillery Corps.)*4. *Additional artillery from GHQ reserve. (See par. 7 b (1).)*(8) *Engineer units.*(a) *Composition.*

Army engineer service.

Headquarters.

3 general service regiments.

6 separate battalions.

Topographical battalion.

Camouflage battalion.

Water supply battalion.

Shop company.

Depot company.

Dump truck company.

2 heavy ponton battalions (motorized).

2 light ponton companies (motorized).

Attached medical and chaplains.

Motor repair section, Quartermaster Corps
(attached).(b) *Organization of major engineer units.*1. *General service regiment. (See par. 4 b (5) (b) 1 for organization of a general service regiment.)*2. *Separate battalion. (See par. 4 b (5) (b) 3 for organization of a separate battalion.)*

(8) *Engineer units*—Continued.(b) *Organization of major engineer units*—Continued.

3. Topographic battalion (army).

Headquarters.

Headquarters and service company.

2 surveying companies.

1 reproduction company.

Attached medical.

4. Camouflage battalion (army).

Headquarters.

Headquarters and service company.

4 companies.

Attached medical.

5. Water supply battalion.

Headquarters.

Headquarters and service company.

3 companies.

Medical detachment.

Motor repair section, Quartermaster Corps
(attached).

6. Heavy ponton battalion (motorized).

Headquarters.

Headquarters and service company.

2 companies.

Attached medical.

(9) *Air Corps units*.(a) *Composition*.

Army aviation.

Headquarters.

4 airdrome squadrons.

Observation group.

Attached medical and chaplain.

(b) *Organization of major aviation units*.

Observation group.

Headquarters and headquarters squadron.

Service squadron.

4 observation squadrons.

Attached medical.

(10) *Tanks*.—From GHQ reserve. (See par. 7b(3).)(11) *Chemical warfare*.—In addition, of the chemical units included in the army special troops (see (4) (a) above), addi-

tional chemical troops are attached to the field army when needed from GHQ reserve. (See par. 7b(4).)

(12) *Medical Department units.*

(a) *Composition.*

Army medical service.

Headquarters.

4 medical regiments.

12 evacuation hospitals.

10 surgical hospitals.

Convalescent hospital.

Medical laboratory.

Medical supply depot.

3 veterinary evacuation hospitals.

Veterinary convalescent hospital.

(b) *Organization of major Medical Department units.*

1. Medical regiment. (See par. 2 b (5) (a) for organization of a medical regiment.)

2. Evacuation hospital.

Headquarters.

Administrative service.

Technical service.

Capacity, 750 patients.

3. Surgical hospital.

Headquarters.

Administrative service.

Technical service.

Capacity, 250 patients.

4. Convalescent hospital.

Headquarters.

Clinical section.

Convalescent section.

Detention section.

Capacity, 3,000 patients.

5. Veterinary evacuation hospital.

Headquarters section.

Evacuation section.

Hospitalization section.

Normal capacity, 250 animals; emergency capacity, 500 animals.

6. Veterinary convalescent hospital.

Normal capacity, 1,000 animals.

(13) *Quartermaster Corps units.*(a) *Composition.*

Army train, Quartermaster Corps.

8 service battalions.

1 field remount depot.

(b) *Organization of major Quartermaster Corps units.*

1. Army train, Quartermaster Corps.

Train headquarters.

Motor transport.

Attached medical.

2. Train headquarters, army train.

2 motor transport officers.

2 motor transport commands.

3. Motor transport, army train.

3 motor transport commands.

2 motor-cycle companies.

19 motor transport companies.

4 motor repair sections.

4 motor repair battalions.

Attached medical.

4. Motor repair battalion, Quartermaster Corps.

Headquarters.

4 companies.

Attached medical.

5. Field remount depot, Quartermaster Corps.

(See (4) (b) 3 above for organization of a field remount depot.)

6. Service battalion. (See par. 4 b (3) (b) 3 for organization of a service battalion.)

7. **GHQ reserve.** (See par. 16 for Table of Organization numbers and strength of units in GHQ reserve most frequently attached to field armies, corps, and divisions.)—*a. Composition.*

Artillery units. (See b (1) below.)

Engineer units. (See b (2) below.)

Tank units. (See b (3) below.)

Chemical units. (See b (4) below.)

Air Corps units. (See b (5) below.)

Signal Corps units. (See b (6) below.)

Quartermaster Corps units. (See b (7) below.)

Medical Department units. (See b (8) below.)

Ordnance units. (See b (9) below.)

b. Organization of certain units.**(1) Artillery units.**

- (a) Regiment, 75-mm (pack). (See par. 5 b (2) (a) 2.)
- (b) Regiment, heavy field artillery, 155-mm or 6-inch gun (motorized). (See par. 4 b (4) (b) 4.)
- (c) Regiment, heavy field artillery, 240-mm howitzer (motorized).
 Headquarters.
 Headquarters battery.
 Service battery.
 3 battalions.
 Attached medical and chaplain.
- (d) Battalion, heavy field artillery, 240-mm howitzer regiment (motorized).
 Headquarters and headquarters battery.
 Combat train.
 2 batteries.
- (e) Brigade, antiaircraft artillery, Coast Artillery Corps. (See par. 6 b (7) (b) 2.)
- (f) Regiment, antiaircraft artillery, Coast Artillery Corps. (See par. 4 b (4) (b) 8.)
- (g) Brigade, light field artillery, GHQ reserve.
 Headquarters.
 Headquarters battery.
 3 regiments, light field artillery, 75-mm gun (motorized).
 Attached medical and chaplains.
- (h) Regiment, light field artillery, GHQ reserve, 75-mm gun (motorized).
 Headquarters.
 Headquarters battery.
 Service battery.
 2 battalions.
 Attached medical and chaplain.
- (i) Battalion, light field artillery, GHQ reserve, 75-mm gun regiment (motorized).
 Headquarters and headquarters battery.
 3 batteries.

(1) *Artillery units*—Continued.

- (j) **Brigade, light field artillery, Portée, GHQ reserve.**
 Headquarters.
 Headquarters battery.
 3 regiments, 75-mm gun (Portée).
 Attached medical and chaplains.
- (k) **Regiment, 75-mm gun (Portée).**
 Headquarters.
 Headquarters battery.
 Service battery.
 2 battalions.
 Attached medical and chaplain.
- (l) **Battalion, 75-mm gun (Portée).**
 Headquarters and headquarters battery.
 3 batteries.
- (m) **Regiment, trench mortars.**
 Headquarters.
 Headquarters battery.
 Service battery.
 3 battalions.
 Attached medical and chaplains.
- (n) **Battalion, trench mortars.**
 Headquarters and headquarters detachment.
 2 batteries.

(2) *Engineer units.*

- (a) **General service regiment. (See par. 4b (5) (b) 1.)**
- (b) **Separate battalion. (See par 4b (5) (b) 3.)**
- (c) **Heavy ponton battalion (motorized). (See par. 6b (8) (b) 6.)**
- (d) **Topographic battalion (GHQ).**
 Headquarters and service company.
 1 surveying company.
 2 reproduction companies.
 Attached medical.
- (e) **Water supply battalion. (See par. 6b (8) (b) 5.)**
- (f) **Camouflage battalion (GHQ).**
 Headquarters.
 Headquarters and service company.

(2) *Engineer units*—Continued.(f) *Camouflage battalion (GHQ)*—Continued.

Camouflage company.

Shop company.

Attached medical.

(g) *Railway battalion.*

Headquarters.

Headquarters and service company.

Maintenance of way company (Co. A).

Maintenance of equipment company (Co. B).

Operating company (Co. C).

Attached medical.

(3) *Tanks.*(a) *Heavy tank regiment.*

Headquarters and band.

Headquarters company.

Heavy tank service company.

3 tank battalions, heavy.

Attached medical.

(b) *Heavy tank battalion.*

Headquarters.

Headquarters company.

3 heavy tank companies.

Attached medical.

(c) *Light tank regiment.*

Headquarters and band.

Headquarters company.

Light tank service company.

3 light tank battalions.

Attached medical.

(d) *Light tank battalion.*

Headquarters.

Headquarters company.

3 light tank companies.

Attached medical.

(4) *Chemical units.*(a) *Chemical regiment (motorized).*

Headquarters and band.

Headquarters and service company.

3 battalions.

Attached medical and chaplains.

- (4) *Chemical units*—Continued.
- (b) Chemical battalion (motorized).
 - Headquarters.
 - Headquarters company.
 - 4 companies.
 - (c) Separate chemical battalion (motorized).
 - Headquarters.
 - Headquarters company.
 - 4 companies.
 - Attached medical.
 - (d) Separate chemical battalion (animal-drawn).
 - Headquarters.
 - Headquarters company.
 - 4 chemical companies.
 - Attached medical.
- (5) *Air Corps units*.
- (a) Attack group.
 - Headquarters and headquarters squadron.
 - Service squadron.
 - 4 attack squadrons.
 - Attached medical and chaplain.
 - (b) Bombardment group.
 - Headquarters and headquarters squadron.
 - Service squadron.
 - 4 bombardment squadrons.
 - Attached medical and chaplain.
 - (c) Pursuit group.
 - Headquarters and headquarters squadron.
 - Service squadron.
 - 4 pursuit squadrons.
 - Attached medical and chaplain.
 - (d) Airship group.
 - Headquarters and headquarters squadron.
 - Service squadron.
 - 4 airship squadrons.
 - Attached medical and chaplain.
 - (e) Air depot. (Each air depot consists of one headquarters and headquarters squadron, and/or one or more supply squadrons, and/or one or more repair squadrons.)

(6) *Signal Corps units.*(a) *Signal service, GHQ.*

Headquarters.

2 operation companies.

3 meteorological companies.

Radio intelligence company.

Construction battalion.

Attached medical.

(b) *Construction battalion.*

Headquarters.

Headquarters company.

2 construction companies.

Attached medical.

(7) *Quartermaster Corps units.* (See par. 16 for types of Quartermaster Corps units in GHQ reserve.)

(8) *Medical Department units.* (See par. 6 b (12) for types of Medical Department units in GHQ reserve.)

(9) *Ordnance units.* (See par. 6 b (6) for types of ordnance units in GHQ reserve.)

SECTION II

ROAD SPACES (WAR-STRENGTH UNITS)

8. *Introduction.*—Under practical conditions road space varies with many factors, such as size of columns, kinds and conditions of roads, morale, terrain, weather and tactical conditions, and the actual strength of units at any given time. Also changes which are made from time to time in personnel, animals, and equipment in Tables of Organization will produce corresponding changes in computed road spaces, not only of the unit concerned but in all other units of which it is an element. These facts should be borne in mind when using the tables of road spaces given in this section, and the data herein should be considered only as a guide in determining the actual road space for the unit under consideration and under the conditions existing at that time. Unless the Tables of Organization have been changed materially, or losses have been excessive, or conditions are very abnormal, the road spaces given herein should be accurate enough for all practical purposes.

9. *Basic road spaces.*—*a.* (1) In computing road spaces, officers, sergeants, etc., will be given proper relative space; for

example, the captain will take up space of four horses, unless it is assumed he rides with a lieutenant, in which case he takes up space of two horses.

(2) It is assumed that spare mules go two abreast; if there is one separate spare mule, it takes up as much space as two.

(3) It is assumed that pack mules march in single file.

(4) When foot troops only are moved by motor transport, the following personnel accompanies animals, animal-drawn vehicles, and motor vehicles of the unit:

1 man for each riding horse, mule, bicycle, and solo motor cycle.

2 men for each of the following vehicles: Carts, wagons, trailers, cargo trucks, motor cycles with side cars, and ambulances.

3 men for each truck loaded with animals.

3 men for each rolling kitchen and each light repair truck.

4 men for each light passenger (cross-country) car.

5 men for each passenger car.

6 men for each heavy cargo truck.

7 men for each passenger car, heavy.

b. The following should be used as a basis in computing road spaces:

Yard	Per	
1/2	Man.....	Infantry in column of squads.
1	Horse.....	Cavalry in column of fours.
2	Animal.....	Spare mules and riding animals not in column of fours.
4	do.....	Pack animals.
4	Bicycle.....	Bicyclists riding.
20	Motor cycle.....	Motorcyclists, solo or side car (riding).
8	Cart.....	Machine-gun carts, chemical carts, ammunition carts, etc.
15	do.....	Water carts, ration carts.
15	Vehicle.....	Animal-drawn vehicles, 2 animals, not tandem.
20	do.....	Animal-drawn vehicles, 4 animals.
25	do.....	Animal-drawn vehicles, 6 animals.
30	do.....	Animal-drawn vehicles, 8 animals.
27	do.....	Motor cars.
27	do.....	Trucks.
20-30	Tractor.....	Tractor (of varying length).
5	Trailer.....	
27	Mobile loft (pigeon company).....	
27	Searchlight, mobile unit, 60-inch complete with comparator.....	
5	Locator, sound.....	

c. In computing the road spaces of large units, allowances should be made for distances between march units as follows:

Yards

30 between battalions of foot troops or horse-drawn artillery.

30 between squadrons of Cavalry.

30 between wagon companies.

50 between units of motorized artillery.

50 between motor companies.

10 for brigade or regimental staff.

d. In any cases not covered in *b* and *c* above a proper assumption should be made based upon the provisions of Field Service Regulations and of the pertinent training publications.

10. Road spaces (in yards) for units of the Infantry division and attached units.

Unit	T/O*	ROAD SPACES •															
		Personnel and animals ^b		Troops		Combat trains		Troops and combat trains		Field trains		Troops, combat trains, and field trains		Service trains			
		Number of officers and men	Number of animals	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections		
Fwd Ech, DHQ.	2W	19		• 300													
Fwd Ech Hq Co, Inf Div.	4W	92	40	90	30	90	30	90	30	55	90	85					
Slg Co, Inf Div.	8W	175	32	70	100	460	170	460			170	460					
Total		286	72	160	100	490	260	490		55	260	545					
Combined total		286	72	160	590	750		750	55		805						
<i>Infantry.</i>																	
R Co, Inf Regt.	28W	198		• 95	45	140		140			140						
MG Co, Inf Regt.	29W	188	37	285	45	330		330			330						
Hq & Hq Co, Inf Bn.	27W	70	17	• 55	65	50		120	50		120	50					
Total Inf Bn.	26W	852	54	• 625	245	870	50	870	50	• 100	• 970	50					
How Plat, Inf Regt.	30W	30	5	40	20	60		60			60						
How Co, Inf Regt.	30W	113	23	130	65	195	30	195	• 20		195	30					

See footnotes at end of table.

10. Road spaces (in yards) for units of the infantry division and attached units—Continued.

Unit	T/O*	ROAD SPACES •															
		Personnel and animals ^b		Troops		Combat trains		Troops and combat trains		Field trains		Troops, combat trains, and field trains		Service trains			
		Number of officers and men	Number of animals	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections	Foot and animal-drawn sections	Motorized sections		
<i>Infantry—Continued.</i>																	
Serv Co, Inf Regt.....	25W	183	250														
Hq & Hq Co, Inf Regt.....	24W	120	24	• 80	120	46	25	125	145	570	80	570	80	125	145		
Total Inf Regt •.....	23W	3, 106	492	• 2, 145	300	845	25	2, 990	325	570	80	3, 560	405				
Combined total Inf Regt •.....	23W	3, 105	492	2, 445		870		3, 315		650		3, 965					
Hq & Hq Co, Inf Brig.....	22W	98	37	• 90	190	25	25	115	215	20	25	135	240				
Total Inf Brig •.....	21W	6, 310	1, 021	• 4, 460	790	1, 715	75	6, 175	865	1, 160	185	7, 335	1, 050				
Combined total 1 Inf Brig •.....	21W	6, 310	1, 021	5, 250		1, 730		7, 040		1, 345		8, 385					
2 Inf Brigs •.....	21W	12, 620	2, 042	• 8, 920	1, 580	3, 430	150	12, 350	1, 730	2, 320	370	14, 070	2, 100				
Combined total 2 Inf Brigs •.....	21W	12, 620	2, 042	10, 500		3, 580		14, 080		2, 690		16, 770					

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<i>Field artillery:</i>											
88	182	138	480	h 165	h 645	h 645	h 645	h 235	h 645	h 645	h 645
75-mm gun, horse-drawn—	Battery	39	161	165	40	615	40	120	160	160	160
Bn C Tn.	37	98	300	40	300	300	40	120	300	300	40
Bn Hq & Hq Btry.											
Total Bn, 75-mm gun.	36	705	692	40	2,455	80	235	120	2,690	100	65
Serv Btry	35	110	178				790	65	790		
Hq & Hq Btry, Regt, 75-mm gun.	34	117	98						280	95	
Total Regt, 75-mm gun k.	33	1,699	1,722	195	1,280	130	815	115	6,220	440	
Combined total Regt, 75-mm gun k.	33	1,699	1,722	4,320	1,410	5,730		930	6,660		
155-mm How—											
Battery	138	167	760				760			760	
Bn C Tn.	139	129	340		845		845		1,005		
Bn Hq & Hq Btry.	137	70							340		
Total Bn, 155-mm How.	136	533	1,900		835		2,855		3,015		
Serv Btry	135	115							875		
Hq & Hq Btry, Regt, 155-mm How.	134	121	485				485		485		
Total Regt, 155-mm How k.	133	1,882	6,760		2,685	9,445		925	10,370		
Combined total Regt, 155-mm How k.	133	1,882	6,760		2,685	9,445		925	10,370		
Am Tn, FA Brig.	56	440	147						60	540	
Hq & Hq Btry, FA Brig.	32	103	30						60	540	
Total FA Brig k.	31	5,823	3,621	8,365	7,840	10,925	10,785	1,630	12,555	11,940	645
Combined total FA Brig k.	31	5,823	3,621	16,205	5,505	21,710		2,785	24,495		3,090
<i>Engineers (combat):</i>											
Co, Engr Regt.	68W	110	23	60	m 20	40	m 35		100	f 55	
Bn, Engr Regt.	63W	335	72	190	m 80	120	m 105		310	f 185	

See footnotes at end of table.

10. Road spaces (in yards) for units of the infantry division and attached units—Continued.

Unit	T/O*	ROAD SPACES *															
		Personnel and animals		Troops		Combat trains		Troops and combat trains		Field trains		Troops, combat trains, and field trains		Services trains			
		Number of officers and men	Number of animals	Foot and anti-mal-drawn sections	Motorized sections	Foot and anti-mal-drawn sections	Motorized sections	Foot and anti-mal-drawn sections	Motorized sections	Foot and anti-mal-drawn sections	Motorized sections	Foot and anti-mal-drawn sections	Motorized sections	Foot and anti-mal-drawn sections	Motorized sections		
<i>Engineers (combat)—Continued.</i>																	
Hq, Bn Hq, Hq & Serv Co, Engr Regt.....	64W	144	97	80	190	200	280	190	120	400	190	400	190	430			
Total Engr Regt *.....	63W	871	258	460	350	440	900	350	360	1,260	350	1,260	350	640			
Combined total Engr Regts.....	63W	871	258	810	440	440	1,250	360	360	1,610	640	1,610	640				
Rr Ech, DHQ.....	2W	28			d 420												
Rr Ech Hq Co, Inf Div.....	4W	113	28	50	30	55	50	30	55	50	85	50	85				
MP Co, Inf Div.....	5W	155	25	110	335	30	110	365		110	365	110	365				
Ord Co, Inf Div.....	12W	145												880			
Total Rr Ech, DHQ Co, MP Co, Ord Co.....		441	53	160	335	60	160	395	55	160	450	160	450	880			
Combined total.....		441	53	495		60	555		55	610		610		880			
Tk Co.....	10W	160			870	175	1,045				1,045		1,045				

and artillery and prior to Sept. 3, 1917, for activity in the current Tables of Organization.

^g Figures for personnel and animals should be used only as a guide; exact figures, when needed, should in all cases be obtained from current Tables of Organization.

^h Road spaces given to the nearest 5 yards.

ⁱ Transportation furnished by division quartermaster regiment. When in column, usually marches in an interval between units. Not included in totals.

^j Road spaces based on foot troops in column of fours. If column of threes is adopted as the normal route formation for foot troops, the following road spaces should be substituted for those given in the column "Troops—Foot and animal-drawn sections" for the organizations listed below, and all appropriate totals changed accordingly:

	Yards	Yards	
Rifle Co.....	114	Hq & Hq Co, Inf Brig.....	98
Hq & Hq Co, Inf Bn.....	60	Inf Brig.....	4,856
Inf Bn.....	687	Two Inf Brigs.....	9,712
Hq & Hq Co, Inf. Regt.....	88	Eng Regt.....	540
Inf Regt.....	2,339	MP Co.....	120
		Inf Div.....	18,947 yards

^l When detached.

^m Includes attached medical and chaplains.

ⁿ When detached. Includes one platoon from the battalion combat train.

^o When detached. Includes the battalion section of the service battery and certain personnel, animals and equipment from the regimental section, service battery.

^p Includes an additional 25 yards for foot and animal-drawn elements and 50 yards for motorized elements of trains to provide for distance between troops and trains when these organizations march in the same column.

^q Includes attached medical, but is exclusive of ordnance personnel and equipment attached when brigade is detached from the division. See T/O 12W.

^r When detached. Includes the battalion section, service battery and certain personnel from the regimental section, service battery. Not to be included here except when the organization is detached.

^s Except when the company is detached, company trucks march with and are included in the service train total.

^t Includes 6 infantry tool wagons.

^u Not included in total road spaces. The men for whom this road space is allowed usually move in transportation belonging to the unit. These figures are given for use when this method is impracticable.

^v Includes attached division surgeon's office.

^w See paragraph 14 for data on movements of major units in the infantry division.

^x Includes 2d battalion section of the regimental service battery.

^y Will normally operate from a corps airdrome when attached to a division.

^z Figures in first line apply to near movements; those in parentheses in second line to distant movements by motor transport when additional motor transportation is furnished.

11. Abridged reference tables of road spaces in the infantry division.

Troops and trains

	Troops and combat trains		Troops, combat, and field trains		Troops, combat, field, and service trains	
	Yards	Miles	Yards	Miles	Yards	Miles
Inf Div.....	39,390	22.3	45,335	25.7	63,080	35.9
Inf Brig, reinforced by 1 75-mm gun Regt, 1 C Engr Co, 1 Amb Co (Anl), 1 Coll Co.....	12,925	7.4	15,240	8.7	15,850	9.0
Inf Brig, reinforced by 1 155-mm How Regt, 1 C Engr Co, 1 Amb Co (Anl), 1 Coll Co.....	16,640	9.5	18,950	10.8	19,560	11.1
Inf Brig.....	7,040	4.0	8,385	4.8		
Inf Brig (less 1 Regt).....	3,725	2.1	4,420	2.5		
Inf Regt.....	3,315	1.9	3,965	2.3		
Inf Regt (less 1 Bn).....	2,395	1.4	2,945	1.7		
Inf Bn.....	920	.5	1,020	.6		
Inf Bn (less 1 rifle Co).....	780	.4	880	.5		
Inf Bn (plus 1 How Plat).....	980	.6	1,080	.6		
FA Brig.....	21,710	12.3	24,495	13.9	27,585	15.7
FA Brig (less 155-mm How Regt).....	12,215	6.9	14,075	8.0	17,165	9.8
FA Brig (less 1 75-mm gun Regt).....	15,900	9.0	17,755	10.1	20,845	11.8
FA Brig (less 1 Bn 75-mm Gun).....	19,095	10.8	21,625	12.3	24,715	14.0
FA Brig (less 1 Bn 155-mm How).....	18,805	10.7	21,430	12.2	24,520	13.9
FA Regt (75-mm gun).....	5,730	3.3	6,660	3.8		
FA Regt (155-mm How).....	9,445	5.4	10,370	5.9		
FA Bn (75-mm gun).....	2,535	1.4	2,790	1.6		
FA Bn (155-mm How).....	2,855	1.6	3,015	1.7		
FA Btry (75-mm gun).....	645	.4	645	.4		
FA Btry (155-mm How).....	760	.4	760	.4		
Engr Regt.....	1,250	.7	1,610	.9	2,250	1.3
Engr Regt (less 1 Bn).....	755	.4	995	.6	1,635	1.0
Engr Regt (less 1 Co).....	1,095	.6	1,415	.6	2,055	1.2
Tank Co.....	1,045	.6	1,045	.6		

Trains

	Motor elements		Animal elements		Total	
	Yards	Miles	Yards	Miles	Yards	Miles
Div F Tn.....	1,635	.9	4,310	2.4	5,945	3.3
Serv Tn (complete).....	13,615	7.7	4,130	2.3	17,745	10.0
Serv Tn (less 1 Amb Co (Anl) and 1 Coll Co).....	13,485	7.6	3,650	2.1	17,135	9.7
QM Regt.....	5,700	3.2	2,780	1.6	8,480	4.8
FA Brig Am Tn.....	2,370	1.3	645	.4	3,015	1.7
Med Regt.....	3,975	2.3	680	.4	4,655	2.7
Med Regt (less Amb Bn and Coll Bn).....	2,165	1.2	145	.1	2,310	1.3
Med Regt (less 1 Amb Co (Anl) and 1 Coll Co).....	3,845	2.2	200	.1	4,045	2.3
Engr Regt Serv Tn.....	640	.4			640	.4
Ord Co.....	880	.5			880	.5
Attached Obsn Sq (separate).....	850	.5			850	.5
Attached Bln Sq.....	290	.2			290	.2

Motor and animal elements of miscellaneous units

[When foot elements are moved by motor transport]

	Motor transport		Animal elements			
			Troops and combat trains		Field trains	
	Yards	Miles	Yards	Miles	Yards	Miles
Div Hq and Sp Trs (less Ord and Tk Cos).....	995	0.6	340	0.5	-----	-----
Inf Brig (less MG & How Cos).....	990	.6	2,140	1.2	1,060	.6
Inf Regt (less MG & How Cos).....	375	.2	1,000	1.6	520	.3
MG Co's of 1 Inf Regt.....	-----	-----	750	.4	-----	-----
How Co.....	30	.01	165	.1	-----	-----
FA Regt (75-mm gun).....	440	.3	5,405	3.1	790	.4
FA Regt (155-mm gun).....	10,370	5.9	-----	-----	-----	-----
FA Brig (less Am Tn).....	11,940	6.8	10,925	6.2	1,605	.9
Engr Regt.....	990	.6	900	.5	360	.2

¹ Includes combat wagons of machine-gun and howitzer companies.118151^a-32-4

12. Road spaces (in yards) for units of the cavalry division.

Unit	T/O ^b	ROAD SPACES ^a															
		Personnel and animals ^c		Troops		Combat trains		Troops and combat trains		Field trains		Troops, combat, and field trains		Service trains			
		Number of men	Number of animals	Mounted and animal-drawn sections	MotORIZED sections	Mounted and animal-drawn sections	MotORIZED sections	Mounted and animal-drawn sections	MotORIZED sections	Mounted and animal-drawn sections	MotORIZED sections	Mounted and animal-drawn sections	MotORIZED sections	Mounted and animal-drawn sections	MotORIZED sections		
Fwd Ech, DHQ.....	402W	14	14	d 100	---	---	---	d 100	---	---	---	---	---	---	---	---	---
Fwd Ech Hq Tr, Cav Div.....	404W	75	110	40	135	---	---	40	135	---	---	---	---	---	---	---	---
Sig Tr, Cav Div.....	408W	177	71	40	350	60	540	100	890	100	100	200	890	---	---	---	---
Total.....		266	195	80	485	60	540	140	1,025	155	155	295	1,025	---	---	---	---
Combined total.....		266	195	565	---	600	---	1,165	---	155	---	1,320	---	---	---	---	---
<i>Cavalry:</i>																	
R Plat, Cav Tr.....	428W	29	30	35	---	---	---	35	---	---	---	35	---	---	---	---	---
MR Plat, Cav Tr.....	428W	32	45	85	---	---	---	85	---	---	---	85	---	---	---	---	---
R Tr, Cav Regt.....	428W	173	213	250	---	40	---	290	---	60	---	350	---	---	---	---	---
R Sq, Cav Regt.....	426W	349	432	530	---	80	---	610	---	120	---	730	---	---	---	---	---
MG Sec, MG Tr.....	430W	15	21	40	---	---	---	40	---	---	---	40	---	---	---	---	---
MG Plat, MG Tr.....	430W	34	47	85	---	---	---	85	---	---	---	85	---	---	---	---	---
AA Sec, MG Tr.....	430W	8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1-Pdr Sec, MG Tr.....	430W	17	27	50	---	---	---	50	---	---	---	50	---	---	---	---	---
MG Tr, Cav Regt.....	430W	176	260	430	---	60	---	490	---	90	---	570	---	---	---	---	---

Hq & Hq Tr, Cav Regt.....	424 W	147	184	230	165	40	270	165	100	80	370	245
Total Cav Regt.....	423 W	1,442	1,792	2,430	275	400	2,830	275	500	80	3,390	355
Combined total Cav Regt.....	423 W	1,442	1,792	2,705		400	3,105		640		3,745	
Hq & Hq Tr, Cav Brig.....	422 W	88	103	85	105	40	125	185	40		165	185
Total Cav Brig.....	421 W	2,972	3,687	5,065	655	840	5,905	735	1,160	160	7,065	895
Combined total 1 Cav Brig.....	421 W	2,972	3,687	5,720		920	6,640		1,320		7,960	
2 Cav Brig.....	421 W	5,944	7,374	10,130	1,310	1,680	11,810	1,470	2,320	320	14,130	1,790
Combined total 2 Cav Brig.....	421 W	5,944	7,374	11,440		1,840	13,280		2,640		15,920	
Armd-C Tr, Armd-C Sq.....	413 W	89			445			445		110		555
Armd-C Sq.....	413 W	278			1,425			1,425		350		1,775
<i>Artillery:</i>												
Btry, 75-mm, horse.....	438 W	204	271	585		200	785				785	
Bn, C Tr, 75-mm, horse.....	439 W	199	338			760	760	20	420	20	1,180	40
Hq & Hq Btry, Arty Bn, 75-mm horse.....	437 W	78	85	215	40		215	40			215	40
Total Bn, 75-mm, horse.....	436 W	760	1,050	2,000	40	760	2,760	60	420	20	3,180	80
Serv Btry, 75-mm, horse.....	433 W	46	60						165	65	165	65
Hq & Hq Btry, Arty Regt, 75-mm, horse.....	433 W	92	89	235	115		235	115			235	115
Total Regt, 75-mm, horse.....	433 W	1,717	2,308	4,420	195	1,520	5,940	235	1,005	105	6,945	340
Combined total Arty Regt, 75-mm, horse.....	433 W	1,717	2,308	4,615		1,560	6,175		1,110		7,285	

See footnotes at end of table.

13. Abridged reference tables of road spaces in the cavalry division.

Troops and trains

	Troops and combat trains		Troops, combat, and field trains		Troops, combat, field, and service trains	
	Yards	Miles	Yards	Miles	Yards	Miles
Cav Div.....	24,600	14.0	29,200	16.6	34,840	19.8
Cav Brig reinforced by 1 Armd-C Tr, 1 Arty Bn, 1 Engr Tr, 1 Plat each Tr of Med Sq.....	10,170	5.8	12,085	6.9	12,585	7.2
Cav Brig.....	6,640	3.8	7,960	4.5	-----	-----
Cav Brig (less 1 Regt).....	3,535	2.0	4,215	2.4	-----	-----
Cav Regt.....	3,105	1.8	3,745	2.1	-----	-----
Cav Regt (less 1 Sq).....	2,495	1.4	3,015	1.7	-----	-----
Cav Sq reinforced by 1 Armd-C Plat and 1 MG Plat.....	840	.5	1,020	.6	-----	-----
Cav Sq.....	610	.3	730	.4	-----	-----
Cav Sq (less 1 Tr).....	320	.2	380	.2	-----	-----
Cav Sq (less 1 Plat).....	575	.3	695	.4	-----	-----
Arty Regt (horse).....	6,175	3.5	7,285	4.2	-----	-----
Arty Regt (less 1 Bn).....	3,355	1.9	4,025	2.3	-----	-----
Engr Sq.....	1,285	.7	1,495	.8	-----	-----
Engr Sq (less 1 Tr).....	1,020	.6	1,190	.7	-----	-----
Armd-C Sq.....	1,425	.8	1,775	1.0	-----	-----
Armd-C Sq (less 1 Tr).....	960	.5	1,220	.7	-----	-----
Tk Co.....	1,045	.6	1,045	.6	-----	-----

Trains¹

	Motor transport		Animal transport		Total	
	Yards	Miles	Yards	Miles	Yards	Miles
Cav Div C Tns.....	1,425	0.8	3,260	1.9	4,685	2.7
Escort Wag elements Cav Div C Tns ¹			1,320	.7	1,320	.7
Cav Div F Tns.....	1,120	.6	3,480	2.0	4,600	2.6
Escort Wag elements Cav Div F Tns ¹			3,480	2.0	3,480	2.0
C and F Tns Cav Div grouped.....	2,545	1.4	6,740	3.9	9,285	5.3
Escort Wag elements C and F Tns Cav Div grouped ¹			4,800	2.7	4,800	2.7
Serv Tns (complete).....	2,725	1.6	2,915	1.7	5,640	3.3
Serv Tns (less 1 Plat each Tr Med Sq).....	2,465	1.4	2,640	1.5	5,105	2.9
Serv Tns (less escort Wag elements).....	2,725	1.6	1,425	.8	4,160	2.4
Escort Wag elements Serv Tns ¹			1,480	.9	1,480	.9
Cav Div QM Tn.....	1,800	1.0	2,355	1.3	4,155	2.3
Cav Div QM Tn (less 1 Wag Co).....	1,800	1.0	995	.6	2,795	1.6
Med Sq.....	575	.3	560	.3	1,135	.6
Med Sq (less 1 Plat each Tr Med Sq).....	330	.2	285	.2	615	.4
Med Sq (less escort Wag elements).....	575	.3	420	.2	995	.6
Escort Wag elements Med Sq ¹			140	.1	140	.1
Ord Co.....	350	.2			350	.2
C, F, & Serv Tns grouped.....	5,270	3.0	9,655	5.6	14,925	8.6
C, F, & Serv Tns (less escort Wag elements) grouped.....	5,270	3.0	3,375	2.0	8,645	5.0
Escort Wag elements C, F & Serv Tns grouped ¹			6,280	3.6	6,280	3.6

¹ Escort wagon elements include all animal-drawn vehicles which have a rate of march similar to the escort wagon rate and can not keep up with the marching columns or the 5-mile rate of march for troops.

14. Table for corps movements (except railway movements).

Unit ^a	T/O ^b	PERSONNEL AND ANIMALS				MARCHING			MOTOR TRANSPORT MOVEMENTS
		Personnel and animals		Motor elements		Road space ^d		Total Miles	
		Number of men and officers	Number of animals	Foot troops and animal elements	Motor columns; trucks, automobiles, motor cycles	Tractor columns; tractor and tractor carriers	Miles		
1 infantry division ^c		22,068	6,827	19.0	14.9	2.0	35.9	11,378	15.5
Inf Brig	21W	6,310	1,021	4.2	.6		4.8	5,223	2.7
Inf Regt	23W	3,106	492	2.0	.3		2.3	2,594	1.3
F.A. Brig	31	5,823	3,621	7.5	6.7	1.5	15.7		7.5

FA Regt, 75-mm gun.....	33	1,609	1,722	3.5	4.4	1.5	2.9	4.0
FA Regt, 155-mm How.....	133	1,882	147	.4	1.3	1.7	3.9	4
Am Tn, FA Brig.....	56	1,440	258	.8	1.5	1.3	1.7	.6
Combat Engr Regt.....	63W	871	150	.4	2.2	2.6	593	.3
Med Regt.....	81W	962	4	.4	1.1	.4	339	.2
Sp Tys.....	3W	868	133	.3	1.1	.4	1.8	.2
QM Regt.....	91W	877	623	1.6	3.2	.03	4.9	1.6
3 infantry divisions.....		66,204	20,481	57.0	44.7	6.0	107.7	46.5
Corps troops.....	101W	23,544	2,048	7.1	49.7	5.2	62.0	5.1
<i>Sp Tys & Det CHQ.</i>	103W	3,386	154	1.0	3.4		4.4	.3
Hq Co & Det.....	104W	493	22	.2	1.1		3	.01
MP Bn.....	105W	648	102	.3	.7		1.0	.2
Sig Bn.....	107W	499		.1	1.0		1.1	
Cons Co.....	109W	223		.05	.4		.4	
Opn Co.....	110W	225		.05	.4		.4	
Ord Co (Hv Maint).....	112W	305			1.0		1.0	
Ord Co (Am).....	113W	170		.4	.2		.3	
F Remt Dep.....	114W	165	30	.2	.03		.2	.1
Serv Bn.....	116W	1,077		.3	.4		.7	
<i>Corps artillery</i>	118W	7,029	30	.03	17.3	4.8	22.1	
Arty Brig.....	131W	6,968	30	.03	17.2	4.8	22.0	
Brig Hq & Hq Btry.....	32	103	30	.03	3	.04	4	
Regt, 155-mm gun (w/F Tns)	140W	1,828			3.5	1.7	5.2	
F Tns Regt, 155-mm gun.....	142W	140			.5		5.5	
Regt, 155-mm How (w/F Tns)	133	1,822			4.4	1.5	5.9	
F Tns Regt, 155-mm how.....	135	115			.5		5.5	
F Tns Corps Arty Brig.....	S & F Bn.....	370			1.5		1.5	
S & F Bn.....	Am Tn, Corps Arty Brig.....	430			1.1	.1	1.2	
Am Tn, Corps Arty Brig.....	Ord Co (Atchd).....	698			3.0		3.0	
Ord Co (Atchd).....	12W	145			.5		.5	
<i>Antiaircraft artillery:</i>	120W	1,942			4.8	.1	4.9	
Regt.....	121W	94			.3		.3	
Hq & Hq Btry.....	122W	103			.4		.4	
Serv Btry.....	123W	873			2.2	.1	2.3	
Gun Bn.....								

See footnotes at end of table.

14. Table for corps movements (except railway movements)—Continued.

Unit	T/O	Number of men and officers	Number of animals	MARCHING			MOTOR TRANSPORT MOVEMENTS
				Miles	Miles	Miles	
24th Div	124	104	104	104	104	104	
11th Div	134	104	104	104	104	104	
13th Div	134	104	104	104	104	104	
14th Div	134	104	104	104	104	104	
15th Div	134	104	104	104	104	104	
16th Div	134	104	104	104	104	104	
17th Div	134	104	104	104	104	104	
18th Div	134	104	104	104	104	104	
19th Div	134	104	104	104	104	104	
20th Div	134	104	104	104	104	104	
21st Div	134	104	104	104	104	104	
22nd Div	134	104	104	104	104	104	
23rd Div	134	104	104	104	104	104	
24th Div	134	104	104	104	104	104	
25th Div	134	104	104	104	104	104	
26th Div	134	104	104	104	104	104	
27th Div	134	104	104	104	104	104	
28th Div	134	104	104	104	104	104	
29th Div	134	104	104	104	104	104	
30th Div	134	104	104	104	104	104	
31st Div	134	104	104	104	104	104	
32nd Div	134	104	104	104	104	104	
33rd Div	134	104	104	104	104	104	
34th Div	134	104	104	104	104	104	
35th Div	134	104	104	104	104	104	
36th Div	134	104	104	104	104	104	
37th Div	134	104	104	104	104	104	
38th Div	134	104	104	104	104	104	
39th Div	134	104	104	104	104	104	
40th Div	134	104	104	104	104	104	
41st Div	134	104	104	104	104	104	
42nd Div	134	104	104	104	104	104	
43rd Div	134	104	104	104	104	104	
44th Div	134	104	104	104	104	104	
45th Div	134	104	104	104	104	104	
46th Div	134	104	104	104	104	104	
47th Div	134	104	104	104	104	104	
48th Div	134	104	104	104	104	104	
49th Div	134	104	104	104	104	104	
50th Div	134	104	104	104	104	104	
51st Div	134	104	104	104	104	104	
52nd Div	134	104	104	104	104	104	
53rd Div	134	104	104	104	104	104	
54th Div	134	104	104	104	104	104	
55th Div	134	104	104	104	104	104	
56th Div	134	104	104	104	104	104	
57th Div	134	104	104	104	104	104	
58th Div	134	104	104	104	104	104	
59th Div	134	104	104	104	104	104	
60th Div	134	104	104	104	104	104	
61st Div	134	104	104	104	104	104	
62nd Div	134	104	104	104	104	104	
63rd Div	134	104	104	104	104	104	
64th Div	134	104	104	104	104	104	
65th Div	134	104	104	104	104	104	
66th Div	134	104	104	104	104	104	
67th Div	134	104	104	104	104	104	
68th Div	134	104	104	104	104	104	
69th Div	134	104	104	104	104	104	
70th Div	134	104	104	104	104	104	
71st Div	134	104	104	104	104	104	
72nd Div	134	104	104	104	104	104	
73rd Div	134	104	104	104	104	104	
74th Div	134	104	104	104	104	104	
75th Div	134	104	104	104	104	104	
76th Div	134	104	104	104	104	104	
77th Div	134	104	104	104	104	104	
78th Div	134	104	104	104	104	104	
79th Div	134	104	104	104	104	104	
80th Div	134	104	104	104	104	104	
81st Div	134	104	104	104	104	104	
82nd Div	134	104	104	104	104	104	
83rd Div	134	104	104	104	104	104	
84th Div	134	104	104	104	104	104	
85th Div	134	104	104	104	104	104	
86th Div	134	104	104	104	104	104	
87th Div	134	104	104	104	104	104	
88th Div	134	104	104	104	104	104	
89th Div	134	104	104	104	104	104	
90th Div	134	104	104	104	104	104	
91st Div	134	104	104	104	104	104	
92nd Div	134	104	104	104	104	104	
93rd Div	134	104	104	104	104	104	
94th Div	134	104	104	104	104	104	
95th Div	134	104	104	104	104	104	
96th Div	134	104	104	104	104	104	
97th Div	134	104	104	104	104	104	
98th Div	134	104	104	104	104	104	
99th Div	134	104	104	104	104	104	
100th Div	134	104	104	104	104	104	

Antiaircraft artillery—Continued.
 Bn Hq & Hq Btry & C Tn (gun)
 Sit Btry
 Sit Plat

14. Table for corps movements (except railway movements)—Continued.

Unit ^a	T/O ^b	PERSONNEL AND ANIMALS				MARCHING				MOTOR TRANSPORT MOVEMENTS	
		Personnel and animals ^c		Road space ^d		Motor elements		Road space ^d			Foot troops and animal elements (for motor elements see preceding columns)
		Number of men and officers	Number of animals	Miles	Miles	Foot troops and animal elements	Tractor columns, trucks, tractor automobiles, and motor cycles	Miles	Miles		
Number of men and officers	Number of animals	Miles	Miles	Miles	Miles	Miles	Miles	Number of men	Re-mainder of foot troops and animal elements marching		
196B Co	169 M										
196B Co (7th)	308-1 M										
246 Bn	168 M										
163 Bn	163 M										
163 Bn	163 M										
167 Bn	167 M										
Corps quartermaster service:											
Corps QM Tn	191 W	3,246	1,244	3.3	15.7	0.2	19.2				
Hq & Comd	191 W	30			1		1			3.3	
Total motor transport	191 W	2,470			15.6	.2	15.8				

16. Table for field army movements (except railway movements).

	MARCHING				MOTOR TRANSPORT MOVEMENTS	
	Road space ^d				Foot troops and animal elements (for motor elements see preceding columns)	Re-mainder of foot troops and animal elements marching
	Motor elements		Total			
	Foot troops and animal elements	Motor columns; trucks, automobiles, motor cycles	Tractors; tractors and tractor carriers	Miles	Men carried in trucks * and animal elements	Number of men
	Personnel and animals ^e					
	Number of men and officers	Number of animals	Miles	Miles		
	269, 244	67, 587	192.3	283.2	33.6	509.1
3 corps (3 Divs each).....	101W					121, 638
Army troops (total).....	201W		39.5	88.1	6.9	25, 489
<i>I cavalry division</i>	401W	9, 592	13.9	5.8	.03	13.9
Cav Brig.....	421W	2, 972	4.0	.5		4.0
Cav Regt.....	423W	1, 442	2.0	.2		2.0
Regt, 75-mm gun (horse).....	433W	1, 717	3.9	.2		3.9
Bn, 75-mm gun (horse).....	436W	760	1.8	.05		1.8

Sq. CE.....	466W	411	136	.1	.7				.1
Arm'd-C Sq.....	413W	278			1.0				1.0
Med Sq.....	489W	233	223	.3	.3				.3
SP Trs.....	403W	500	248	.2	1.6				1.8
Div Tn Cav Div.....	401W	420	572	1.3	1.0		.03		2.4
2 cavalry divisions.....	401W	19,184	21,766	27.8	11.7		.06		39.6
<i>Special troops and Det AHQ.</i>									
MP Bn.....	203W	11,127	296	3.3	4.7				8.0
Serv Bn.....	205W	805	167	.4	.8				1.2
F Rem Dep.....	116W	1,077		.3	.4				.7
Cml Dep Co.....	214W	1,549	80	.4	.05				.4
Cml Maint Co.....	215	131		.04	.03				.07
Cml F Lab'.....	216	124		.03	.2				.2
	217	71		.02	.1				.1
<i>Army signal service.</i>									
Hq.....	207W	1,844		.4	4.9				5.3
Sig Bn.....	208W	176		.03	.4				.4
Met Co.....	107W	499		.1	1.0				1.1
Photo Co.....	209W	76		.02	.1				.1
Pig Co.....	206W	106		.02	.5				.5
Rad Int Co.....	210W	275			1.5				1.5
	211W	213		.1	.2				.3
<i>Army ordnance.</i>									
Hq.....	212W	1,219		.3	1.4				1.7
Hq Co.....	212W	13							.13
Am Co.....	711W	41		.1					.41
Dep Co.....	113W	170		.04	.2				.2
Medium Maint Co.....	213W	170		.03	.2				.2
	12W	145			.5				.5
<i>Army artillery.</i>									
Hq.....	254W	988			4.0				4.0
Am Tn.....	255W	169		.4	.4				.4
Am Btry (Trk).....	256	819			3.6				3.6
	38	121			.5				.5

See footnotes at end of table.

15. Table for field army movements (except railway movements)—Continued.

Unit ^a	T/O ^b	MARCHING						MOTOR TRANSPORT MOVEMENTS		
		Road space ^d						Foot troops and animal elements (for motor elements see preceding columns)	Men carried in trucks ^e	Re-mainder of foot troops and animal elements marching
		Motor elements		Total		Miles	Road space, miles			
		Foot troops and animal elements	Motor col-unims; trucks; auto-mo-biles, tractor motor cycles	Trac-tor col-unims; tractor and tractor carriers	Total					
Personnel and animals ^c		Miles		Miles		Number of men and officers	Number of animals			
Brig AAA	221 W	5,922	14.6	0.3	14.9					
Brig Hq & Hq Btry	222 W	96	.3		.3					
Regt.	120 W	1,942	4.8	.1	4.9					
Army engineer service	261 W	13,681	4.4	5.8	26.0	9,484	1.5			
Hq.	262	133	.02	.2	.3	65				
Gen Serv Regt.	163 W	1,208	.8	.9	1.7	910	.5			

Sep Bn.....	166W	1,095	.3	.7	.1	1.1	1.1	147	
Casin Bn.....	268W	363	.04	.2	.2	.2	.2	146	
Dep Co.....	169W	164	.04	.9	.9	.9	.9		
Dp Trk Co.....	267W	154		.7	.7	2.1	2.8		
Hv Pon Bn (motor)	266-4W	448		.3	.3	.8	1.1		
Lt Pon Co (motor)	266-8W	164	.04	.03	.03		1.1	160	
Shop Co.....	669W	164	.1	.1	1.0		1.1	398	
Top Bn.....	263	598		3.5	3.5		3.5		
Water Sup Bn.....	264W	687							
<i>Army aviation.</i>									
Hq.....	271	2,220	.6	2.5	2.5	.4	2.9	\$ 1,560	
Army Obsn Gp.....		129	.01	.3	.3		.3	\$ 83	
Adrm Sq.....	273	1,043	.2	1.4	1.4	.08	1.4	\$ 663	
		252	.1	.2	.2	.1	.3	\$ 211	
<i>Army medical service.</i>									
Med Regt.....	281W	11,567	2.1	11.9	11.9		14.0	\$ 6,841	
Evac Hosp.....	81W	943	.4	2.2	2.2		2.6	\$ 509	
Surgl Hosp.....	283W	400	.1	.1	.1		.1	\$ 357	
Conv Hosp.....	284W	150	.1	.1	.1		.1	\$ 133	
Med Lab.....	285W	201	.05	.2	.2		.2	\$ 178	
Med Sup Dep.....	286W	40	.01	.1	.1		.1	\$ 25	
Vet Evac Hosp.....	287W	230	.1	.1	.1		.1	\$ 213	
Vet Conv Hosp.....	288W	230	.1	.1	.1		.2	\$ 183	
	289W	250	.2	.05	.05		.2	\$ 213	
<i>Army quartermaster service.</i>									
Q.M. Tn.....	291W	6,945	1.2	16.6	16.6	.3	18.1	4,368	
Hq & Comd.....	291W	30		.1	.1		.1		
MT (total).....	291W	6,915	1.2	16.5	16.5	.3	18.0	4,368	
Co, 1½-ton or 3-ton trucks.....	291W	80		.5	.5		.5		
Co Pass cars.....	291W	80		1.0	1.0		1.0		
Mtcl Co.....	291W	56		.4	.4		.4		
M Rep Sec.....	291W	36		.2	.2		.2		

See footnotes at end of table.

15. Table for field army movements (except railway movements)—Continued.

Unit ^a	T/O ^b	Personnel and animals ^c			MARCHING				MOTOR TRANSPORT MOVEMENTS	
		Number of men and officers	Number of animals	Road space ^d		Miles	Miles	Miles	Number of men	Foot troops and animal elements (for motor elements see preceding columns)
				Motor elements	Tractor elements					
1st Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
2d Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
3d Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
4th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
5th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
6th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
7th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
8th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
9th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
10th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
11th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
12th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
13th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
14th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
15th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
16th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
17th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
18th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
19th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
20th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
21st Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
22nd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
23rd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
24th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
25th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
26th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
27th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
28th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
29th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
30th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
31st Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
32nd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
33rd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
34th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
35th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
36th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
37th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
38th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
39th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
40th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
41st Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
42nd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
43rd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
44th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
45th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
46th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
47th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
48th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
49th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
50th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
51st Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
52nd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
53rd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
54th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
55th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
56th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
57th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
58th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
59th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
60th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
61st Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
62nd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
63rd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
64th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
65th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
66th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
67th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
68th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
69th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
70th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
71st Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
72nd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
73rd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
74th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
75th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
76th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
77th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
78th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
79th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
80th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
81st Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
82nd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
83rd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
84th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
85th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
86th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
87th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
88th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
89th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
90th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
91st Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
92nd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
93rd Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
94th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
95th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
96th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
97th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
98th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
99th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
100th Corps Hqs	331 A	280	30	3	3	3	3	3	3	3
Army quartermaster service—Continued.										
M Rep Bn	294 W	1,201		0.3	0.9	0.1			1,092	
Serv Bn (see Sp Trs)										
F Bmt Dep (see Sp Trs)										
Field army (total army troops and 3 corps of 3 divisions each)	201 W	344,069	91,026	231.8	371.3	40.5	643.6	147,127	186.2	

- Data are given for principal units only. See par. 6 for organization of field army and component units.
- Based on Tables of Organization in effect July 1, 1930 (modified in minor respects prior to July 2, 1931, for units other than infantry and artillery, and prior to Sept. 3, 1931, for artillery units).
- Figures for personnel and animals should be used only as a guide; exact figures when needed should in all cases be obtained from current Tables of Organization.
- d To nearest tenth of a mile, except when road space is extremely small, in which case data are given to nearest hundredth of a mile.
- When foot elements are moved by motor transport.
- f When movements of the chemical laboratory become necessary, they will be effected by calling for 3 trucks, cargo, medium, from nearest motor transport pool.
- Not included in totals. These men usually move in transportation belonging to the unit. Figures are given when this method is impracticable.
 - b 48 extra trucks (3-ton) required to move equipment of the unit.
 - i 17 extra trucks (3-ton) required to move equipment of the unit.
 - l 11 extra trucks (3-ton) required to move equipment of the unit.
 - r 38 extra trucks (3-ton) required to move equipment of the unit.

16. Table for movements of certain GHQ reserve units (except railway movements).

Unit ^a	T/O ^b	MARCHING			Motor TRANS- PORT MOVE- MENTS				
		Road space ^d							
		Foot troops and animal elements	Motor elements	Total					
		Personnel and animals ^e	Motor troops and animal elements	Tractor columns; trucks, tractor automobiles, and tractor carriers	Foot troops and animal elements (for motor elements see preceding columns)	Re-mainder of foot troops and animal elements marching	Men carried in trucks*	Number of men	Road space, miles
		Number of men and officers	Miles	Miles	Miles	Miles			
		30	0.03	4.7	5.0	9.7			
		3,850	0.03	4.7	5.0	9.7			
		1,249	0.03	1.5	1.6	3.1			
		2,857	0.03	8.1	8.1	8.1			
		517½ W							
		518 W							
		522 W							
Artillery:									
Brig., 75-mm (Mts)									
Brig., 75-mm (Mts)									
Brig., 75-mm (portable)									

Regt, 75-mm (portéc)	523W	918	2,039	3.2	2.6	2.6	3.2
Regt, 75-mm (pack)	533W	595			3.2	3.2	
Regt, 155-mm or 6" guns	140W	1,828			3.5	3.2	3.2
Regt, 240-mm (how)	529W	2,481			5.6	1.7	
Regt, T.M.	543W	1,530			2.3	3.8	
Brig Hq & Hq Btry, AA	222W	96			3		
Regt, AA	120W	1,942			4.8	.1	
Slt Btry AA	125W	254			.6		
Engineers:							
Engr Hq, GHQ	562W	90		.01	.1	48	
Gen Serv Regt.	163W	1,208	205	.8	.9	910	.5
Sep Bn.	166W	1,095		.3	.7	973	
Cam Bn, GHQ	568W	410		.1	.7	268	
Cam Co, GHQ	568-2W	153		.03	.3	78	
Shop Co, Cam Bn, GHQ	568-3W	196		.05	.2	161	
Dp Tk Co.	267W	154			.9		
Hv Pon Bn (Mtz)	266-4W	448			.7		
L Pon Co (Mtz)	266-8W	164			.3		
L Pon Co (Anl)	266-7W	164	264	.7	.02		.7
Ry Bn.	563W	659			.03	171	
Ry shop Co.	668W	180		.1	.1	498	
Top Bn, GHQ	263	643			3.5		
W Sup Bn.	264W	687					
Tanks:							
Hv Tk Regt.	509W	3,062			4.2	6.6	
Hv Tk Bn.	511W	927			1.1	1.9	
Hv Tk Co.	513W	269			.2	.5	
L Tk Regt.	509½W	1,887			3.4	7.1	
L Tk Bn.	514W	534			.6	1.8	
L Tk Co.	516W	145			.1	.4	
Chemical warfare:							
Hq & Hq Co, GHQ	596.1	86		.02	.1	44	
Cml Regt (Mtz) †	597	2,321		1.3	3.1	1,437	
Cml Bn (Mtz) †	597-3	(2,321)		.4	(5.4)	452	
		683			.8		
		(683)			(1.6)		

See footnotes at end of table.

	599-1	701	59	1.2	1.7	1.7	3.7	105	2
Sep Cml Bn (Mtz)	571	201		€ .03	.3		.3	€ 125	
Sep Cml Co (Am)	573	187		€ .01	.2		.2	€ 14	
Sep Cml Co (Mtz)	599-5	172		€ .2	.3		.3	€ 700	
Air Corps:				€ .05				€ 180	
Hq, Air Div	575	198		€ .03	.4		.4	€ 87	
Hq, Wg	577	243		€ .05	.4		.4	€ 130	
Atk Gp	577	175		€ .02	.5		.5	€ 104	
Hq & Hq Sq	576	194		€ .04	.4		.4	€ 750	
Serv Sq ^a	576	211		€ .03	.3		.3	€ 214	
Serv Sq ^b	576	1,218		€ .3	1.8		1.9	€ 78	
Atk Sq ⁱ				€ .1	1.1		1.1	€ 134	
Bomb Gp	580	241		€ .1	1.6		1.6	€ 107	
Hq & Hq Sq	582	253		€ .2	1.5		1.5	€ 695	
Serv Sq ^a	582	181		€ .02	.4		.4	€ 187	
Serv Sq ^b	581	181		€ .04	.4		.4	€ 86	
Bomb Sq	581	181		€ .03	.3		.3	€ 127	
Bomb Sq ⁱ	581	199		€ .2	1.5		1.5	€ 99	
Pur Gp	585	1,085		€ .05	.4		.4	€ 569	
Hq & Hq Sq	585	200		€ .05	.4		.4	€ 209	
Serv Sq ^a	587	233		€ .03	.3		.3	€ 84	
Serv Sq ^b	587	169		€ .02	.3		.3	€ 90	
Serv Sq ⁱ	586	163		€ .04	.4		.4	€ 71	
Pur Sq	586	179		€ .03	.3		.3	€ 80	
Pur Sq ⁱ	586	853		€ .1	1.5		1.5	€ 129	
Ash Gp	589	221		€ .1	1.1		1.0	€ 242	
Hq & Hq Sq	591	208		€ .02	.2		.2	€ 80	
Serv Sq ^a	591	168		€ .02	.4		.4	€ 84	
Serv Sq ^b	590	106		€ .02	.1		.1	€ 90	
Ash Sq	590	116		€ .02	.2		.2	€ 71	
Ash Sq ⁱ				€ .02	.2		.2	€ 84	
Air Dep	592	119		€ .02	.2		.2	€ 80	
Hq & Hq Sq	593	204		€ .04	.3		.3	€ 129	
Sup Sq	594	279		€ .1	.2		.2	€ 242	
Rep Sq				€ .1	.2		.2	€ 84	
Signal:				€ .5	3.1		3.6	€ 1,298	
Sig Serv, GHQ	507W	1,798		€ .1	.8		.9	€ 235	
Hq, GHQ Sig Serv	508W	412		€ .05	.4		.4	€ 106	
Opn Co	110W	225							

See footnotes at end of table.

16. Table for movements of certain GHQ reserve units (except railway movements)—Con.

Unit	T/O	Personnel and animals		MARCHING		MOTOR TRANSPORT MOVEMENTS	
		Number of men and officers	Number of animals	Miles	Miles		Miles
14th Inf	200 W	415	1	1	0	0	
15th Inf	211 W	256	2	2	3	3	
16th Inf	200 W	250	1	1	3	3	
17th Inf	200 W	250	1	1	3	3	
18th Inf	200 W	250	1	1	3	3	
19th Inf	200 W	250	1	1	3	3	
20th Inf	200 W	250	1	1	3	3	
21st Inf	200 W	250	1	1	3	3	
22nd Inf	200 W	250	1	1	3	3	
23rd Inf	200 W	250	1	1	3	3	
24th Inf	200 W	250	1	1	3	3	
25th Inf	200 W	250	1	1	3	3	
26th Inf	200 W	250	1	1	3	3	
27th Inf	200 W	250	1	1	3	3	
28th Inf	200 W	250	1	1	3	3	
29th Inf	200 W	250	1	1	3	3	
30th Inf	200 W	250	1	1	3	3	
31st Inf	200 W	250	1	1	3	3	
32nd Inf	200 W	250	1	1	3	3	
33rd Inf	200 W	250	1	1	3	3	
34th Inf	200 W	250	1	1	3	3	
35th Inf	200 W	250	1	1	3	3	
36th Inf	200 W	250	1	1	3	3	
37th Inf	200 W	250	1	1	3	3	
38th Inf	200 W	250	1	1	3	3	
39th Inf	200 W	250	1	1	3	3	
40th Inf	200 W	250	1	1	3	3	
41st Inf	200 W	250	1	1	3	3	
42nd Inf	200 W	250	1	1	3	3	
43rd Inf	200 W	250	1	1	3	3	
44th Inf	200 W	250	1	1	3	3	
45th Inf	200 W	250	1	1	3	3	
46th Inf	200 W	250	1	1	3	3	
47th Inf	200 W	250	1	1	3	3	
48th Inf	200 W	250	1	1	3	3	
49th Inf	200 W	250	1	1	3	3	
50th Inf	200 W	250	1	1	3	3	
51st Inf	200 W	250	1	1	3	3	
52nd Inf	200 W	250	1	1	3	3	
53rd Inf	200 W	250	1	1	3	3	
54th Inf	200 W	250	1	1	3	3	
55th Inf	200 W	250	1	1	3	3	
56th Inf	200 W	250	1	1	3	3	
57th Inf	200 W	250	1	1	3	3	
58th Inf	200 W	250	1	1	3	3	
59th Inf	200 W	250	1	1	3	3	
60th Inf	200 W	250	1	1	3	3	
61st Inf	200 W	250	1	1	3	3	
62nd Inf	200 W	250	1	1	3	3	
63rd Inf	200 W	250	1	1	3	3	
64th Inf	200 W	250	1	1	3	3	
65th Inf	200 W	250	1	1	3	3	
66th Inf	200 W	250	1	1	3	3	
67th Inf	200 W	250	1	1	3	3	
68th Inf	200 W	250	1	1	3	3	
69th Inf	200 W	250	1	1	3	3	
70th Inf	200 W	250	1	1	3	3	
71st Inf	200 W	250	1	1	3	3	
72nd Inf	200 W	250	1	1	3	3	
73rd Inf	200 W	250	1	1	3	3	
74th Inf	200 W	250	1	1	3	3	
75th Inf	200 W	250	1	1	3	3	
76th Inf	200 W	250	1	1	3	3	
77th Inf	200 W	250	1	1	3	3	
78th Inf	200 W	250	1	1	3	3	
79th Inf	200 W	250	1	1	3	3	
80th Inf	200 W	250	1	1	3	3	
81st Inf	200 W	250	1	1	3	3	
82nd Inf	200 W	250	1	1	3	3	
83rd Inf	200 W	250	1	1	3	3	
84th Inf	200 W	250	1	1	3	3	
85th Inf	200 W	250	1	1	3	3	
86th Inf	200 W	250	1	1	3	3	
87th Inf	200 W	250	1	1	3	3	
88th Inf	200 W	250	1	1	3	3	
89th Inf	200 W	250	1	1	3	3	
90th Inf	200 W	250	1	1	3	3	
91st Inf	200 W	250	1	1	3	3	
92nd Inf	200 W	250	1	1	3	3	
93rd Inf	200 W	250	1	1	3	3	
94th Inf	200 W	250	1	1	3	3	
95th Inf	200 W	250	1	1	3	3	
96th Inf	200 W	250	1	1	3	3	
97th Inf	200 W	250	1	1	3	3	
98th Inf	200 W	250	1	1	3	3	
99th Inf	200 W	250	1	1	3	3	
100th Inf	200 W	250	1	1	3	3	
101st Inf	200 W	250	1	1	3	3	
102nd Inf	200 W	250	1	1	3	3	
103rd Inf	200 W	250	1	1	3	3	
104th Inf	200 W	250	1	1	3	3	
105th Inf	200 W	250	1	1	3	3	
106th Inf	200 W	250	1	1	3	3	
107th Inf	200 W	250	1	1	3	3	
108th Inf	200 W	250	1	1	3	3	
109th Inf	200 W	250	1	1	3	3	
110th Inf	200 W	250	1	1	3	3	
111th Inf	200 W	250	1	1	3	3	
112th Inf	200 W	250	1	1	3	3	
113th Inf	200 W	250	1	1	3	3	
114th Inf	200 W	250	1	1	3	3	
115th Inf	200 W	250	1	1	3	3	
116th Inf	200 W	250	1	1	3	3	
117th Inf	200 W	250	1	1	3	3	
118th Inf	200 W	250	1	1	3	3	
119th Inf	200 W	250	1	1	3	3	
120th Inf	200 W	250	1	1	3	3	
121st Inf	200 W	250	1	1	3	3	
122nd Inf	200 W	250	1	1	3	3	
123rd Inf	200 W	250	1	1	3	3	
124th Inf	200 W	250	1	1	3	3	
125th Inf	200 W	250	1	1	3	3	
126th Inf	200 W	250	1	1	3	3	
127th Inf	200 W	250	1	1	3	3	
128th Inf	200 W	250	1	1	3	3	
129th Inf	200 W	250	1	1	3	3	
130th Inf	200 W	250	1	1	3	3	
131st Inf	200 W	250	1	1	3	3	
132nd Inf	200 W	250	1	1	3	3	
133rd Inf	200 W	250	1	1	3	3	
134th Inf	200 W	250	1	1	3	3	
135th Inf	200 W	250	1	1	3	3	
136th Inf	200 W	250	1	1	3	3	
137th Inf	200 W	250	1	1	3	3	
138th Inf	200 W	250	1	1	3	3	
139th Inf	200 W	250	1	1	3	3	
140th Inf	200 W	250	1	1	3	3	
141st Inf	200 W	250	1	1	3	3	
142nd Inf	200 W	250	1	1	3	3	
143rd Inf	200 W	250	1	1	3	3	
144th Inf	200 W	250	1	1	3	3	
145th Inf	200 W	250	1	1	3	3	
146th Inf	200 W	250	1	1	3	3	
147th Inf	200 W	250	1	1	3	3	
148th Inf	200 W	250	1	1	3	3	
149th Inf	200 W	250	1	1	3	3	
150th Inf	200 W	250	1	1	3	3	
151st Inf	200 W	250	1	1	3	3	
152nd Inf	200 W	250	1	1	3	3	
153rd Inf	200 W	250	1	1	3	3	
154th Inf	200 W	250	1	1	3	3	
155th Inf	200 W	250	1	1	3	3	
156th Inf	200 W	250	1	1	3	3	
157th Inf	200 W	250	1	1	3	3	
158th Inf	200 W	250	1	1	3	3	
159th Inf	200 W	250	1	1	3	3	
160th Inf	200 W	250	1	1	3	3	
161st Inf	200 W	250	1	1	3	3	
162nd Inf	200 W	250	1	1	3	3	
163rd Inf	200 W	250	1	1	3	3	
164th Inf	200 W	250	1	1	3	3	
165th Inf	200 W	250	1	1	3	3	
166th Inf	200 W	250	1	1	3	3	
167th Inf	200 W	250	1	1	3	3	
168th Inf	200 W	250	1	1	3	3	
169th Inf	200 W	250	1	1	3	3	
170th Inf	200 W	250	1	1	3	3	
171st Inf	200 W	250	1	1	3	3	
172nd Inf	200 W	250	1	1	3	3	
173rd Inf	200 W	250	1	1	3	3	
174th Inf	200 W	250	1	1	3	3	
175th Inf	200 W	250	1	1	3	3	
176th Inf	200 W	250	1	1	3	3	
177th Inf	200 W	250	1	1	3	3	
178th Inf	200 W	250	1	1	3	3	
179th Inf	200 W	250	1	1	3	3	
180th Inf	200 W	250	1	1	3	3	
181st Inf	200 W	250	1	1	3	3	
182nd Inf	200 W	250	1	1	3	3	
183rd Inf	200 W	250	1	1	3	3	
184th Inf	200 W	250	1	1	3	3	
185th Inf	200 W	250	1	1	3	3	
186th Inf	200 W	250	1	1	3	3	
187th Inf	200 W	250	1	1	3	3	
188th Inf	200 W	250	1	1	3	3	
189th Inf	200 W	250	1	1	3	3	
190th Inf	200 W	250	1	1	3	3	
191st Inf	200 W	250	1	1	3	3	
192nd Inf	200 W	250	1	1	3	3	
193rd Inf	200 W	250	1	1	3	3	
194th Inf	200 W	250	1	1	3	3	
195th Inf	200 W	250	1	1	3	3	
196th Inf	200 W	250	1	1	3	3	
197th Inf	200 W	250	1	1	3	3	
198th Inf	200 W	250	1	1	3	3	
199th Inf	200 W	250	1	1	3	3	
200th Inf	200 W						

Photo Lab.	612W	.1	.1	.1	.2	142
Sig Tr Cav Corps.	448W	.7	.7	.7	.7	52
Quartermaster:						
GRU 1	32	.08	.08	.08	.08	17
Bkry Co 1 ^m	88					88
Salv Co	30	.04	.04	.04	.04	24
C & BU a 1	22	.01	.01	.01	.01	20
Sales Com U ⁿ	19	.15	.15	.15	.15	15
Laundry Co a 1	38	.04	.04	.04	.04	26
Sup Co o	255					255
Rhd Co o	104	.03	.03	.03	.03	98
Ordnance p						
Medical p						

^a Data are given for principal units only. See paragraph 7 for organization of units in GHQ reserve most frequently attached to field armies, army corps, and divisions.

^b Based on Tables of Organization in effect July 1, 1930 (modified in minor respects prior to July 2, 1931, for units other than infantry and artillery, and prior to Sept. 3, 1931, for artillery units).

^c Figures for personnel and animals should be used only as a guide; exact figures when needed should in all cases be obtained from current Tables of Organization.

^d To nearest tenth of a mile, except when road space is extremely small in which case data are given to nearest hundredth of a mile. When foot elements are moved by motor transport.

^e Figures in first line apply to near movements; those in parentheses in second line to distant movements by motor transport when additional motor transportation is furnished.

^f Not included in totals. Moves by echelon on transportation belonging to the unit. Figures are given for use when this method is impracticable.

^g No transportation detached.

^h Less transportation furnished four detached squadrons.

ⁱ Detached squadron. Additional transportation furnished from service squadron.

^j Each air depot consists of one headquarters and headquarters squadron (T/O 592) and/or one or more supply squadrons (T/O 593) and/or one or more repair squadrons (T/O 594).

^k Organized in ratio of 16 per field army.

^l 17 wagons, escort, 4-mule, required to transport equipment.

^m Variable amount of transport required for equipment.

ⁿ 3 platoons each.

^p For types of units see par. 15.

SECTION III
RATES AND LENGTHS OF MARCHES

17. Rates and lengths of marches.—(The rate of march of a column composed of elements with different rates of march is regulated by that of the slowest elements.)

Unit	Rates of march (miles per hour)		Lengths of march (average)	Remarks
	Across country			
	Day	Night		
Horse-drawn artillery	3½	3	12 for a division; 15 for smaller columns.	Length of march increased with well-seasoned troops marching on good roads in favorable weather when required by the tactical situation.
Pack artillery	3½	3	15 to 25	Under favorable conditions these rates may be increased.
Cavalry division	5	4	15 to 25	Under favorable conditions the length of march may be increased.
Horse artillery	Same as cavalry division.			Under conditions requiring maneuver these rates may be increased.
Engineer squadron	Same as cavalry division.			Motorized elements same as division service trains (motorized).

	3½	3	1½	1	15 to 25	May cover 30 miles a day for short periods.
Animal-drawn service and field trains (less spring wagons), infantry and cavalry divisions.						
Spring wagons	Same as cavalry division.					
Pack transportation with the cavalry division.	Same as cavalry division.					
Motor transport when used in convoy for cargo and troop movements.	8	{ 6 (lights) 5 (no lights)			80 to 100	May cover 30 miles a day for short periods.
Antiaircraft artillery	12	{ 9 (lights) 5 (no lights)			80 to 100	Machine-gun elements may travel at the rate of 20 miles per hour for short distances on good roads during daylight.
Heavy trucks (over 3-ton)	12	{ 9 (lights) 5 (no lights)			80 to 100	
Light and medium trucks (to include 3-ton) and ambulances.	14	{ 12 (lights) 10 (no lights)			140	
Medium and heavy passenger cars and motor cycles.	20	{ 15 (lights) 10 (no lights)				
Light passenger cars (cross-country).	20	{ 15 (lights) 10 (no lights)	10			
Armored cars	20	{ 15 (lights) 10 (no lights)				
Light tank company, tanks under their own power in columns.	3½	3	2	1		Normally transported on trucks. Moved across country for short distances only.

RATES AND LENGTHS OF MARCHES—Continued

Unit	Rates of march (miles per hour)				Lengths of march (average)	Remarks
	On roads		Across country			
	Day	Night	Day	Night		
Heavy tank company, tanks under their own power.	3½	3	2	1	On roads (miles per day)	Normally transported by rail. For short distances can move at the rate of 5 miles per hour on good roads during daylight.
Tractor-drawn artillery (tractor elements).	3½	3	3	2	25 to 35	All tractor columns move at same rate. Distance marched will depend largely upon condition of matériel.
Chemical regiment	Same as infantry division for near movements; same as light and medium trucks for distant movements.					Animal-drawn elements same as division service trains (animal).

SECTION IV

CAMP AND BIVOUAC AREAS

18. Semipermanent camps.—*a.* Tactical and terrain conditions will largely determine the actual dimensions of sites for semipermanent camps. Whenever possible, areas should be selected for semipermanent camps which will permit such camps being so arranged as to provide for the comfort and convenience of the command.

b. There are many possible arrangements of facilities in a semipermanent camp. A typical arrangement of such a camp, arranged from head to rear, which has proven satisfactory is as follows:

(1) Line of officers' latrines.

(2) Successive lines of officers' tents with field officers' and company, troop, or battery officers' tents in separate lines. In cases of regimental camps, the regimental commander and his staff officers occupy the first line of officers' tents with battalion officers in the next line and company or similar unit officers in the third line. Regimental, battalion, and similar headquarters are so located as to be convenient to the tents of the regimental and battalion commanders. Officers' mess or messes, hospital and guard tents, and tents of medical detachments are generally placed on one or both flanks of the lines of officers' tents.

(3) Line of kitchens parallel to line of officers' tents.

(4) Company, troop, or battery streets with the tents of each organization arranged in two lines perpendicular to line of kitchens.

(5) Line of enlisted men's latrines arranged parallel to the line of kitchens.

(6) Gun, tractor, and vehicle parks, picket lines, etc., located below the line of enlisted men's latrines.

c. Whenever possible, computations of areas for semipermanent camps should be based upon the following:

(1) The use of large pyramidal tents for enlisted men at rate of 8 men per tent.

(2) The use of small wall tents for officers.

(3) A distance of approximately 25 yards between line of company, troop, or battery officers' tents and line of kitchens.

(4) A distance of approximately 25 yards between the line of kitchens and heads of company, troop, or battery streets.

(5) A distance of approximately 50 yards between ends of company, troop, or battery streets and the line of enlisted men's latrines.

(6) A distance of 8 yards between centers of adjacent pyramidal tents.

(7) A width of 20 yards for company, troop, or battery streets between centers of tents on opposite sides of street.

(8) One yard per animal on picket line.

(9) A width of 10 yards per vehicle.

(10) A distance of 20 yards between adjacent picket lines, rows of guns, or vehicles in park.

19. Bivouac areas.—*a.* The following table is provided to serve as a general guide in the selection of bivouac areas. The areas given represent the minimum requirements under favorable conditions of terrain, and these areas should be increased whenever practicable, particularly for sanitary reasons and where the camp is to be occupied for more than one night.

Unit	Dimensions (yards)		Area in acres
	Depth	Breadth	
Division headquarters and special troops.....	110	275	6.3
Infantry brigade headquarters and headquarters company.....	170	20	.7
Infantry regiment.....	170	285	10.0
Infantry brigade.....	170	600	21.0
Headquarters and headquarters battery, field artillery brigade.....	213	50	2.2
Field artillery regiment (75-mm gun).....	260	990	53.2
Field artillery regiment (155-mm how.).....	260	880	47.3
Field artillery brigade ammunition train.....	240	230	11.4
Field artillery brigade.....			167.2
Combat regiment, Corps of Engineers.....	170	100	3.5
Medical regiment.....	170	240	8.5
Quartermaster regiment, infantry division.....	140	340	9.8
Total for a division.....			237.3
Cavalry regiment.....	190	255	10.0

b. (1) The computed areas are based on—

(a) *For organizations other than field artillery*—

1. The use of single shelter tents, in one row, with 10 yards distance between rows, center to center.
2. A distance of 12 yards between adjacent picket lines, except when picket lines are formed between vehicles.

3. A distance of 20 yards, center to center, between rows of guns and vehicles.
4. The parking of tractors limbered to their loads with a distance of 5 yards, center to center, between adjacent tractors.
5. One yard per animal on picket line and a width of 10 feet per vehicle.

(b) *For field artillery organizations—*

1. The use of single shelter tents in two rows for each section with a distance of 5 yards between rows of tents in each section.
2. A frontage of 4 yards per shelter tent including interval.
3. A uniform distance of 17 yards between sections in horse-drawn units.
4. A uniform distance of 5 yards between vehicles in tractor-drawn units.
5. A distance of 17 yards in horse-drawn units, and 15 yards in tractor-drawn units, between rows of vehicles.
6. The parking of tractors unlimbered from their loads.
7. A width of two yards per vehicle.
8. Picket lines in horse-drawn units fastened to wheels of guns and caissons.

(2) Areas are computed on basis of war-strength organization.

(3) The number of acres in a rectangular tract equals the product of one-seventieth of the length in yards by one-seventieth of the breadth in yards. One acre equals 4,840 square yards.



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