

ARMY OFFICER'S
NOTEBOOK



U. S. A.



PROPERTY OF
THE ARMY
OFFICE OF THE
SPECIAL AGENT
GENERAL INVESTIGATIVE
DIVISION

OFFICER'S RECORD OF LEAVE GRANTED

Name STANLEY DETTMER Grade LT. COL.
 Serial Number 0-265252 Arm or Service INF (NG)

| Effective Date | No of Days | SO No. | Date | Authority Organization and Station |
|----------------|------------|--------|-------------|--|
| MAY 13/41 | 2 | 68 | MAY 10/41 | HQ 155 TH INF SAN LUIS OBISPO CALIF. |
| NOV 11/42 | 12 | 188 | OCT 28/42 | HQ 155 TH INF. SAN LUIS OBISPO CALIF. |
| APR 5/43 | 4 | 63 | APR 5/43 | HQ 155 TH INF. FT. ORD, CALIF. |
| OCT 21/43 | 2 | 225 | SEPT. 20/43 | HQ TD SCHOOL CAMP HOOD, TEX |
| AUG 18/45 | 7 | 182 | AUG 14/45 | HQ 4 TH ARMO DIV LAWSHUT, GEORGY |

Remarks:

This card will be kept up to date and carried by the officer at all times. Reference AR 605-115.

Owner STANLEY DETTMER.
 Rank and organization CAPTAIN - 155 INF.
 Military address CAMP SAN LUIS OBISPO, CALIF
 Home address 1436 15TH AVE, SAN FRANCISCO
 Date, place entered service MAR 3, 1941 SAN FRANCISCO
 Army serial number 0-265252.
 Pistol number C-162993.
 Binoculars number 304941
 Compass number 13814 (M-2)
 Watch number OF-10813 (HAMILTON)
 Automobile number
 Automobile insurance with
 Army insurance data

In case of emergency notify MRS STANLEY DETTMER, 1436 15TH AVE SF CALIF

TO OPEN binder, swing catch at bottom, to the right. Then swing left half out far enough to allow sheets to be added or removed.

RECORD OF ACCRUED LEAVE

| For period | | Total days Accrued | Leave Granted | Leave Credit |
|------------|---------|--------------------------|------------------|-----------------|
| From | To | | | |
| 3-1-41 | 6-30-41 | 10 | 2 | 8 |
| 7-1-41 | 6-30-42 | 30 | - | 38 |
| 7-1-42 | 6-30-43 | 30 | 16 | 52 |
| 7-1-43 | 6-30-44 | 30 | 2 | 80 |
| 7-1-44 | 6-30-45 | 30 | - | 110 |
| 7-1-45 | 6-30-46 | 30 | 7 | 133 |

GEOGRAPHICAL ORGANIZATION OF THE ARMY
Geographical organization showing Army Areas, Corps Areas,
National Guard and Reserve Division Areas ^a:

| Army | Corps Area | States | Nat. Gd. Divs. | Res. Divs. |
|----------------------|---------------|------------------------|----------------|------------|
| First | I | New Hampshire | | 97 |
| | | Vermont | 43 | 97 |
| | | Maine | 43 | 97 |
| | | Rhode Island | 43 | 76 |
| | | Connecticut | 43 | 76 |
| | Massachusetts | 26 | 94 | |
| | II | New York ^b | 27 | 98 |
| | | | 44 | 77 |
| | | New Jersey Delaware | 44 | 78 78 |
| | III | Pennsylvania | 28 | 99 |
| | | Maryland | 29 | 80 |
| | | Virginia | 29 | 80 |
| District of Columbia | | 29 | 80 | |
| Second | V | Ohio | 37 | 83 |
| | | West Virginia | 38 | 100 |
| | | Kentucky | 38 | 100 |
| | | Indiana | 38 | 84 |
| | VI | Michigan | 32 | 85 |
| | | Wisconsin Illinois | 32 33 | 101 86 |
| Third | IV | North Carolina | 30 | 81 |
| | | South Carolina | 30 | 82 |
| | | Georgia | 30 | 82 |
| | | Tennessee | 30 | 81 |
| | | Florida | 31 | 82 |
| | | Alabama | 31 | 87 |
| | | Mississippi | 31 | 87 |
| | | Louisiana | 31 | 87 |
| | VIII | Oklahoma | 45 | 95 |
| | | Arizona | 45 | 103 |
| | | Colorado | 45 | 103 |
| | | New Mexico | 45 | 103 |
| | | Texas | 36 | 90 |
| Fourth | VII | Minnesota | 34 | 88 |
| | | Iowa | 34 | 88 |
| | | North Dakota | 34 | 88 |
| | | South Dakota | 34 | 89 |
| | | Missouri ^c | 35 | 102 |
| | | Arkansas | 35 | 102 |
| | | Kansas | 35 | 89 |
| | Nebraska | 35 | 89 | |
| | IX | Montana | 41 | 104 |
| | | Wyoming ^d | 41 | 104 |
| | | Idaho | 41 | 104 |
| | | Oregon | 41 | 96 |
| | | Washington | 41 | 96 |
| | | Utah | 40 | 104 |
| Nevada | | 40 | 104 | |
| California | 40 | 91 | | |
| Alaska (attached) | | | | |

NOTES
^a Not shown are GHQ reserves, unassigned troops, and those of special allotment to states or corps.
^b For the purpose of administration, control, and mobilization, such part of the State which lies east of west longitude 72 degrees, 30 minutes is attached to the First Corps Area.
^c Jefferson Barracks, Missouri, is under the jurisdiction of the Sixth Corps Area.
^d Fort Francis E. Warren, Cheyenne, Wyoming, is under jurisdiction of the Eighth Corps Area.

CAMPS AND BIVOUACS

CANTONMENT BUILDING:

Area for 1,000-man unit, 8.3 acres (Provide additional area for training, parking, storage, security).

Space requirements for sleeping quarters, per man:

Normal: 60 square feet of floor space,
720 cubic feet of air space.

Minimum: 50 square feet floor space,
500 cubic feet air space.

TENT CAMPS:

Open ground area for infantry regimental combat team (war strength) About 50 acres

For Division About 480 acres

Formula for area for any unit:

50 square yards per man

50 square yards per animal

250 square yards per vehicle

(10 acres per 1,000 men; 5 acres per 100 vehicles)

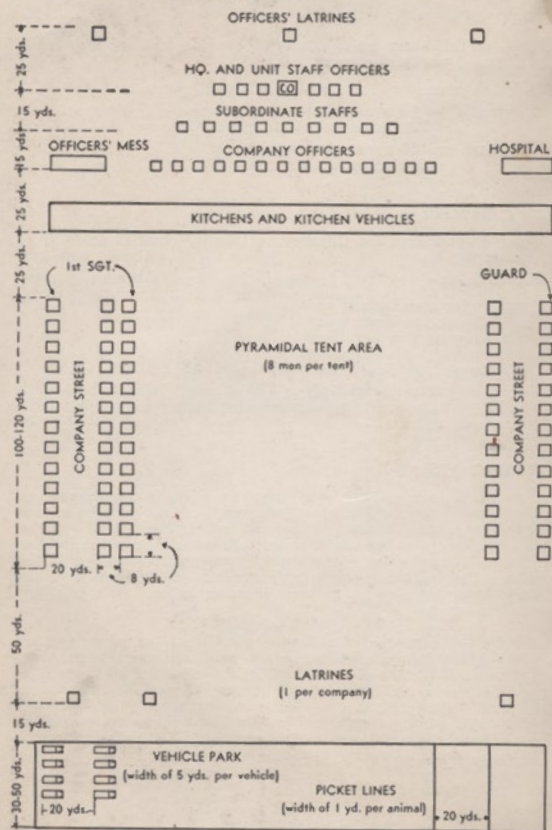
To compute acreage, multiply 1/70th of length in yards by 1/70th of breadth in yards. One acre equals 4,840 square yards (about 70 yards square).

BIVOUAC AREAS:

a. A bivouac area may be arranged as shown in the diagram, or shelter tents may be pitched in lines parallel to the vehicles of each company or similar unit (motorized units). Parking of vehicles abreast facilitates the use of individual vehicles; parking in close column facilitates the entry into bivouac and resumption of the march. Because a bivouac area generally is occupied only a short time, intervals may be reduced from those used in a semipermanent camp.

b. In the presence of a hostile air threat, or when tactical considerations govern, units will bivouac in a dispersed formation and without formal alignment of their elements. Full use will be made of cover, and vehicles will be camouflaged, and parked to facilitate their movement. The bivouac area of an infantry regimental combat team, under conditions requiring maximum use of overhead cover, will vary in excess of 50 acres in proportion to the amount of cover available.

DIAGRAMMATIC LAYOUT OF A TENT CAMP



CHARACTERISTICS OF WEAPONS

Infantry

| Weapon | Maximum effective range (yds.) | Effective radius of burst (yards) | Practical rate of fire (prolonged) rounds per min. | Weight of weapon (Pounds) | Weight of round (Pounds) | Type of feed |
|--|--------------------------------|-----------------------------------|--|---------------------------|------------------------------------|-----------------------------------|
| Grenade, hand, Mk II, fragmentation | 35 | 10 to 15 b | 125 | 1.25 | 1.25 | 250-round fabric belt |
| Gun, machine, M1917, cal. 30 (heavy) | 1,800 a | | | — | | |
| Gun and tripod M1917A1, with water | 3,000 b c | | 60 | 91.75 | (100 rounds loaded in belt: 6.126) | 50, 100, 150-round fabric belts |
| Gun, machine, M1919A4, cal. 30 (light) | 1,800 a | | | 45.36 | | |
| Gun, machine, M3, cal. 50 (flexible) | 500 d | | Rapid—125 e Slow—40 | 124.00 | (100 rounds) | Metallic disintegrating link belt |
| Gun with tripod M3 | 1,800 a | | | — | 30 pounds | |
| Gun, submachine, M1928A1, cal. 45 | 300 | | 40 f 100 g | — | 10.750 | 20-round box magazine |
| Gun without magazine | 1,800 a | 10 | 15 | 342.0 | HE.....1.57 | Hand, breech loading |
| Gun, 37-mm, M1916 A | 1,000 f | 10 | 20 | 912.0 | 1.92 | Hand, breech loading |
| Gun, 37-mm, M3 (antitank) | 1,800 a | 15 | 18 | 42.0 | 2.96 | Hand, muzzle loading |
| Gun and carriage, M4 | | | | | | |
| Mortar, 60-mm, M2 | | | | | | |
| Mortar, 81-mm, M1 | | Light—15 k Heavy—35 | 18 | 136.0 | HE.....6.87 10.75 15.05 | Hand, muzzle loading |
| | | | | | Chemical-11.10 | |

CHARACTERISTICS OF WEAPONS—Continued
Infantry

| Weapon | Maximum effective range (yds.) | Effective radius of burst (yards) | Practical rate of (prolonged) fire rounds per min. | Weight of weapon (Pounds) | Weight of round (Pounds) | Type of feed |
|--|--------------------------------|-----------------------------------|--|---------------------------|------------------------------|-----------------------|
| Pistol, automatic, cal .45 | 50 | | 10 | — | (Carton of 20 rounds: 2.167) | 7-round box magazine |
| Pistol with loaded magazine | | | | 2.762 | | |
| Rifle, automatic, cal .30, Browning, M1918 | 600 | | 40 | — | | 20-round box magazine |
| Rifle with filled magazine | | | | 16.93 | | |
| Rifle, automatic, cal .30, Browning, M1918A1 | 600 | | 40 | — | | 20-round box magazine |
| Rifle with bipod, hinged butt plate, and filled magazine | | | | 20.01 | | |
| Rifle, automatic, cal .30, Browning, M1918A2 | 600 | | 40 | — | | 20-round box magazine |
| Rifle, U S, cal .30, M1903 | 600 | | 10 | — | | 5-round clip |
| Rifle without bayonet | | | | 8.69 | | |
| Rifle with bayonet | | | | 9.69 | | |
| Rifle, U S, cal .30, M1 | 600 | | 16 | — | | 8-round clip |
| Rifle without bayonet | | | | 8.94 | | |

NOTES

- a Observed fire, distance varying with visibility.
 b M1906 ammunition.
 c Indirect fire.
 d Penetrates $\frac{3}{8}$ -inch armor plate at 500 yards, normal impact.
 e With a cool gun, a single burst of 100 to 150 rounds can be fired.
 f Semi-automatic fire.
 g Automatic fire.
 h All-over width of vehicle with trails closed: 39.25 in.
 i Penetrates $1\frac{1}{2}$ -inch armor plate at 1,000 yards, 20 degree of incidence.
 j Within limits of maximum range, observation is a controlling factor.
 k Fragments may fly as far as 400 yards.

CHARACTERISTICS OF WEAPONS
Field Artillery

| Weapon | Maximum effective range (yards) | Effective radius of burst (yards) | Practical rate of (prolonged) fire rounds per minute | Weight of weapon (pounds) | Weight of round (pounds) | Unit of fire (rounds per piece) |
|---|---------------------------------|-----------------------------------|--|--|--------------------------|---------------------------------|
| Howitzer, 75-mm, M1 (paek) | 8,300 | | 3 | Gross 2,052 Net pay load, 1,392 | 14.6 | 300 |
| Howitzer, 75-mm, M3A1 (field) | 8,300 | | 3 | Hd. 3,340a Mech. 2,089 | 14.6 | 300 |
| Gun, 75-mm, M2A2 | 11,500 | | 3 | HD 5,800a Mtz 3,800 | 14.6 | 300 |
| Howitzer, 105-mm, M2 | 10,900 | | 2 | 4,300 | 32.7 | 200 |
| Howitzer, 155-mm, M1918A1 (mdf) | 10,800 | | 1 | 9,000 | 95 | 150 |
| Gun, 155-mm, M1918A1 (mdf-GPF) | 17,000 | | 1 | 29,530 a | 95 | 100 |
| Gun, 155-mm, M1 | 21,600 | | 1 | 30,740 | 95 | 100 |
| Howitzer, 8-inch, M1 | 15,300 | | $1\frac{1}{2}$ | 31,740 | 200 | 80 |
| Howitzer, 240-mm, M1918 | 14,000 | | $\frac{1}{4}$ | 58,600 b | 345 | 60 |

NOTES

- a A limber is provided with this weapon.
 b Transported in four loads. Weight of maximum load: 16,230 pounds.

CHARACTERISTICS OF CHEMICAL WEAPONS

| Weapon | Weight (pounds) | Rate of fire (rounds per minute) | | Time to emplace— Night | Effective range (yards) |
|--|-----------------|---|-----------|----------------------------|-------------------------|
| | | Short bursts | Prolonged | | |
| 4.2-inch chemical mortar, MIA1 a Hand cart, loaded with chemical mortar complete . . . | 491 | 20 | 5 | 10 minutes | 2,400 |
| Livens projector, 8-inch Livens projector complete with ammunition ready to fire. | 213 | Fired but once. One round per projector per installation fired simultaneously by electricity | | 100 per platoon in 5 hours | 1,450 |

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NOTE

a Overall width of hand cart: 3 feet 6 inches.

CHARACTERISTICS OF AIR CORPS UNITS

| Classes of aviation | Total airplanes in squadron | Probable maximum operating strength of squadron a | Practical operating range (miles) | Tactical operating radius of action (miles) | Operating speed (miles per hour) |
|--|-----------------------------|---|-----------------------------------|---|----------------------------------|
| Observation (corps and division) (0-47 type) | 13 | 10 | 450 | 225 | 200 |

NOTE

a The actual operating strength will vary and should be determined accurately by communication with the unit.

CHARACTERISTICS OF WEAPONS

Coast Artillery

| Weapon | Approximate weight of ammunition complete round, packed (pounds) a | Range (yards) | Rate of fire (rounds per piece per minute) |
|--------------------------------|--|---------------|--|
| Antiaircraft b— | | | |
| Gun, 3-inch | 150 pounds per box of 4 rounds | 6,000 c | 25 |
| Gun, 90-mm | 225 pounds per box of 4 rounds | 8,000 d | 17 |
| Gun, 37-mm | 85 pounds per box of 20 rounds | 2,500 e | 120 |
| Machine gun, cal .50 | 120 pounds per 300 rounds | 1,850 | 500 |

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NOTES

- a Includes separate powder charge for railway and tractor-drawn artillery ammunition.
- b Data pertaining to antiaircraft searchlights:
Average effective range of illumination: 6,000 yards.
Traverse: 360 degrees.
Average time required to emplace: 20 minutes.
- c For powder train fuze. Maximum effective horizontal range at altitude of 17,100 feet. Range increases at lower altitudes to a maximum horizontal range of 7,550 yards.
- d Maximum effective horizontal range at 25,800 feet. Range increases at lower altitudes to a maximum horizontal range of 12,600 yards.
- e Maximum effective horizontal range. At lower altitudes the range increases to a maximum horizontal range of 3,500 yards.

CHARACTERISTICS OF ARMORED VEHICLES ^a

| Type of vehicle | Weight (tons) (gross—equipped with crew) | Armament | Crew | Maximum speed on roads (miles per hour) ^b | Safe fording depth (inches) | Mileage on one fill (miles) |
|------------------------------|--|--|-----------------|--|-----------------------------|-----------------------------|
| Armored car..... | 5 | 1 MG, cal .50 2 MG, cal .30 1 MG, sub, cal .45 | 4 | 55 | 24 | 250 |
| Carrier, personnel..... | 4 | 1 MG, cal .50 3 MG, cal .30 | 8 passengers | 45 | 24 | 100 |
| Combat car..... | 9½ | 1 MG, cal .50 3 MG, cal .30 1 MG, sub, cal .45 | 4 | 45 | 42 | 125 |
| Mortar, CarrierSPM, 4.2-inch | 5 | 1 MG, cal .30 1 Mortar, 4.2-inch | 4 | 58 | 30 | 150 |
| Scout car..... | 5 | 1 MG, cal .50 2 MG, cal .30 1 MG, sub, cal .45 | 6 | 55 | 30 | 250 |
| Tank, light..... | 11½ | 4 MG, cal .30 1 Gun, 37-mm | 4 | 37.5 | 43 | 100 |
| Tank, medium..... | 21 | 8 MG, cal .30 1 Gun, 37-mm | 5 | 26.4 | 53 | 165 |

NOTES

^a As several models of each type vehicle listed are in use the data contained in this table must be considered as approximate only.

^b The cross-country speed of the vehicles listed will vary from 5 to 25 miles, depending on the nature of the terrain, whether employed during day or night, and, if employed at night, whether with or without lights.

CONVENTIONAL SIGNS AND SYMBOLS

Military symbols.—*a. General rules.*—(1) *Color.*—When colors are used, military symbols representing objects in territory occupied or controlled by our forces are shown in blue, and 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, although always located in enemy territory, are executed in blue.
(b) Symbols for gassed areas, wherever located, are always executed in red.

(2) *Unit designations.*—The positions of various letters, numbers, or abbreviations designating definite units with respect to the symbol representing the type of unit are as follows:

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

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

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

(d) Abbreviations for explanatory purposes are shown in small letters on the right. Abbreviations are used instead of symbols to show information that cannot be indicated by a single symbol.



(e) Calibers are shown by numbers and unit of measure, as 37-mm., 42-cm., 12".





















b. List of basic symbols.—(1) *To indicate 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  .)

| | |
|--|--|
| Arsenal, manufacturing establishment, or shop..... |  |
| Embarkation or debarkation point..... |  |
| General hospital..... |  |
| Laboratory, experimental station, or proving ground..... |  |
| Mobilization point or area (capacity in figures)..... |  |
| Observation post..... |  |
| Procurement district headquarters..... |  |
| Reception center..... |  |
| Replacement center..... |  |
| School..... |  or  sch |
| Supply depot..... |  |
| Arm or service depot..... |  |
| Dump, park, or distributing point (temporary depot in combat zone)..... |  |
| General or base depot..... |  |
| Supply point..... |  |
| Supply train or transportation unit..... |  |
| Animal-drawn..... |  |
| Motor-drawn or motorized..... |  |
| Railway..... |  |

Weather station.....



(2) To indicate arm or service or activity of arm or service.—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.....



Airship.....



Ammunition dump for aviation bombs only.....



Balloon.....



 Motorized balloon.....



 Park for aviation gasoline and oil only.....



Artillery.....



Cavalry.....



 Cavalry, mechanized.....



Chemical Warfare Service.....



Coast artillery, antiaircraft.....



Engineers.....



Infantry (except tanks and military police).....



 Military police.....



 Tanks.....



Medical Department.....



 Veterinary service only.....



Ordnance Department.....



Ammunition only..... A

Prisoners of war..... PW

Quartermaster Corps..... Q

Bakery unit..... B

Class I supplies..... C

Gasoline and oil only..... Y

Remount service..... U

Transportation service..... T

Signal Corps..... S

(3) To indicate size of units.—These symbols will be placed above the symbols shown in (1) above, or used for indicating boundaries as shown in (4) below.

Squad..... S

Section..... ..

Platoon..... ..

Company, troop, battery, or Air Corps flight..... I

Battalion, cavalry squadron, or Air Corps squadron..... II

Regiment or Air Corps group..... III

Brigade or Air Corps wing..... X

Division..... XX

Corps..... XXX

Corps area, department, or section of communications zone..... OOO

Communications zone..... OOOO

Army..... XXXX

General headquarters..... GHQ

HQ Air Force..... [GHQ] AF

(4) To indicate boundaries.

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..... —∞ obsn —

Rear limit, corps aviation..... —∞ obsn —

Pursuit aviation (limit of radius of action)..... —∞ pur —

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..... GHQ

Front line..... //

Limit of wheeled traffic by day..... —DY—

Limit of wheeled traffic by night..... —NT—

Limit beyond which gas masks must be at ALERT..... —G—

| | | | |
|---|----------|--|--------|
| Line beyond which lights on vehicles are prohibited..... | —LT— | Automatic rifle..... | → |
| Straggler line..... | —□— | (Dotted when emplacement is not occupied, thus)..... | → |
| Outpost line..... | OPL | Balloon ascension point..... | |
| Main line of resistance..... | MLR | Balloon bed..... | |
| Support line..... | SL | Cemetery..... | |
| Battalion reserve line..... | BRL | Cloud gas cylinder..... | |
| Regimental reserve line..... | RRL | Demolitions, individual..... | |
| Limiting point..... | —⊗— | Dugout (isolated)..... | ■ |
| Line of communication..... | —L of C— | Dugout (in connection with trench)..... | |
| Line of departure..... | LD | Dugout or building, gasproof..... | ■ G-PF |
| (5) Miscellaneous. | | Entanglement: | |
| Airdrome..... | | Concealed..... | |
| Airship hangar..... | | Wire..... | |
| Airship mooring mast..... | | Landing field..... | |
| Antitank gun..... | | Advanced landing field..... | |
| Area covered by demolitions or obstacles Blue..... | | Leader gear..... | |
| Area, gassed, to be avoided..... | | (This symbol should be used on the chart to indicate the exact location of the leader gear.) | |
| Area probably affected by cloud or gas..... | | Livens projector..... | |
| Area to be blanketed with smoke; time effective..... | | Machine gun..... | |
| Area to be covered by fire..... | | (Arrow to point in principal direction of fire. When used alone it indicates machine-gun, water-cooled, cal. .30.) | |
| (Indicate character of fire by showing caliber of weapon or by an appropriate description, abbreviation, etc., thus)..... | | Machine-gun symbol under symbol of unit of any arm indicates machine-gun unit of that arm.) | |
| Area to be gassed, nonpersistent..... | | Antiaircraft..... | |
| Area to be gassed, persistent..... | | Antitank..... | |

| | | |
|--|---|----------|
| Caliber .50..... | | 30 |
| Caliber .50 (antitank)..... | | 30 AT |
| Light..... | | |
| Gun..... | | |
| Gun bat- tery..... | | |
| Howitzer or mortar..... | | |
| Howitzer or mortar battery..... | | |
| | } Open when em- placement is unoccupied, thus..... | |
| | | |
| 37-mm gun..... | | 37-mm |
| 81-mm mortar..... | | 81-mm |
| 4.2" chemical mortar..... | | 4.2 cm |
| 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, machine guns..... | | |
| Message center..... | | |
| Advance message center..... | | adv |
| Mines: | | |
| Chemical land mine..... | | |

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.)

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.)

Net:

Torpedo net (with gate).....

Antisubmarine net (with gate).....

Obstacle, individual.....

Road block.....

Obstructions (such as piles, hurdles, sunken vessels, and booms).....

Point, accurately located.....

Post:

Fixed underwater listening.....

Visual signaling.....

Radio station.....

Radio direction finder station (radio compass station).....

Radio intercept station.....

Searchlight.....


| | |
|--|--|
| Sound locator..... | |
| Switching central..... | |
| Tank barrier..... | |
| Tank trap..... | |
| Telephone central located at a command post..... | |
| Test station or cable terminal..... | |
| Torpedo or mine..... | |
| Traffic: | |
| One-way..... | |
| Two-way..... | |
| Trench for one squad..... | |
| (For each additional squad add one traverse.) | |
| Trenches (dotted when proposed)..... | |
| Wire line on ground..... | |


c. *Application of special symbols.*—The following examples show the use of 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) *Air Corps.*


| | |
|--|--|
| 701st Air Base Squadron..... | |
| 901st Transport Squadron..... | |
| 7th Observation Squadron..... | |
| 88th Reconnaissance Squadron..... | |
| 1st Staff Squadron..... | |
| Headquarters and Headquarters Squadron, GHQ Air Force..... | |
| 101st Balloon Squadron..... | |


| | |
|---|--|
| 301st Balloon Group..... | |
| 701st Attack Wing..... | |
| Second Army Aviation..... | |
| (2) Cavalry. | |
| Light Machine-Gun Platoon, Troop A, 2d Cavalry..... | |
| Transportation Platoon, Headquarters Troop, 2d Cavalry..... | |
| Scout-Car Platoon, Headquarters Troop, 2d Cavalry..... | |
| Mortar Platoon, Headquarters Troop, 1st Cavalry (mechanized)..... | |
| Mortar Platoon, Special Weapons Troop, 3d Cavalry..... | |
| Headquarters Troop, 8th Cavalry Brigade..... | |
| Machine-Gun Troop, 7th Cavalry..... | |
| Machine-Gun Troop, Caliber .50, 2d Cavalry..... | |
| Troop A, 1st Cavalry (mechanized)..... | |
| Troop A, 1st Reconnaissance Squadron..... | |
| Special Weapons Troop, 3d Cavalry..... | |
| Troop F, 2d Cavalry..... | |
| Tank Company, 3d Cavalry Division..... | |
| 1st Squadron, 1st Cavalry (mechanized)..... | |
| 1st Squadron, 4th Cavalry..... | |
| 18th Cavalry..... | |
| 1st Cavalry Brigade..... | |
| 4th Cavalry Division..... | |
| Command Post, 5th Cavalry Brigade..... | |
| Park, mechanized cavalry regiment..... | |


Park, mechanized units of horse cavalry regiment.....  prk


Park, motor transportation, 3d Cavalry.....  3prk
 (3) *Chemical Warfare Service.*


Company C, 901st Chemical Regiment..... C  901


2d Battalion, 901st Chemical Regiment..... 2  901
 (4) *Coast Artillery Corps.*


Searchlight Platoon, Battery A, 104th Coast Artillery (AA).....  104


Machine-Gun Platoon, Battery E, 104th Coast Artillery (AA).....  104


37-mm Platoon, Battery F, 104th Coast Artillery (AA).....  104


Battery A, 104th Coast Artillery (AA).....  104


Battery B, 104th Coast Artillery (AA).....  104


1st Battalion, 104th Coast Artillery (AA).....  104


2d Battalion, 104th Coast Artillery (AA).....  104

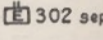
104th Coast Artillery (AA).....  104

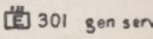
912th Coast Artillery (12-inch guns, railway).....  912 gn 12"

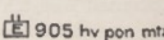
Observation Post, 104th Coast Artillery (AA).....  104
 (5) *Corps of Engineers.*

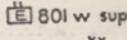
Company A, 2d Engineers (combat)..... A  2


15th Engineer Squadron.....  15


302d Engineer Battalion (separate).....  302 sep


301st Engineers (general service).....  301 gen serv

905th Engineers (heavy ponton, motorized).....  905 hv pon mtr


801st Engineers (water supply).....  801 wv sup


Engineer dump, 5th division.....  5


Engineer Park, II Corps.....  II


Engineer Depot No. 2, First Army.....  2 First Army


(6) *Field 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


Battery A, 3d Ammunition Train..... A  3

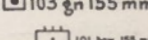
1st Battalion, 8th Field Artillery..... 1  8

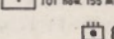
1st Observation Battalion (sound and flash).....  1


951st Field Artillery Battalion (mechanized).....  951


1st Ammunition Train.....  1


21st Field Artillery (horse).....  21


103d Field Artillery (155-mm gun).....  103 gn 155 mm


101st Field Artillery (155-mm howitzer).....  101 how 155 mm


Command Post, 8th Field Artillery.....  8


Observation Post, 3d Battalion, 203d Field Artillery. 3  203
 (7) *Infantry.*


One squad, Company A, 4th Infantry..... A  4


Light Machine-Gun Section, Company A, 2d Infantry...  2


1st Platoon, Company B, 2d Infantry..... 1B  2


Machine-Gun Platoon, Caliber .50, Company H, 29th Infantry..... 3M  29


Headquarters Company, 3d Infantry..... HQ  3


Company D, 20th Infantry..... D  20


2d Tank Company.....  2


3d Battalion, 8th Infantry..... 3  8


901st Infantry, Light Tanks.....  901 L


901st Infantry, Medium Tanks.....  901 M

5th Infantry.....  5


16th Brigade (Infantry).....  16


8th Division.....  8


Command Post, 3d Battalion, 4th Infantry..... 3  4


Observation Post, 6th Infantry.....  6


(8) Medical Department.


Service Company, 1st Medical Regiment..... SERV  1


Company A (collecting), 1st Medical Regiment..... A (COLL)  1


Company D (ambulance, animal-drawn), 501st Ambulance Battalion..... U (AMB)  501


Company E (ambulance), 101st Medical Regiment..... E (AMB)  101


Company G (hospital), 3d Medical Regiment..... G (HOSPI)  3


101st Veterinary Company.....  101


Troop A (collecting), 1st Medical Squadron..... A (COLL)  1


Troop B (ambulance), 1st Medical Squadron..... B (AMB)  1


Troop C (hospital), 1st Medical Squadron..... C (HOSPI)  1

Veterinary Troop, 1st Medical Squadron.....  1


1st Battalion (collecting), 1st Medical Regiment..... 1 (COLL)  1


2d Battalion (ambulance), 1st Medical Regiment..... 2 (AMB)  1

3d Battalion (hospital), 101st Medical Regiment..... 3 (HOSPI)  101



1st Medical Squadron.....  1



*Optional.



3d Medical Regiment.....  3



First Army Medical Depot.....  First


Medical unit in operation..... +


Medical unit not in operation.....  


Veterinary unit in operation.....  



Veterinary unit not in operation.....  


Ambulance loading post..... +  



Battalion Aid Station, 1st Battalion, 4th Infantry..... 1  4 Inf



Regimental Aid Station, 1st Field Artillery.....  1 FA


Regimental Veterinary Aid Station, 1st Field Artillery.....  1 FA



Collecting Station, 1st Division.....  1  101


Veterinary Collecting Station, 1st Division.....  1

Hospital Station, 4th Division.....  4  Hosp

Hospital Station, I Corps.....  1  Hosp

Hospital Train..... 


902d Evacuation Hospital in operation.....  902  Evac

902d Evacuation Hospital not in operation.....  902 Evac






901st Surgical Hospital not in operation..... 901 Surg

901st Veterinary Evacuation Hospital in operation..... 901 Evac




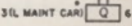
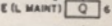





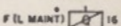

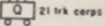


901st Veterinary Evacuation Hospital not in operation..... 901 Evac

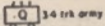
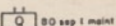
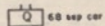


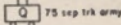

801st Veterinary Convalescent Hospital not in operation..... 



(9) *Ordnance.*





3d Ordnance Company (maintenance)..... 
Ordnance Company (depot)..... 
Ordnance Company (ammunition)..... 
Ordnance Company, GHQ Air Force..... 
Ordnance Battalion, GHQ Air Force..... 

(10) *Quartermaster Corps.*







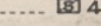
6th Quartermaster Regiment (Infantry Division)..... 
1st Battalion..... 
 Company A..... 
3d Battalion..... 
 Company E..... 
 Company F..... 
 Company S..... 
16th Quartermaster Squadron (Cavalry Division)..... 
 Troop A..... 
 Troop E..... 
 Troop F..... 
LCorps Quartermaster Service..... 
21st Quartermaster Regiment (truck corps)..... 
32d Quartermaster Regiment (light maintenance)..... 
First Army Quartermaster Service..... 


34th Quartermaster Regiment (truck army)..... 
80th Separate Quartermaster Battalion (light maintenance)..... 
68th Separate Quartermaster Battalion (car)..... 
542d Quartermaster Regiment (service)..... 
60th Quartermaster Regiment (remount)..... 
75th Separate Quartermaster Battalion (truck army)..... 
681st Quartermaster Battalion (clothing and bath)..... 


th Division Quartermaster Dump..... 
III Corps Quartermaster Park..... 
* Optional.

First Army Quartermaster Depot..... 
Second Army Quartermaster Depot No. 1 (gasoline and oil)..... 
Third Army Quartermaster Depot No. 2 (motor transport)..... 
Third Army Remount Depot..... 


(11) *Signal Corps.*

Intercept Section, Radio Intelligence Company..... 
Direction Finder Section, Radio Intelligence Company..... 
Control Section, Radio Intelligence Company..... 
Distant Surveillance Platoon, 1st Radio Intelligence Company..... 
6th Signal Company..... 
4th Signal Troop..... 
701st Pigeon Company..... 


101st Signal Battalion.....  101


Point on axis of signal communication, 1st Division..... 


(12) Miscellaneous.


Advance Control Point, 1st Division..... 


Autogiro..... 

Boundary between II and III Corps..... 


Collecting Point, Prisoners of War, 10th Division.....  PW 10


Collecting Point, Straggler Line, 2d Division.....  2


Corps Troops, IV Corps..... 


Depot, advance section, communications zone.....  adv

Distributing point:


For Class I supplies.....  dp


Ammunition.....  dp


Division artillery ammunition.....  dp

Division infantry ammunition.....  dp

Water.....  dp

Gas-generating plant..... 


Headquarters or Command Post, III Corps..... 

Officer Traffic Control Station, 1st Division..... 


Mark:


Air..... 


Balloon..... 


Mechanized cavalry.....  mc


Tank..... 


Prisoner of War Inclosure, IV Corps.....  PW IV


Railhead.....  rhd

Railhead for 1st Division.....  rhd


Railway center..... 

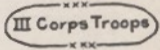
Rear Echelon, Headquarters, 8th Division.....  8rr ech

Refilling point.....  rp


Regulating station.....  rsta

d. Special symbols for use in hasty sketches.

Area occupied by a unit (2d Battalion, 3d Field Artillery)..... 

Area occupied by corps troops (III Corps)..... 

Brush.....  Brush

Cultivated land.....  Cult

Stream..... 

Woods.....  Woods

PAY OF OFFICERS IN ACTIVE SERVICE

(Act June 10, 1932 (42 Stat. 423; 37 U. S. C. 1; M. L. 1930, sec. 1274), effective July 1, 1932)

Table with columns for Grade, Pay period, Monthly rate (Initial monthly pay under conditions stated, Over 2 years' service, Over 3 years' service, Over 4 years' service, Over 5 years' service, Over 6 years' service, Over 7 years' service, Over 8 years' service, Over 10 years' service, Over 12 years' service, Over 15 years' service, Over 20 years' service, Over 25 years' service), Rental allowance and subsistence allowance (30-day month), and Rent on pay and allowances.

1 Allowances in this column are on the basis of a month of 30 days. For a month of a greater or less number of days the amounts of subsistence allowance should be correspondingly increased or decreased.
2 Chief of Staff—entitled to rank and title of general, pay and allowances of major general, and to a money allowance of \$2,000 per year (sec. 1, act June 10, 1932, 42 Stat. 429; 37 U. S. C. 12, M. L. 1930, sec. 1273, 1262, 1267) and act February 25, 1939 (45 Stat. 1233; 37 U. S. C. 222; M. L. 1939, sec. 211).
3 Army Commander—entitled to rank and title of lieutenant general, pay and allowances of major general, and to a personal money allowance of \$500 per annum (sec. 5, act June 10, 1932 (42 Stat. 429; 37 U. S. C. 12, M. L. 1930, sec. 1274, 1262, 1267) and act Aug. 5, 1939 (53 Stat. 1214)).
4 The maximum allowances which will accrue to an officer below the grade of brigadier general, or to a major general, will be such that the total of base pay, pay for length of service, and allowances for subsistence and rental of quarters will not exceed \$7,200, \$7,000, and \$7,000, respectively, per annum. Deduction of the necessary amount should be made from the rental allowance (sec. 7 and 8, act June 10, 1932 (42 Stat. 423, 429; 37 U. S. C. 11, 12, M. L. 1930, sec. 1187, 1188)).
5 The total of base pay and pay for length of service of an officer below the grade of colonel shall not exceed \$5,750 per annum (sec. 1, act June 10, 1932 (42 Stat. 423; 37 U. S. C. 2, M. L. 1930, sec. 1265)).

NOTES

Nothing in the act shall operate to reduce the pay of any officer on the active list below the pay he was entitled to receive by reason of his grade and length of service on June 30, 1932, inclusive of the temporary increase under the act of May 18, 1930 (41 Stat. 601). On and after July 1, 1932, he becomes entitled to the new allowances of the pay period in which he is placed by reason of his grade, length of service, and method of entry into service. (Secs. 16 and 17, act June 10, 1932 (42 Stat. 432, and sec. 6, act May 31, 1924 (41 Stat. 322; 37 U. S. C. 26, 26 M. L. 1924, sec. 1315).)

Retired officers below the grade of brigadier general and retired warrant officers and enlisted men shall, when on active duty, receive full pay and allowances. (Sec. 17, act June 10, 1932 (42 Stat. 423), and act May 29, 1923 (43 Stat. 774; 37 U. S. C. 26; M. L. 1928, sec. 1313).)
Officers and enlisted men of the Army shall receive an increase of 20 per centum of their pay when by orders of competent authority they are required to participate regularly and frequently in aerial flights, and when in consequence of such orders they do participate in regular and frequent aerial flights as defined by such executive orders as have heretofore been or may hereafter be promulgated by the President. (Sec. 19, act June 3, 1924, as amended by sec. 12, act June 4, 1930, and sec. 2, act July 2, 1925 (41 Stat. 79; 19 U. S. C. 300; M. L. 1924, sec. 1415).) The appropriation act provides that increased pay for making aerial flights by non-duty officers shall not be at a rate in excess of \$25.00 per annum. (See 42 Stat. 352.)

The discharge and recommission of officers in the next lower grade shall not operate to reduce the pay or allowances which they are now receiving or to deprive them of credit for service now counted for purposes of pay or retirement. (Sec. 1, act Sept. 14, 1922 (41 Stat. 411).) By Sec. 3, act July 21, 1933 (48 Stat. 505; 37 U. S. C. 322 & M. L. 1933, section 274), as amended by the act of June 13, 1940 (54 Stat. 279), promotion below lowest lieutenant and first lieutenants shall be promoted to respective grades of first lieutenant and captain, immediately upon completing respectively 2 years' and 10 years' continuous commissioned service in the Regular Army, but not otherwise. Except as hereinafter provided, promotion below captain, major, and lieutenant colonel shall be promoted to the respective grades of major, lieutenant colonel, and colonel immediately upon completing respectively 17 years' 23 years' and 28 years' continuous commissioned service in the Regular Army: Provided, That at no time shall the number of promotion below colonel exceed 700; That lieutenant-colonel and lieutenant colonel shall not be promoted to the respective grades of lieutenant colonel and colonel until they shall have completed respectively 6 years' and 3 years' continuous commissioned service under permanent appointments in the grade of major and lieutenant colonel, except that for the purpose of determining years of such service in such grades officers promoted to or serving in the respective grades of major and lieutenant colonel shall, in addition to receiving credit for all actual continuous commissioned service in the Regular Army in those grades, receive constructive credit of one-half the amount of their continuous commissioned service in the Regular Army in excess of 17 and 23 years, respectively. Provided further, That such promotions list officer shall be assumed to have, for promotion purposes, at least the same length of continuous commissioned service in the Regular Army and service in Grade as any other officer junior to him, in his grade, on the promotion list.
An aide to a major general is entitled to \$200 and an aide to a brigadier general \$150 per year in addition to the pay of his rank. (See R. S. 1261 (10 U. S. C. 692; M. L. 1930, sec. 1421).)
Aides to a major general—not more than three in number who shall be in the grade of captain or lieutenant. Aides to a brigadier general—not more than two in number who shall be in the grade of lieutenant. (See R. S. 1088 (10 U. S. C. 692; M. L. 1930, sec. 1377).)

The major general of the Regular Army specifically assigned by the Secretary of War to command the four armies of the United States Army shall have the rank and title of lieutenant general and, on retiring, the rank and title of lieutenant general under the foregoing provisions, shall be entitled to receive the pay and allowances of a major general and, in addition, shall be entitled to receive the same personal money allowances as any now, or may hereafter be prescribed by law for vice admirals of the Navy. Provided further, That should an officer, while serving in the rank of lieutenant general, be retired from active service, he shall be entitled with the usual rank and retired pay to which he would be entitled had he not been serving in the rank of lieutenant general, the provisions of section 1234, Revised Statutes (10 U. S. C. 1232), is the contrary notwithstanding (act Aug. 4, 1920 (31 Stat. 1214)). The personal money allowance prescribed by law for vice admirals of the Navy is \$800 per year. (See sec. 4, act June 10, 1932 (42 Stat. 423; 37 U. S. C. 12).

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FACTORS FOR CONVERSION OF UNITS

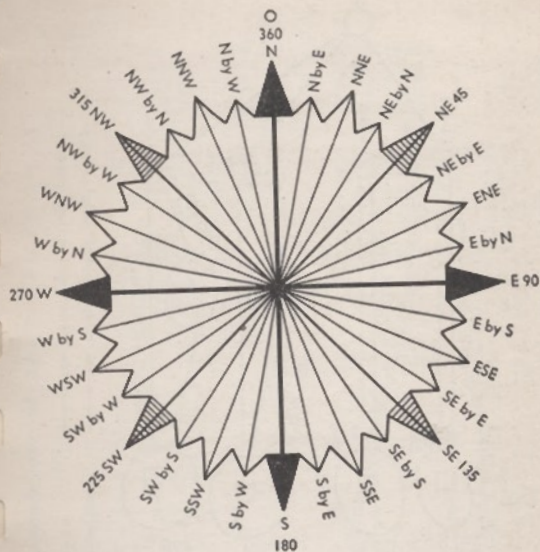
To convert A to B, multiply by C. To convert B to A, multiply B by D.

| 1 | 2 | | 3 | 4 |
|-----------------------------|-------------|---|--------------|-------------------|
| Unit | Factor | | Unit | |
| A | C | D | B | |
| Length: | | | | |
| Miles..... | 63,360. | c | 0.00001578 | Inches |
| Miles..... | 5,280. | c | 0.001894 | Feet |
| Miles..... | 1,609 | | 0.6214 | Kilometers |
| Knots (N. Mi.) ^a | 1.1516 | | 0.8684 | Miles |
| Meters..... | 3.281 | | 0.3048 | Feet |
| Kilometers | 3,281.0 | | 0.0003048 | Feet |
| Inches..... | 2.540 | | 0.3937 | Centimeters |
| Feet..... | 1.667 | | 6. | Fathom |
| Surface: | | | | |
| Square miles..... | 27,878,400. | | 0.0000003587 | Square feet |
| Square miles..... | 640. | | 0.001563 | Acres |
| Acres..... | 43,560. | c | 0.00002296 | Square feet |
| Acres..... | 4,047. | | 0.0002471 | Square meters |
| Square inches..... | 6.452 | | 0.1550 | Sq. centimeters |
| Square meters..... | 10.76 | | 0.09294 | Square feet |
| Volume: | | | | |
| Cubic feet..... | 0.025 | | 40.0 | Tons (shipping) |
| Cubic feet..... | 1,728. | c | 0.0005787 | Cubic inches |
| Cubic inches..... | 16.39 | | 0.06102 | Cu. centimeters |
| Cubic meters..... | 35.31 | | 0.2832 | Cubic feet |
| Cubic feet..... | 7.481 | | 0.1337 | U.S. gallons |
| Cubic feet..... | 6.232 | | 0.1605 | Imperial gallons |
| Cubic feet..... | 28.32 | | 0.03531 | Liters |
| U.S. gallons..... | 231. | c | 0.004329 | Cubic inches |
| U.S. gallons..... | 3.785 | | 0.2642 | Liters |
| Imperial gallons..... | 1.200 | | 0.8333 | U.S. gallons |
| Fluid ounces..... | 1.805 | | 0.5540 | Cubic inches |
| Velocities: | | | | |
| Miles per hour..... | 1.467 | | 0.6818 | Feet per second |
| Meters per second..... | 3.281 | | 0.3048 | Feet per second |
| Meters per second..... | 2.237 | | 0.4470 | Miles per hour |
| Pressure: | | | | |
| Atmos. (mean)..... | 14.70 | | 0.0680 | Lbs. per sq. in. |
| Atmos. (mean)..... | 29.92 | | 0.03342 | In. of mercury |
| Lbs. per sq. inch..... | 2.036 | | 0.4912 | In. of mercury |
| Feet of water..... | 62.42 | | 0.01602 | Lbs. per sq. foot |
| Weight: | | | | |
| Ounces..... | 0.0625 | | 16.0 | Pounds |
| Pounds..... | 7,000.0 | c | 0.0001429 | Grains (avoird.) |
| Kilograms..... | 2.205 | | 0.4536 | Pounds |
| Short tons..... | 2,000. | | 0.0005 | Pounds |
| Long tons..... | 1,120 | c | 0.8929 | Short tons |
| Angular measure: | | | | |
| Circle..... | 360.0 | | | Degrees |
| Degree..... | 60.0 | | | Minutes |
| Degree..... | 17.8 | | 0.056 | Mils |
| Mil θ | 3.37 | | 0.297 | Minutes |
| Minute..... | 60. | | | Seconds |

NOTES

- ^a Normally express speed of a number of nautical miles per hour.
^b A mil is the angle subtended by an arc of 1 unit on a radius of 1,000 units or, in other words, an angle the tangent of which is approximately (small angles) 1/1,000. The arbitrary value of the mil adopted by the United States Army is 1/6,400 of a circle.
^c Exact values.

MARINERS' COMPASS



MAP SYMBOLS FOR NORTH

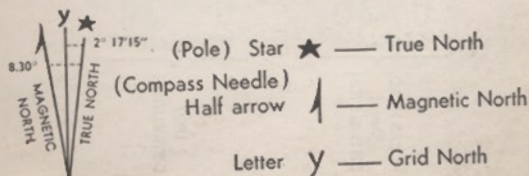
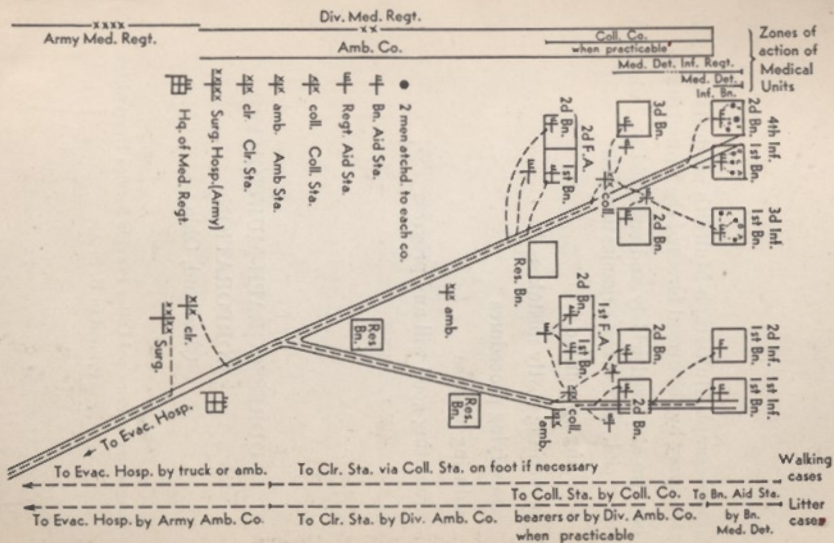
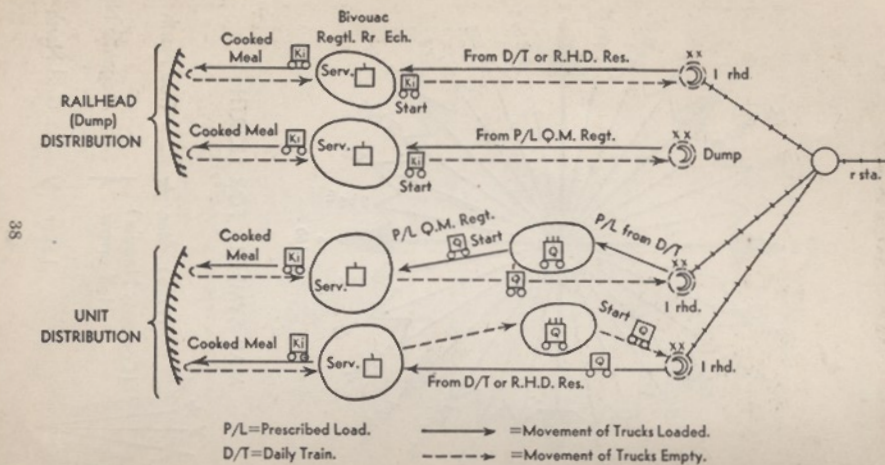


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