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TECHNICAL MANUAL

U. S. Army

HANDBOOK ON THE BRITISH ARMY WITH SUPPLEMENTS ON THE ROYAL AIR FORCE AND CIVILIAN DEFENSE ORGANIZATIONS

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Chapter 1

INTRODUCTION

1. Purpose.—The object of this handbook is to furnish a simple guide for the U. S. soldier cooperating with the British.

2. Arrangement and scope.—Within the limitations imposed by security and size, the handbook shows, in order, the relation between the British Army and Government; the organization and equipment of the various arms and services; and some of the principles practiced by the forces operating in the field. Information on ranks, uniforms, insignia, maps, conventional signs and symbols, military and other terms, abbreviations, and pertinent miscellaneous topics has been included to permit ready reference and a reasonable understanding of the British military system.

3. Difficulties of terminology.—*a.* Familiar words used in unfamiliar senses by the British may at times be confusing. Differences in both terminology and meaning are indicated throughout the text, but some terms recur so frequently that they must be discussed briefly here.

b. The use of the terms "unit" and "formation" differs from that in the U. S. Army. In general, in British terminology a "unit" is an organization of a single arm or service operating both tactically and administratively under a single commander, whereas a "formation" is a combination of units of different arms and services to the strength of a brigade or more. The largest unit is ordinarily called a battalion, but cavalry (horse and mechanized), artillery, and reconnaissance regiments are also units, since they operate both tactically and administratively under a single commander. Brigades, divisions, corps, armies, and groups of armies are formations.

c. The term "regiment" as used by the British may have several meanings.

(1) "Regiment" is used to designate a combatant arm such as the Royal Regiment of Artillery. (See pars. 20*a* and 28*a*.)

(2) Mechanized cavalry includes such units as the armoured car regiments and the various tank regiments of the Royal Armoured Corps (see pars. 37*a* and 167*b*). An artillery "regiment" indicates an artillery unit composed of a standard number of officers, men, and

weapons, but the number varies according to the type (field, medium, anti-aircraft, anti-tank, etc.—see par. 28*a*).

(3) "Regiment" may be used to designate a parent organization for a number of infantry battalions. For example, The Royal Sussex Regiment (see par. 167*g*) might include any number of infantry battalions which have neither trained nor fought together but which have a historic name in common (see par. 23).

(4) On occasion, in order to obtain brevity, a battalion of the Royal Tank Regiment (R Tanks) may be referred to, for example, as 6 R Tanks (i. e., the 6th Battalion of the Royal Tank Regiment—see pars. 37*a* and 168*a*).

d. In tactical organizations the British term "brigade" indicates an organization roughly equivalent to a U. S. reinforced regiment (see par. 25 and fig. 107), and British "battery" indicates an artillery unit which is comparable in size to a U. S. field artillery battalion rather than a U. S. battery (see par. 28*c*).

e. In view of their extensive use by the British, abbreviations have been frequently indicated throughout the text. For various categories of abbreviations, see chapter 10.

f. Slight differences between American spelling and British spelling should cause no difficulty (see par. 174). Except for the U. S. terms in paragraphs 171 and 172 (and occasionally elsewhere), British spelling must be followed in the case of a few military terms which occur repeatedly in British references and orders, such as "anti-aircraft," "anti-tank," "armour," "armoured," "defence," "counter-battery," etc. On its first (and sometimes later) use, any British term that may present confusion is usually followed in the text by the equivalent U. S. term in parentheses. The terms "petrol" and "gasoline," as well as "wireless" and "radio" and other pairs of equivalents, are frequently used interchangeably.

4. Revisions and supplements.—*a. Revisions.*—All errors or suggested changes and additions should be reported to the Dissemination Branch of the Military Intelligence Service, War Department, Washington, D. C.

b. Supplements.—Brief discussions of the Royal Air Force and civilian defence organizations have been included because of the close relation between these organizations and the British Army. Further supplements may be added from time to time.

Chapter 2

GENERAL

5. British Empire.—The British Empire, or the British Commonwealth of Nations as it is now frequently termed, is an association of some 60 separate territories, scattered across every continent, owing a common allegiance to the British Crown. British territories include dominions, colonies, the Indian Empire, protectorates, and mandates.

a. Dominions.—Dominions (Canada, Australia, New Zealand, and South Africa) are autonomous communities within the British Empire, equal in status and in no way subordinate one to another in any aspect of their domestic or external affairs. No formal written document binds the dominions to the United Kingdom (par. 6) and their virtual independence as sovereign states was recognized by the Parliament of the United Kingdom in the Statute of Westminister (1931). In fact, only the link of a common sovereign and a common tradition—stronger than any written document or treaty—holds this free association of peoples together.

b. Colonies.—Colonies are territories in a state of dependency toward the United Kingdom. This dependence varies according to the degree of social development of the colony. The more advanced, such as Ceylon, enjoy their own local legislatures.

c. Indian Empire.—The Indian Empire, a subcontinent in itself, stands in a separate category. Its constitution is in process of transition toward a federal system of government comprising both British India and the Native States, the latter of which are administered by their own rulers. India's eventual entry into the comity of dominions is an expressed aim of British policy.

d. Protectorates.—Protectorates, such as Zanzibar, for the most part retain their own native or tribal rulers, but relations with foreign states are conducted by the British Government, which is also responsible for their protection.

e. Mandates.—Mandates, such as Palestine, are territories, formerly belonging to enemy countries in the First World War, submitted to British trusteeship under the Covenant of the League of Nations.

6. United Kingdom.—*a.* The United Kingdom consists of Great Britain (England and Wales, and Scotland), Northern Ireland, the Channel Islands, and the Isle of Man (fig. 1). The latter three have their own lawmaking bodies for local purposes.

b. The United Kingdom is a constitutional or limited monarchy, that is, a Parliamentary democracy in which the King "reigns, but does not rule." The King is the legal head of the state, and embodies the unity of the nation. He can exercise the royal prerogative in a wide variety of ways, and all acts of Parliament require his assent. Yet in practice he performs no official act without the advice of one of his Ministers. Parliament itself is opened with a speech by the King, but it is a speech prepared by his Ministers, who are drawn from the majority party in Parliament in peacetime or from several parties as in the present wartime coalition.

7. Houses of Parliament.—The Houses of Parliament, consisting of the House of Lords and the House of Commons, comprise the supreme lawmaking body of the realm.

a. House of Commons.—Members of the House of Commons (MP's) are elected by universal adult franchise. The life of an ordinary Parliament may be 5 years, but the present wartime Parliament has extended its duration by majority vote in order to avoid interruption of the war effort. Any voter may offer himself as a candidate for election in any constituency in the country, no matter where his ordinary residence may be, provided he receives the required number of nominations and pays a deposit of $600, which is subject to forfeit if he fails to obtain one-eighth of the total votes polled. Most members of the House of Commons are elected on a party program. In the present House of Commons the Conservative Party has the largest representation; then come the Labour Party and the Liberal Party. Other parties with small representation are the Independent Labour and the Communist.

b. House of Lords.—The House of Lords consists of peers who have a hereditary or official right to attend, together with persons raised to the peerage in recognition of their public services. The Archbishops of Canterbury and York and 21 other bishops also sit in the House of Lords. The main function of the House of Lords today is to act as a check on legislation: it cannot initiate legislation, but it can delay, or recommend amendments to, any bill except one that authorizes taxation or expenditure. If, however, the House of Commons passes a bill

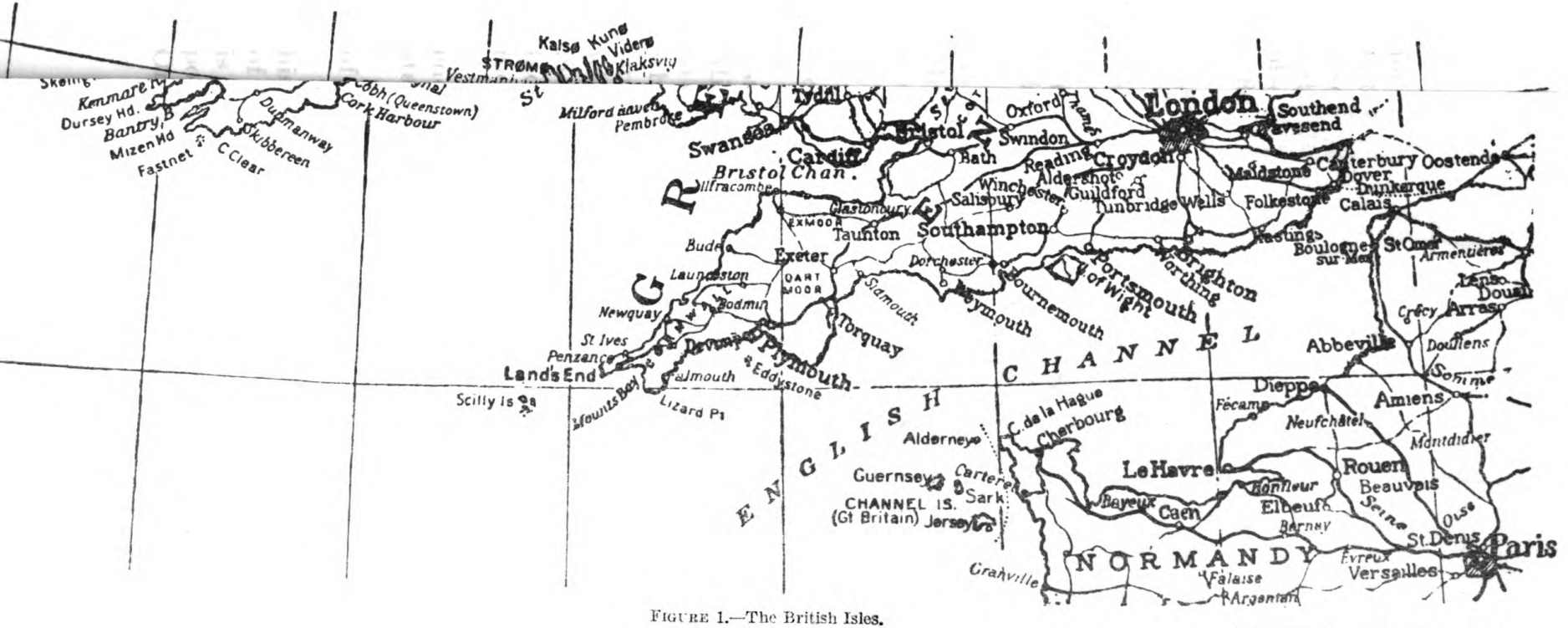

FIGURE 1.—The British Isles.

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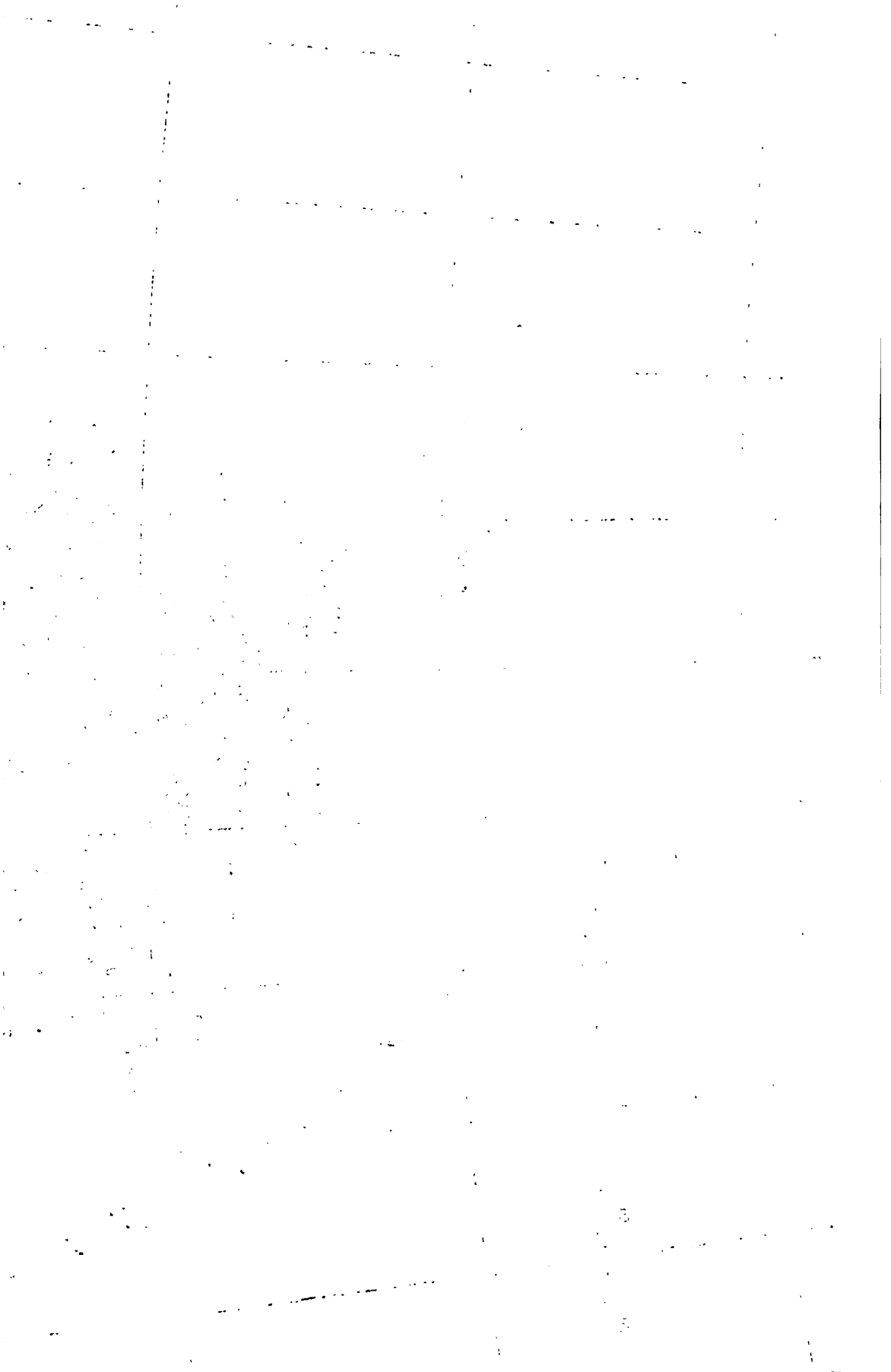

for the third time in spite of its rejection by the House of Lords, the latter must acquiesce, and the bill becomes law when the King's assent is given. In principle the King may veto legislation, but the right has not been used for so many years that it may be said to be obsolete. (On the peerage, see also par. 163.)

8. Cabinet.—*a.* The simplest description of the Cabinet is that it is a bridge between the legislative and executive organs of government. The Ministers who compose it are, or become, members of one of the two Houses. The Cabinet must derive support from a majority in the House of Commons, and its members, except when there is a coalition or national government, are drawn from the predominant party in that House.

b. The functions of Cabinet Ministers correspond closely to those of the secretaries of the executive departments of the United States Government. In normal times each Minister except the Prime Minister is in charge of some department of government, but in the present Cabinet there are several members who have been freed of departmental duties in order to devote greater time to the direction of the war.

c. The Cabinet depends for its tenure on the support of the majority of the House of Commons. If that support is withdrawn, either on a vote of confidence or on the rejection of major legislation, the Prime Minister and the Cabinet are bound by custom, though only by custom, to resign. In practice, however, it would be impossible for any Cabinet which lacked the confidence of the Commons to continue long in office, since proposed legislation could be rejected by the House of Commons, which also controls the purse strings of government. Historically and in name the Cabinet is the working committee of government; in fact its members are appointed by the King on the Prime Minister's recommendation.

d. All sessions of the Cabinet are secret. Theoretically, no differences of opinion can exist within it, and externally none do exist. It stands or falls as a unit.

e. At the present time there exists an inner War Cabinet consisting of seven members, including the Prime Minister.

9. Privy Council.—The Privy Council, out of which the Cabinet historically grew, is a body of advisers to the King which sanctions acts of government that are not within the province of Parliament. Its size is not limited. Under special wartime legislation certain emergency powers are conferred upon the Privy Council. The King may issue Orders in Council through the Cabinet acting as a committee of the

Privy Council, and Parliamentary sanction need not be required for such Orders.

10. Conduct of war.—*a.* The three Cabinet members who are most directly connected with naval, military, and air-force matters are the First Lord of the Admiralty, the Secretary of State for War, and the Secretary of State for Air.

b. In addition, the present Cabinet includes a Minister of State to supervise production, a Minister of Supply, and a Minister of Aircraft Production. The Prime Minister now holds the portfolio of Minister of Defence.

c. The Committee of Imperial Defence, which includes the Prime Minister, appropriate Cabinet Ministers, and the Chiefs of Staff, determines questions affecting the general strategic defence of the British Empire, though the dominions generally provide for the defence of their own territories and adjacent waters. This committee coordinates the work of the Royal Navy, the Army, and the Royal Air Force.

Chapter 3

ORGANIZATION

SECTION I

SUPREME COMMAND

11. General.—The armed forces of the nation—the Royal Navy, the Army, and the Royal Air Force—function under separate Ministries: namely, the Admiralty, the War Office, and the Air Ministry. These Ministries are coordinated by the War Cabinet.

12. Army Council.—The Army is directly under the command of the Army Council. The senior military member is the Chief of the Imperial General Staff. All orders are issued in the name of the Army Council, not by the Secretary of State for War, who is, however, individually responsible to the War Cabinet for the business of the Army.

13. War Office.—Under the direction of the Army Council is the War Office, the organization of which (fig. 2) is fundamentally similar to that of the War Department of the United States.*

14. General Staff.—*a.* The Department of the Chief of the Imperial General Staff is divided into the following directorates:

* The U. S. "war department" itself was called "War Office" from its foundation in 1777 until 1789—see the seal on the title page.

(1) Directorate of Military Operations.
(2) Directorate of Military Intelligence.
(3) Directorate of Signals.
(4) Directorate of Staff Duties.
(5) Directorate of Military Training.
(6) Directorate of Weapons and Vehicles.
(7) Directorate of Armoured Fighting Vehicles.
(8) Directorate of Royal Artillery.
(9) Directorate of Air.
(10) Directorate of the Home Guard and Territorial Army.
(11) Directorate of American Liaison and Munitions.

The Directorate of Anti-Aircraft and Coast Defence has been abolished, and its functions have been taken over mainly by the Directorate of Royal Artillery. The Directorate of Air handles for the War Office the problems of air-borne forces and air-ground cooperation. The Directorate of Staff Duties is responsible through the War Establishments Committee for the preparation of the War Establishments of all British Army units and formations. The War Establishments in the British service are the equivalent of the Tables of Organization in the U. S. Army. The War Establishment of a formation or of a unit changes from time to time according to the exigencies of the service.

b. The Department of the Chief of the Imperial General Staff is basically concerned with military policy (which includes war-planning, training, historical research, and military intelligence) and with coordinating the activities of the other staff departments.

c. The Department of the Adjutant-General to the Forces is concerned with personnel, which includes recruiting, organization, administration, military discipline, and medical services. In general, its functions are a combination of those of G–1, The Adjutant General, The Surgeon General, and The Judge Advocate General in the U. S. Army.

d. The Department of the Quarter-Master-General is concerned with quartering the Army, with road, railway, and sea transport, with construction and maintenance of buildings and fortifications, with supply of food, forage, and fuel, and with remount and veterinary service. In general, its functions include those of G–4 and some of those of The Quartermaster General and the Chief of Engineers in the U. S. Army.

e. The Department of the Director-General of Army Requirements is concerned with formulating Army material requirements and transmitting them to and coordinating them with the Ministry of Supply.

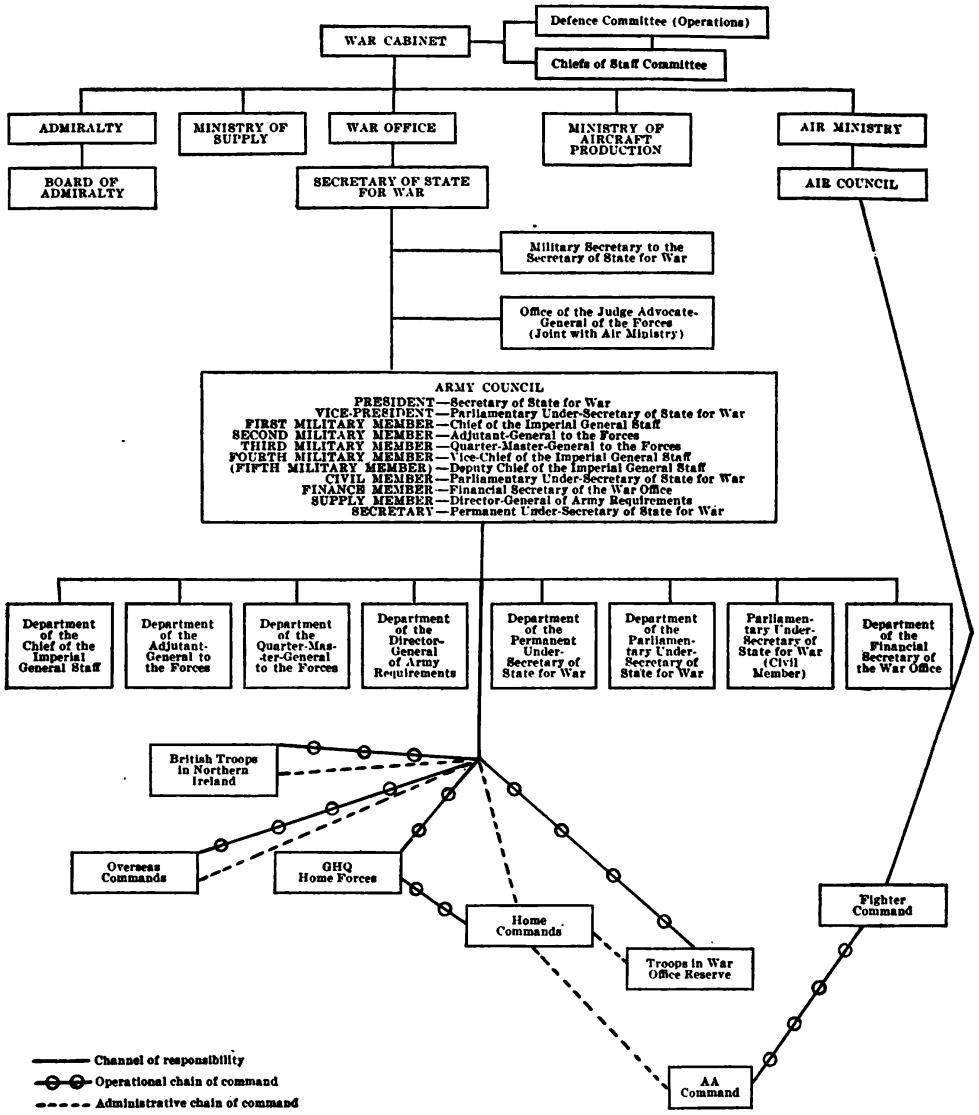

FIGURE 2.—Organization of the War Office (showing its relation to other Ministries).

15. Permanent Under-Secretary of State for War.—The Department of the Permanent Under-Secretary of State for War is charged with the conduct of War Office business, including all finance and accounting, and with administration of the Royal Army Chaplains' Department and the Royal Army Pay Corps. This conservative civilian department, because of its powers of veto in financial matters, has great influence in the War Office even in time of war.

SECTION II

HIGHER ORGANIZATIONS

16. General.—*a.* At the declaration of war on September 3, 1939, the British Army consisted of the Regular Army, the Territorial Army (corresponding to the National Guard in the United States), and several reserve forces. Soon thereafter all elements were consolidated into a single "British Army" and, except for certain legal differences, the distinctions between these several elements have now vanished.

b. In general, the British Army consists of the Home Forces, the Anti-Aircraft Command, the British Forces in the Middle East, the British Forces in India, and a considerable number of scattered commands throughout the world. These elements are all commanded directly from the War Office.

17. Home Forces.—*a.* The Home Forces, with its own Commander-in-Chief [1] and its own GHQ, comprises all field forces located in the United Kingdom. It is responsible for the defence of the British Isles, and it consists of all corps, divisions, and separate units assigned to defend Great Britain against invasion.

b. The Home Guard, which is within the Home Forces, was organized hastily in May 1940 as the Local Defence Volunteers. It consists of volunteer unpaid, part-time troops formed into units for the local defence of communities, airfields, and communications, and for general observation purposes. Its members, who are regularly enrolled in the military forces and would come to full-time duty in case of invasion, are equipped with rifles and with some automatic weapons, anti-tank rifles, grenades, submachine guns, etc. The Home Guard has little transportation and can be depended upon only for local defence purposes. (See also par. 198.)

18. Corps and army.—The organization of the corps and the field army is similar to that in the U. S. Army, each consisting of a headquarters, certain organic troops, and a variable number of divisions and corps, respectively, as determined by the War Office. (For the organization of the corps staff, see fig. 3.)

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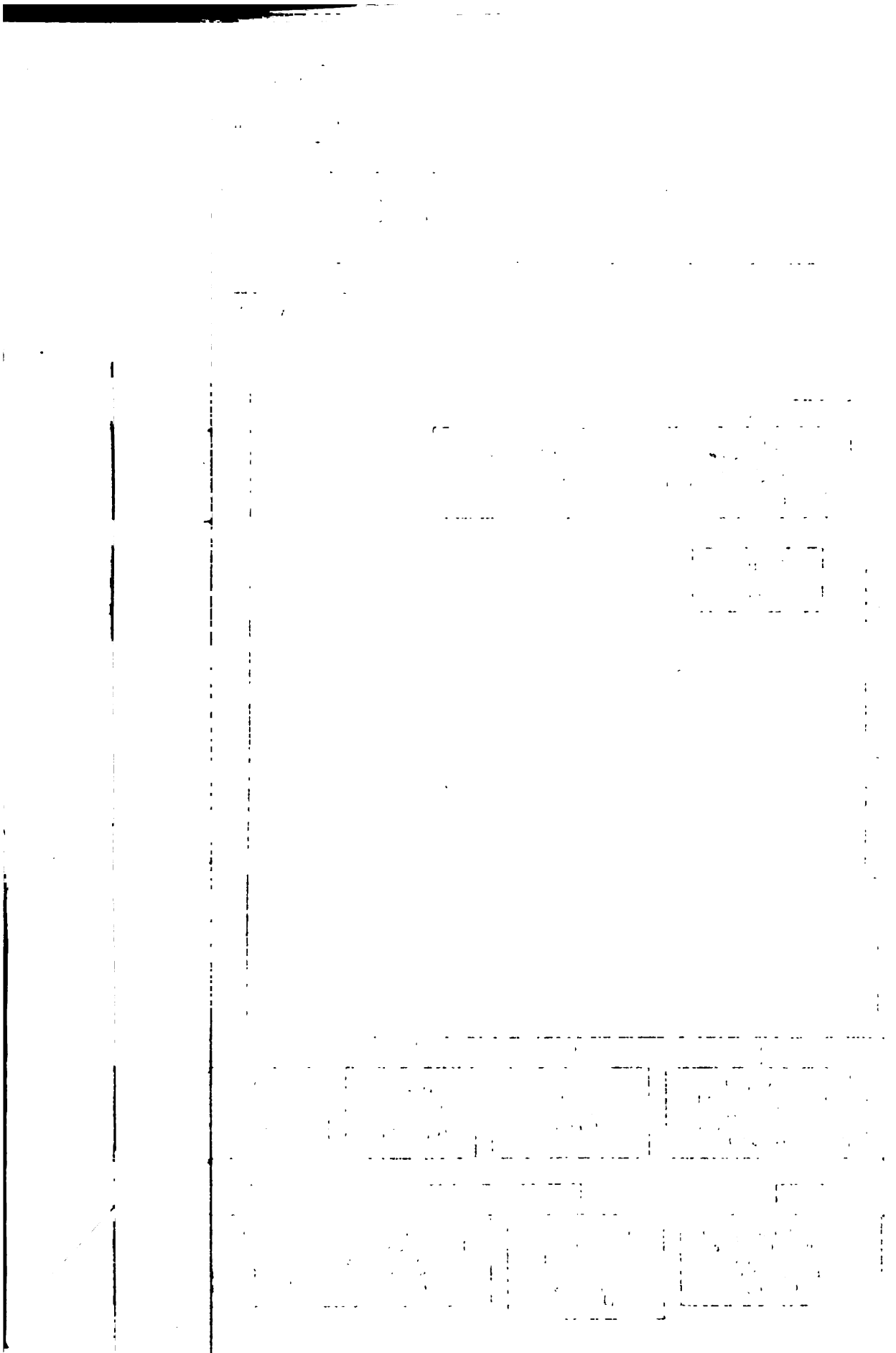
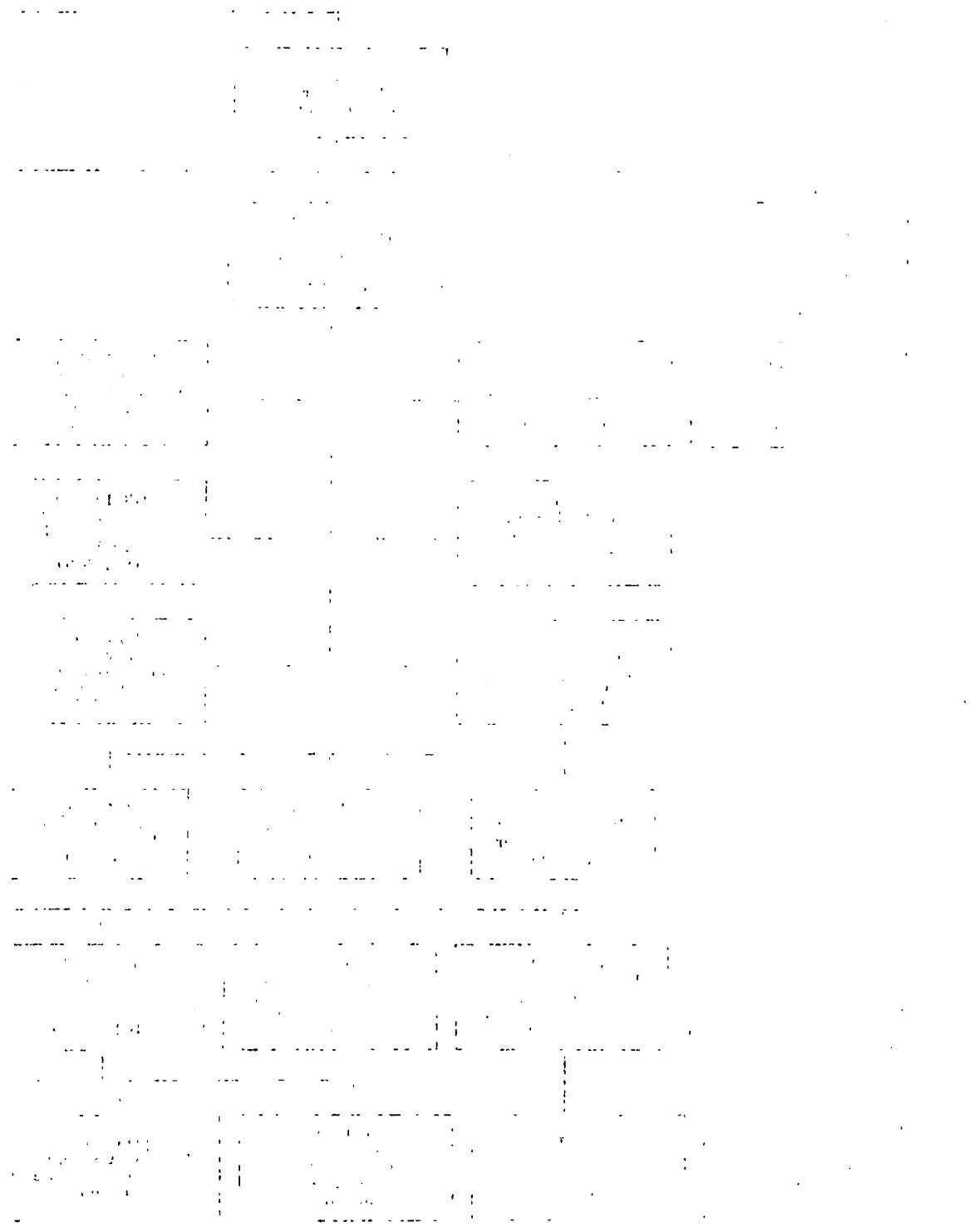
[1] The following troops are not under the command of the Commander-in-Chief, Home Forces:

1. Anti-aircraft formations, which are under the operational control of the Fighter Command of the Royal Air Force (RAF). (See figs. 2 and 17 and pars. 35*b* and *c* and 179*a*(2).)
2. Transportation troops held in reserve under War Office control.
3. Training units and establishments except those allotted an operational role, and then only in an emergency.
4. Forces in Northern Ireland, which are commanded by the General Officer Commanding (GOC), British Troops in Northern Ireland, under the War Office.





SECTION III

ADMINISTRATION

19. General.—*a.* For administrative purposes the United Kingdom is divided into six military commands and two military districts (fig. 4). Commands are subdivided into areas. Northern Ireland and London are the two districts; the commands are as follows:

(1) Southern.
(2) Western.
(3) Northern.
(4) Eastern.
(5) South-eastern.
(6) Scottish.

b. The chain of command for operational (tactical) matters is from GHQ, Home Forces, through commands to tactical corps. Areas are operationally under corps. In the event of operations taking place in the United Kingdom, commands become headquarters of armies.

c. In administrative matters the chain of command is from the War Office to commands, then direct to both corps and areas. The area, as has been stated above, comes under the corps only operationally.

d. A district functions in the same manner as a command.

e. The commands are in charge of army commanders, whose staffs are similar to corps staffs on an enlarged scale.

20. Arms of the Service.—All branches, taken collectively, are called the "Arms of the Service." The combatant branches are called "The Arms"; the administrative branches, "The Services." The principal branches in order of precedence are as follows:

a. The Arms:

Cavalry (Cav).[2]
Royal Armoured Corps (RAC).[2]
Royal Regiment of Artillery (RA).[3]
Corps of Royal Engineers (RE).
Royal Corps of Signals (R Sigs).
Infantry (Inf).
Reconnaissance Corps (Recce Corps).[4]

[2] All except two of the cavalry regiments have been mechanized, and now constitute a part of the Royal Armoured Corps. (See pars. 37 and 167*b*.) The term "Royal" is given to a regiment or corps as a special mark of favor for distinguished service. As a further distinction, the King will honor the regiment or corps by becoming its colonel-in-chief.

[3] The Royal Regiment of Artillery retains the name "regiment" for traditional reasons. (See par. 28*a*.)

[4] The units of the Reconnaissance Corps are distributed throughout the various formations of the Army, a regiment (battalion), for example, being furnished to each infantry division. (See par. 26*e* and fig. 11.)

FIGURE 4.—Military commands and districts.

b. The Services:

Royal Army Chaplains' Department (RAChD).
Royal Army Service Corps (RASC).
Royal Army Medical Corps (RAMC).
Royal Army Ordnance Corps (RAOC).
Royal Electrical and Mechanical Engineers (REME).
Royal Army Pay Corps (RAPC).
Royal Army Veterinary Corps (RAVC).
Army Educational Corps (AEC).
The Army Dental Corps (AD Corps).
Pioneer Corps (P Corps).[5]
Intelligence Corps (IC).[6]
Army Catering Corps (ACC).
Army Physical Training Corps (APTC).
Corps of Military Police (CMP).
Military Provost Staff Corps (MPSC).
Queen Alexandra's Imperial Military Nursing Service (QAIMNS).
Auxiliary Territorial Service (ATS).
Officers' Training Corps (OTC).

SECTION IV

TACTICAL STAFFS

21. Division and brigade staffs.—For the purpose of illustrating staff duties, two representative staffs are presented in detail. (On the function of the "G", "A", and "Q" Staffs, see p. 259, notes 3–5; on the grades and ranks of certain staff officers, see p. 260, note 7.)

a. Infantry division staff (fig. 5).—(1) *Duties and office organization.*—(*a*) *GSO 1—General Staff Officer, Grade 1.*—GSO 1 (Chief of Staff) is responsible for—

1. Policy as directed by the General Officer Commanding (GOC), including policy for training.
2. Coordination and general supervision of all work of divisional Hq.

[5] Formerly known as the Auxiliary Military Pioneer Corps (AMPC).
[6] The units of the Intelligence Corps are distributed throughout the various formations of the Army, a section, for example, being furnished to each divisional Hq. (See ch. 7, especially pars. 141 and 142.)

(*b*) *GSO 2—General Staff Officer, Grade 2.*—GSO 2 is responsible for—

1. Orders and instructions as ordered by GSO 1.
2. Organization and working of "G" (Operations and Intelligence) office.
3. Detail of duty officers at Hq.
4. Control and interviewing of liaison officers at divisional Hq.
5. Arrangements with the Officer Commanding, Divisional Signals (OC Div Sigs), and the Camp Commandant (officer responsible for local administration of Hq as a whole) for moves of divisional Hq.
6. Moves by road; he is assisted by DAQMG (Deputy Assistant-Quarter-Master-General) for movement (march) tables (see par. 131 and fig. 116).

(*c*) *GSO 3 (O)—General Staff Officer, Grade 3 (Operations).*—GSO 3 is the understudy to GSO 2 and is responsible for—

1. Operations as directed by GSO 1 or GSO 2.
2. Moves by road (as allotted by GSO 2).
3. Distribution of maps.
4. Supervision of "G" draftsmen, who make tabulations, charts, and sketch maps.
5. Location statement (each evening).
6. Circulation of situation reports.
7. Supervision of the acknowledgment register (a receipt diary for messages).
8. Codes and ciphers.
9. "G" war diary.
10. Detailed orders for move of "O" Group (Operations Group).

(*d*) *GSO 3 (I)—General Staff Officer, Grade 3 (Intelligence).*—GSO 3 (I) is responsible for—

1. Coordination of all intelligence work in the divisional area.
2. Situation map.
3. Divisional commander's battle map.
4. Divisional intelligence summaries.
5. Deductions from information received.
6. Confirmation of uncertain information.
7. Reporting to GOC on requests for bomber support by brigades.[7]
8. Liaison with the Air Intelligence Liaison Officer (AILO) on operational matters.

[7] This arrangement is known as Army Air Support Control (AASC).

9. Ordering and interpretation of air photographs.
10. Distribution of intelligence of air photographs.
11. Maintenance of diary showing identifications, enemy order of battle, and any other necessary items (less enemy artillery information, which is the duty of the Intelligence Officer, Royal Artillery (IORA)).
12. Arrangements for preliminary examination of prisoners and deserters (carried out by IO (Intelligence Officer)).
13. Liaison with IORA.
14. Report of enemy identifications to higher authority.
15. Circulation of intelligence.

(*e*) *GSO 3 (CW)—General Staff Officer, Grade 3 (Chemical Warfare).*—GSO 3 (CW) is responsible for—

1. Advice on chemical warfare, including, when necessary, a CW appreciation of the situation.
2. Anti-gas training.
3. Study of the divisional area in order to assess the probable dangers from enemy use of gas.
4. Chemical warfare intelligence in conjunction with the intelligence staff.
5. Examination of specimens of technical interest in conjunction with anti-gas mobile laboratory.
6. Meteorological arrangements for chemical warfare.
7. Chemical warfare map.

(*f*) *IO—Intelligence Officer.*—His duties are similar to those of GSO 3 (I) and he is responsible to him. These two officers are interchangeable and one is always at divisional Hq. In principle, the Intelligence Officer and his staff are primarily concerned with the detailed examination of messages, documents, prisoners, etc., and with the keeping of records. GSO 3 (I) is primarily concerned with insuring that steps are taken to obtain information and that proper use is made of information obtained.

(*g*) *MCLO's—3 Motor Contact Liaison Officers.*—These officers are charged with liaison with infantry brigades (brigades are equivalent to U. S. regiments), flank formations, units on each flank, and corps Hq. They keep in constant touch with signal offices (message centers), calling for messages, etc., on outward journeys and reporting any information such as locations, etc., on return journeys.

(*h*) *Cipher Officer.*—This officer, who is responsible to OC Div Sigs for all matters other than technical cipher duties, conducts the cipher office. He and his staff will be prepared to assist the "G" Staff when not fully occupied on cipher duties.

(*i*) *AA & QMG—Assistant-Adjutant and Quarter-Master-General.*—This officer is charged with administrative staff work and with coordination of the work of the services. He is in close touch with the "G" Staff.

(*j*) *DAAG—Deputy Assistant-Adjutant-General.*—DAAG is responsible for—

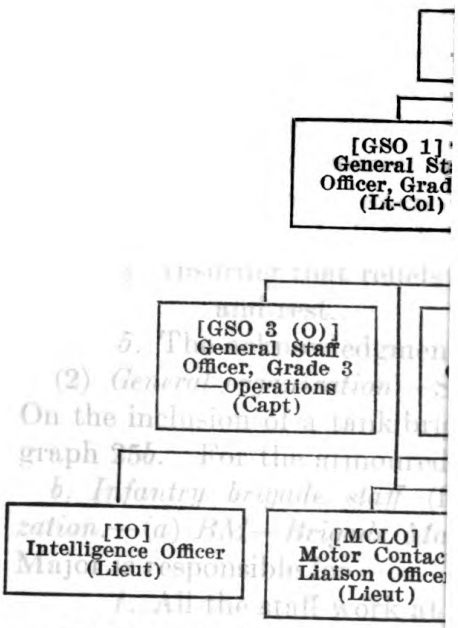
1. Reinforcements.
2. Medical services (with the Assistant-Director of Medical Services (ADMS)).
3. Spiritual welfare (with the Senior Chaplain).
4. Graves.
5. Pay.
6. Personnel services, including discipline (with the Deputy Assistant-Provost-Marshal (DAPM)), leave, and prisoners of war.
7. "A" "Q" war diary.
8. Discipline (courts-martial).
9. Morale.
10. Traffic control with DAPM.

(*k*) *DAQMG—Deputy Assistant-Quarter-Master-General.*—DAQMG is responsible for—

1. Supplies, petrol (gasoline), oil, and lubricants (POL), and ammunition (with the Commander, Royal Army Service Corps (CRASC)).
2. Ordnance services (with the Assistant-Director of Ordnance Services (ADOS)).
3. Detailed quartering of troops in consultation with the "G" Staff.
4. Moves by road (with GSO 2).
5. Moves other than by road.

(*l*) *ADC—Aide-de-Camp.*—ADC has the following duties:

1. The personal comfort of the division commander.
2. When the division commander wishes, he acts as his staff officer.
3. On return from visits to troops, he makes certain that the Signalmaster (officer in charge of the signal office) knows the latest locations of the troops he has visited.
4. Assistant to the Camp Commandant in his duties (e. g., he may act as Camp Commandant for advanced Hq when it is formed).



[1] The letters shown in brackets are
in parentheses.

[2] The following headquarters staffs
Commander, Royal Artillery (CRA
Brigade Major, Royal Artillery (I
Staff Captain, Royal Artillery (SCI
Intelligence Officer (Capt), Royal
Commander, Royal Engineers (CR
Adjutant, Royal Engineers.
Officer Commanding, Divisional Si

[3] The following headquarters staffs
below):
Commander, Royal Army Service C
Five officers, Royal Army Service C
Assistant-Director, Medical Service
Deputy Assistant-Director, Medica
Deputy Assistant-Provost-Marshal
Assistant-Director, Ordnance Serv
Two Deputy Assistant-Directors,
Senior Ordnance Mechanical Engi

[4] GSO 1 is responsible for coordinat

[5] AA & QMG (AQ) controls and coor

(*m*) *Catering Adviser.*—The Catering Adviser is responsible for—

1. Advising unit commanders on all matters concerning food preservation, cooking, preparation of diets, and dietetic hygiene.

2. Arranging the relief or transfer of Army Catering Corps (ACC) personnel throughout various units of the division (cooks of all units being ACC personnel but under the command of the unit to which they are attached).

3. Training ACC personnel in their specialist duties within the division.

(*n*) *Chief Clerks, "A" and "G" (RSM—Regimental Sergeant-Major* [8] (warrant officer, class I) *and CSM—Company Sergeant-Major* (warrant officer, class II)).—These clerks are responsible for—

1. Organization and supervision of clerical duties in their offices.

2. Checking, correct assembly, numbering, and dispatch of orders, messages, etc.

3. Detailing clerk to keep a record of "in" and "out" messages.

4. Insuring that reliefs are carried out so that clerks get meals and rest.

5. The acknowledgment register (see (*c*)*7*, above).

(2) *General organization.*—See figure 5, paragraph 24, and figure 7. On the inclusion of a tank brigade in the (infantry) division, see paragraph 25*b*. For the armoured division staff, see paragraph 38*b*.

b. Infantry brigade staff (fig. 6).—(1) *Duties and office organization.*—(*a*) *BM—Brigade Major* (*Executive and S–3*).—The Brigade Major is responsible for—

1. All the staff work at brigade Hq (he can allocate this work, subject to his commander's approval, as he thinks fit).

2. Initiation of plans, subject to the commander's orders.

3. Preparing and issuing operational orders and instructions.

4. Transmission of information to divisional Hq and to neighboring troops.

5. Training.

6. Reports.

7. Reports on officers.

8. Honors and awards.

(*b*) *Bde IO—Brigade Intelligence Officer* (*S–2*).—For full details of the responsibilities of Bde IO (or BIO), see paragraph 137.

[8] "Serjeant" is the official British Army form, but the spelling "sergeant," which is official in the Royal Air Force, is adopted throughout for the sake of uniformity.

(*c*) *MCLO's—3 Motor Contact Liaison Officers.*—These officers are responsible for liaison with battalion, flank units, and divisional Hq. Their duties in connection with signal offices (message centers) are the same as on the infantry division staff. (See *a*(1)(*g*), above.)

(*d*) *Bde Sigs—Brigade Signal Officer (Communication Officer).*—This officer is responsible for—

1. Command, administration, and technical efficiency of the brigade signal section.
2. His turn of duty at brigade Hq as an officer of the brigade staff.
3. Advice on signal matters, especially with reference to the intercommunication paragraphs of operation orders.
4. Liaison with BM and Bde IO to obtain adequate information on which to base his signal plans.
5. Reporting to BM any failure in signal communications or delays in the transmission of messages.
6. Advice to battalion commanders on their own signal communications and cooperation with battalion signal officers, including all possible assistance to them.
7. Siting at brigade Hq, and general tactical control of divisional wireless (radio) sets, Royal Air Force wireless tender (for tactical reconnaissance), and wireless set (Army) for AASC.[9]
8. Administration of attached details of other signal units and RAF personnel at brigade Hq.
9. First-line repairs to signaling equipment of battalions.

(*e*) *SC—Staff Captain (S–1 and S–4).*—This officer is responsible for—

1. Personnel.
2. Casualties.
3. Spiritual welfare.
4. Discipline.
5. Sanitation.
6. Prisoners of war.
7. Police.
8. Routine duties.
9. Ceremonial.
10. Distribution and detail of billets.
11. Supplies (including food), petrol, ammunition, water, equipment, clothing, etc.

[9] See *a*(1)(*d*)7, above, and note.

12. Preparation of administrative paragraph of operation orders.
13. Traffic control.
14. Reconnaissance of sites for brigade Hq—and allotment.
15. Control of transport arriving at brigade Hq.

(*f*) *Captain, RASC—Royal Army Service Corps* (*S–4*).—This officer has the following duties (with the Staff Captain):

1. Represents CRASC at brigade Hq.
2. Advises on RASC questions.
3. Maintains personal liaison with units to insure smooth working of RASC services.
4. Assists the Staff Captain in all matters relating to RASC supplies (including food).
5. Forecasts requirements of petrol and oil and gives early warning of any abnormal demand.

(*g*) *Bde TO—Brigade Transport Officer.*—This officer is responsible for—

1. Command of "B" echelon (rear echelon of first-line transport), including "B" echelon transport units when brigaded (that is, when sub-units of arms such as artillery and engineers are under the command of the brigade). (On "B" echelon, see par. 57*a* and figs. 107 and 115.)
2. Defence of "B" echelon area.
3. Mechanical transport.
4. Use of petrol.
5. Reconnaissance of site for "B" echelon.

(*h*) *Chief Clerk* (*S/Sgt—Staff Sergeant*).—The chief clerk is charged with—

1. Organization and supervision of clerical duties.
2. Checking, correct assembly, numbering, and dispatch of orders, messages, etc.
3. Insuring that incoming orders, messages, etc., are at once passed to the officer concerned, and that they are subsequently seen, as necessary, by other officers and filed (this duty may be allotted to Bde IO).
4. Insuring that all waste paper, carbons, etc., are burned.
5. Insuring that reliefs are carried out so that clerks get meals and rest.

(*i*) *OME—Ordnance Mechanical Engineer* (*warrant officer, class I*), *RAOC* (*Royal Army Ordnance Corps*)) (*S–4*).—This warrant officer has the following duties (under the Staff Captain):

1. Represents ADOS (Assistant-Director of Ordnance Services).

2. Advises on RAOC questions.
3. Assists the Staff Captain in all matters relating to ordnance stores.

(*j*) *Brigade CQMS* (*Company Quarter-Master Sergeant*).—CQMS is charged with—

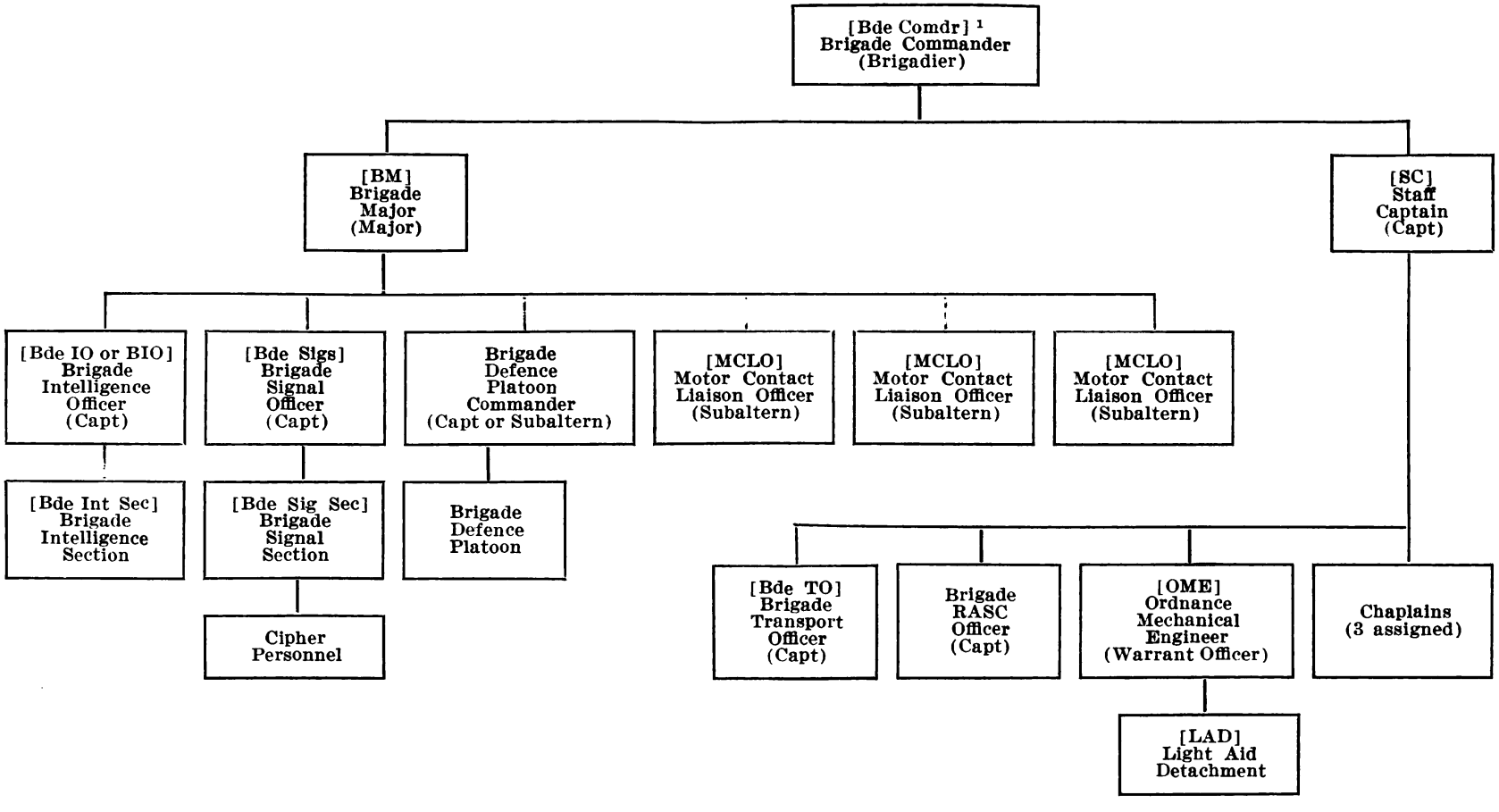
1. Assisting the Staff Captain.
2. Drawing and accounting for equipment and stores.
3. Accounting for and repair of brigade Hq property.
4. Interior economy and discipline of OR's—other ranks (enlisted men).
5. Messing of OR's (including Sigs); arranging special meals, haversack rations, etc.; informing personnel when meals are ready and keeping meals for, or sending tea, etc., to, those unable to attend; making special point of insuring that all concerned, including visiting personnel, get meals.
6. Ordering rations, etc.
7. Pay rolls.

(*k*) *Brigade Transport Sergeant.*—This sergeant is charged with—

1. Assisting the Brigade Transport Officer.
2. Drawing and accounting of motor-transport (MT) vehicles and spare parts.
3. Maintenance of MT.
4. Petrol.

(2) *General organization.*—See figure 6, paragraph 25, and figure 8.

22. Infantry and other battalions.—The channel of operational and administrative command passes from the commanding officer (usually a lieutenant-colonel) of the unit by way of the Adjutant to the remainder of the unit. Officers of subordinate units may advise the commanding officer on specific subjects, but normally they have no power outside their own units. A major is second-in-command. The Adjutant (a captain) is the executive of the commanding officer. All correspondence, requests for interviews, and the like are directed to him, and he deals with all subjects, passing on to the commanding officer all those which are of sufficient importance to demand the commanding officer's attention.



[1] The letters shown in brackets are the British abbreviations for the official titles. The ranks of the men normally holding these titles are shown in parentheses.

FIGURE 6.—Organization of the infantry brigade staff.

SECTION V

INFANTRY

23. General.—The infantry of the British Army is organized into 5 Foot Guards Regiments (The Brigade of Guards) and 64 regiments of the line, but since the outbreak of war the number of battalions has been considerably increased (see par. 167*f* and *g*). An infantry regiment is a parent organization only and has no tactical functions. In time of peace most regiments consisted of two Regular Army battalions and from two to five Territorial battalions. The regular battalions have almost never served together, but they have regimental training depots in common. In time of war newly organized battalions are assigned by War Establishments to a regiment, generally according to geographical origin. Thus a regiment may have an indefinite number of battalions; during the First World War this number was sometimes as high as 60. The infantry battalion is the basic combat unit. Infantry battalions are assigned to brigades for operational purposes without regard to regimental unity. There are five general types of battalions: namely, rifle battalion, machine-gun battalion, motor battalion, motorized battalion (an infantry battalion carried in Royal Army Service Corps transport), and divisional reconnaissance regiment (battalion) (see par. 26*e*).

24. Division.—*a.* One type of (infantry) division (fig. 7) consists of 2 infantry brigades and 1 tank brigade, the infantry brigades being composed of 3 rifle battalions each and the tank brigade of 3 tank battalions. The supporting arms consist of 3 field (artillery) regiments, 1 medium (artillery) regiment,[10] 1 anti-tank regiment, 1 light anti-aircraft regiment; 1 divisional reconnaissance regiment (battalion); and signal, Royal Army Service Corps (QM), engineer, medical, ordnance, provost, and other units. The war strength of the division is approximately 17,500 officers and enlisted men.

b. Certain divisions, as above, set up for special purposes have organizations that vary from the standard infantry division of three infantry brigades.

c. In army troops and occasionally in corps troops there are a number of troop-carrying companies of the Royal Army Service

[10] In Great Britain medium artillery is designated as corps troops, but in operations abroad it is a part of the division. (See par. 30.)

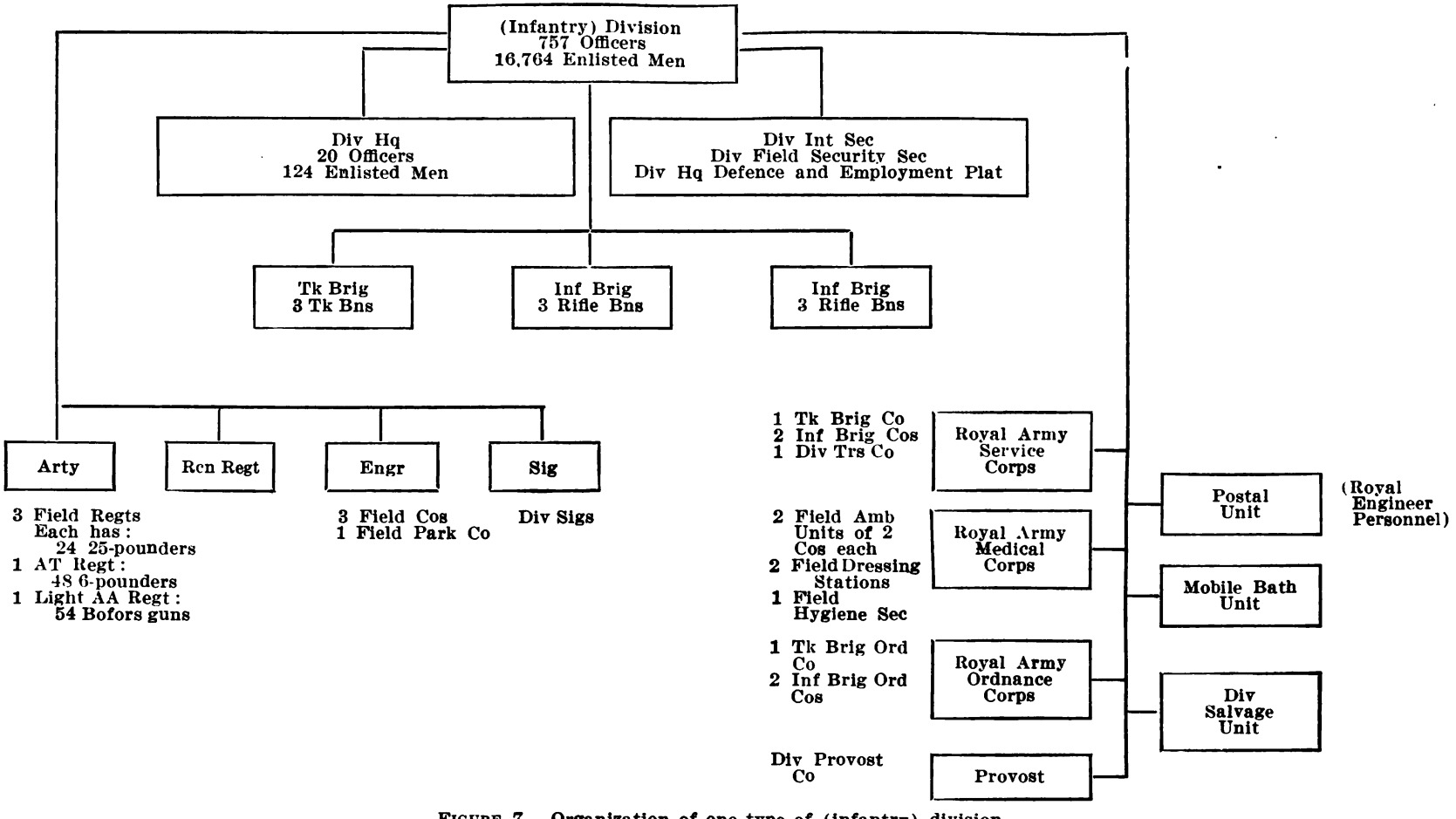
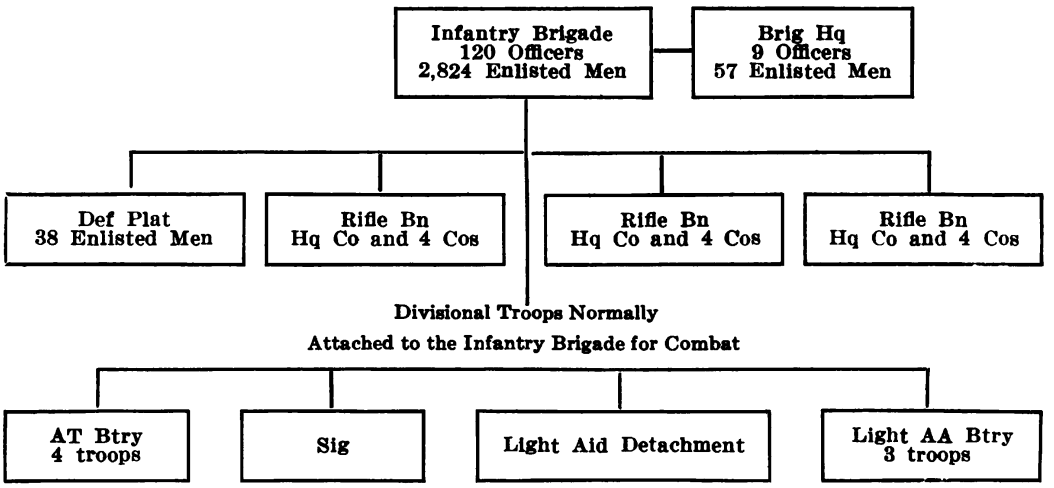


FIGURE 7.—Organization of one type of (infantry) division.

Corps. Each company is capable of carrying one infantry brigade. These RASC companies are not divisional troops in any way.

25. Brigades.—*a. Infantry brigade.*—The accompanying organizational table (fig. 8) shows the present organization of the infantry brigade, which corresponds roughly to the infantry regiment in the U. S. Army. The infantry brigade is the basic unit of the combat team. The brigade has attached to it for combat a defence platoon of 38 men, 1 anti-tank battery, 1 light anti-aircraft battery, a mobile ordnance and motor repair unit—light aid detachment (LAD)—and a signal unit.

b. Tank brigade.—The inclusion of an (army) tank brigade in the organization of the (infantry) division does not mean that the army tank brigade will not operate unattached. See paragraph 39 and figure 20.



Weapons

2,240 Rifles
80 AT rifles
159 LMG's (Bren)
15 Twin LMG's (Bren)
126 Submachine guns
18 3-in mortars
48 2-in mortars
154 Pistols
114 Sig pistols
All exclusive of attached troops.

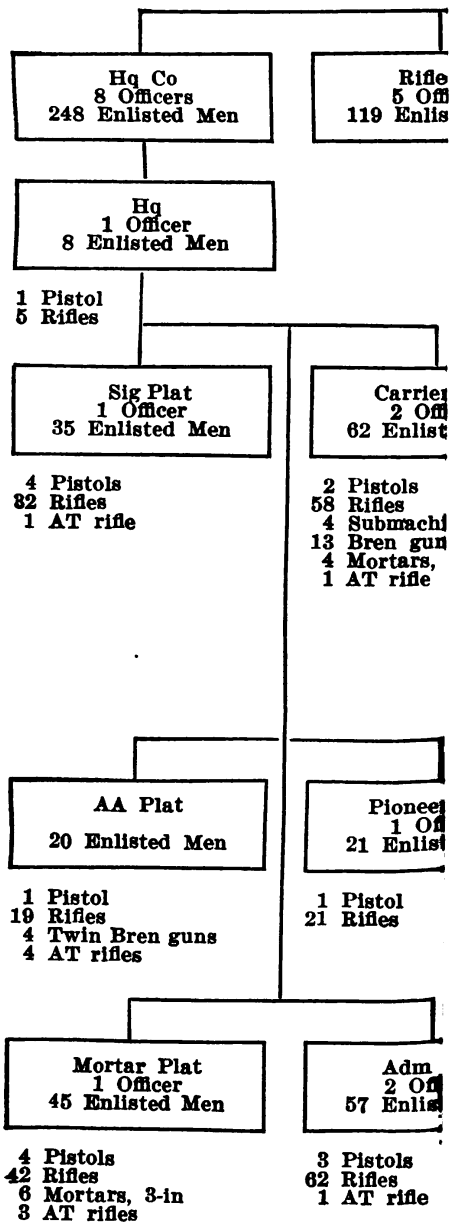
Vehicles

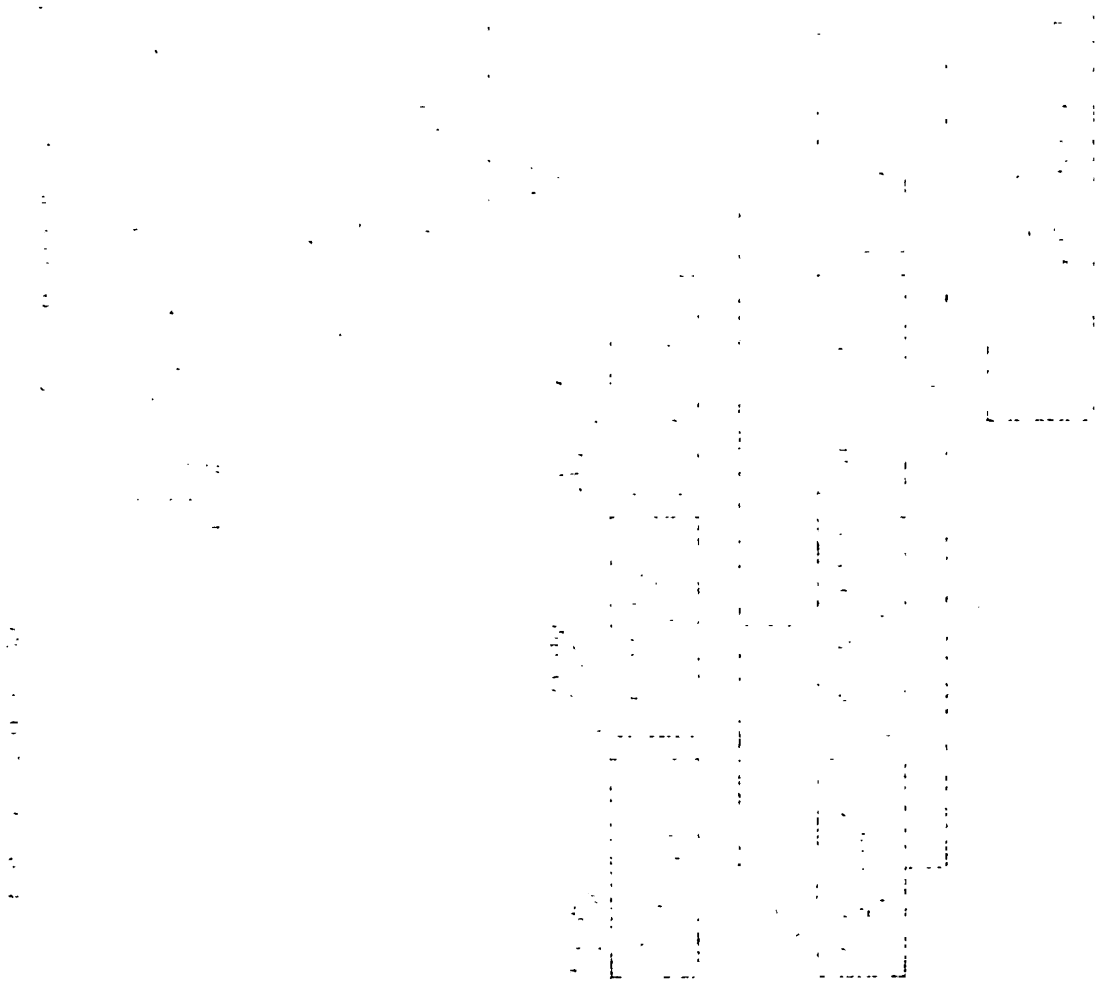
29 Motorcars
88 Motorcycles
4 8-cwt trucks
111 15-cwt trucks
63 Bren MG carriers
40 3-ton lorries
4 Water-tank trailers
93 Bicycles
Total vehicles (exclusive of bicycles), 396.

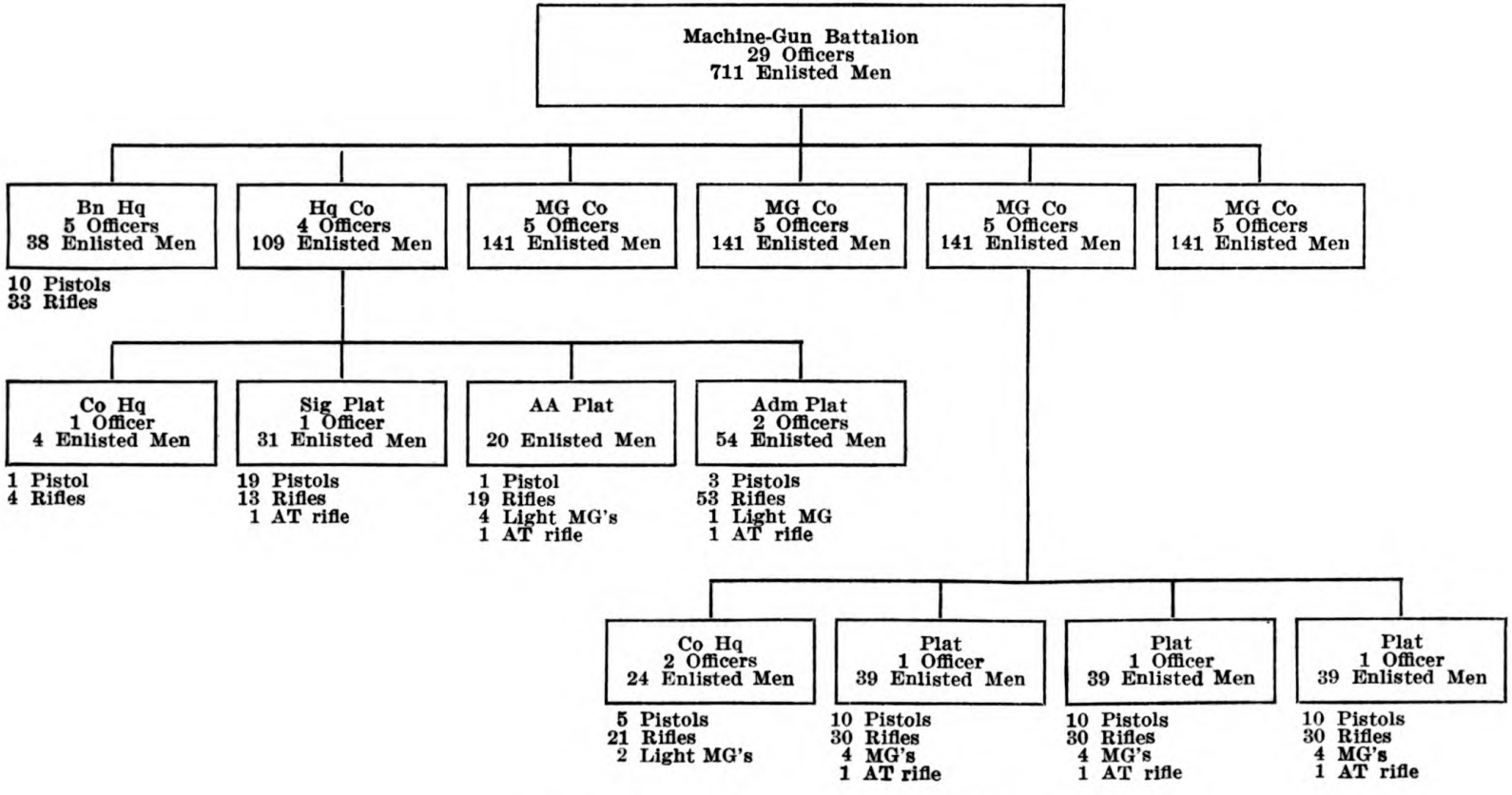
FIGURE 8.—Organization of the infantry brigade.

26. Battalions.—*a. Rifle battalion* (fig. 9).—The rifle battalion organization is based on the Bren caliber .303 light machine gun. This battalion has motorized transport and a war strength of 33 officers and 753 enlisted men.[11] The battalion consists of a head-

[11] Throughout the discussion of the organization of formations and units, the term "enlisted men" will include warrant officers.


Hq Co
8 Officers
248 Enlisted Men
Rifle
5 Offi
119 Enlis
Hq
1 Officer
8 Enlisted Men
1 Pistol
5 Rifles
Sig Plat
1 Officer
35 Enlisted Men
4 Pistols
32 Rifles
1 AT rifle
Carrier
2 Offi
62 Enlist
2 Pistols
58 Rifles
4 Submachi
13 Bren gun
4 Mortars,
1 AT rifle
AA Plat
20 Enlisted Men
1 Pistol
19 Rifles
4 Twin Bren guns
4 AT rifles
Pioneer
1 Of
21 Enlist
1 Pistol
21 Rifles
Mortar Plat
1 Officer
45 Enlisted Men
4 Pistols
42 Rifles
6 Mortars, 3-in
3 AT rifles
Adm
2 Of
57 Enlis
3 Pistols
62 Rifles
1 AT rifle





Weapons

174 Pistols
566 Rifles
13 Light machine guns
18 Anti-tank rifles
48 Machine guns (Vickers)

Vehicles

49 Motorcycles
8 Motorcars, 2-seater
1 Motorcar, 4-seater
8 Trucks, 15-cwt, GS
86 Trucks, 15-cwt, personnel
5 Trucks, 15-cwt, water
1 Lorry, 30-cwt
13 Lorries, 3-ton

FIGURE 10.—Organization of the machine-gun battalion.

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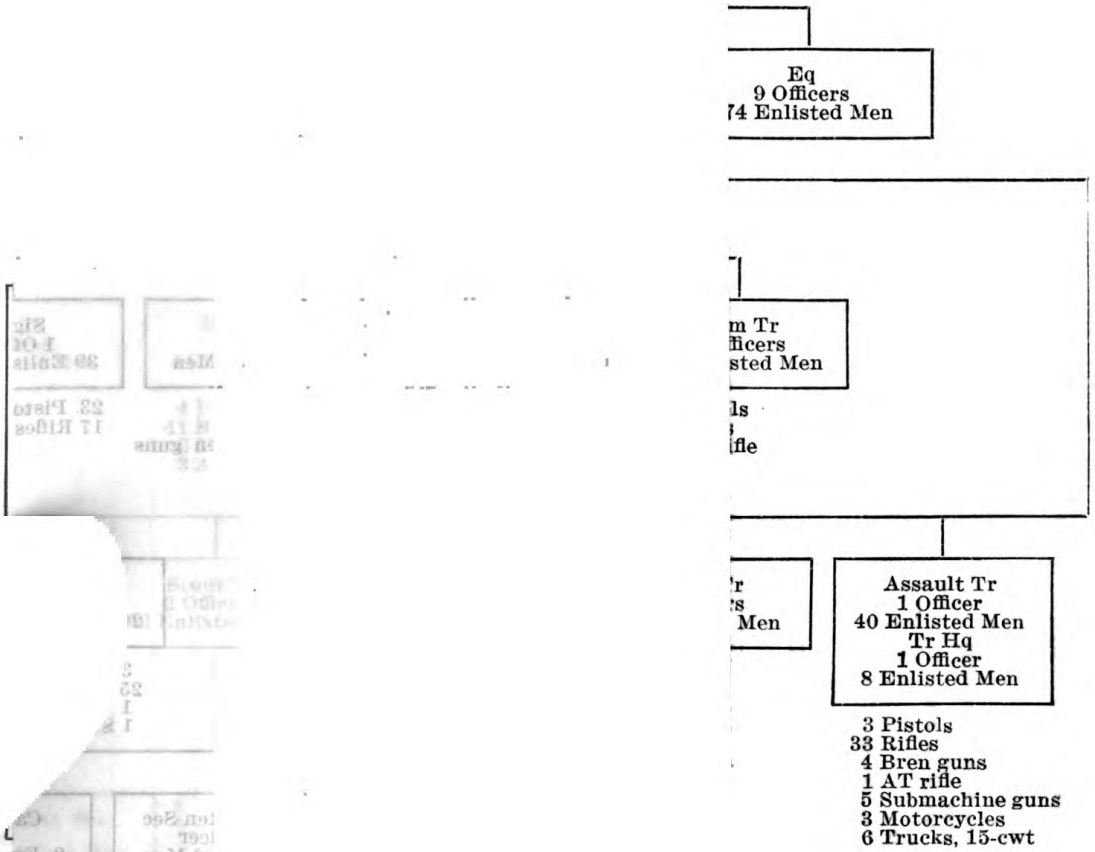

Eq
9 Officers
74 Enlisted Men
m Tr
ficers
sted Men
ls
ifle
r
s
Men
Assault Tr
1 Officer
40 Enlisted Men
Tr Hq
1 Officer
8 Enlisted Men
3 Pistols
33 Rifles
4 Bren guns
1 AT rifle
5 Submachine guns
3 Motorcycles
6 Trucks, 15-cwt

quarters, a headquarters company, and 4 rifle companies. The headquarters company is composed of a headquarters, a signal platoon, a mortar platoon with six 3-inch mortars, each in a carrier, an anti-aircraft platoon with 4 twin anti-aircraft light machine guns and 4 caliber .55 anti-tank rifles, a carrier platoon with 13 Bren machine-gun carriers, a pioneer platoon, and an administrative platoon. A rifle company consists of 5 officers and 119 enlisted men. It has a 2-inch mortar, 3 Bren light machine guns, 3 submachine guns, and 1 caliber .55 anti-tank rifle. (For discussion of the carrier platoon, see par. 128.)

b. Machine-gun battalion (fig. 10).—The machine-gun battalion, which is at present assigned to corps troops, is based on the caliber .303 Vickers machine gun. It consists of a headquarters, a headquarters company, and 4 machine-gun companies of 12 guns each. Each company is composed of a headquarters and 3 platoons. The battalion is completely motorized and all personnel are carried in motor transport. It has a strength of 29 officers and 711 enlisted men.

c. Motor battalion.—The motor battalion, assigned to each armoured brigade (fig. 19), consists of a headquarters company and 4 motor companies. Each company consists of 3 motor platoons and 1 scout platoon (11 Bren carriers). Each motor platoon consists of 3 sections, each self-contained, operationally and administratively, in 1 vehicle. This battalion, with a strength of 26 officers and 774 enlisted men, has much greater fire power than any other in the British Army.

d. Motorized battalion.—The motorized battalion, formerly assigned to the support group of the armoured division, now forms the infantry component of the infantry brigade in the armoured division (see par. 38*a*(4)). Its organization is exactly the same as that of a rifle battalion (fig. 9), but it is carried in motor transport.

e. Divisional reconnaissance regiment (*battalion*) (fig. 11).—This regiment is assigned to each infantry division. It consists of a headquarters, a headquarters squadron, and 3 squadrons, each of which is composed of a headquarters, 3 scout troops, and an assault troop. Headquarters squadron consists of an anti-aircraft troop, a signal troop, a mortar troop, an anti-tank troop, and an administrative troop. The regiment is wholly motorized, includes 52 armoured reconnaissance cars and 70 carriers, and has a strength of 40 officers and 753 enlisted men. It is actually equivalent to an infantry battalion in composition but has recently adopted cavalry nomenclature. However, it is composed of specially trained infantrymen, and is under infantry control at the War Office.

SECTION VI

PARACHUTE TROOPS

27. Organization and equipment.—*a. General.*—Paratroops, or parachute troops (figs. 12, 13, and 14), are procured from all branches of the Army and retain the uniforms, insignia, and organizational name of their parent organization. The British Parachute Wing is organized into battalions.[12] These battalions consist of a battalion

FIGURE 12.—Parachute troops.

headquarters, a headquarters company, and 3 or 4 rifle companies, each organized into 3 platoons. The platoon is divided into sections, each section consisting of a sergeant, a corporal, and 8 other men. This section of 10 men is considered as a "dropping" unit, that is, the largest group that can normally be dropped from 1 airplane. The armament includes 3-inch mortars in the mortar platoon of headquarters company, and light machine guns, submachine guns, rifles,

[12] These battalions have been formed into brigades, which are components of the air-borne division (see par. 185).

and pistols in the rifle companies. The parachute school at which the men are trained is a separate organization from the Parachute Wing.

FIGURE 13.—Parachute troops.

b. Equipment.—When jumping, the parachutist wears or carries the following equipment:

(1) Helmet.
(2) Gabardine jerkin.
(3) Battle-dress uniform.
(4) Knee pads (optional).
(5) Athletic supporter.
(6) Elastic ankle supporter.

FIGURE 14.—Parachute troops.

(7) Jumping boots.
(8) Gas mask (if warranted).
(9) Two empty utility pouches carried high on the sides near the chest (after landing, the parachutist uses these for carrying ammunition which he secures from containers that have been dropped).
(10) Sten machine carbine [13] (for those parachutists armed with the submachine gun)—the gun is carried on one leg and ammunition on the other. When about 100 feet from the ground, the parachutist, in order to lessen his weight and speed a quick release on landing, pulls a

[13] The Sten machine carbine (par. 91*b*) is similar to the U. S. Thompson submachine gun (see the center guardsman in fig. 48).

quick-release attachment and the gun and ammunition drop about 20 feet to the end of a small rope which is attached to the parachutist.

(11) Two grenades—one in each pocket of trousers.

(12) Map, wire cutters, etc., in pockets.

(13) One or two haversacks worn on the thigh—one contains knife, fork, spoon, canteen, and rations for 1 or 2 days; the other contains additional rations and a poncho.

c. Special equipment.—Signal personnel carry radio sets when they jump. Depending on the mission, other special equipment—medical supplies, bicycles, tools, etc.—is dropped.

SECTION VII

ROYAL REGIMENT OF ARTILLERY

28. General.—*a.* All artillery of the British Army belongs to the Royal Regiment of Artillery (RA), which in organization and magnitude is similar to a corps, but which retains the name "regiment" for traditional reasons.[14] Including Royal Horse Artillery (RHA) and all other types of artillery, it is classified by type as follows:

(1) *Field* (*Fd*).—Divisional artillery—25-pounder (3.45-inch; 88-mm) gun-howitzer.

(2) *Royal Horse Artillery* (*RHA*).—Motorized and in armoured divisions (25-pounder).

(3) *Medium* (*Med*).—4.5-inch gun; 5.5-inch gun-howitzer; 6-inch howitzer (obsolescent).

(4) *Heavy* (*Hy*).—6-inch gun; 7.2-inch howitzer; 9.2-inch howitzer.

(5) *Super-heavy.*—9.2-inch gun and all greater calibers.

(6) *Special equipment.*

(*a*) *Anti-tank* (*A Tk*).—2-pounder (40-mm); 6-pounder (57-mm); 17-pounder (3-inch; 76.2-mm).

(*b*) *Anti-aircraft* (*AA*).—20-mm Sten; 40-mm Bofors; 3.7-inch and 4.45-inch heavy AA guns.

[14] Cf. The King's Royal Rifle *Corps* and The Rifle *Brigade*, each of which is in reality an infantry *regiment* of the line. See paragraph 167*g*.

(*c*) *Mountain* (*Mtn*).—2.95-inch (75-mm) gun (pack); 3.7-inch howitzer (pack).

b. All artillery, except for certain specialized units such as coast defence and mountain, is motorized.

c. British artillery unit designations are, in the main, different from those of the U. S. Army. For easy reference, they are tabulated below:

British	*United States*
Regiment	Regiment
Battery	Battalion
Troop	Battery
Section	Platoon
Sub-section	Section

d. Artillery is organized into—

(1) Tactical units.

(2) Technical fire units.

The tactical unit contains more than one fire unit. Normally, this fire unit is the battery, which is fully equipped to, and does, operate independently.

29. Field regiment.—*a*. The field regiment (fig. 15) is the basic tactical unit of British artillery.

b. It is equipped with the 25-pounder (3.45-inch) gun-howitzer. All reports of this weapon are laudatory, and it is replacing both the obsolescent 18-pounder (3.3-inch) and the 4.5-inch howitzer.

c. The field regiment has the following anti-aircraft and anti-tank resources:

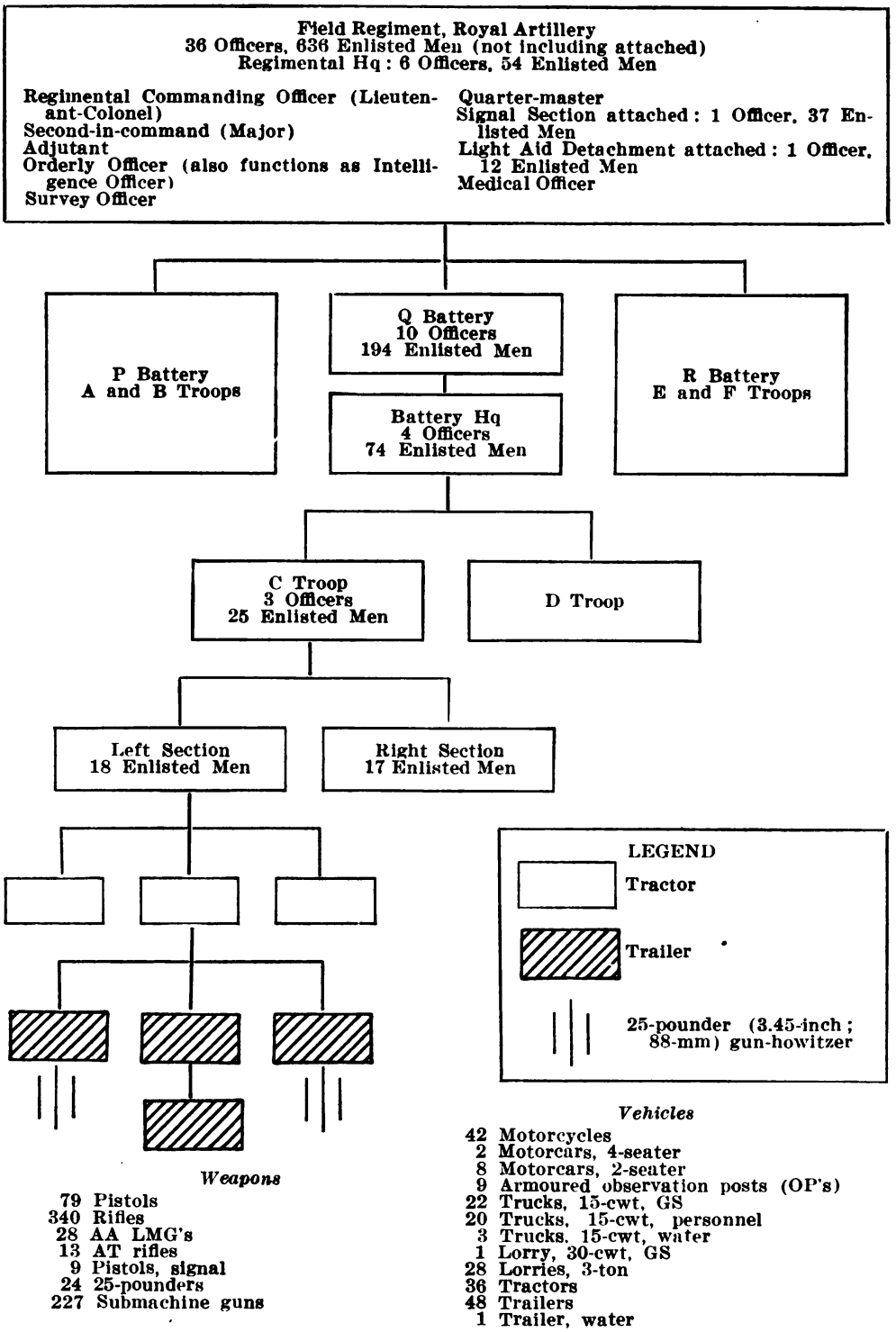
	Regt Hq	*Btry Hq*	*Each troop*
Anti-aircraft light machine guns	4	4	2
Anti-tank rifles	1	2	1

Anti-aircraft light machine guns have Motley mountings to enable them to be fired from vehicles on the move. Normally, however, the vehicle is halted before the attacker is engaged. Anti-tank rifles are carried in the same vehicles as the anti-aircraft light machine guns.

d. *Ammunition*.—The ammunition normally transported in the regiment is 160 rounds per gun (90 percent HE; 10 percent smoke), and, in addition, 12 rounds per gun of solid armour-piercing shot, which is carried on the gun tractors. Separate charges are carried for each round of ammunition except armour-piercing, and they include a number of supercharge rounds. The normal distribution of ammunition is as follows:

(1) *In each troop:*

Six tractors, 24 rounds each = 144 rounds.



Weapons

79 Pistols
340 Rifles
28 AA LMG's
13 AT rifles
9 Pistols, signal
24 25-pounders
227 Submachine guns

Vehicles

42 Motorcycles
2 Motorcars, 4-seater
8 Motorcars, 2-seater
9 Armoured observation posts (OP's)
22 Trucks, 15-cwt, GS
20 Trucks, 15-cwt, personnel
3 Trucks, 15-cwt, water
1 Lorry, 30-cwt, GS
28 Lorries, 3-ton
36 Tractors
48 Trailers
1 Trailer, water

FIGURE 15.—Organization of the field regiment, Royal Artillery.

NOTE.—A British medium regiment, equipped with 6-inch howitzers and 4.5-inch guns or 5.5-inch gun-howitzers, is identical in organization except that there are only two batteries and each section includes only two tractors, each pulling one gun. All ammunition is therefore carried in the ammunition group.

Eight trailers, 32 rounds each=256 rounds.
Total, 400 rounds=100 rounds per gun.

(2) *In each battery ammunition group:*[15]
Two 30-cwt trucks, 56 rounds each=112 rounds.
Two 3-ton trucks, 184 rounds each=368 rounds.
Total, 480 rounds=60 rounds per gun.

e. Fuzes.—Types of fuzes employed are as follows:

(1) Fuze 117 ..... Direct action.
(2) Fuze 119 ..... Direct action, delayed.
(3) Fuze 210 ..... Clockwork for high bursts.
(4) Fuze 221 ..... Time.

30. Medium regiment.—*a. Employment.*—In Great Britain medium artillery is a part of corps artillery, but with British troops abroad it is included in the divisional organization. Medium artillery is normally employed on counter-battery work and on other missions where use can be made of its long range.

b. Organization.—The organization of a medium regiment is similar to that of a field regiment except that the former contains only two batteries. (The organization of the field regiment is shown in fig. 15.)

c. Armament.—(1) The medium regiment in the infantry division is armed with the 5.5-inch gun-howitzer or the old 6-inch howitzer. The maximum range of the 6-inch howitzer is 11,400 yards, and that of the 5.5-inch gun-howitzer 16,000 yards.

(2) The medium regiments of corps artillery are armed with 6-inch howitzers or the 4.5-inch gun. The maximum range of the latter is 20,500 yards.

d. Maneuver and deployment.—The medium regiment is organized for maneuver and deploys in the same way as the field regiment. There is one armoured observation post (OP) in each battery.

e. Ammunition.—The medium regiment carries 100 rounds of ammunition per gun, all HE, no smoke being fired by medium artillery. The distribution is as follows:

(1) *On each gun tractor (prime mover).*—Fifty rounds.

(2) *In each battery ammunition group:*
Eight 3-ton lorries, 40 rounds each=320 rounds.
Two 3-ton lorries, 40 rounds each=80 rounds.
Total, 400 rounds=50 rounds per gun.

[15] The ammunition group is not shown on the chart in figure 15, since, except on a tactical march, it is a part of Hq.

f. Communications.—Communications are similar to the light artillery nets except that both troops are equipped so that they can act independently. The allotment of wireless sets is three to regimental headquarters, three to each battery headquarters, and two to each troop. There is, in addition, one set for each battery providing wireless-telegraph (W/T) and radio-telephone (R/T) air-ground communication.

g. Survey party.—A survey party is included in regimental headquarters.

h. Anti-aircraft and anti-tank resources.—The medium regiment has the following anti-aircraft and anti-tank resources:

	Regt Hq	*Btry Hq*	*Each troop*
Anti-aircraft light machine guns	2	2	1
Anti-tank rifles	1	2	1

31. Anti-aircraft and anti-tank.—*a.* Each infantry division contains an organic light anti-aircraft regiment and an organic anti-tank regiment. In combat, one light anti-aircraft battery (U. S. battalion) and one anti-tank battery (battalion) may be attached to the infantry brigade.

b. The divisional light anti-aircraft regiment is armed with fifty-four 40-mm Bofors AA guns and the divisional anti-tank regiment is armed with forty-eight 6-pounder guns (of the 48 a proportion will eventually be 17-pounder).

32. Adjustment of fire.—*a. Methods in order of preference.*—(1) *Forward observer.*—British opinion believes the best method of getting field artillery fire on a target is by a forward observer connected directly by telephone to the battery. A forward observer with radio is used prior to the establishment of wire communications or when wires are out temporarily or permanently.

(2) *Air observation post (OP).*—(*a*) The artillery air OP is gaining popularity. It is an unarmed airplane equipped with radio-telephone, capable of landing on and taking off from a small space, and piloted by an artillery officer who also acts as observer. The airplane constitutes an elevated OP, fire being conducted from it in the same manner as fire from a ground OP. A second occupant of the airplane serves as lookout to warn the pilot of the approach of enemy aircraft. The airplane ascends to 600 or 1,000 feet and does not fly out over the target area.

(*b*) *Organization of air OP personnel:*

1 artillery officer (pilot).
1 flight mechanic.

1 flight rigger.
1 motorcycle driver.

(*c*) *Matériel:*

1 airplane.
1 motorcycle.
1 truck (1½-ton).

(*d*) The ground staff for repairs consists entirely of RAF personnel.

(*e*) One squadron of four flights of four air OP's each is attached to each corps. One of these flights is allotted to each division and comes under the control of the divisional artillery commander. This provides one air OP to operate with each field regiment of artillery in the division. One air OP is held in reserve for replacement or for leapfrogging.

(3) *Map data corrected by "meteor."*—When maps are available and observed fire is impractical or undesirable, firing is done by map data corrected by "meteor" obtained either from high-burst ranging shots, that is, registration (conducted by specialists with special equipment of the flash-ranging battery of the corps survey regiment), or from a broadcast meteor message like the U. S. "metro message" (see *e*, below.) The meteor obtained by high-burst ranging is the more accurate of the two.

b. Sight and instrument graduations.—The British use degrees, minutes, and tenths of minutes instead of mils. All their sights and instruments are so graduated.

c. Clock code.—The horizontal clock code method of aerial adjustment of fire is now used. Its advantage lies in the fact that the observer need not know the position of the firing battery; he needs only the target and a map.

d. Gridded oblique photographs.—In conjunction with aerial observation of fire, the use of gridded oblique photographs has proved very successful in identifying and locating targets, despite the handicap of the oblique view which the observer has. A system is being developed whereby these gridded oblique photographs may be used as a basis of unobserved prepared fires when maps are lacking. This will be of great value where the taking of vertical aerial photographs involves too great a risk because of enemy anti-aircraft or fighter defence. (For a discussion of the Merton method of gridded oblique photography, see par. 149.)

e. Meteorological message.—A "metro message" is called a "meteor telegram" by the British. A typical one, with explanations, is given below:

From—			Ground in text	
Originator's number 14		Date 22	In reply to number	
Bar	3060	0539	16223	1037
19225	1535	21230	2033	23231
2530	25228	3030	26225	3530
28220				
Time of origin 1400	T. O. R.[1]			

[1] Time of receipt.

(1) "Bar 3060" is the height of the barometer in inches, to two places of decimals, at mean sea level (MSL)—here 30.60 inches.

(2) The first two figures in each 4-figure group are the time of flight in seconds.

(3) The last two figures in each 4-figure group give the air temperature in degrees Fahrenheit.

(4) Each 5-figure group relates to the preceding group of four figures.

(5) The first two figures in each 5-figure group give the velocity of the equivalent constant wind in feet per second. To convert feet per second into miles per hour, multiply by 2 and divide by 3. Thus 30 feet per second equals 30 multiplied by 2 and divided by 3, or 20 miles per hour.

(6) The last three figures in each 5-figure group give in degrees the true bearing from which the wind is blowing.

(7) The groups always consist of the number of figures shown, 0's being prefixed if necessary. Thus, 07004 would signify a 7-foot-per-second wind from a bearing of 4°.

33. Communications.—*a.* Dispatch riders, as well as wireless, line, and visual systems, are provided for intercommunication between regimental headquarters and batteries. The wireless layout depends on the number of sets available and on the number of frequencies allotted. The minimum number of sets required to make communication efficient is three for regimental headquarters, three for battery headquarters, and two for each troop. All wireless sets have remote

control. One wire is laid from each trop OP to its Gun Position Officer (GPO). The gun positions are linked together by a "link line" (lateral line), through three-way switches at the gun position. The battery command post is connected by a single wire to each troop gun position. The only switchboards are at the battery command post and regimental headquarters.

b. The artillery is responsible for its own communication from the battery down. The regimental signal section, Royal Corps of Signals, which is attached to regimental headquarters from the 2nd Company, Divisional Signals, handles communication from regiment to battery, between batteries, and from the artillery to the infantry. (See fig. 16 for a schematic diagram of field regimental signal communications.)

c. New radio sets have been issued, providing two-way radio-telephone (R/T), as well as radio-telegraph (W/T), communication. These are operated by RA personnel, and will be the standard air-ground communications. Communication from ground to air may also be made by ground strips (identification panels).

34. Maneuver.—*a. Organization.*—For tactical purposes, groups are formed as follows:

(1) *Regimental commander's group.*—The commander with such personnel as he requires when he goes to obtain orders.

(2) *Reconnaissance groups.*—Both regiment and battery personnel required for reconnaissance of regiment, battery, and OP areas.

(3) *Headquarters groups.*—Both regiment and battery personnel necessary to man headquarters and command posts (CP's), and complete technical work and communications required before the guns can open fire. Battery headquarters groups are divided into—

(*a*) "O" party—for the OP area.

(*b*) "G" party—for the gun-position area.

(4) *Gun group.*—The guns and vehicles, and the personnel to work them.

(5) *Ammunition group.*—Reserve ammunition and one gasoline distribution truck to each battery. These may be centralized and moved under orders of regimental headquarters.

(6) *Headquarters group.*—MT (motor transport) stores and technical personnel of regimental headquarters and the attached LAD (light aid detachment—motor maintenance section) normally move with the ammunition group under the regimental quartermaster sergeant.

(7) *"B" echelon.*—As in any other unit, moving under orders of regimental headquarters.

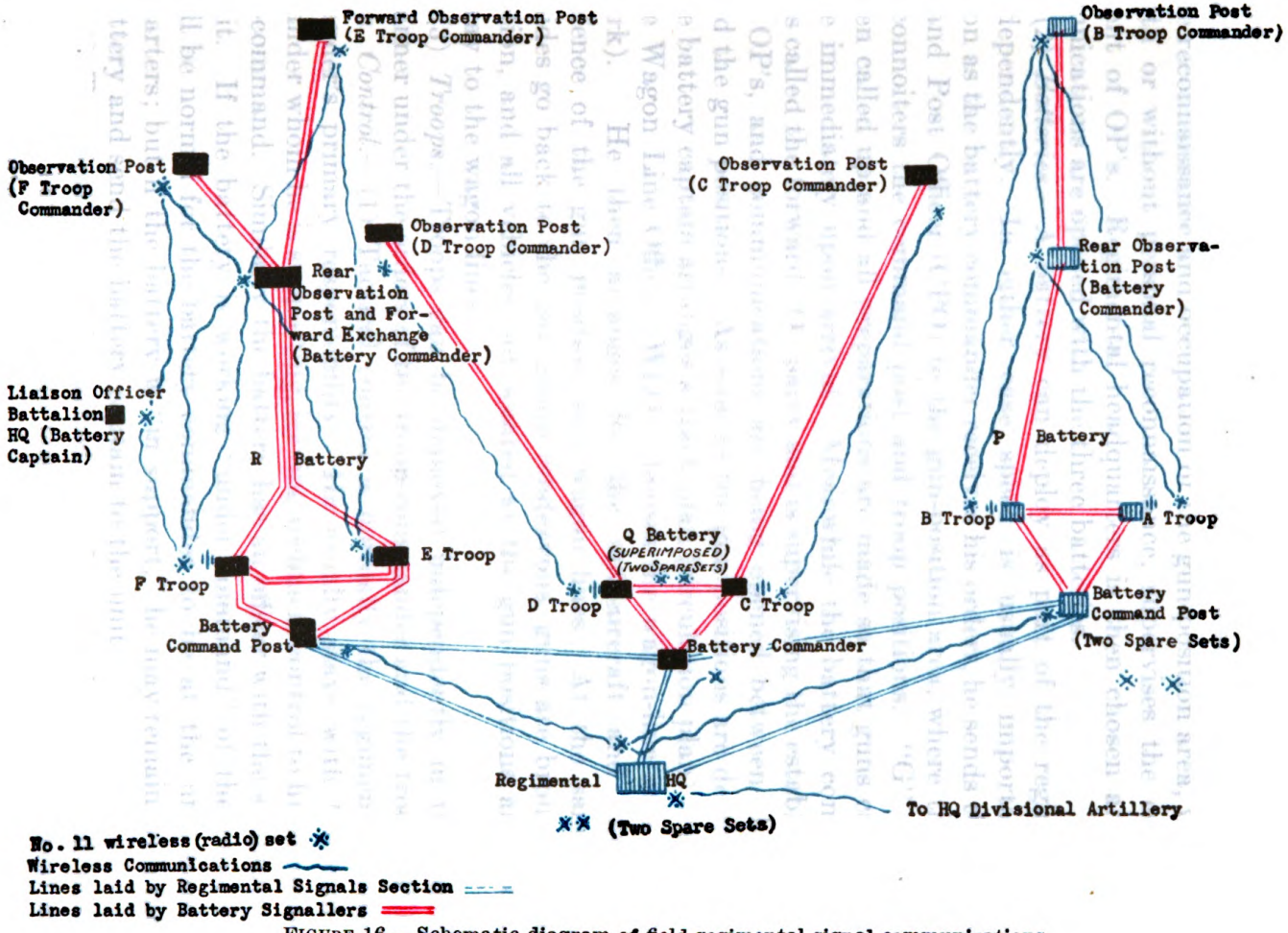


FIGURE 16.—Schematic diagram of field regimental signal communications.

b. Deployment.—(1) *Regimental headquarters.*—Before leaving for the place where orders are to be issued, the regimental commander lays down RV's (rendezvous) for all groups. After receiving his orders he normally sends back his second-in-command to supervise the reconnaissance and occupation of the gun-position area, while he, with or without personal reconnaissance, supervises the establishment of OP's. Regimental headquarters is then chosen and communications are opened with the three batteries.

(2) *Batteries.*—A battery can deploy as part of the regiment or independently. In either case speed is usually important. As soon as the battery commander receives his orders, he sends the Command Post Officer (CPO) to the gun-position area, where the latter reconnoiters the command post and troop positions. "G" party is then called up and all preparations are made so that guns can open fire immediately upon arrival. Meanwhile the battery commander has called the forward "O" party and is supervising the establishment of OP's, and communications are being opened between the OP's and the gun positions. As soon as the gun positions are determined, the battery captain arranges a track plan (circulation plan) and, with the Wagon Line Officer (WLO), chooses the wagon-line area (truck park). He then arranges for the anti-aircraft and anti-tank defence of the gun position and wagon lines. At the same time guides go back to the gun group rendezvous, guns are brought into action, and all vehicles not wanted at the gun positions are taken away to the wagon lines.

(3) *Troops.*—Troops can be deployed independently in the same manner under the orders of the troop commander and the troop GPO.

c. Control.—(1) Tactical control is normally the regimental commander's primary responsibility. He usually stays with the commander whom he is supporting, leaving technical control to his second-in-command. Similarly the battery has an officer with the supported unit. If the battery is working "under command" of the unit, it will be normal for the battery commander to be at the unit headquarters; but if the battery is "in support," he may remain with the battery and send the battery captain to the unit.

(2) Technical control is carried out through the command post officer at the battery command posts, and the GPO's (executives) at the troop positions.

d. Liaison.—(1) Liaison is maintained by Forward Observation, or Observing, Officers (FOO's) who keep in touch with forward units, and by an artillery officer at the headquarters of the supported unit.

(2) It is contemplated placing an armoured OP in each troop.

SECTION VIII

ANTI-AIRCRAFT COMMAND

35. General.—*a.* The Anti-Aircraft Command, which controls all anti-aircraft guns, heavy and light, and searchlights in the United Kingdom, is one of the commands which are charged with the joint cooperative mission of the defence of England, Scotland, Wales, and Northern Ireland against attack from the air. The various commands having that mission are collectively referred to under the name "Air Defence of Great Britain" (ADGB). The agencies and the high military commands included within the meaning of this term are shown diagrammatically in figure 17. The organization of the Anti-Aircraft Command itself is illustrated in figure 18.

b. The Anti-Aircraft Command has been organized with the primary consideration of facilitating full cooperation between it and other elements of the Air Defence of Great Britain and particularly between it and the Fighter Command of the Royal Air Force. Although for administrative purposes the Anti-Aircraft Command remains under the War Office and consequently must function through several army commands, the geographical boundaries of the three anti-aircraft corps correspond, nevertheless, with the boundaries of the areas of the six groups of the Fighter Command rather than with the boundaries of the army commands. Each anti-aircraft corps, therefore, covers the same area as two of the groups of the Fighter Command.

c. The Anti-Aircraft Command is under the operational control of the Fighter Command. See paragraph 179*a*(2). Except for that control, however, the Anti-Aircraft Command is a separate tactical unit of the Army charged with the anti-aircraft gun and searchlight defence of Great Britain and is directly responsible to the Army Council. It is commanded by a general.

36. Organization.—*a.* The Anti-Aircraft Command consists of 3 corps and 12 divisions. The corps and divisions are geographical commands, and the units assigned to each vary with their missions.

b. An anti-aircraft division is not a standard tactical unit like an infantry division but is rather a unit charged with the AA defence of a certain area. A division, which is commanded by a major-general, generally consists of a headquarters and three or more brigades, with certain service elements.

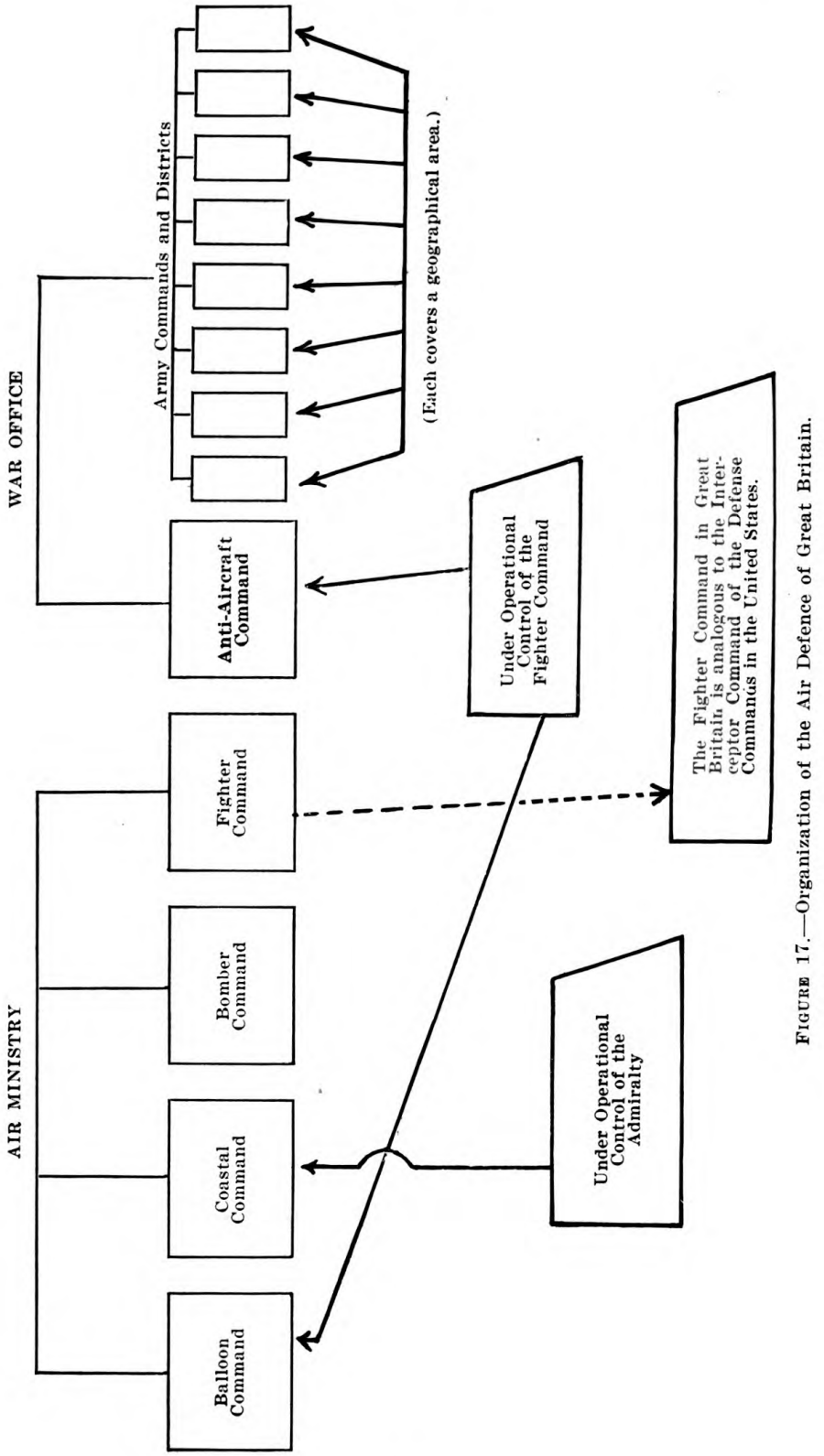
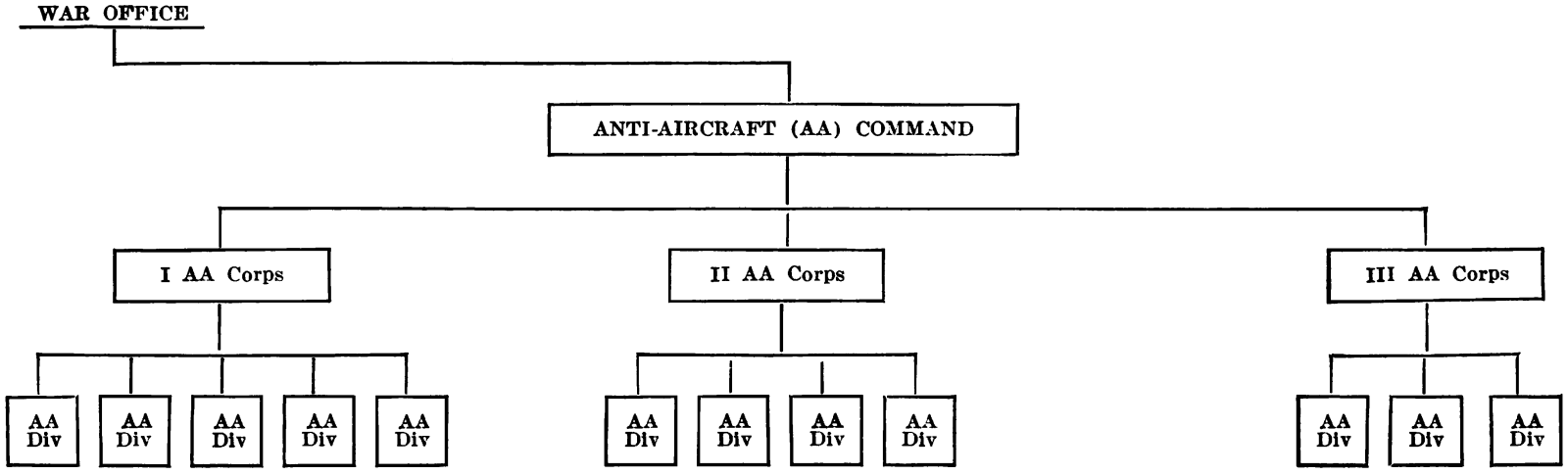


FIGURE 17.—Organization of the Air Defence of Great Britain.



Brigades—including heavy artillery, or light artillery, or searchlights, or unrotating projectiles (rockets), or a combination of any of the four—are assigned to divisions as required. AA corps, divisions, and brigades ha ve geographical boundaries.

FIGURE 18.—Organization of the Anti-Aircraft Command.

c. A brigade, which is commanded by a brigadier, is composed of a headquarters and three or more regiments. The brigade, which has a very flexible organization, may be composed of regiments equipped with heavy or light guns, with searchlights, with rocket guns, or with a combination of any of the four.

d. A regiment, however, normally has but one type of equipment. A regiment consists of 3 or 4 batteries, and can be organized on a mobile or static basis. Regiments organized on a static basis possess transport only for administrative needs. Each regiment has a small headquarters of about 4 or 5 line officers, 1 or 2 medical officers, and about 30 enlisted men, and is commanded by a lieutenant-colonel.

e. Batteries of mixed personnel, men and women, are now actually employed. The women are specially trained members of the Auxiliary Territorial Service (ATS), who are not operationally employed in fighting units outside the Anti-Aircraft Command. They man and operate directors, height-finders, observation telescopes, telephones, and other instruments. Up to the present time they have been operationally employed only in heavy batteries. (On the ATS, see par. 77*b*.)

SECTION IX

ROYAL ARMOURED CORPS

37. General.—*a.* The Royal Armoured Corps (RAC) represents an amalgamation of the Royal Tank Corps and the mechanized cavalry regiments of the line. The Royal Tank Regiment (formerly called RTR, and now known as R Tanks) consists of various numbered tank battalions: for example, 4 R Tanks (that is, the 4th battalion of the Royal Tank Regiment).[16] The tank regiments of the mechanized cavalry of the RAC have the same main type of organization as the tank battalions of the R Tanks, the only difference being the use of the words "regiment" and "battalion" to designate the respective organizations. The mechanized cavalry also includes the armoured car regiments.

b. There are two general types of armoured units: the armoured division and the army tank brigade.

(1) The armoured division is equipped with cruiser tanks, which have the best all-around combination of speed, armament, and armour for long-range operations and tank combat.

[16] See paragraphs 167*b* and 168*a*.

(2) The army tank brigade is equipped with heavily armoured infantry ("I") tanks for assault on defended positions in close cooperation with the infantry. In infantry tanks, speed is sacrificed to heavier armour which will afford greater protection against enemy anti-tank guns.

c. The main armament usually consists of one 2-pounder (40-mm) gun [17] mounted co-axially with one machine gun. Close-support (CS) tanks have a 3-inch howitzer instead of the 2-pounder.

38. Armoured division.—*a. Organization.*—(1) The organization of the armoured division has undergone, and is undergoing, continuous changes. Also, the organization of the armoured division in the Middle East differs from that of the Home Forces armoured division (fig. 19), though it is expected that the former will eventually approximate the latter. At the present time, the Home Forces armoured division normally consists of an advanced and a rear headquarters, 1 armoured brigade, 1 armoured car regiment, 1 infantry brigade, divisional artillery, divisional signals, engineer, medical, and provost units, and supply organizations. This division has a total strength of 201 tanks of the cruiser type, 8 of which are at advanced headquarters.[18]

(2) The armoured brigade (with 193 tanks) consists of brigade headquarters (with 10 tanks), 3 armoured regiments (with 61 tanks each), and 1 infantry motor battalion.

(*a*) The armoured regiment consists of a headquarters (with 4 tanks and 10 two-man armoured scout cars) and 3 squadrons. Each squadron consists of a headquarters (with 4 tanks, 2 of which are close-support) and 5 troops (with 3 tanks each).

(*b*) The motor battalion (par. 26*c*) is equipped with 14 scout cars and 44 machine-gun carriers.

(3) The armoured car regiment (with about 60 armoured cars) varies in organization. One type, for operation in the desert, consists of a headquarters (with 4 armoured cars), a headquarters section (with 12 scout cars), and 3 squadrons. Each squadron consists of a headquarters (with 3 armoured cars) and 5 troops (with 3 armoured cars each). Another type, for close-country fighting, consists of 4 squadrons of 5 troops each. Each troop has 3 armoured cars forming a non-dismountable portion, and 2 scout cars, 2 motorcycles, and 2 motorcycle combinations forming the dismountable portion.

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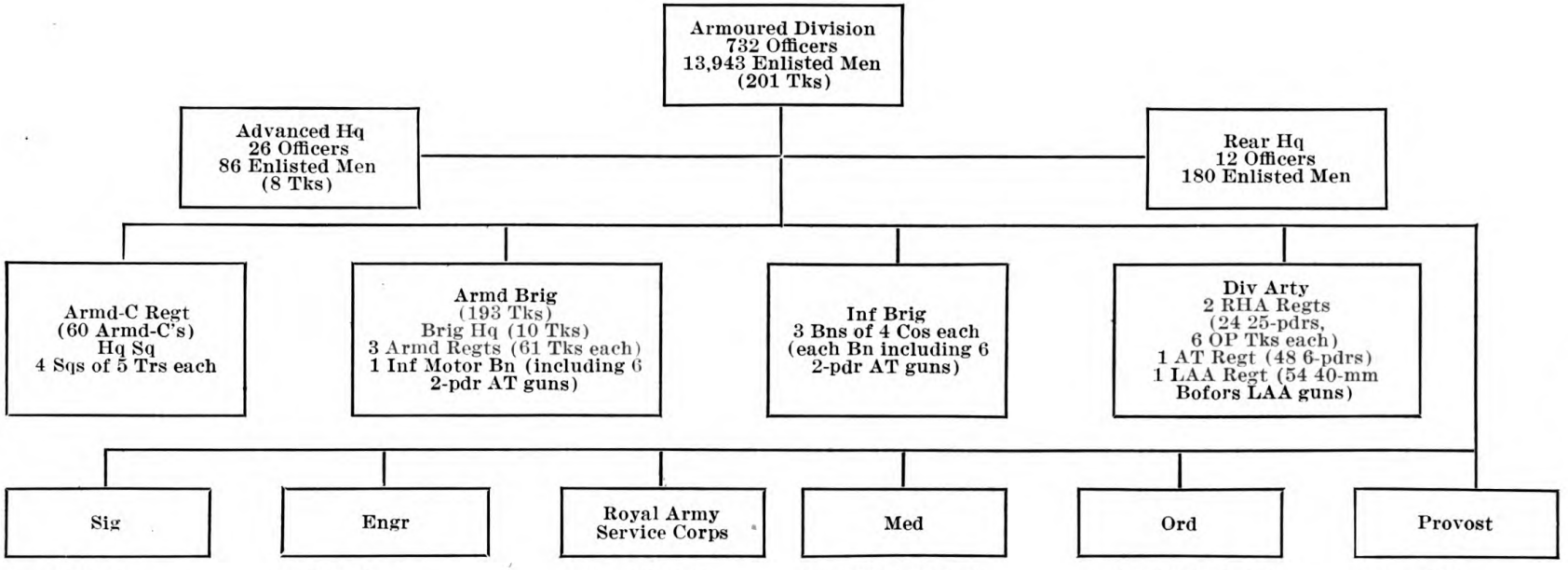
[17] See paragraph 99*a*.

[18] See paragraph 110 for types of U. S. light and medium tanks used by the British.



Vehicles and weapons

201 Cruiser and close-support cruiser tanks	2,313 Other vehicles
12 OP tanks	48 25-pounder (88-mm) gun-howitzers
60 Armoured cars	48 6-pounder (57-mm) AT guns
9 Armoured command vehicles	18 2-pounder (40-mm) AT guns
137 Scout cars	54 Bofors (40-mm) AA guns

FIGURE 19.—Organization of the Home Forces armoured division.

(4) The support group no longer exists, and its place has been taken by an infantry brigade consisting of three (motorized) battalions (par. 26*d*). Each battalion includes six 2-pounder anti-tank guns. The remainder of the supporting element consists of two Royal Horse Artillery regiments, with twenty-four 25-pounders and six observation-post (OP) tanks each; an anti-tank regiment, with forty-eight 6-pounders; and a light anti-aircraft regiment, with fifty-four 40-mm Bofors light anti-aircraft guns.

b. Duties of various staff officers at armoured divisional headquarters.—The various staff officers are charged with the following duties:[19]

(1) *GSO 1.*—Coordinating all branches of the staff and acting as adviser to the commander.

(2) *GSO 2.*—Issuing orders, except over the wireless (this is done by the divisional commander or GSO 1), keeping up the battle map, keeping other armoured command vehicles (ACV's) in touch with the situation and receiving information from them over the house telephone, and directing road movements in conjunction with DAQMG (Deputy Assistant-Quarter-Master-General) and DAPM (Deputy Assistant-Provost-Marshal).

(3) *OC Armd Div Sigs* (*Officer Commanding, Armoured Divisional Signals*).—Signal communications in the division manned by R Sigs personnel.

(4) *GSO 3 (I) and IO* (*Intelligence Officer*).—Collecting all intelligence information and producing an estimate of the enemy for the commander; responsible for the production of intelligence ("I") summaries.

(5) *GSO 3 (CW)* (*Chemical Warfare*).—Chemical warfare adviser to the commander.

(6) *AA & QMG* (*Assistant-Adjutant and Quarter-Master-General*).—Chief "Q" (Quarter-master) officer in the division. Responsible for all "Q" problems such as replenishment of supplies, etc. Adviser to the commander and GSO 1 on "Q" matters.

(7) *DAQMG* (*Deputy Assistant-Quarter-Master-General*).—Assists the AA & QMG and is responsible, with GSO 2 and DAPM ("B" echelon in some divisions is controlled by DAAG (Deputy Assistant-Adjutant-General) from rear divisional Hq) for road movements and, with the Staff Captain from each brigade, for sheltering and protecting troops and vehicles for the night, and for "B" echelon (rear echelon of first-line transport).

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[19] See paragraph 21*a* and figure 5 for the duties of these officers on the infantry division staff; see also p. 259, notes 3-5, and p. 260, note 7.

(8) *CRE (Commander, Royal Engineers).*—Acts as engineer adviser to the commander and commands the engineers in the division.

(9) *DAAG (Deputy Assistant-Adjutant-General).*—Responsible for all personnel matters. In some divisions he controls "B" echelon.

(10) *SC (Staff Captain).*—Assists AQMG and DAQMG and represents them at the rear divisional Hq.

(11) *DAPM (Deputy Assistant-Provost-Marshal).*—Commands the division provost section and assists in arranging for traffic control.

(12) *CRASC (Commander, Royal Army Service Corps).*—Commands the divisional RASC and is responsible for the replenishment of supplies, ammunition, and gasoline.

(13) *SOME (Senior Ordnance Mechanical Engineer).*—Adviser to the commander on ordnance questions.

(14) *DADOS (Deputy Assistant-Director of Ordnance Services).*—Responsible for the supply of ordnance equipment. Either SOME or DADOS will command the ordnance in the division, depending upon which is the senior.

(15) *SMO (Senior Medical Officer).*—Adviser to the commander on all medical matters.

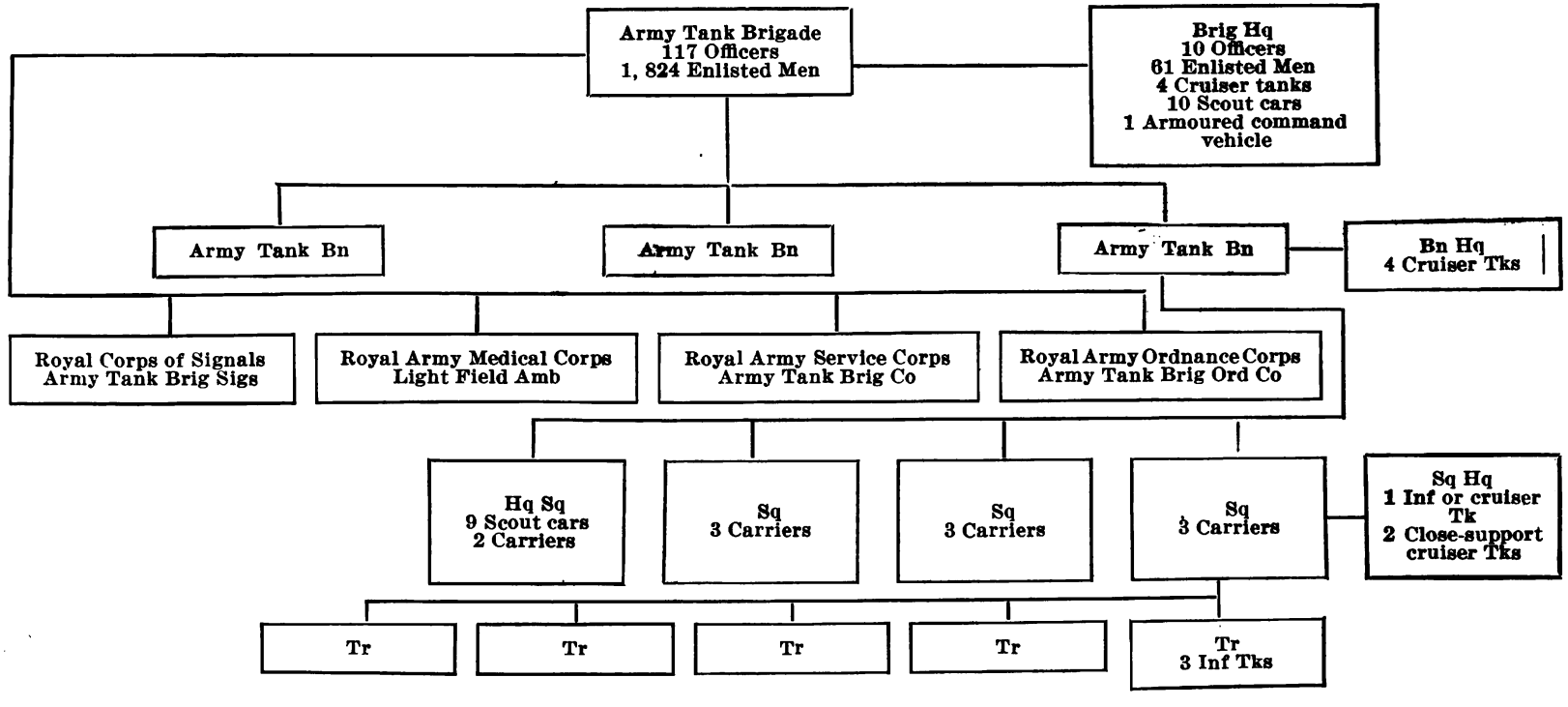
c. Rear divisional headquarters.—(1) The following staff officers and attached officers are normally at rear divisional Hq: DAAG, SC, DAPM, CRASC, SOME, DADOS, and SMO.

(2) These officers normally travel in utility cars or trucks. There are no ACV's at rear divisional Hq.

39. Army tank brigade.—*a.* An army tank brigade (fig. 20) differs from an armoured brigade in that it is built around infantry tanks rather than cruiser tanks. It is composed of 3 battalions rather than 3 regiments, with a total strength of 178 tanks (135 or more infantry tanks, 16 or more cruiser tanks, and 18 close-support cruiser tanks).

b. An army tank battalion consists of a headquarters and a headquarters squadron (with 4 cruiser tanks, 9 scout cars, and 2 carriers) and 3 squadrons. It has a total strength of 58 tanks (45 or more infantry tanks, 4 or more cruiser tanks, and 6 close-support cruiser tanks).

c. A squadron consists of a headquarters (with one infantry or cruiser tank and two close-support cruiser tanks) and five troops (with three infantry tanks each).



Vehicles

44 (or more) Infantry ("I") tanks
16 (or more) Cruiser tanks
18 Close-support cruiser tanks
37 Scout cars
1 Armoured command vehicle
33 Carriers, tracked, personnel-carrying

FIGURE 20.—Organization of the army tank brigade.

SECTION X

CORPS OF ROYAL ENGINEERS

40. General.—*a. Employment.*—The personnel of the Corps of Royal Engineers (RE) is technically trained and equipped to apply engineering skill and science to the needs of the Army. Officers when first commissioned normally receive nearly 3 years of engineering training; a large number of the enlisted men are "tradesmen" (corresponding generally to specialists in U. S. services). Engineers ("sappers") are also trained to fight, and are, when needed, used as infantry. Such employment is, however, exceptional, since casualties in skilled personnel are difficult to replace. The engineers are equipped with automatic and other weapons on a scale to provide for local protection against personnel, tanks, and aircraft rather than for use in attack.

b. Organization.—The basic engineer unit is the company. Each company is numbered and is administratively independent. Companies are normally grouped under command of a CRE (Commander, Royal Engineers—corresponding to the divisional engineer in the U. S. division). Companies are divided generally into three main types:

(1) *Field and fortress.*—Field units form the engineer element of fighting formations; fortress companies exist only in overseas garrisons such as Gibraltar and Malta.

(2) *Line of communications (L of C).*—Such units provide troops for engineer services in the base and L of C area.

(3) *Transportation.*—Transportation units provide troops for the construction, maintenance, and operation of railways, docks, and inland waterways.

c. Distribution.—The Royal Engineers are normally distributed throughout the Army as follows:

(1) *Infantry division.*
Hq Divisional RE.
One Field Park Co.
Three Field Cos.

(2) *Armoured division.*
Hq Armoured Divisional RE.
One Field Park Squadron.
Two Field Squadrons.

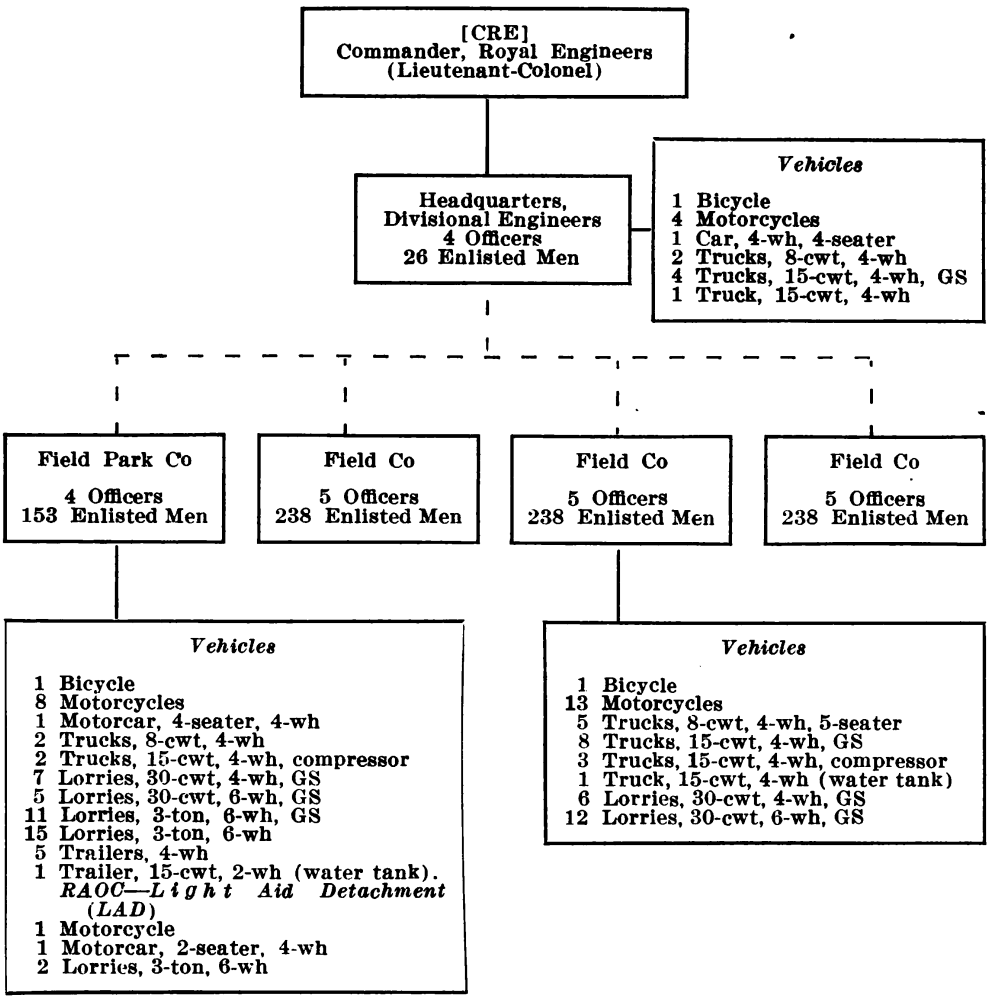
(3) *Corps.*
Three Army Field Cos.
One Corps Field Park Co.
One Corps Field Survey Co.

(4) *Army GHQ and L of C.*—No fixed allotments; may include—
Army Troops Cos.
Engineer Base Workshops.
Engineer Store Base Depots.
Workshop and Park Cos.
Mechanical Equipment Cos.
Electrical and Mechanical Cos.
Forestry Cos.
Quarrying Cos.
Road Construction Cos.
Tunnelling Cos.
General Construction Cos.
Artisan Works Cos.
Aerodrome Maintenance Cos.
Welding Cos.
Welding Sections.
Well-boring Sections.
Army Field Survey Cos.
Transportation Units.

d. Special units.—In addition to typical engineer units, the Royal Engineers contain postal units, mobile bath units, salvage units, bomb disposal units, and chemical warfare groups. Chemical warfare groups receive the same general training as divisional field companies except for training in building bridges, the principle being that they can be converted into field companies, if necessary, with a small amount of instruction. The engineer bridge equipment is carried in a bridge company, which is a Royal Army Service Corps (RASC) unit and not a Royal Engineer unit. The bridge company is a corps unit and is charged with holding and maintaining bridge equipment, but not with constructing the bridge or with maintaining it when built. The company delivers bridging equipment to the engineer organizations when needed.

41. Infantry division.—In the infantry division, the engineers are organized into a headquarters, divisional engineers; 1 field park company; and 3 field companies. All companies are completely self-sustaining. They are not dependent upon the headquarters, divisional engineers, for supplies or administration, although they are under the disciplinary and executive command of the CRE. The field park

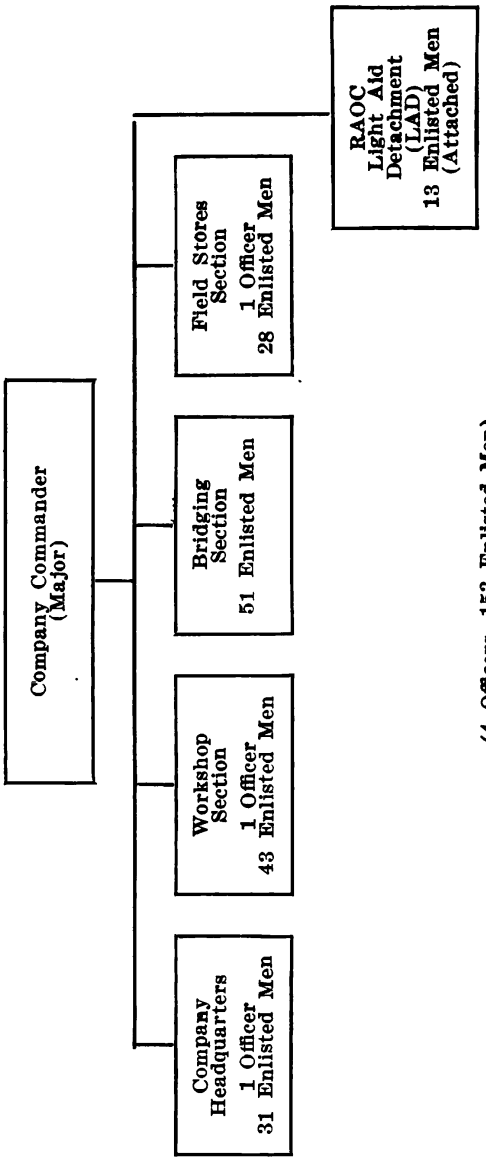
company corresponds generally to the Headquarters and Service Company in the U. S. Army. The field company, although larger, corresponds to the lettered companies of the U. S. combat engineers. The field companies are organized as company headquarters and 3 sections (platoons). The basic work unit is the section of the field company with a strength of 1 officer and 64 enlisted men; the normal working strength is 48 men in 4 subsections (squads). There are nine basic work units in the divisional engineers. (For organization charts, see figs. 21 and 22.)



(24 Officers, 893 Enlisted Men)

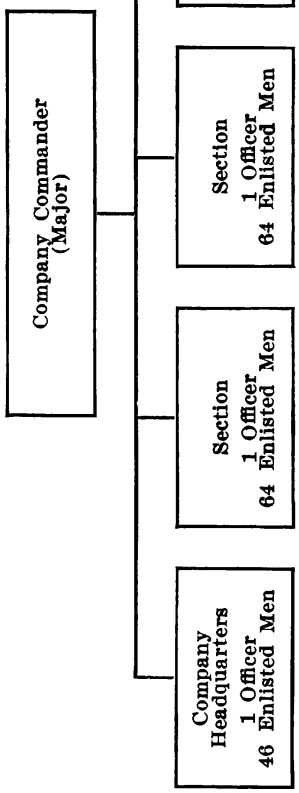
Chain of Command - - - - -
Chain of Command and Administration ————————

FIGURE 21.—Organization of (infantry) divisional engineers.



(4 Officers, 153 Enlisted Men)

① Field park company.



(5 Officers, 238 Enlisted Men)

② Field company.

FIGURE 22.

42. Armoured division.—In the armoured division, the engineers are organized into a headquarters, armoured divisional engineers; 1 field park squadron; and 2 field squadrons. The British armoured divisional engineers have a much looser organization than the engineers in a U. S. armored unit. The squadrons are completely self-sustaining and so do not depend upon the headquarters for any administration or supply, although they are directly under the command of the CRE. The field park squadron corresponds generally to the Headquarters and Service Company of the U. S. armored battalion. The field squadrons, although larger than the lettered companies of the U. S. armored battalion, are similar to them. The field squadrons are divided into squadron headquarters and 3 troops, each troop being organized as a headquarters and 4 sections. The section of the troop is the basic work unit, with a strength of 12 enlisted men. There is a total of 24 basic work units in the divisional engineers. (For organization charts, see figs. 23 and 24.)

43. Supply.—Engineer equipment and stores are supplied as follows:

a. Organizational equipment carried by companies is supplied by the Royal Army Ordnance Corps (RAOC).

b. Explosives are ordnance stores, but replenishment in the field is carried out by the supply company, Royal Army Service Corps (RASC).

c. Engineer stores, such as expendable material (cement, timber, barbed wire, etc.) and equipment not included in organizational scales, are supplied by the engineer store service, which includes an engineer store base depot, and workshop and park companies.

d. Bridging equipment is carried in the field by bridge companies (RASC), one of which is normally allotted to each corps. A reserve is also held at the base and at advanced base depots if necessary. The sub-allotment and forward dispatch of bridging equipment is decided by the General Staff at GHQ, army, corps, and, in due course, divisional headquarters, with advice of the Engineer-in-Chief, Chief Engineer, and CRE, respectively.

44. Explosives and demolition.—*a. General.*—The present British standard explosive carried by first-line units is guncotton in slab form. Ammonal and guncotton in the proportion of 9 to 4 are carried by second- and third-line RASC supply units. Further reserves of bulk explosives are held at the base. These reserves may include TNT slabs and plastic HE, which are service explosives, or any suitable commercial explosive such as the nitroglycerin group. Plastic HE, when available in sufficient quantities, will replace all others,

since it is equally suitable for use in cutting, mined, or borehole charges. Until such time as plastic HE is available in quantity, explosive 808 is being issued instead.

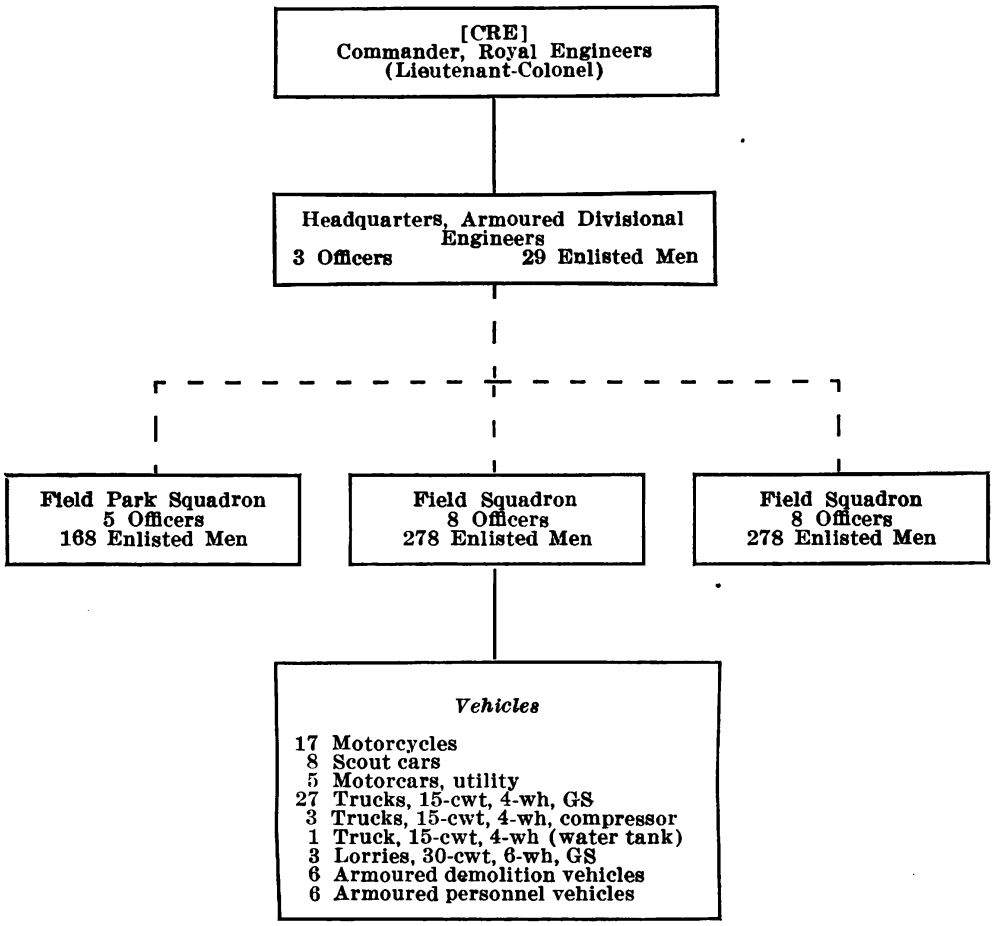


FIGURE 23.—Organization of armoured divisional engineers.

b. Characteristics of explosives.—Explosive 808 is a plastic, desensitized polar blasting gelatine which is equally suitable for cutting, mined, or borehole charges, but owing to its slightly rubbery nature it cannot be rammed tightly in boreholes, and, when used as a cutting charge, requires secure fixing. This explosive contains 60 percent nitroglycerin, but it will not be detonated by a rifle bullet. Its strength is 93 percent greater than that of TNT. Since its explosive properties deteriorate rapidly at temperatures of 100° F., it is not suitable for use in climates where such high temperatures are the rule.

It is issued in 4-ounce cylindrical cartridges 1⅝ inches in diameter and 3 inches long and is wrapped in thin paper. The explosive can be used under water, and, when fresh, can be detonated by any detonator or detonating fuze, although primers will give more satisfactory results.

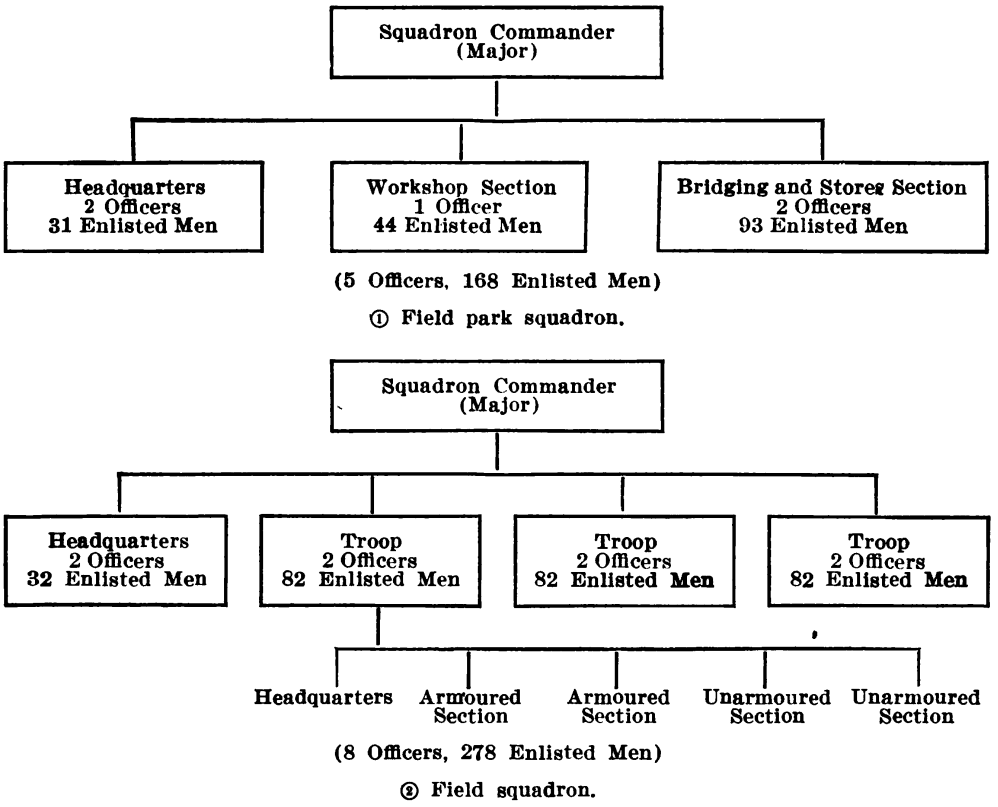


FIGURE 24.

c. Mines.—(1) *Anti-tank.*—Types of British mines with details of their packing and carriage in the field are shown in figure 25.

(2) *Mk. IV mine.*—(*a*) Details of the standard British anti-tank mine Mk. IV are shown in figure 26. This mine is set to be detonated by pressure of 320 pounds. It will break the track of tanks, but normally does not breach the belly of the tank or injure the crew.

(*b*) The fuze for the Mk. IV mine is shown in figure 26 ①. A steel rod projects from the head of the fuze, through which passes a stiff pin with a strong loop attached and a piece of bent brass wire. To arm the mine, remove the safety (split, or cotter) pin, but do not touch the brass wire. (If the brass wire is not in position as shown in figure 26 ②, the safety pin should not be removed, and the fuze should not be used.) The cover of the mine should next be removed and the fuze inserted in the socket in the top of the body. (The fuze should be an easy fit, and

on no account should force be used.) The cover of the mine should then be gently replaced so that the pins engage the straps. To disarm Mk. IV mines, carefully remove the cover and extract the fuze. After the fuze has been removed, a safety pin or small nail should be inserted in the hole in the striker.

(*c*) The divisional supply company carry 1,232 Mk. II or 880 Mk. IV anti-tank mines. The corps ammunition park carries a sufficient supply to replenish the stocks of the supply companies of all the divisions in the corps.

(3) *Anti-personnel mines.*—Several patterns are in use: in the Middle East they are generally constructed locally.

Mark	How packed	Diameter (approximate)	Height (approximate)	Weight				Pistol, or fuze		Remarks
				Complete (approximate)		Filling (approximate)		Description	How packed	
		Inches	*Inches*	*Pounds*	*Ounces*	*Pounds*	*Ounces*			
II [1]	Steel box of 8 mines.	7½	3¼	8	4	4	0	Fuze AT, Mks. I and II	In box with mines.	Obsolescent.
IV [1]	Wooden crate of 5 mines.	8	5	12	0	8	4	Fuze AT, No. 3, Mk. I.	Separate wooden box of 4 cylinders, each cylinder of 5 fuzes.	

[1] Mk. II and Mk. IV mines are being issued at present. Mk. I and Mk. III mines are now obsolete. A new model, Mk. V, which has a spider top similar to the U. S. mine and eliminates certain disadvantages of previous marks, is being tested.

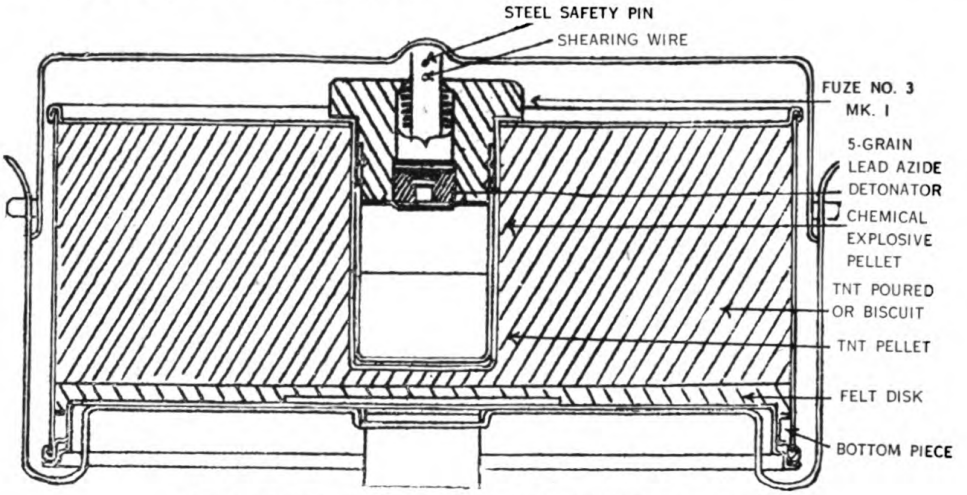
FIGURE 25.—Anti-tank mines.

45. Bridging and bridge equipment.—*a. Load classification system.*—The British employ a system of load classification by which they give bridges and vehicles corresponding classification numbers. The classification number painted on any vehicle indicates that it can be safely taken over any bridge having a corresponding or higher classification number. These numbers are approximately equal to the tonnage of the vehicle in long tons (2,240 pounds). For example, a class 24 bridge can carry a 26-ton tank. (See par. 161*a*.)

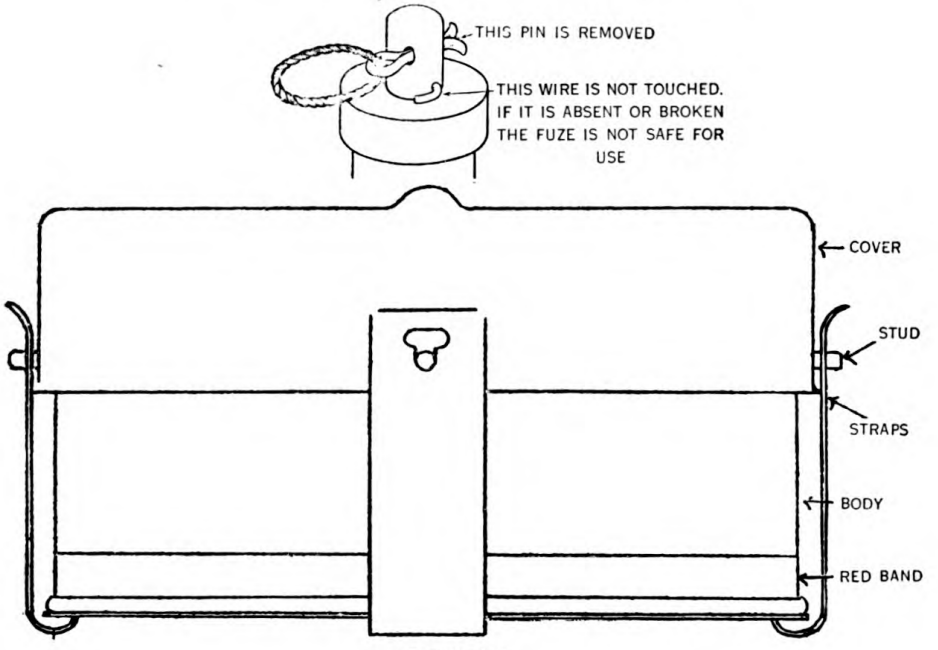
b. Bridge types.—The following are the principal types of British mobile bridging equipment:

(1) *Reconnaissance boat.*—The reconnaissance boat (fig. 27) is a pneumatic boat 6 feet 8½ inches by 2 feet 8½ inches built in two

compartments, with a wooden floor-stiffener. It weighs 39 pounds and will carry a two-man load.



① Interior—section of filled mine with fuze; and cover in position.



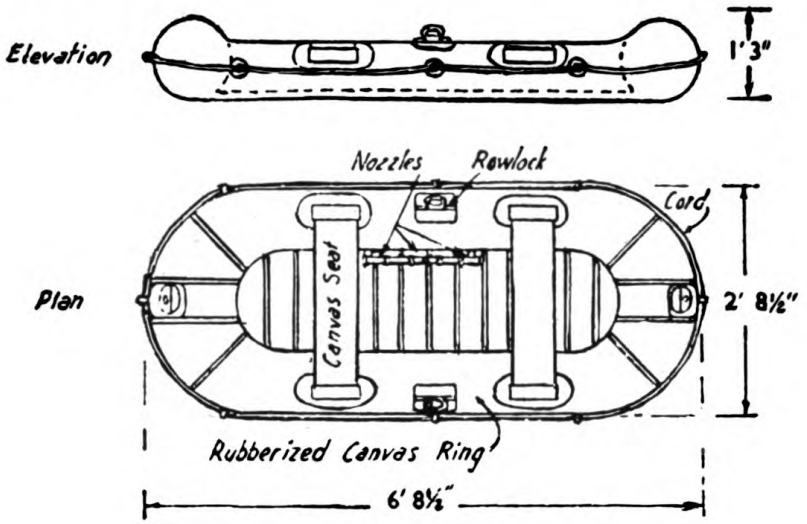
② Exterior.

FIGURE 26.—Anti-tank mine, Mk. IV.

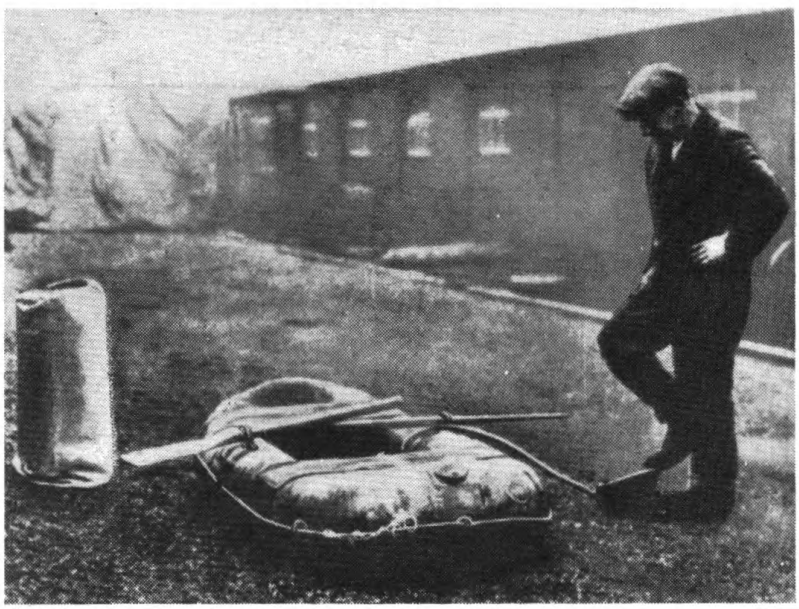
(2) *Assault boat.*—The assault boat (fig. 28) is a wooden folding boat 12 feet 1½ inches by 4 feet 1 inch. It has five paddles, weighs 174 pounds, and carries nine fully armed men.

(3) *Kapok footbridge.*—This equipment is lighter than the U. S. footbridge, but is otherwise similar.

(4) *Folding boat equipment, Mk. III.*—This folding boat equipment (fig. 29) consists of folding boats, superstructure suitable for both



① Diagram.



② Boat being inflated by foot pump.

FIGURE 27.—Reconnaissance boat.

bridge use and rafting, trestles, anchors and anchor stores, auxiliary rafting gear, and folding dinghies for assault boats. The equipment

may be made up into rafts for class 5 or class 9 loads, or used as single boats to carry 16 armed men in addition to the commander and crew of 4. The equipment has been designed primarily as a bridge, however, and such will be its normal use. The bridge is constructed by rafts, and the use of connectors permitting only limited articulation gives the bridge sufficient load capacity to carry class 9 loads (about 10 tons). The boats are 21 feet 10 inches by 6 feet 8 inches and weigh 870 pounds.

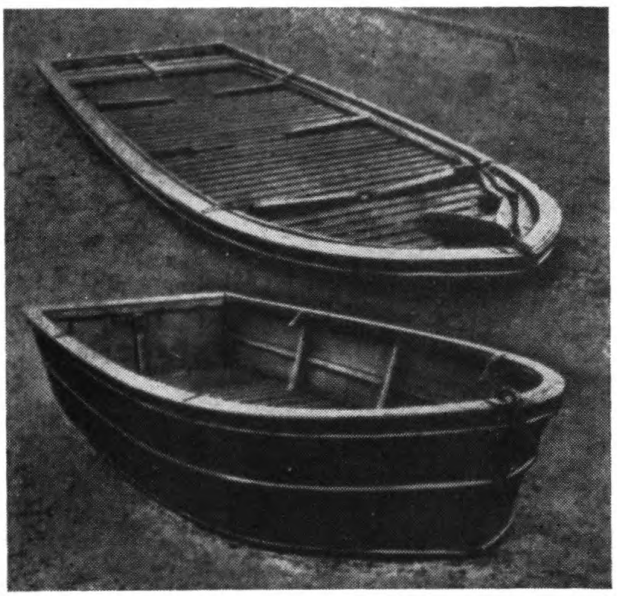


FIGURE 28.—Assault boat.

(5) *The small box-girder (SBG) bridge, Mk. III.*—This bridge is similar to the U. S. H10 bridge. Two sets are carried in each infantry division, and one special set in each armoured division.

(6) *Mk. V ponton equipment.*—(*a*) This equipment consists of pontons, Mk. V, trestles, Mk. VII, superstructure, and accessories, including the long landing bay and the sliding bay. The bridge is designed to carry class 24 loads (26 long tons.) The pontons are decked and weigh about 1,450 pounds. In forming a ponton pier two pontons are joined together by means of side and deck ponton couplings. The bridge is constructed by rafts, each raft being coupled together by means of raft connectors. A raft is normally supported on three ponton piers, each consisting of two pontons coupled stern to stern. Across the piers are laid steel I-beams which in turn support a decking of wooden planks, called chesses. The latter are held down at

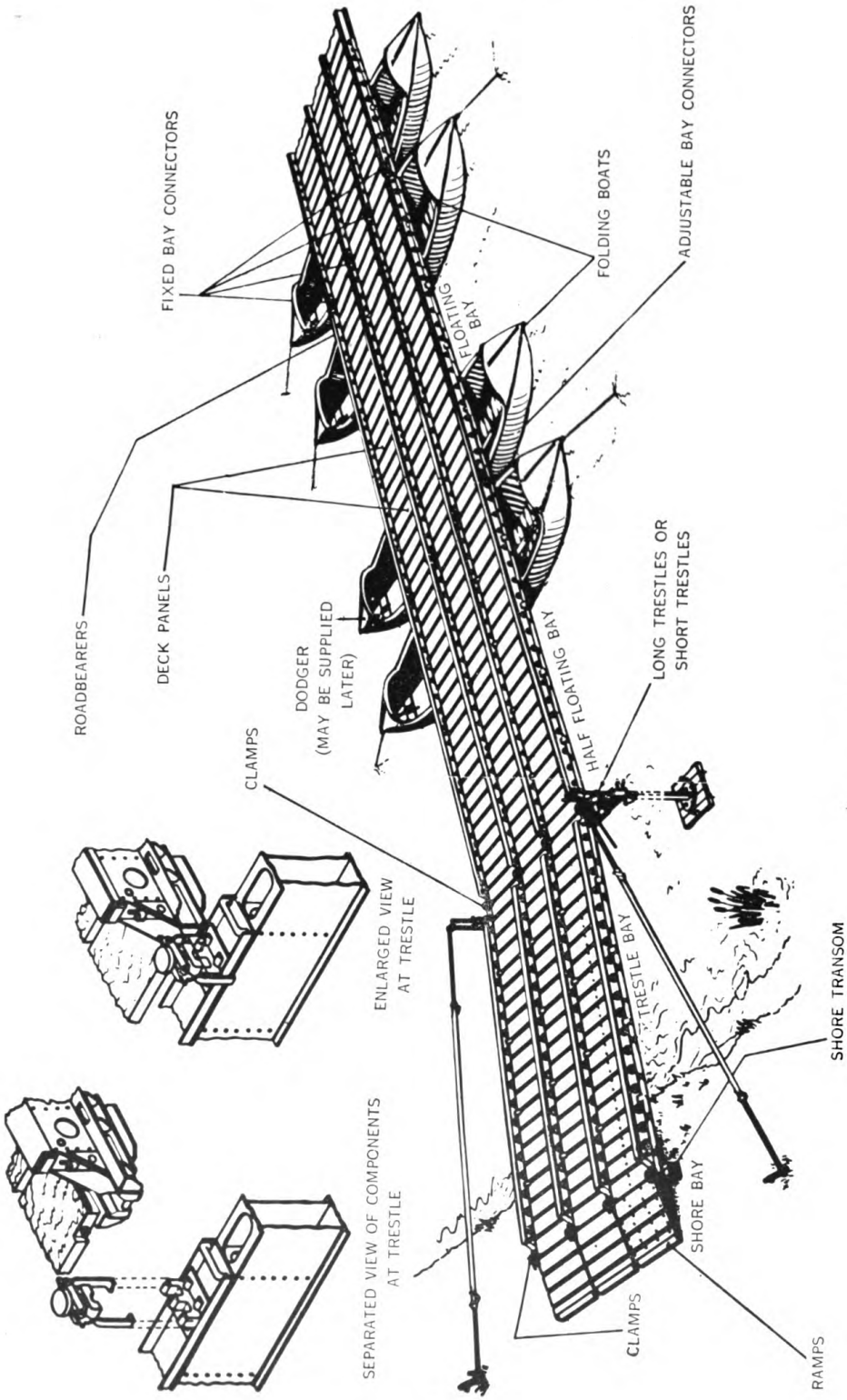


FIGURE 29.—Folding boat equipment, Mk. III.

their ends by steel ribands which also serve as wheel guides and are secured to the pontons by means of racking bolts.

(*b*) To get from the end of the floating portion of the bridge to the shore, a long landing bay, or a sliding bay and a trestle bay, are normally required. The long landing bay provides a substitute for trestle, trestle bay, and sliding bay. It avoids the difficulties and uncertainties attendant upon erecting trestles on an imperfectly reconnoitered site. It is of box-girder construction with special decking and

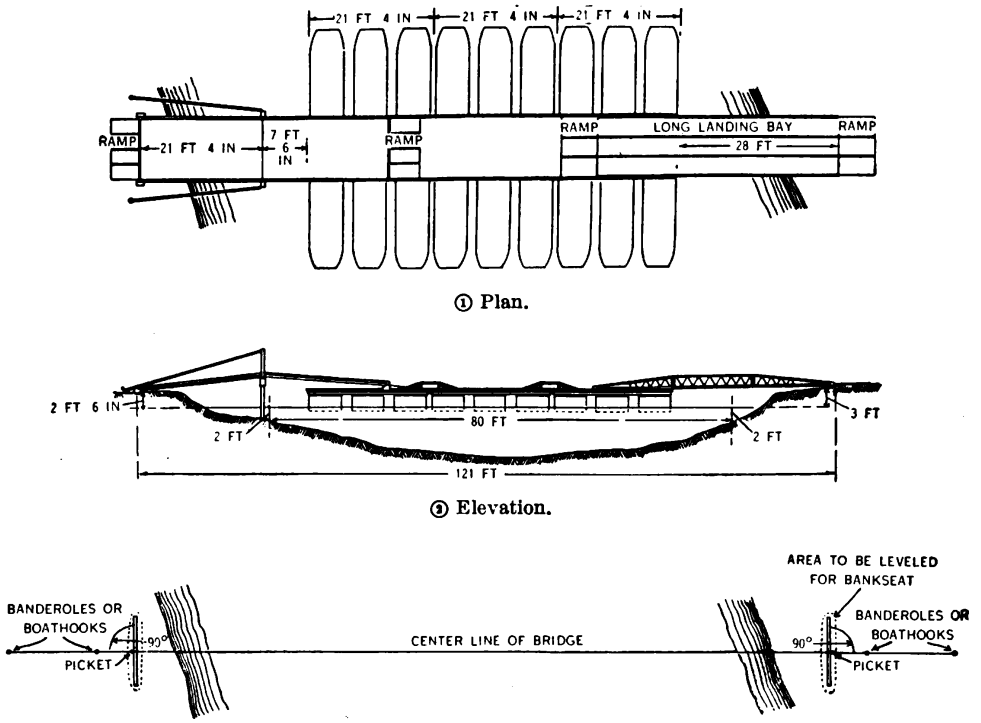


FIGURE 30.—Example of ponton bridge layout.

permits loads to travel straight from the shore to the first raft of the ponton bridge. The sliding bay is a normal-length bay used in standard load-bearers and chesses. One end is positioned on the deck of the floating portion, the other end supported on the trestle saddle, or shore transom. The trestle bay is the same as the sliding bay and is used between trestle and shore. The trestle, trestle bay, and sliding bay are used when long landing bays are not available or when conditions on the shore do not permit their use. The ponton equipment is shown in figures 30 and 31.

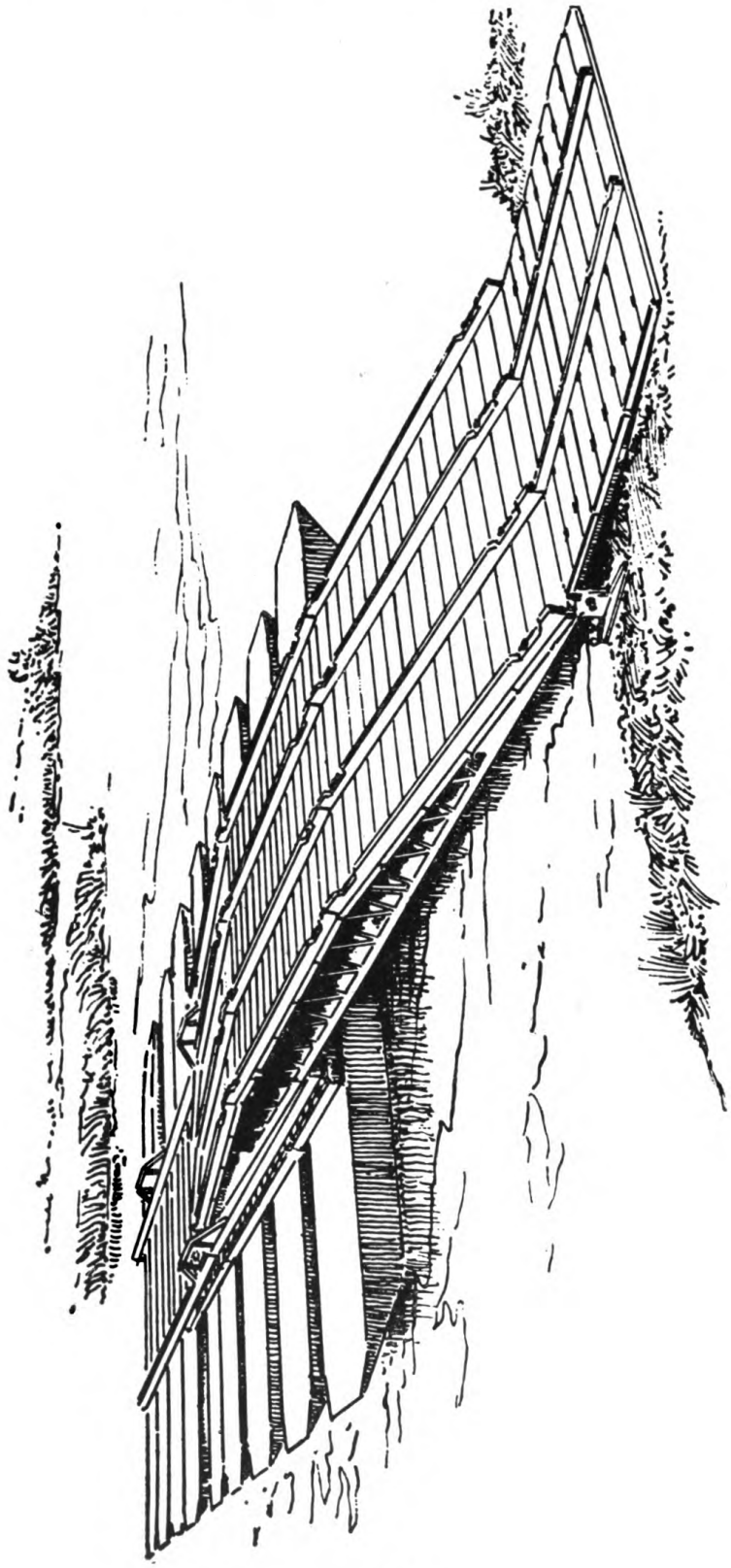


FIGURE 31.—Long landing bay.

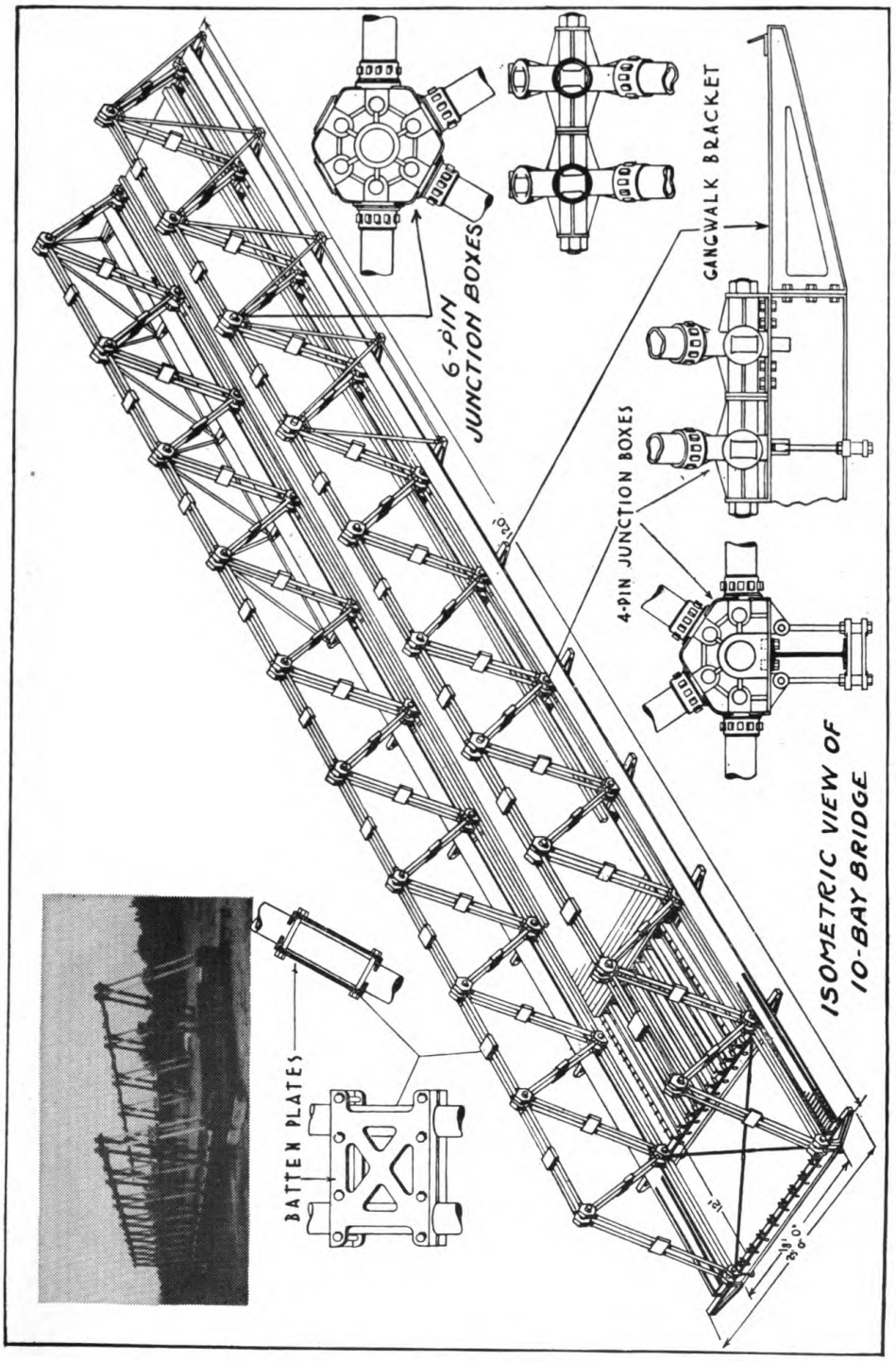


FIGURE 32.—Inglis bridge, Mk. III.

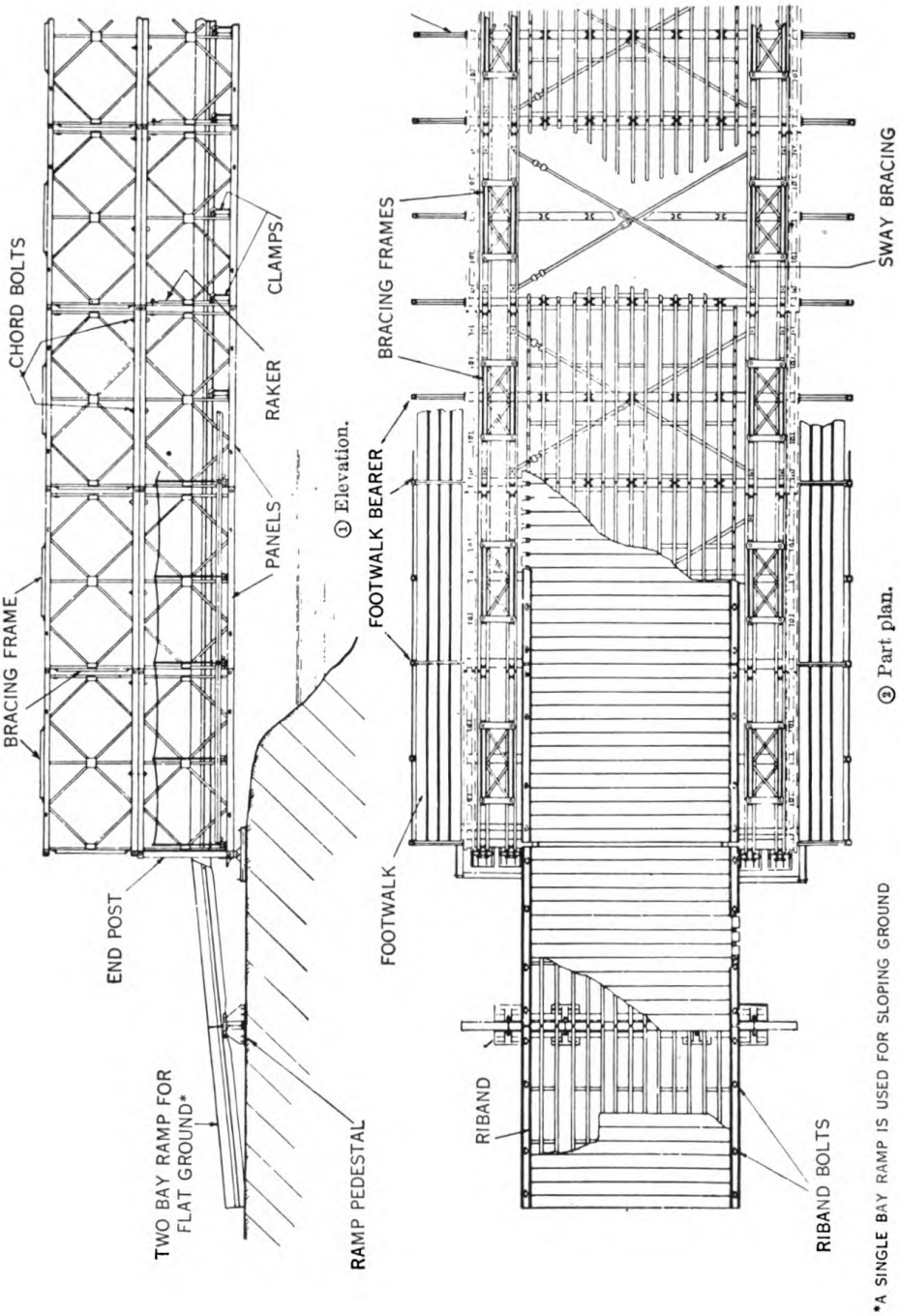


FIGURE 33.—Detail sketch of Bailey bridge.

(7) *Inglis bridge, Mk. III.*—The Inglis bridge (fig. 32) is a through-type Warren truss with tubular members connected in equilateral triangles of 12-foot sides and is designed to be capable of carrying any military load over spans ranging from 36 to 192 feet. For long spans and heavy loads the trusses can be double- or triple-tubed; the depth of the trusses can be doubled by building them in two stories, or various combinations of these arrangements can be used, such as a single-tubed truss with double-tubed center bays, a double-tubed truss with single-tubed second story, etc. Experiments are being carried out in the use of this bridge as a tank-assault bridge and also, with floating piers, as the superstructure of a ponton bridge.

(8) *Bailey bridge.*—The Bailey bridge (fig. 33) is made up of rectangular panels 5 feet high and 10 feet long. The panels are made up of angle irons about 3 by 1¾ inches placed back to back with welded joints. Knee-brace members and end panels, all bolt-connected, serve to join the panels into a sort of a box-girder type of construction. These 10-foot built-up box-girder sections fasten together longitudinally by a pin connection at the bottom and top of each panel. The panels may be pinned together in various combinations, according to the span and load-carrying capacity desired. It is believed that the bridge will carry loads up to 90,000 pounds over a 170-foot span, and loads up to 150,000 pounds over a 120-foot span. The use of the bridge with floating piers is being tested.

(9) *Hamilton bridge.*—The Hamilton bridge is a permanent type of bridge which may be carried in normal service vehicles but which is usually held at the base. This bridge will take all military loads (except railroad loads) over the following limiting spans:

Single-truss girders, 80 feet.

Double-truss girders, 140 feet.

c. Bridge policy.—(1) Present British policy is to carry only sufficient bridging equipment with divisions for unforeseeable minor obstacles; the remaining bridging equipment is to be concentrated in the corps bridge company (RASC) under direct control of the corps commander. The present interim scale of bridging equipment is as follows:

	Recn boats	Assault boats	Kapok	Small box-girder (SBG)	Folding-boat equipment (FBE)	Inglis or Bailey	Ponton	Remarks
Inf Div	32	------	------	Two sets	240 feet	----------	------	----------
Armd Div	31	------	------	One set (special)	------	----------	------	Armd Div has four track-bridges (20 feet).
Corps Br Co	30	72 per Div	585 feet	Two sets	480 feet	40-ton load over one 120-foot span per Div	420 feet	----------

It is proposed to readjust this scale ultimately as follows:

(*a*) Reconnaissance boats will be allotted to divisional engineers on the basis of 1 to each officer, with a reserve of 12 in the field park company. They will also be carried in the bridge company (RASC).

(*b*) Assault boats will be carried in the bridge company (RASC) on a scale of 60 for each division in the corps.

(*c*) The Inglis bridge, Mk. III (60 feet of single-tubed bridge), will be carried by (infantry) divisional engineers and by armoured divisional engineers to deal with minor obstacles. Each bridge company (RASC) will carry 480 feet of double-tubed bridge. Floating piers for use with the bridge will be carried in the bridge company, provided experiments and design now in progress are successful.

(*d*) *Bailey bridge.*—This bridge may supplant the Inglis bridge as divisional equipment.

(*e*) The Kapok assault bridge (520 feet) will be carried in each bridge company (RASC).

(*f*) Tank-assault bridging will be carried in the divisional field park squadron of the armoured division. The type of bridging has not been determined.

(2) It is contemplated that folding-boat equipment and ponton equipment will be retained in the bridge company (RASC) until a floating pier suitable for use with the Inglis (or Bailey) bridge has been designed. The small box-girder (SBG) bridge is standard divisional equipment but may be replaced by the Inglis (or Bailey) bridge. This and the large box-girder bridge (obsolescent), the Hamilton bridge, and stock spans will be kept at railheads and engineer store (base) depots for semipermanent bridging on the lines of communication.

SECTION XI

ROYAL CORPS OF SIGNALS

46. General.—*a*. The Royal Corps of Signals (R Sigs), which corresponds to the Signal Corps in the U. S. Army, is responsible for all army communications down to headquarters of infantry battalions, artillery batteries (U. S. battalions), and units of other arms on a similar level. It is also responsible for wire communications between army formations and such units of the Royal Air Force as may be allotted for support of the army, and for all wire communications for the RAF, these being effected by air formation signals. It will be noticed from this that R Sigs is responsible for communications further down in the army organization than is the U. S. Signal Corps. But, on the other hand, the U. S. Signal Corps embraces a wider field, for R Sigs confines its responsibilities solely to ground methods of communication and is not responsible for such duties as aerial photography.

b. Infantry battalions and artillery batteries and troops have their own signalers for communications below company level. These personnel are not members of the Royal Corps of Signals.

c. Higher formations are responsible for communication with next lower formations and for lateral communication between adjacent lower formations.

d. If a formation or unit is supported by another unit, such as artillery, the supported formation or unit is responsible for the communication with the supporting unit.

e. The following is a list of some British signal terms and their U. S. equivalents:

British	*United States*
Signal office	Message center
Cable	Field wire
Drum	Reel
Wireless-telegraphy (W/T)	Radio (key)
Radio-telephony (R/T)	Radio (voice)
Valve	Tube
To superpose	To simplex
Teleprinter	Teletype
Quad cable	Spiral four (cable)
Despatch rider (D/R)	Messenger

f. The senior R Sigs officer at GHQ is the Signal Officer-in-Chief (Chief Sigs),[20] and is a major-general. At army headquarters the senior R Sigs officer is the Chief Signal Officer (CSO) of the army concerned, and is a brigadier; at corps headquarters he is the Chief Signal Officer (CSO) of the corps concerned, and is a colonel; at divisional headquarters he is the Officer Commanding, Divisional Signals (OC Div Sigs), and is a lieutenant-colonel; at brigade headquarters he is the Brigade Signal Officer (Bde SO), and is a captain; at field regimental headquarters he is the Regimental Signal Officer (Regt SO), and is a subaltern.

g. Each unit or formation has a signal office (message center), which is the terminal of all lines of communication emanating from and ending at the unit or formation concerned. Every message to and from personnel normally resident at a unit or formation will be routed through its own signal office. Thereafter responsibility for delivery rests with R Sigs personnel. In charge of each signal office is the Signalmaster, who is directly responsible to the commanding officer for the administration, operation, change of reliefs, and general efficient handling of the signal personnel at the formation or unit signal office. This duty is performed in turn by those junior officers in charge of wireless sections, operating sections, and line sections.

h. Communications personnel, when on duty, may be distinguished by a blue and white signals arm band, which is worn on each upper arm by the following officers and men:

(1) Officers of the R Sigs.

[20] Formerly known as SO-in-C.

(2) Regimental signaling officers.

(3) Noncommissioned officers of all arms employed in message centers or in charge of artillery battery signalers.

(4) Messengers of all arms while employed on dispatch riding duties.

(5) R Sigs personnel engaged in the construction and maintenance of wire and cable.

47. Hq signals.—*a.* This corresponds to the U. S. Army signal battalion. Its organization varies according to circumstances, and it provides communications for the Hq of a higher formation such as GHQ or army.

b. The unit consists essentially of a headquarters and three companies and is commanded by a lieutenant-colonel. No. 1 company is the construction company; Nos. 2 and 3 companies are operating and maintenance companies and are identical. Companies are subdivided into sections, the number of which varies according to requirements. No. 1 company contains line (i. e., line-laying) sections and a line-maintenance section. Nos. 2 and 3 consist of teletype operating sections, wireless sections, messenger sections, and a technical maintenance section.

48. Corps signals.—*a.* The corps signal unit (known, for example, as (12) Corps Signals), also corresponds to the U. S. Army signal battalion.

b. It is organized into a headquarters and three companies and is commanded by a lieutenant-colonel. No. 1 company is the construction company, No. 2 company is the operating company, and No. 3 company is the corps artillery company. Companies are subdivided into sections as follows:

No. 1 (Construction) Co:
- 4 line sections.
- 1 line-maintenance section.

No. 2 (Operating) Co:
- 3 operating sections.
- 3 wireless sections.
- 2 messenger sections, each of 1 sergeant and 24 messengers.

No. 3 (Artillery) Co:
- Signal sections for corps artillery units.

c. If the number of formations and units of the corps is increased or decreased, the number of sections is altered accordingly.

49. Divisional signals.—*a.* Within an infantry division the signal unit corresponding to the divisional signal company in the U. S.

Army is known, for example, as (38th) Divisional Signals. It is commanded by a lieutenant-colonel and is considerably larger than the U. S. company, for it includes the equivalent of the U. S. infantry regiment and artillery battalion communication platoons. Divisional signals is responsible for all communications within the division, down to infantry battalions and artillery batteries. It maintains all radio sets in the division and carries out first-line repairs to signal equipment. It is also responsible for lateral communication between its infantry brigades (U. S. regiments) and, in general, for communications with the division on its left flank, where this is not provided by corps signals.

b. Divisional signals is divided into a headquarters, a headquarters company, and four companies:

(1) *Unit Hq.*—Executive office of the Officer Commanding, Divisional Signals (OC Div Sigs) (2–O and 8 EM).

(2) *Hq Co.*

Hq (1–O and 5 EM, captain commanding).

Q Section—pay, welfare, equipment provision, and general administration (1–O and 35 EM).

M Section—tactical maintenance of all signal equipment in the division (1–O and 25 EM).

(3) *No. 1 Co.*—Provides communications at divisional headquarters and to infantry brigades, artillery regiments, and the army tank brigade. The company consists of—

Hq (1–O and 6 EM, major commanding).

A Section—radio (2–O and 36 EM).

B Section—cable (wire) (1–O and 28 EM).

C Section—radio (1–O and 37 EM).

D Section—dispatch rider (messenger) (24 EM, company quarter-master sergeant commanding); includes a cipher subsection, with a captain commanding.

O Section—operating (3–O and 64 EM).

(4) *No. 2 Co.*—Provides communications for artillery regiments, including anti-tank, from regimental headquarters down to batteries. The company consists of—

Hq (1–O and 5 EM, major commanding).

E Section
F Section
G Section
} One section attached to each field artillery regiment (1–O and 37 EM each).

H Section—divisional artillery Hq staff section (1–O and 34 EM).

(5) *No. 3 Co.*—Provides communications for infantry brigades (U. S. regiments), from brigade headquarters down to infantry battalions; also for the reconnaissance regiment, down to reconnaissance squadrons, and for the Commander, Royal Engineers, down to engineer companies (known as field companies, RE).

Hq (1–O and 5 EM, major commanding).
R Section—reconnaissance regiment section (17 EM, company quarter-master sergeant commanding).
J Section, K Section, L Section } One section attached to each infantry brigade (2–O and 59 EM each; also 7 infantrymen attached to each).

(6) *No. 4 Co.*—Provides communications from the army tank brigade to the tank battalions; also furnishes a section to each tank battalion for communications down to squadrons. The company consists of—

Hq (2–O and 19 EM, major commanding).
W Section—army tank brigade section (1–O and 48 EM).
X Section, Y Section, Z Section } One section attached to each tank battalion (18 EM each, company quarter-master sergeant commanding each).

c. Attached to divisional signals is a light aid detachment (LAD), which is responsible for the recovery and repair of damaged vehicles.

50. Armoured divisional signals.—*a.* Armoured divisional signals provides communications within the armoured division down to and including headquarters of armoured regiments, infantry (motorized) battalions, artillery batteries (U. S. battalions) engineer squadrons, motor companies, and armoured car squadrons. The unit corresponds to, but is considerably larger than, the U. S. armored signal company, and is commanded by a lieutenant-colonel.

b. Normally communication is almost entirely by voice. There are over 500 radio sets in the division, including 1 in every armoured vehicle, and there are more than 50 different radio nets.

c. Armoured divisional signals is divided into a headquarters, a headquarters squadron, and four squadrons.

(1) *Unit Hq.*—Executive office of the Officer Commanding, Armoured Divisional Signals (OC Armd Div Sigs) (4–O and 25 EM).

(2) *Hq Sq.*—Administers the provision of stores, and deals with technical maintenance both mechanical and radio. The squadron consists of—

Hq (1–O and 4 EM, captain commanding).
Q Troop—quarter-master (1–O and 24 EM).

M Troop—maintenance and repair (1–O, who is the Technical Maintenance Officer (TMO), and 31 EM).

(3) *No. 1 Sq.*—Provides communications between rear and advanced Hq, and also between the two armoured brigades and any other supporting arms whose communications are not supplied by Nos. 2, 3, and 4 Squadrons. The squadron is divided into two groups: advanced divisional headquarters group and rear divisional headquarters group. Each group consists of a headquarters and three troops.

Hq (1–O and 12 EM, major commanding).

(*a*) *Advanced Group.*—Provides communications to those formations and units stationed in the forward areas.

Hq (1–O and 2 EM, captain commanding).

A Troop—Adm Div Hq troop (1–O and 54 EM).

C Troop—radio (1–O and 30 EM).

D Troop—messenger (24 EM, company quarter-master sergeant commanding).

(*b*) *Rear Group.*—Provides communications to the services and reserve units of the division.

Hq (1–O and 2 EM, captain commanding).

U Troop—rear divisional troop (1–O and 36 EM).

B Troop—wire (1–O and 28 EM).

O Troop—operating (2–O and 32 EM, captain commanding).

(4) *No. 2 Sq.*—Provides communications down to the Royal Horse Artillery (mechanized) regiments (U. S. battalions) and within the RHA regiments down to batteries. The squadron consists of—

Hq (1–O and 7 EM, major commanding).

H Troop—divisional artillery commander's troop (1–O and 33 EM).

E Troop, F Troop } One troop attached to each RHA regiment (1–O and 41 EM each).

(5) *No. 3 Sq.*—Provides communications within the infantry brigade, the armoured car regiment (U. S. battalion), and the engineer battalion down to the infantry battalion, the armoured car squadron, and the engineer squadron, respectively. The squadron consists of—

Hq (1–O and 7 EM, major commanding).

J Troop—infantry brigade (2–O and 66 EM, captain commanding).

R Troop—armoured car regiment (33 EM, company quartermaster sergeant commanding).

N Troop—engineer battalion (1–O and 20 EM).

(6) *No. 4 Sq.*—Provides communications within the armoured brigade down to armoured squadrons. The squadron consists of—

Hq (2–O and 23 EM, major commanding).
W Troop—armoured brigade (1–O and 51 EM, captain commanding).
X Troop, Y Troop, Z Troop—One troop attached to each armoured regiment (15 EM each, company quarter-master sergeant commanding each).
V Troop—motor battalion (19 EM, company quarter-master sergeant commanding).

51. Standard procedures.—*a. Phonetic alphabet.*

A. Ac	J. Johnnie	S. Sugar
B. Beer	K. King	T. Toc
C. Charlie	L. London	U. Uncle
D. Don	M. Monkey	V. Vic
E. Edward	N. Nuts	W. William
F. Freddie	O. Orange	X. X-ray
G. George	P. Pip	Y. Yorker
H. Harry	Q. Queen	Z. Zebra
I. Ink	R. Robert	

When it is necessary to spell a word, the word itself is first spoken, followed by the phonetic spelling; for example, "Two: T for Toc, W for William, O for Orange."

b. Pronunciation of figures (numbers).—The word "figures" will always precede any number; 10 will be spoken "Figures Wun Owe." Pronunciation of numbers is similar to U. S. usage except for numbers such as 11, 22, 33, etc. For instance, 11 may be pronounced "Wun Wun" or "Double Wun"; 22 is "Too Too" or "Double Too," etc. Should the pronunciation of figures fail to make the figures clear to the listener, the speaker will say each figure and then count up to it as in the following table:

0. "Owe"	--- ---	*O-w-e*
1. "Wun"	--- ---	Owe — *One*
2. "Too"	--- ---	One — *Two*
3. "Th-r-ree"	--- ---	One — Two — *Three*
4. "Foer"	--- ---	Two — Three — *Four*
5. "Fife"	--- ---	Three — Four — *Five*
6. "Six"	--- ---	Four — Five — *Six*
7. "Sev-en"	--- ---	Five — Six — *Seven*
8. "Ate"	--- ---	Six — Seven — *Eight*
9. "Niner"	--- ---	Seven — Eight — *Nine*

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CALL AND INSTRUCTIONS	IN / OUT	No. of Groups. GR.	OFFICE DATE STAMP

(ABOVE THIS LINE IS FOR SIGNALS USE ONLY)

TO

FROM	Originator's Number	Date	In Reply to Number

THIS MESSAGE MAY BE SENT AS WRITTEN BY ANY MEANS { EXCEPT * ..... } WIRELESS

THIS MESSAGE MUST BE SENT IN CIPHER IF LIABLE TO INTERCEPTION OR TO FALL INTO ENEMY HANDS

ORIGINATOR'S INSTRUCTIONS
DEGREE OF PRIORITY

TIME OF ORIGIN

SIGNED

SIGNED

T.H.I.

(BELOW THIS LINE IS FOR SIGNALS USE ONLY.)

SYSTEM IN	TIME IN	READER	SENDER	SYSTEM OUT	TIME OUT	READER	SENDER	SYSTEM OUT	TIME OUT	READER	SENDER

T.O.R.

* Originator may delete "except" and insert "including"

690616 Wt 36393/1568 275M Pads 11/41 MP 51-1836

FIGURE 34.—Message blank.

Example: 26019 will be spoken as follows (*with emphasis on the figure (number) to be transmitted*): "Figures Too—Six—Owe—Wun—Niner: Too, Wun—*Too;* Six, Foer—Fife—*Six;* Owe, *O-w-e;* Wun, Owe—*Wun;* Niner, Sev-en—Ate—*Niner.*"

c. Writing a message for transmission.—Messages are normally composed on a message form (blank) similar to that shown in figure 34. Spaces should be filled in as follows:

(1) "To": the name of the unit to receive the message or its code sign.

(2) "From": the name of the unit sending the message or its code sign.

(3) "Originator's Number": writer's identification number (see par. 165).

(4) "Date": day of the month only (e. g., December 7 is written 7).

(5) "In Reply to Number": the identification number of the message, if any, to which reference is being made.

(6) The text is written from left to right with one word in a box. It may consist of plain language, cipher, or code. A period, or "stop," is indicated by a circle with a dot in the center.

(7) The originator signs his name and rank in one of the two spaces at the bottom, thus giving instructions regarding cipher.

(8) "Originator's Instructions, Degree of Priority": the degree of priority, if any, is given. The various degrees of priority are as follows:

Degree of priority	*Used by—*
Most immediate	Commander-in-Chief or his chief staff officer only.
Emergency	Commanders and senior staff officers [21]; only for messages of the utmost importance having a direct bearing on operations.
Immediate	Regimental commander or senior staff officers; for messages of special importance.
Important	Any officer; for messages requiring priority above ordinary routine messages. Signal officers may use this priority. Any other instruction, such as "To await arrival," may be put in this space.
No indication	For routine messages.
Deferred	For messages of minor importance.

[21] Priority lists, showing in detail which officers may use each priority, are issued by the General Staff.

(9) "Time of Origin": the time at which the writer signs the message (the 24-hour clock is used, and local time).

(10) All other blanks on the message are filled in by R Sigs personnel. (T. H. I.=time handed in; T. O. R.=time of receipt.)

(11) If an acknowledgement is required, "Ack" is written at the end of the text.

d. Procedures for sending message.—There are several procedures in use:

(1) *"Written message" procedure.*—The message is written out as above and sent exactly as written, together with various signal procedures used by R Sigs.

(2) *"VE" procedure.*—The message may be given orally to the operator to transmit, or may be written down simply as a text without the address or references required in a written message. This is used for quick questions and answers.

(3) As regards actual transmission of the message the following procedures are used:

(*a*) *"Normal" method.*—The message is sent straight through.

(*b*) *"SR" (send replies) method.*—Each group is answered by the receiver before the new group is sent. This method is very slow and is used only when communication is difficult.

(*c*) *"F" procedure.*—The message is sent through twice at slow rate, no answers being given. This method is used when the receiver must not, or cannot, reply.

(*d*) *"G" procedure.*—The whole message is repeated back by the receiver.

(*e*) *"DC" procedure.*—Difficult communication (DC) procedure is used in cases where interference is strong. The sender sends each group twice instead of once.

e. Strength of signals.—The strength of signals received by radio is described as follows: strength 3 means "scarcely readable"; strength 6, "fair"; strength 7, "good"; strength 9, "very strong."

f. Transmission of a message.—A message may be sent as a telegram by one of the procedures described above, or may be sent as a phonogram. In the case of a phonogram the sending operator telephones the message and the receiving operator writes it down on a message form.

52. Equipment.—*a. Wire and associated stores.*—In general, these are very like those in the U. S. Army, the principles of operation being exactly the same. The principal instruments used in forward areas are—

(1) *Telephone "D," Mk. V.*—Calls by buzzer; responds to buzzer calls or by bell to magneto calling; speech and Morse code (buzzer).

(2) *Telephone "F."*—Calls by buzzer or magneto generator; responds to buzzer calls or by bell to magneto calling; speech—no Morse code key.

(3) *Fullerphone.*—A portable DC telegraph instrument of high sensitivity—signals practically immune from interception.

(4) *Switchboard universal call (UC).*—Ten-line or six-line; portable switchboard, with lamp indicators, which will respond to and call buzzer or magneto instruments.

(5) *Superposing unit.*—Corresponds to the simplex unit; designed primarily for use with switchboard universal call; simplexes a series fullerphone on a telephone circuit (twin line or ground return); simplexes a phantom to ground fullerphone or telephone on a twin line; simplexes a fullerphone or telephone phantom on two twin lines; further development of phantom circuits.

(6) *Line labels (wooden tags).*—These are of various shapes and are attached to wires at points where identification difficulties might arise. Linemen, by feeling the tags, can tell in the dark which unit owns the line. Tags are clearly marked to make identification simple; for example, BW–A means a line laid by The Black Watch (see par. 167*g*) to "A" Co. If there is more than one line between the same stations, a figure is added; for example, BW–A2. (See fig. 35.)

(7) *Wire.*—(*a*) *"D," Mk. III.*—A thin braided steel and copper wire used by infantry and artillery; single generally, but twisted is available; range, 10 miles.

(*b*) *"D," Mk. VIII.*—A larger but similar wire used by divisional signals; single and twisted; range, 15 miles.

(*c*) *Quad cable.*—Used in rear of the division; rubber-covered and rubber-insulated; contains two twisted pairs; range, 45 miles.

(*d*) *7-pair india rubber vulcanized (IRV).*—Used in rear areas and also, in short lengths, at Hq's, where it is usually buried to conceal approaches; range, 60 miles.

b. Radio (as used in forward area).—British radio differs in one main aspect from U. S. radio equipment of pre-war design in that British sets have a larger frequency coverage and tend to make one set do for many different arms of the service, whereas U. S. sets are more specialized, each arm having its own type.

(1) *No. 18 set (Nos. 38 and 48 sets being developments).*—Used by infantry and for general patrol work:

Output: .5 watt.

Frequency band: 6.0 to 9.0 megacycles (mc/s).

Range:
Mobile—voice, 2 miles; cw, 6 miles.
Stationary—voice, 5 miles; cw, 8 miles.
Weight: 30 to 35 pounds for No. 18 set; the others are lighter.

(2) *No. 38 set.*—Used by infantry and paratroops:
Output: .5 watt.
Frequency band: 7.3 to 8.3 mc/s.
Range: voice, 4 miles maximum.
Weight: 12 pounds (batteries carried separately).

(3) *No. 11 set (and No. 21 set).*—Used by infantry and artillery:
Output: high power, 7 watts; low power, 1.5 watts (No. 21 set: on higher band, .8 watt; on lower band, 1.5 watts).
Frequency band: 4.2 to 7.5 mc/s for both sets (No. 21 set has also 19 to 31 mc/s).
Range:
Mobile—voice, 4 miles; cw, 10 miles.
Stationary—voice, 6 miles; cw, 15 miles.
Weight: 47 pounds.

(4) *No. 19 set.*—Primarily an armoured force set, but has many other uses for general purposes:
Output: 15 watts.
Frequency band: 2.1 to 8 mc/s and 230 to 250 mc/s.
Range:
Mobile—voice, 10 miles; cw, 15 miles.
Stationary—voice, 15 miles; cw, 20 miles.
Weight: 192 pounds.

(5) *No. 22 set.*—Middle-distance set, division to brigade:
Output: 20 watts.
Frequency band: 2 to 8 mc/s.
Range: voice, 20 to 40 miles; cw, 50 miles; mcw, 40 miles.[22]
Weight: three pack loads of about 30 pounds each.

(6) There are many other radio sets in use. When a radio set is replaced, the new set is generally numbered ten ahead of the old set. For instance, the No. 13 set was replaced by the No. 23, which, in turn, was replaced by the No. 33. Other sets which may be found are as follows:
No. 5 set—very-high-power set for strategical use.
No. 9 set—obsolescent, replaced by No. 19 or No. 22 set.
No. 12 set—high-power set for Royal Armoured Corps and army use.

[22] CW, or cw (continuous wave), corresponds to U. S. A1; MCW, or mcw (modulated continuous wave), to U. S. A2 (tone); voice, to U. S. A3.

No. 17 set—very small portable very-high-frequency (VHF) set for anti-aircraft use.

No. 26 set—high-power VHF multi-channel directional set for use in rear areas.

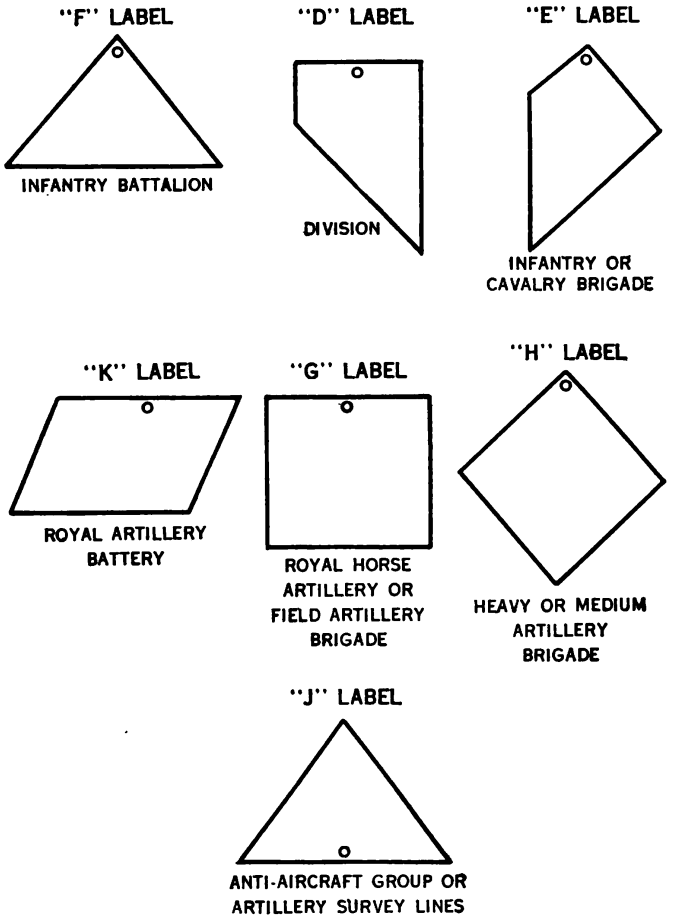

FIGURE 35.—Line labels.

No. 33 set—high-power set for army and corps Hq's.
No. 34 set—headquarters intercommunication set (very low power).
No. 36 set—high-power VHF set for anti-aircraft gun control.
No. 46 set—specially designed, portable low-power set for combined operations.

c. Maintenance and repair.—(1) (*a*) The Royal Corps of Signals is responsible for first-line repair to all signal equipment in use by units of all arms included in the formation. Whenever possible, units return equipment requiring repair or adjustment to the signal unit responsible, such as divisional or corps signals. If it is beyond first-line repair, it is turned over to the formation ordnance unit, and an immediate replacement is made if available. Normal replacements and issues are sent straight forward from the base ordnance depot to the brigade ordnance company, and issued from there direct to the unit. (Many of these functions are to be taken over by the Royal Electrical and Mechanical Engineers (REME)—see p. 80, note 23.)

(*b*) A small dump of cable and line stores is maintained by the CSO's of armies and corps for issue to meet some emergency or specific operation. These stores are obtained direct from the base ordnance depot, and are issued by R Sigs and not through ordnance channels.

(2) The general definition of a first-line repair carried out by R Sigs tradesmen is a repair or replacement which can be effected without the use of machine tools. Anything which is a definite workshop job is passed on to the ordnance workshops.

SECTION XII

ROYAL ARMY SERVICE CORPS

53. General.—Certain terms used in connection with supply in the British Army require preliminary explanation.

a. Supplies.—This term includes food, forage, gasoline, lubricants, disinfectants, hospital supplies, fuel for cooking and heating, and illuminants.

b. Stores.—This term includes war material other than supplies. It is divided into—

(1) *Ordnance stores.*—These include personal and unit equipment, armament and small arms, ammunition, explosives, engineer and signal stores, tanks, armoured cars and carriers, tractors, clothing and personal accessories, camp equipment, office supplies, materials for workshops, and all mechanical transport vehicles other than those which are the direct responsibility of the Royal Army Service Corps (RASC) (see par. 54).

(2) *Engineer stores.*—These consist of material and equipment required for engineer work of all kinds, whether carried out by engineers or by other arms. The term includes permanent line signal stores, but not explosives.

(3) *Transportation stores.*—These embrace material and equipment which are peculiar to the transportation services but are not provided by other services.

(4) *RASC stores.*—These include mechanical transport vehicles or the RASC, spare parts, and the material and equipment for their repair.

(5) *Medical and veterinary stores.*—These include drugs, dressings, medical and veterinary instruments, and appliances.

c. Transportation.—This term refers to administration of the movement of troops, stores, and supplies.

d. Transport.—This term is used—

(1) In a general sense to denote the driver, vehicle, and such equipment as is necessary to render the vehicle mobile.

(2) To denote that portion of an organized unit, formation, or service the primary duty of which is the transportation of troops, stores, and supplies.

54. Function.—The RASC is charged with the responsibility for the storage and issue of supplies, for certain phases of their transportation, including the vehicles assigned for that purpose, and for the administration of barracks and quarters. It supplies the daily needs of the soldier, that is, supplies him with food, gasoline, and lubricants, and brings him his ammunition. The RASC is also responsible for transporting his blankets and reserves of anti-gas clothing.

55. Organization.—*a. General.*—(1) The RASC is organized into two branches, supply and transport, which are coordinated under a directorate, the head of which is a major-general known as the Director of Supplies and Transport (DST).

(2) In war the supply and transport services, under the direction of DST, are under the control of the Quarter-Master-General (QMG).

(3) The supply branch is charged with the supply of food, forage, fuel, light, disinfectants, medical comforts, and gasoline and oils for vehicles.

(4) The transport branch is charged with the provision, issue, operation, and inspection of all vehicles in RASC units or driven by RASC personnel, and with the provision of spare parts, miscellaneous mechanical transport stores (MT stores), and materials, equipment, and tools required in the operation and maintenance of these vehicles. The maintenance and repair of these vehicles is to be shared by the RASC and the Royal Electrical and Mechanical Engineers (REME).[23]

b. Personnel.—(1) *Officers.*—RASC officers are organized on a regimental basis, are interchangeable, and are trained in all branches of RASC duties.

(2) *Supply branch.*—The personnel of this branch are organized by trades. They are bakers, butchers, issuers, and clerks. The clerks section of this branch provides the clerical personnel required for commanders and staffs at headquarters of formations in addition to those required by the RASC itself.

(3) *Transport branch.*—(*a*) The personnel of this branch are organized into drivers, qualified tradesmen trained in the trades associated with automobiles (e. g., coppersmiths), MT storekeepers, and technical mechanical transport clerks (TMT clerks).

(*b*) The animal transport branch, which is composed of drivers and tradesmen trained in pertinent trades (e. g., harnessmakers), is one of the typical small divisions of the transport branch.

56. Units.—*a. Supply personnel.*—(1) These are organized into supply companies, which are usually dispersed into detachments of varying size and attached to the nearest RASC transport unit.

(2) It is the responsibility of the transport unit commander to train supply personnel attached to his unit.

(3) Supply companies, RASC, are lettered companies (e. g., "A" Company), and are responsible for butchering meat and baking bread, the issue of all supplies, and the clerical duties in connection with supply accounts, etc.

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[23] It is intended that this newly formed corps will eventually take over all maintenance and repairs, behind the first echelon, of all items. The procurement and storage of all items (including repair parts) will remain in the hands of the appropriate service. All troops engaged in maintenance and repair work, excepting those of the first echelon, will eventually belong to this corps.

b. Transport personnel.—(1) The basic organization is the transport company, which consists of a headquarters and operating sections (the number dependent upon the tasks assigned the company).

(2) Operating sections are normally commanded by an officer—captain or subaltern—and consist of a section headquarters and a number of sub-sections each in charge of a noncommissioned officer.

(3) The normal sub-section consists of five vehicles and is the smallest unit in the transport branch.

57. Transport.—Transport generally is organized into—

a. First-line transport.—This is organic transportation in battalions and below. It is divided into "A" and "B" echelons: "A" echelon moves with the unit in combat; "B" normally follows with the trains.

b. Second-line transport.—Second-line transport is normally operated by the RASC between refilling points (RP's), which are usually selected by divisional headquarters, and delivery points (DP's), which are selected by unit commanders.

c. Third-line transport.—This is normally operated by the RASC between railheads (RH's) and refilling points. The second- and third-line RASC transport is known as field transport.

d. Reserve transport.—This reserve undertakes general transport duties and provides a reserve of transport.

e. Technical transport.—Technical transport consists of specially equipped vehicles, as, for example, mobile workshop lorries and ambulance car companies.

58. Operation (figs. 36 and 37).—*a. Second-line transport.*—(1) *General.*—Second-line transport forms an integral part of the formation which it serves, and, in the case of divisions, it is grouped under the command of a Commander, RASC (CRASC). Each transport holds on wheels a fixed reserve of ammunition and gasoline.

(2) *Organization.*—Second-line transport in both the infantry and the armoured divisions consists of a headquarters of a Commander, RASC, who can administer and command from two to five companies. In the infantry division these companies are as follows: one tank brigade company, two infantry brigade companies, and one divisional troops company; in the armoured division: one armoured brigade company, one infantry brigade company, and one armoured divisional troops company.

(3) *Supplies.*—(*a*) In the case of supplies, the transport provided may be called a combination of second- and third-line in that it operates from railhead to delivery points. The unit is the company, RASC, which is provided on the basis of one to each brigade, division,

and corps troops. The supply columns are organized into two echelons which carry out deliveries every alternate day to the formations they serve. These units receive from railhead, and carry and deliver

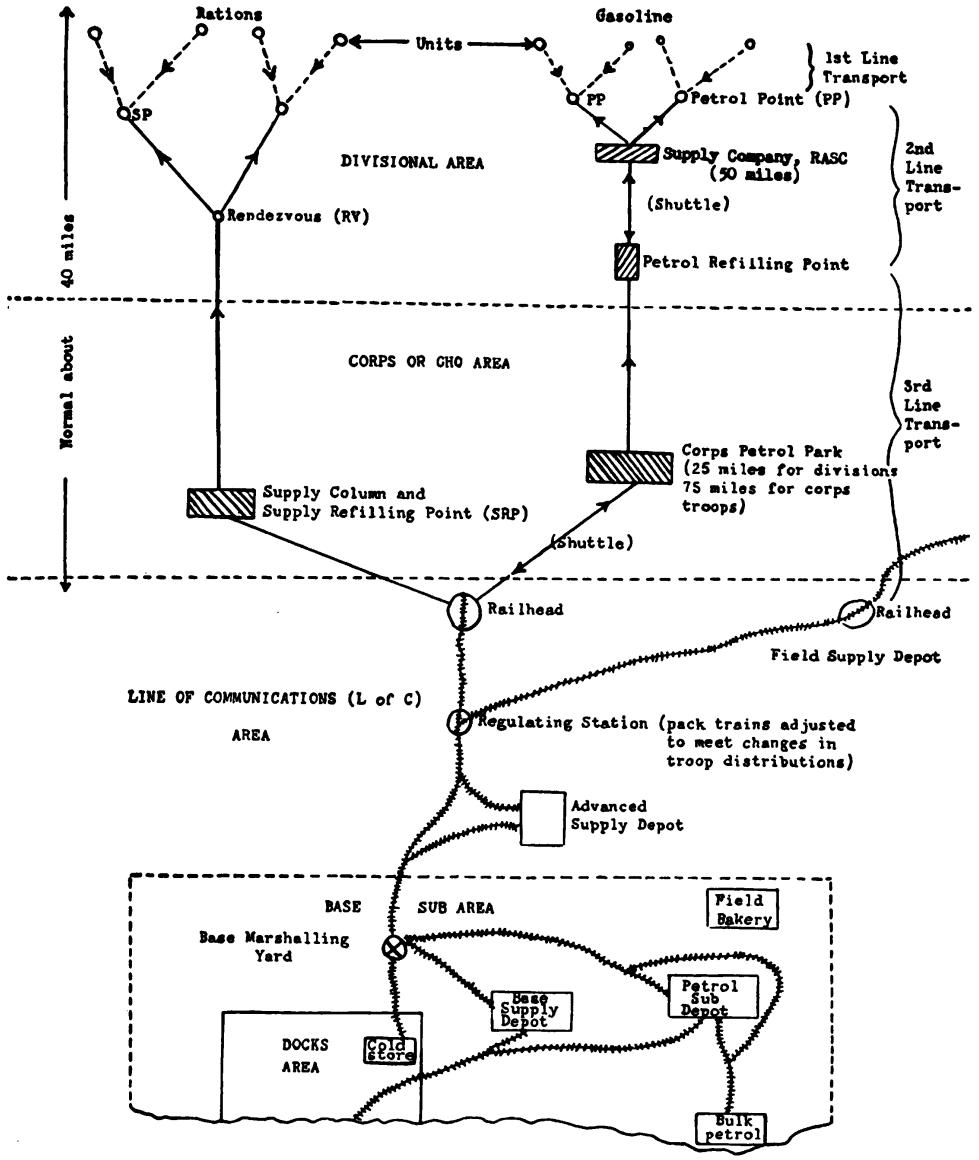


FIGURE 36.—Supply system.

supplies, mails, and engineer and ordnance stores. In addition, they normally hold a reserve of rations.

(*b*) Although separate channels of supply are shown in figure 36 in the divisional area for each item, delivery of all types of supply is accomplished by brigade or divisional troops companies for their respective units.

b. Third-line and reserve transport.—Third-line and reserve transport operates behind second-line transport, draws ammunition, gasoline, and other supplies from railhead, and delivers to refilling points the

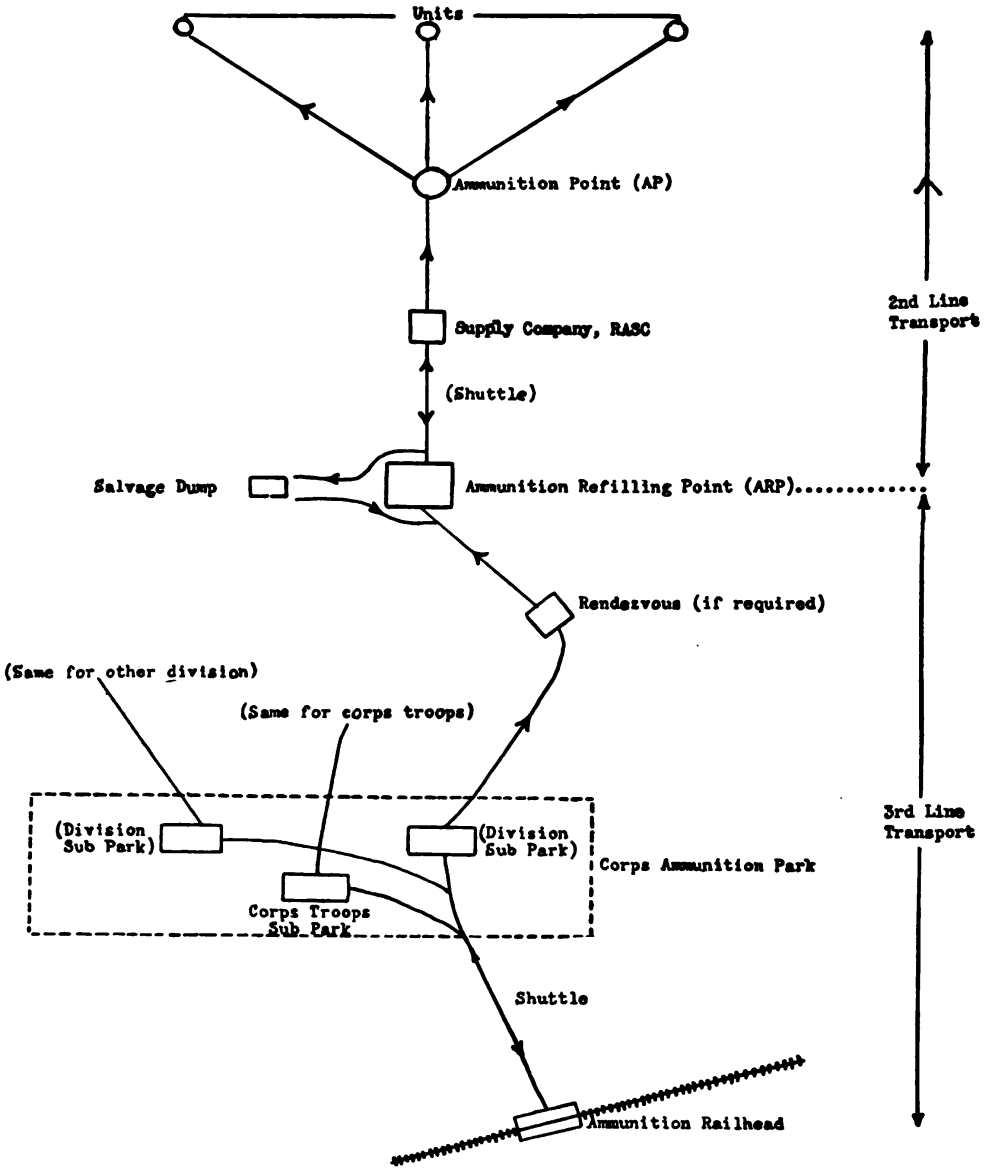


FIGURE 37.—Ammunition supply.

quantities required to keep the second-line transport filled. A pool of RASC general transport companies is placed at the disposal of the formation commanders, who must see to it that the reserves of ammunition, gasoline, and supplies held on wheels are sufficient to cover all their actual tactical requirements. Each general transport company

is composed of three or four platoons, each operating thirty 3-ton trucks. These platoons are used for carrying ammunition, troops, and supplies according to the immediate needs of the situation.

c. Technical transport.—This comprises such units as bridge companies and ambulance car companies. The latter are normally used in the line of communications (L of C) area for clearing casualties from ambulance trains to hospitals and from hospitals to ships; and they are also formed into motor ambulance convoys, which are usually employed for clearing casualties from field ambulances (see pars. 65 and 67) to casualty clearing stations and from casualty clearing stations to ambulance trains.

59. L of C installations.—The RASC provides a staff and operates the following installations:

a. Mechanical transport stores depots (MTSD's).
b. Motor transport vehicle reception depots (VRD's).
c. Heavy repair shops (HRS's).
d. Base supply depots (BSD's).
e. Field bakeries.
f. Advanced supply depots (if formed).
g. Field supply depots (if formed).
h. Detail issue depots (for the reception of surpluses from trains at railhead, making up deficiencies, and for issue of supplies in detail to local troops).

60. Principles of supply.—*a. Supplies.*—(1) There is a regular delivery of required supplies to all units daily at a time and place convenient to them.

(2) In addition to one emergency ration, all units must have 2 days' supplies with them at all times. These stocks are replenished by the daily delivery of 1 day's supplies.

b. Gasoline.—(1) At the beginning of the march all vehicles are filled and all reserves made complete.

(2) An adequate reserve is maintained on wheels in front of railhead (sufficient for 75 miles, carried by petrol companies).

(3) Replenishment will normally take place on completion of the march.

61. Location of supplies.—The supply situation on any one day is as follows:

a. First day's supply.—(1) On the man—an emergency ration.

(2) On first-line transport—the unconsumed portion of the current day's ration.

b. Second day's supply.—In one echelon of the supply column ready for delivery that evening.

c. Third day's supply.—In the supply pack train, at or approaching the railhead, or in the other echelon of the supply column for delivery the following evening.

62. Transport to railhead.—*a.* This is normally done by means of what is known as a "pack" train. Pack trains are run on daily schedules and contain the 1-day requirements of one or more formations in supplies and in engineer and RASC stores.

b. Trains are loaded at the various depots and marshaled into pack sections at the base marshalling yard for dispatch to railhead.

c. A section pack number is allotted to each formation served, each railroad truck (freight car) destined for a particular formation being labeled with this number. In the marshalling yard, therefore, all trucks bearing the same number are put together to form the pack section, which contains 1 day's requirements for a particular formation.

d. Pack trains are classified as "standard" or "variable." The standard pack train is loaded on a fixed basis for each formation served, thus facilitating the work of the base depots. Any surpluses or deficiencies on arrival at railhead can usually be adjusted by the railhead supply officer from his store. Variable pack trains are restricted to the minimum and are normally adopted for army or corps troops when demands are subject to considerable fluctuation.

e. A third type of train, known as a "bulk" train, is also used. These trains carry one or more commodities in bulk and normally run from base depots to regulating stations or advanced depots.

SECTION XIII

ROYAL ARMY MEDICAL CORPS

63. General.—The Royal Army Medical Corps (RAMC) provides the medical service in the British Army. Under its jurisdiction come the various nursing services, the principal one of which is Queen Alexandra's Imperial Military Nursing Service (QAIMNS).[24] The general responsibilities of the RAMC are—

[24] Members of the QAIMNS rank with the officers of the Army as follows:
Matron-in-chief—colonel.
Principal matron—lieutenant-colonel.
Matron—major.
Sister or staff nurse—lieutenant.

a. The evacuation, care, and treatment of sick or injured troops and of gas casualties in all situations. The RAMC is not responsible for "cleansing" men contaminated with blister gas unless they are rendered unfit by the gas to continue in action. The "cleansing" of men who are not rendered unfit is a unit responsibility.

b. Advice and initiation of measures to insure the health of troops.

c. Supply and replenishment of medical equipment and supplies.

d. Advice with regard to the location of medical units.

64. Tactical considerations.—*a. Principle of operation.*—Medical units in the field take some time to open and, once opened, cannot be moved quickly, on account of tentage and stores that have to be packed up, and the sick and wounded who must be evacuated.[25] Consequently, in principle, no more units should be opened up than are required to deal with anticipated casualties. This is especially important in mobile operations.

b. Medical plan.—(1) When preparing the medical plan for a specific operation, "G" (General Staff) gives a forecast of anticipated casualties. On this basis, the medical staff and "A" (Adjutant) are in a position to estimate transport requirements by calculating the probable percentages of killed and of lying, sitting, and walking wounded.

(2) If the calculations show the need for more transport than is available, "A" must obtain it from "Q" (Quarter-master). Since the calculation is based on an arbitrary expectation of casualties by "G," a reserve of transport to meet unexpectedly heavy casualties is usually provided.

(3) For a divisional operation the Assistant-Director of Medical Services (ADMS), having made his calculations, submits his plan for evacuation of casualties, showing what proportion of his resources he proposes to open and what he will keep in reserve. If the plan is approved by "A," it is then put into effect by ADMS.

(4) As they are a matter of general interest, the locations and times of opening and closing the forward evacuating centers are inserted in the administrative paragraph of the operation order (OO). (See par. 122*a*(4).)

c. Organization for evacuation of casualties.—The organization for the evacuation of casualties (fig. 38) is based on a system of three zones:

(1) *Collecting zone.*

Regimental medical establishments (RAP's, ADS's, WWCP, and MDS).

[25] A fully established advanced dressing station requires 1 hour to open and 1 hour to close. A fully established main dressing station requires 2 hours to open and 2 hours to close. These times are in addition to that required to clear casualties.

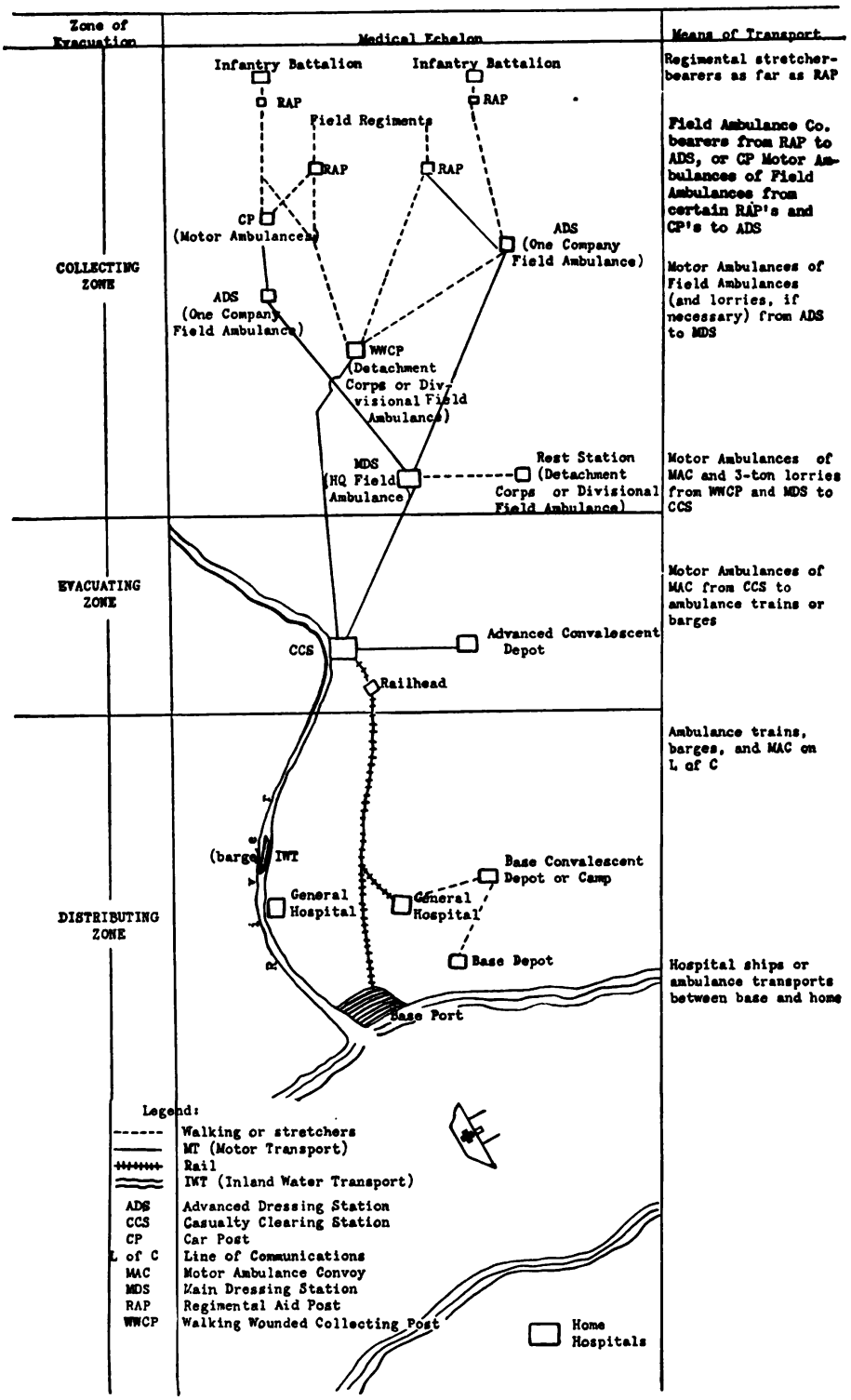


FIGURE 38.—System of evacuation.

Field ambulances.
Motor ambulance convoys.

(2) *Evacuating zone.*
Casualty clearing station.
Motor ambulance convoys.
Ambulance trains.
Ambulance barges (if on water).
Ambulance airplanes.

(3) *Distributing zone.*
General hospitals.
Convalescent depots.
Hospital ships and carriers.
Ambulance transports.
Home hospitals.

65. Medical resources of formations and units.—*a. Division.*—In the infantry division there are 2 field ambulances [26] (battalions), 2 field dressing stations, and 1 field hygiene section, with a total of 691 officers and enlisted men. In the armoured division there are 1 light field ambulance, 1 field ambulance, 1 field dressing station, and 1 light field hygiene section, with a total of 559 officers and enlisted men.

b. Infantry battalion.—In the infantry battalion there are 1 medical officer, 1 medical orderly, medical equipment in a 15-cwt truck, stretcher-bearers, 1 sergeant, and 20 enlisted men. The stretcher-bearers collect casualties and bring them to the regimental aid post (RAP).

c. Other units.—Several other units have a medical officer and orderly in their organization; but although stretchers are sometimes provided, no special stretcher-bearers are allowed. Casualties from units without any medical resources will be treated by the nearest unit in the chain of evacuation.

d. Armoured fighting vehicles (AFV's).—A medical kit is carried in each AFV, and personnel are trained in its use. If the situation permits, casualties are evacuated from the tank, with an attached field medical card indicating the nature of the injury and the first aid already given. Casualties are then collected by medical personnel.

e. Regimental aid post (RAP).—Regiments provided with a medical officer open an RAP in battle. Its site is the responsibility of the commanding officer in consultation with the medical officer. Evacuation from the RAP is a responsibility of the field ambulance

[26] The actual vehicles are called "motor ambulances."

(company). At the RAP the first field dressing is applied or adjusted.

66. Collection.—*a. Bearer relay post.*—This is established as a turn-over point from one squad of stretcher-bearers to the next, when the ground precludes the use of motor ambulances.

b. Main dressing station (MDS).—The MDS is formed by the headquarters of the field ambulance (company). Records and particulars are taken for the first time. Anti-tetanus serum is injected; but here also only urgent treatment is attempted. Rifles and any ammunition are collected from the wounded at the MDS.

c. Walking wounded collecting post (WWCP).—The object of this post is to relieve pressure on the advanced dressing station (ADS) in battle. Walking wounded are directed to the WWCP, whence they are taken direct to the casualty clearing station (CCS) by transport (usually lorries) provided specially by "Q" of corps headquarters. The WWCP is formed only when heavy fighting is expected. It should be located 2 to 5 miles from forward troops at a convergence of roads or tracks from the front. It may be formed by corps field ambulance or by divisional field ambulance.

67. Field ambulance (battalion).—*a. Divisional troops.*—There is one field ambulance for each infantry brigade.

b. Organization.—(1) A field ambulance is organized into a headquarters and 2 companies. Each company can furnish 1 advanced dressing station (ADS). Headquarters can furnish an MDS with a capacity for 100 to 150 casualties. Thirty-six stretcher-bearers from each company and 8 motor ambulances from headquarters field ambulances are available for collecting casualties from the RAP's and for transporting them to the ADS and from there to the MDS.

(2) Not all the personnel of field ambulances are carried in unit motor transport. Three extra 3-ton lorries are required if all personnel are to be carried.

c. Method of operation.—(1) Field ambulance personnel establish contact with the RAP's, and field ambulance stretcher-bearers remove casualties to the ADS or to the car post (CP), if it is formed, in front of the ADS.

(2) Evacuation from the ADS to the MDS is by motor ambulances of field ambulances.

(3) Evacuation beyond the MDS is the responsibility of motor ambulance convoy (MAC), a corps unit.

d. Ambulance stations.—(1) *Advanced dressing station (ADS).*—This is a collecting center from the RAP's in the forward zone. During mobile operations only one company of the field ambulance generally opens at a time; the other is held in reserve ready to move to

the next location. At the ADS only exceptionally urgent treatment is attempted. Dressings are adjusted and hot drinks are available. The location of the ADS depends on whether or not motor ambulances can work up to, or near, the RAP. If they can, and if the road communications are good, the ADS may be located some distance behind the forward troops, but it must be within a few minutes' run by motor ambulance to and from the RAP or the CP.

(2) *Car post (CP).*—This is the forward point to which motor ambulances work if they cannot work for the RAP's. Bearers from the various RAP's bring lying cases to the CP, whence they are taken to the ADS by motor ambulance of field ambulance. As soon as a motor ambulance arrives at the ADS from the CP, it is replaced at the CP by another one. Since 1,000 yards is the practical limit of the stretcher-bearers' carrying capacity, either a CP or a bearer relay post must be established when the ADS is more than 1,000 yards from the RAP's.

SECTION XIV

ROYAL ARMY ORDNANCE CORPS

68. Function.—The procurement and issue of ordnance stores are the responsibility of the Royal Army Ordnance Corps (RAOC), but all of these stores are eventually to be maintained and repaired by the Royal Electrical and Mechanical Engineers (REME). However, throughout this handbook the RAOC is discussed prior to the organization of the REME, since details on the latter are not complete (see p. 80, note 23). At present, the RAOC supplies combat troops with all the ordnance stores that they may require and recovers and repairs their equipment. The RAOC also has the responsibility for provision of laundries and officers' clothing depots, for decontamination of clothing, and for protecting its own units and installations from enemy attack.

69. Ordnance stores.—Ordnance stores comprise armament and ammunition, including RAF bombs; all fighting vehicles such as tanks and armoured cars; unit transport (as differentiated from RASC

vehicles driven and maintained by RASC personnel); radio, electrical, and optical equipment; clothing, including shoes; and general stores, such as tables, buckets, and cordage. (Food, gasoline, lubricants, and expendable medical supplies are not included in ordnance stores.)

70. Line of communications (L of C) area.—*a.* Typical examples of RAOC units and installations, distributed as required in the line of communications area (fig. 36) with representatives attached to headquarters of various sub-areas, are as follows:

(1) Base ordnance depots (BOD's), and advanced ordnance depots if ordered.

(2) Base ordnance workshops (BOW's), and advanced ordnance workshops if ordered.

(3) Base ammunition depots (BAD's), and advanced ammunition depots if ordered.

(4) Detachments of RAOC personnel at each regulating station (fig. 36).

(5) Small production factories with ammunition repair factory.

b. The personnel for base depots and workshops are provided for by War Establishments, and consist chiefly of the following classes of tradesmen: clerks, storemen, drivers, armament artificers and artisans, and ammunition examiners. RAOC personnel may be reinforced by military or civilian labor units.

71. Personnel in forward areas.—RAOC personnel in the forward areas are disposed as follows:

a. At headquarters of services at field GHQ.—DOS—Director of Ordnance Services.

b. At army headquarters.—(1) DDOS—Deputy Director of Ordnance Services.

(2) DDOS (E)—Deputy Director of Ordnance Services, Engineering.

(3) DADOS (O)—Deputy Assistant-Director of Ordnance Services, Operations, for ordnance services in connection with army troops.

c. At corps headquarters.—(1) DDOS—Deputy Director of Ordnance Services.

(2) ADOS (A)—Assistant-Director of Ordnance Services, Administration.

(3) ADOS (E)—Assistant-Director of Ordnance Services, Engineering.

(4) DADOS (O)—Deputy Assistant-Director of Ordnance Services, Operations, for ordnance services in connection with corps troops.

d. At divisional headquarters.—(1) ADOS—Assistant-Director of Ordnance Services, Administration. ADOS is located at divisional

headquarters with a small staff which deals with the indents (requisitions) submitted by units for ordnance stores. In addition, he has four warrant officers (one for each brigade and one for divisional troops). These warrant officers visit all units at frequent intervals to assist them in the preparation of requisitions.

(2) DADOS (A)—Deputy Assistant-Director of Ordnance Services, Administration.

(3) DADOS (E)—Deputy Assistant-Director of Ordnance Services, Engineering.

e. At supply and ammunition railheads, with RAOC detachments.—OO—Ordnance Officer.

72. Disembarkation area.—The typical organization for the RAOC in a disembarkation port area usually includes an Ordnance Officer, Docks (OO Docks); a detachment attached to dock services; a port workshop detachment; and a vehicle convoy section, for stock vehicles only.

73. Repair installations (fig. 39).—The following types of repair installations are engaged in the field in repairing and replacing warlike ordnance stores:

a. First-echelon repairs.—(1) *Light aid detachments (LAD's).*—(*a*) Each infantry brigade, artillery regiment, engineer field park company, divisional signals, reconnaissance regiment, machine-gun battalion, and light anti-aircraft regiment, has attached a LAD under the command of an ordnance mechanical engineer officer (OME) or a technical warrant officer (armament sergeant-major). These detachments vary slightly in composition, depending on the unit to which they are attached, but generally comprise 13 to 15 tradesmen, 1 break-down lorry (wrecker), fairly comprehensive hand tools, a lightweight welding outfit, and 1 or 2 store lorries to carry small-vehicle and armament spares for first-line maintenance. There are 15 LAD's in the infantry division, and 14 in the armoured division.

(*b*) The function of the LAD is to assist the combat units in first-line maintenance and recovery and to keep them in operation. Such a detachment, therefore, does not handle jobs requiring extensive repair but confines its attention to repairs which can be completed in 4 hours.

(2) *Light anti-aircraft ordnance workshop sub-sections.*—These are allotted to corps and divisions on the scale of one for each light anti-aircraft battery (battalion).

b. Second-echelon repairs.—(1) *Brigade ordnance companies.*—These companies undertake work on warlike ordnance stores which the LAD's have found to be beyond their facilities or to require too much time

for repair. There is one ordnance company for each infantry, armoured, and tank brigade. Both repairs and storage of spare parts and assemblies are carried out by these companies.

(2) *Non-divisional ordnance workshops.*—The workshops undertake work which the brigade ordnance companies have found to be beyond their facilities or to require too much time for repair. They are allotted on the basis of one to each corps.

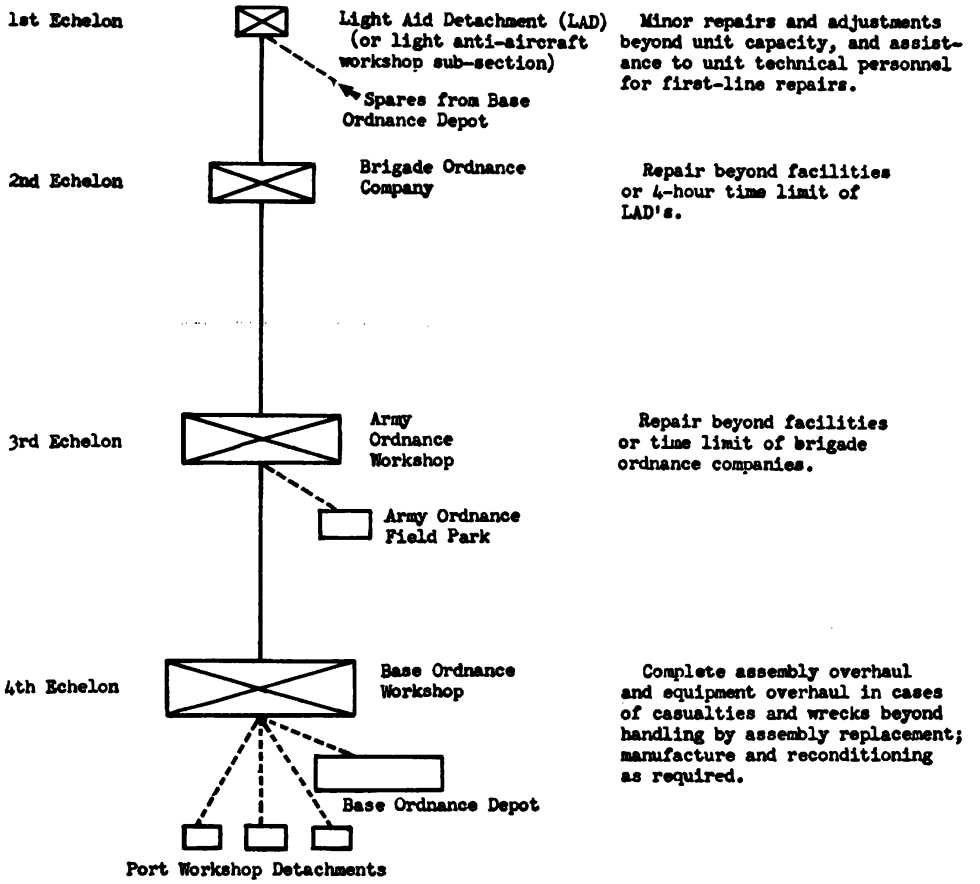


FIGURE 39.—System of repair for ordnance stores.

c. Third-echelon and L of C repairs.—(1) *Army ordnance workshop.*—Third-echelon repairs are carried out in army ordnance workshops, which are mobile units considerably larger than the brigade ordnance companies and proportionately better equipped to carry out repair and overhaul. In view of their mobility, they do not undertake jobs estimated at more than 48 hours, but arrange for such jobs to be done by the base ordnance workshops. An army ordnance field park supplies the necessary stores and spares and also carries a number of replacement vehicles.

(2) *Base ordnance workshop.*—L of C repairs are carried out in base ordnance workshops, which are static units and require covered accommodation. They are equipped to carry out major repairs and overhauls, and, when necessary, to manufacture small spares. Like the army ordnance workshops, they are variable in size. Their organization is such that, by the addition of certain specialist sections of standard design, a workshop can be established to service whatever force may be formed. Spares and stores for the base ordnance workshop are obtained from the base ordnance depots.

74. Supply of ammunition.—*a.* The main difference between ammunition supply and the supply of other ordnance stores is that, in the case of ammunition, wide and unpredictable fluctuation of expenditure occurs. RAOC installations in forward areas include ammunition detachments with army corps ammunition dumps. An effort is made to keep the flow of ammunition from rear to front automatic and adequate. Each echelon is replenished from the next rearward echelon.

b. The General Staff decides on the quantities of ammunition required in the field in rounds per gun and its distribution at depot and railhead. It then requests the necessary quantities from the War Office. Ordnance is responsible for the provision of spare components and the maintenance of L of C warlike stocks, and it must at all times be able to tell the General Staff in detail what is held. Ordnance is also responsible for bringing to the attention of the General Staff any anticipated shortages of any nature, and for distributing fresh supplies among the base depots to maintain appropriate stocks at each.

c. Units do not requisition ammunition. Expenditure is reported daily by the fighting units, and formations submit consolidated reports to GHQ with forecasts of any anticipated abnormal expenditure. GHQ orders the necessary train loads of ammunition forward from base depots to ammunition railhead, from which automatic replacement of expenditure is made to the RASC for distribution (fig. 37).

d. Ordnance responsibility for general supply of ammunition ceases at railhead, or at corps or GHQ dumps when these are formed, except for any inspection work that may be required. Thereafter the RASC handles all ammunition and delivers it to the units in the field.

75. Supply of other stores.—*a.* The normal system of meeting ordnance requirements is by direct supply to the units from the BOD in response to detailed indents (requisitions) received from ADOS of the division, except for certain classes of replacement items supplied by ordnance field parks.

b. Packages are vouchered and consigned from the BOD direct to the individual units and dispatched to supply railheads by the daily pack train, and carried from there by RASC supply columns working on a double-echelon system to delivery points. Under stabilized conditions, however, certain stores in universal demand, such as clothing, may be supplied in bulk from the BOD to ADOS, who will arrange the issue in detail to meet demands.

SECTION XV

OTHER ARMS AND SERVICES

76. General.—The following branches of the service either are not discussed or are discussed only with occasional reference to other branches:

Reconnaissance Corps.
Royal Army Chaplains' Department.
Royal Electrical and Mechanical Engineers.
Royal Army Pay Corps.
Royal Army Veterinary Corps.
Army Educational Corps.
The Army Dental Corps.
Pioneer Corps.
Army Catering Corps.
Army Physical Training Corps.
Corps of Military Police.
Military Provost Staff Corps.
Queen Alexandra's Imperial Military Nursing Service.
Officers' Training Corps.

For a brief discussion of the Intelligence Corps, see paragraphs 141 and 142.

77. Women in the Army.—*a. General.*—Her Majesty the Queen is Commandant-in-Chief of the three principal women's auxiliary services:

(1) The Women's Royal Naval Service (WRNS), popularly known as the "Wrens" (see pars. 79*d* and 83*e*).

(2) The (Women's) Auxiliary Territorial Service (ATS), an auxiliary of the Army, popularly known as the "Ats."

(3) The Women's Auxiliary Air Force (WAAF), popularly known as the "Waffs" (see par. 184).

b. Auxiliary Territorial Service (ATS).—(1) *General.*—(*a*) Aside from the nursing services, which form part of the Royal Army Medical Corps, the ATS, a direct descendant of the Women's Army Auxiliary Corps of the First World War, is the official women's organization of the British Army. Originally organized to train women so that they could release men for fighting duties, the ATS became technically subject to military law under the Army Act in 1941. Accordingly, it is now subject to a modified Army discipline, including court-martial for offenses such as desertion.

(*b*) The ATS is the largest women's organization of a military character and its present 250,000 members have full military status, wear uniforms and insignia of rank, and are entitled to all privileges accorded to soldiers. They are enlisted for 4 years or for the duration of the war, but they may obtain their release on such grounds as ill health, or they may be discharged for cause. Members of the ATS may volunteer for service in theaters of war abroad.

(2) *Organization and duties.*—(*a*) The ATS is organized on the lines of the Regular Army. At the head of the organization is the Director of the Auxiliary Territorial Service (DATS), a woman, in rank a chief controller, the corresponding rank to a major-general. The largest administrative unit is a "Group," which may consist of any number of companies, depending on the geographical location. Each company is normally composed of two or three platoons. The organization of a company depends on its role. Broadly speaking, companies may be designated as motor (driving) companies, clerical companies, signal companies, kine-theodolite (aircraft height- and range-finding) companies, and general duties companies.

(*b*) The kine-theodolite companies have now taken over operational roles in the Anti-Aircraft Command (see par. 36*e*) as members of anti-aircraft gun crews, as communications experts, and as operators of precision fire-control instruments.

(*c*) The general duties companies are composed of cooks, orderlies, storekeepers, and clerks.

(3) *Ranks.*—(*a*) The enlisted women in the ATS are ranked like soldiers in the Army, and the officers carry the King's Commission.

The ranks of the commissioned officers and the corresponding ranks in the Army are as follows:

ATS	*Army*
Chief controller.	Major-general.
Senior controller.	Brigadier.
Controller.	Colonel.
Chief commander.	Lieutenant-colonel.
Senior commander.	Major.
Junior commander.	Captain.
Subaltern.	Lieutenant.
Second subaltern.	Second-lieutenant.

(*b*) Women address their superior officers as "Ma'am" and call each other by their surnames.

(*c*) In general the pay of the ATS is two-thirds that of the corresponding ranks in the Army.

(4) *Uniforms.*—The regular ATS uniform (fig. 40) is a khaki full-panel skirt with belted tunic (coat), fastened with brass buttons stamped with the Royal Arms cipher. A khaki overcoat similar to a soldier's greatcoat is provided for winter. The headgear is a service-dress cap with a soft visor or a chocolate-brown field-service cap piped with green, with a gusset of beech color and the ATS badge on the left-hand side. Officers wear the Sam Browne belt.

c. First Aid Nursing Yeomanry (FANY).—(1) *General.*—The FANY is a branch driving section of the ATS. At the beginning of the war it was an independent organization, but after a few months it was amalgamated with the ATS and became subject to the regulations governing the administration of the latter.

(2) *Uniforms.*—The standard ATS uniform is worn by the FANY; for identification purposes, however, members of the FANY put the cap strap over the top of the service-dress cap instead of across the front, and wear the FANY badge across the top of the coat sleeves.

d. Other women's organizations.—(1) *General.*—The following women's organizations are attached to the Army in a voluntary capacity and are not under the Army Act: the (Women's) Motor Transport Corps (MTC); the American Women's Ambulance Corps; the Women's Legion.

(2) The MTC uniform (fig. 40) is a variation of the ATS officer's uniform; the field-service cap is styled differently and is piped with blue; the coat buttons are bronze instead of brass; and the Sam Browne belt is worn.

(3) For other women's services, see paragraphs 199 and 200.

78. Navy, Army and Air Force Institutes (NAAFI).—*a.* The NAAFI, which is known abroad as the Expeditionary Force Institutes (EFI),[27] is a non-profit-making corporation governed by representatives from each of the British fighting services with a civilian board of management. Its duties are to serve kitchen supplies and bulk-issue stores, if necessary, to the three fighting services in any theater of war throughout the world and to British forces situated in the British Isles. In effect, this corporation is a cooperative insti-

1. Women's Land Army.
2. St. John's Ambulance Brigade.
3. Auxiliary Territorial Service.
4. Red Cross.
5. Women's Royal Naval Service.
6. (Women's) Auxiliary Air Force.
7. Women's Voluntary Service.
8. Civil Nursing Reserve.
9. (Women's) Motor Transport Corps.

FIGURE 40.—Members of some of the British women's services.

tution run by the forces for the benefit of the forces. In time of war it has the full backing of the British Treasury, which has a representative on the board of management.

b. In theaters of war the employees of the NAAFI are incorporated in the armed forces.

[27] The invaluable service of the NAAFI to the armed forces is illustrated by a quotation from Lord Gort's *Despatches* in the *Supplement to the London Gazette*, 2nd despatch (War Office, March 1941), page 21: "The supply situation was * * * bad, and on 21st May [1940], Corps had only 3 days RASC supplies in the forward area. Matters might, at any time, have become serious had it not been for the success of the measures taken between 23rd and 26th May, to organize the supplies in Lille belonging to the Expeditionary Force Institutes * * * ."

c. The policy of the NAAFI is to sell goods at retail prices, and profits accruing are returned to units in the form of rebates and other services such as entertainments and sports goods.

Chapter 4

RANKS, UNIFORMS, AND INSIGNIA

SECTION I

RANKS

79. Royal Navy.—*a. Commissioned officers.*—In the British armed forces the Royal Navy takes precedence over the Army and the Royal Air Force. The following lists show the corresponding ranks of those holding the King's Commission in the three services:

Royal Navy	*Army*	*Royal Air Force*
Admiral of the Fleet.	Field-Marshal.	Marshal of the Royal Air Force.
Admiral.	General.	Air Chief Marshal.
Vice-Admiral.	Lieutenant-General.	Air Marshal.
Rear-Admiral.	Major-General.	Air Vice-Marshal.
Commodore (1st and 2nd class).	Brigadier.	Air Commodore.
Captain.	Colonel.	Group Captain.
Commander.	Lieutenant-Colonel.	Wing Commander.
Lieutenant-Commander.	Major.	Squadron Leader.
Lieutenant.	Captain.	Flight Lieutenant.
Sub-Lieutenant and Commissioned Warrant Officer.	Lieutenant.	Flying Officer.
	Second-Lieutenant.	Pilot Officer.

b. Enlisted men.—Enlisted men in the Royal Navy are called "ratings," and are graded upwards from boy, 2nd class, to chief petty officer.

c. Royal Marines.—The Royal Marines ("Jollies") were originally boarding parties used by the Royal Navy to carry out the hand-to-hand fighting between ships which was a feature of sea battles a century or so ago. They are now primarily used as sea soldiers; and although they are a part of the Royal Navy, they still retain the Army names of rank.[1] Their ranks correspond to naval ranks (as above) except that when afloat a major of marines is equal to a naval commander.

d. Women's Royal Naval Service (WRNS).—(1) *General.*—The WRNS was originally formed in November 1917, and was demobilized in October 1919. It was revised in April 1939 to replace in time of war officers and men in certain naval shore establishments. The WRNS has not been accorded naval status, and is not subject technically to naval discipline. Its officers do not hold the King's Commission. The woman at the head of the organization is called a director, the corresponding rank to a rear-admiral. The chief duties of the "Wrens" include confidential clerical work, bookkeeping, storekeeping, telephone operating, motor driving, cooking, and stewarding, as well as many mechanical jobs requiring a high degree of dexterity.

(2) *Ranks.*—The ranks of the officers and the enlisted women and their corresponding ranks in the Royal Navy are as follows:

WRNS	*Royal Navy*
Director.	Rear-admiral.
Deputy director.	Commodore (1st and 2nd class).
Superintendent.	Captain.
Chief officer.	Commander.
First officer.	Lieutenant-commander.
Second officer.	Lieutenant.
Third officer.	Sub-lieutenant and commissioned warrant officer.
Chief wren.	Chief petty officer.
Petty officer wren.	Petty officer.
Leading wren.	Leading seaman.
Wren.	Seaman.

[1] See page 264, note 16.

80. Army.—*a. Commissioned officers.*—(1) The ranks of commissioned officers and the corresponding ranks of those in the U. S. Army are as follows:

British	*United States*
Field-Marshal.	----------
General.	General.
Lieutenant-General.	Lieutenant General.
Major-General.	Major General.
Brigadier.	Brigadier General.
Colonel.	Colonel.
Lieutenant-Colonel.	Lieutenant Colonel.
Major.	Major.
Captain.	Captain.
Lieutenant.	First Lieutenant.
Second-Lieutenant.	Second Lieutenant.

(2) In the Royal Navy, the Army, and the Royal Air Force "lieutenant" is pronounced "leftenant."

(3) It will be noted that brigadier is a proper title in the British Army. Although it corresponds to the rank of brigadier general in the U. S. Army, it is improper to address such an officer as "General." The British rank of brigadier-general was abolished in 1920.

(4) Certain designations which may appear to be official ranks are merely temporary assignments that may be held by officers of varying grade. For example, Brigade Major, Staff Captain, and Staff Lieutenant are appointments and not ranks, but they are usually held by officers of the grade indicated by the title.

(5) Lieutenants and second-lieutenants are called subalterns, and are addressed orally as "Mister."

(6) Promotions and appointments are governed as follows: (*a*) The rank of field-marshal is conferred for eminent military services, and the bearer of it remains on the active list for life.

(*b*) Generals command armies; lieutenant-generals, corps; major-generals, divisions. Commanders of artillery and engineer formations of large commands as well as senior officers in the auxiliary services may also hold general rank.

(*c*) The brigadier is temporary for the job, holding the appointment only while commanding a brigade or performing other duties for which the appropriate rank is that of brigadier. Major-generals are usually appointed from brigadiers and colonels.

(*d*) Vacancies are not permitted; normally they are filled at once, either by transfer of an officer of appropriate rank or by the promotion

of a junior. If an officer occupies a job calling for higher rank for even as little as 3 days, he must be given acting rank for that time. The first 21 days in acting rank are unpaid. After 21 days, if the officer retains acting rank, he is paid on the higher scale, including the difference in pay for the 21-day period. In the case of junior officers, acting rank automatically becomes temporary rank after 3 months; in the case of lieutenant-colonels and colonels, after 6 months and 9 months, respectively.

(*e*) An officer holding temporary rank who is for any reason, including illness, but not recuperation from wounds, unable to perform his duties for a period of 21 days reverts to what is known as "war substantive" rank, a rank which is one grade lower than the former temporary rank and below which the officer will not go for the duration of the war.

(*f*) Brevet rank, which is not given in wartime, is the rank held by promotion to a higher grade for distinguished service whether a vacancy exists or not. For example, a captain promoted by brevet to the rank of major acts as a captain while serving with his regiment during peacetime, but on active service he takes precedence as major from the date of his brevet.

b. Enlisted men.—(1) Enlisted men are called "other ranks" (OR). The grades of the most essential, from highest to lowest, are: regimental sergeant-major [2] (RSM), regimental quarter-master sergeant (RQMS), company sergeant-major (CSM), company quarter-master sergeant (CQMS), staff-sergeant (S/Sgt), sergeant (Sgt), lance-sergeant (L/Sgt), corporal (Cpl), lance-corporal (L/Cpl), and private (Pte).

(2) The regimental sergeant-major holds a warrant appointing him to his grade and is ranked as warrant officer, class I. The regimental quarter-master sergeant and the company sergeant-major hold similar warrants and are ranked as warrant officers, class II. The grade of warrant officer, class III, was discontinued soon after the outbreak of the Second World War.

(3) The company sergeant-major corresponds to the U. S. first sergeant. The senior sergeant of a platoon is the platoon sergeant.

(4) Various specialist grades of sergeant exist in the different arms and services.

(5) Lance-sergeants and lance-corporals are appointments, not ranks, and are given to corporals and privates, respectively, who have

[2] The spelling "sergeant," as in the Royal Air Force, rather than "serjeant" is used for the sake of uniformity.

qualified and been recommended for further promotions when vacancies occur.

(6) In the different arms of the service equivalent ranks often bear different names. For example, in the Royal Artillery a corporal is called a bombardier. The private is variously styled, as follows:

Normal: Private.
Cavalry: Trooper.
Artillery: Gunner.
Engineers: Sapper.
Signals: Signalman.
Infantry:
Brigade of Guards: Guardsman.
Fusiliers: Fusilier.
Rifle Battalion: Rifleman.

Any private who drives a motor vehicle (excluding motorcycles) is ranked as "driver."

c. Salutes and honors.—(1) The right-hand salute is used as a sign of loyalty and respect for the King's Commission, and is never given by a soldier without headgear. The extended arm is raised sideways to the horizontal; then the forearm is brought smartly to the forehead. The palm of the hand faces to the front, the wrist, four fingers, and thumb being straight, with the forefinger coming to rest 1 inch above the right eye.[3] The open hand originally symbolized the absence of any weapon that could be used against the holder of the King's Commission.

(2) When the national anthem ("God Save the King") is played during ceremonial parades, all ranks in uniform not under the orders of the officer commanding the parade stand at attention and commissioned officers salute. If indoors where headdress is not worn, all ranks and civilians stand at attention.

(3) At any time, when the King's Colour (a square of silk bearing the King's Arms) and the Regimental Colour are displayed, and the Colour Party marches across the direct line of vision, civilians uncover and they and all ranks stand at attention and all ranks salute.

(4) Salutes are normally exchanged as in the U. S. Army, except that neither the second-lieutenant nor the lieutenant is required to salute his superior below the rank of major unless on parade or when reporting officially.

(5) In paying compliments to senior officers, the senior member of a party of soldiers will call the others to attention, and he alone will salute. In returning a salute given to one or more officers, only the senior officer will return the compliment by saluting.

[3] The right-hand salute of the Royal Air Force is the same as that of the Army; that of the Royal Navy is similar to that of the U. S. armed forces.

(6) Officers and enlisted men when boarding or leaving any of His Majesty's ships, or a foreign man-of-war, salute the quarterdeck.

(7) When in uniform, officers and enlisted men salute their superiors of the Royal Navy, the Royal Air Force, and the armed forces of foreign nations who would be saluted by them if they held corresponding ranks in their own service. All men in the armed forces in civilian clothes salute by raising their hats.

81. Royal Air Force.—*a. Commissioned officers.*—(1) The commissioned officers are listed in order of rank in paragraph 79.

(2) Air officers, or officers of air rank, are officers of the rank of air commodore and above.

(3) Except for a limited scheme of time promotion in the junior ranks, all promotion of officers is by selection.

(4) When addressing officers orally, the custom of the RAF is to say the rank in full; for example, "wing commander" is not abbreviated to "commander," and "group captain" is not abbreviated to "captain," etc. Flying officers and pilot officers are addressed orally as "Mister."

b. Enlisted men.—(1) The term "airmen" is used to describe personnel below commissioned rank. The main grades of these, from highest to lowest, are: warrant officer (the grade of warrant officer, class II, has been abolished), flight sergeant, sergeant, corporal, leading aircraftman, aircraftman, 1st class, and aircraftman, 2nd class. The term "aircrafthand" is neither a classification nor a rank, but denotes that the airman is unskilled in any trade (see par. 184).

(2) The promotion of all airmen is by selection.

c. Women's Auxiliary Air Force (WAAF).—See paragraph 184.

SECTION II

UNIFORMS AND INSIGNIA

82. General.—Ranks are indicated in the Royal Navy, the Army, and the Royal Air Force in several ways: by sleeve insignia; by insignia on shoulder straps; or by cap decorations (or by one or more of the three in combination). Duties are indicated by sleeve insignia; by armlets (arm bands, brassards); or by miscellaneous badges. Both ranks and duties are indicated in the Army by tabs, or gorget patches.

83. Royal Navy.—Naval uniforms and insignia are discussed briefly for purposes of identification only.

a. Commissioned officers.—(1) Full-dress uniforms and cocked hats are not worn during wartime. The usual naval uniform to be met with is of navy blue; the tunic (coat) is double-breasted, and with it is worn a white shirt and black necktie. White uniforms, with the coat buttoned up at the collar, are worn in the Tropics or wherever the climate makes it suitable. The white-topped cap may be worn with either the navy-blue uniform or the white, but is usually worn during the summer months. (Khaki uniforms are worn ashore on special duties or assignments.)

(2) The rank of naval officers is shown by sleeve insignia on navy-blue uniforms and by insignia on the shoulder straps on white uniforms and on overcoats. In plate I the illustrations show both the left sleeve insignia and the left shoulder straps of executive officers.[4] (The warrant officer is accorded the respect paid to commissioned ranks. The midshipman, who is next below the sub-lieutenant and the commissioned warrant officer in rank, is in all respects an officer, although he is actually a cadet in training prior to being commissioned a sub-lieutenant. He is also accorded the respect paid to commissioned ranks.)

(3) The branch to which a naval officer belongs is shown by the strips of colored cloth between the gold stripes (one strip below in the case of one gold stripe), as follows:

Executive—No colored cloth.	Instructor—Light blue.
Engineer—Purple.	Shipwright—Silver gray.
Surgeon—Scarlet.	Electrical—Dark green.
Dental—Orange.	Ordnance—Dark blue.
Paymaster—White.	Wardmaster—Maroon.

(4) The peaks (visors) and badges of officers' caps are partial indications of rank. The visors of both the blue and the white cap are of black (patent leather). The visor for all officers up to and including lieutenant-commander is plain; for commodores, 2nd class, captains, and commanders, it has one row of gold oak leaves; and for flag officers (rear-admirals and above) and commodores, 1st class, it has two rows of gold oak leaves. (See fig. 41.)

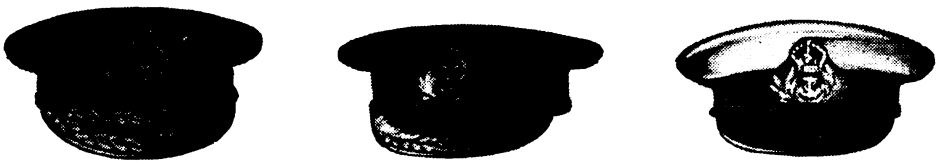
(5) Commissioned officers of the Royal Naval Reserve (RNR) wear insignia of rank similar to that of commissioned officers in the Royal Navy, but in zigzag stripes. Those of the Royal Naval Volunteer Reserve (RNVR) wear the same, but in wavy stripes.

[4] Color plates of uniforms and insignia follow page 120.

b. Enlisted men.—Chief petty officers and petty officers wear distinctive cap badges. Insignia on sleeves of various grades of enlisted men indicate appropriate ranks and duties. (See fig. 42.)

c. Royal Marines.—The Royal Marines wear navy-blue uniforms as well as khaki (similar to the Army style). The only difference between their shoulder-strap insignia and those of the Army is that the letters "RM" are worn at the bottom of the strap nearest the arm (fig. 43). Commissioned officers' caps differ from those of noncommissioned officers by having a different badge and red piping round the crown of the cap.

d. Fleet Air Arm.—The Fleet Air Arm was originally under the control of the Air Ministry, but since 1939 it has been controlled entirely by the Admiralty. For this reason, officers of the Fleet Air



① Flag officers and commodore, 1st class.

② Commodore, 2nd class, captain, and commander.

③ Other commissioned officers.

FIGURE 41.—Royal Navy caps.

Arm wear naval uniforms, but are distinguished from naval officers by the letter "A" in the circle surmounting the sleeve stripes (fig. 44). Those officers who are actual pilots wear their wings on their sleeves, and not on the left breast as in the Royal Air Force (see plate VII and fig. 51).

e. Women's Royal Naval Service (WRNS).—The uniform of the "Wrens" is a navy-blue coat and skirt. Officers wear black tricorne hats (see fig. 40), and "ratings" simple blue hats in winter and white in summer.

84. Army.—*a. Uniforms.*—(1) *General.*—There are two dress uniforms which are not worn during wartime: full dress (for daytime use on special ceremonial occasions) and mess dress [5] (for use of officers only at official dinners, guest nights, or when ordered in mess by the president of the Mess Committee). Undress uniforms [5] for all ranks (those of officers being of a finer quality), usually of dark blue and buttoned up to the throat with a high collar, may be worn during the evening in peacetime for duty or dining, and may also be worn as an evening uniform during wartime. During wartime, however,

[5] Wellington boots are worn with mess-dress and undress uniforms.

CHIEF PETTY OFFICER'S CAP BADGE

PETTY OFFICER'S CAP BADGE

PETTY OFFICER'S SLEEVE INSIGNIA

OTHER SLEEVE INSIGNIA

GUNNER'S MATE

GUNLAYER FIRST CLASS

QUARTERS RATING FIRST CLASS GUNNERY BRANCH

PETTY OFFICER TELEGRAPHIST

RANGETAKER FIRST CLASS

RANGETAKER SECOND CLASS

TORPEDO GUNNER'S MATE

TORPEDO COXSWAIN

CHIEF ARMOURER

CHIEF SHIPWRIGHT

DIVER

FIGURE 42.—Royal Navy enlisted men's insignia.

CHIEF YEOMAN AND
YEOMAN OF SIGNALS

VISUAL SIGNALMAN,
TRAINED OPERATOR

REGULATING
PETTY OFFICER

SICK BERTH
RATING

SUBMARINE DETECTOR
INSTRUCTOR

TELEGRAPHIST
AIR GUNNER

LEADING SEAMAN

ACTING OBSERVER'S
MATE

COOK

OFFICER'S
STEWARD

OFFICER'S
COOK

FIGURE 42 (*continued*).— Royal Navy enlisted men's insignia.

the usual dress for officers is service dress for evening wear and battle dress for daytime. Battle dress was adopted in 1939. The uniform is exactly the same for both officers and enlisted men, and is at the

present time the only official dress for enlisted men (plate II and figs. 45 and 48). (See also figs. 50, 61, 67, and 81.)

(2) *Service dress.*—(*a*) In wartime this uniform is worn only by officers, for office duty, for "walking out," for evening wear, and for ceremonials (fig. 46). Normally made of barathea or a high quality of serge or twill, the single-breasted tunic (coat) may be belted and has shoulder straps and four pockets, usually patched. The sleeves generally have pointed cuffs and no buttons, although most mounted regiments and some infantry regiments wear them without points and with two or more buttons. Underneath the coat a khaki shirt with a khaki necktie is worn. The trousers, of the same material as the coat, are long and cuffless. Only mounted officers, staff officers, officers of field rank (major and above), or officers of units that were formerly horsed may wear breeches (of cavalry twill) and field boots (see the colonel in fig. 46). Officers of Scottish regiments wear rounded jackets and trews (trousers) of the regimental tartan. In addition, officers of Highland regiments, when not on parade with troops, may wear the kilt with service dress.

FIGURE 43.—Shoulder strap of a lieutenant of the Royal Marines.

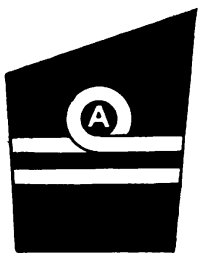


FIGURE 44.—Sleeve insignia of a lieutenant of the Fleet Air Arm.

(*b*) Both the service-dress (U. S. service) cap (fig. 46) and the field-service, or forage (U. S. garrison), cap—popularly called the "fore and aft"—are worn with service dress. The service-dress cap is normally khaki-peaked (i. e., the visor is of plain khaki) for all ranks. But in this case,[6] as in the case of the field-service cap; the greatcoat (overcoat); the sleeves, pockets, and general style of the coat; and many other matters of dress, there are countless variations from regiment

[6] For example, during peacetime officers often wear with service dress the blue undress cap, but with a khaki cover. The visor of the cap is of black (patent leather), and for officers of the rank of colonel and above is adorned with gold oak leaves, as follows: brigadiers and colonels, one row (corresponding to the visor of the regular cap of commodores, 2nd class, captains, and commanders in the Royal Navy, and to that of group captains in the Royal Air Force); field-marshals and general officers, two rows (corresponding to the visor of the regular cap of flag officers and commodores, 1st class, in the RN, and to that of air officers in the RAF). See paragraph 83*a*(4) and figure 41, and paragraph 85*b*(1)(*e*) and plate VII.

to regiment and from corps to corps (fig. 45 ① and ②, and plate III).

(*c*) Officers in service dress usually wear brown kid gloves and may carry canes, riding crops, or swagger sticks (fig. 46).[7]

① Roll call order (Tam o' Shanter—as above—or other regimental headgear worn in place of the regular field-service cap where required).

② Drill order (showing rifle, bayonet, and skeleton web belt).

FIGURE 45.—Sergeant in various orders of battle dress.

(*d*) The service-dress uniform for enlisted men in peacetime consisted of a coat buttoned up to the throat (see figs. 84 and 85), and breeches and puttees for horsed units and long trousers for other units. It is issued at the present time only to members of The Brigade of Guards and the Corps of Military Police.

[7] A short stick is often called a "kosh," and the word is also used loosely in this respect.

(3) *Battle dress.*—(*a*) This uniform is a two-piece khaki serge (plate II and figs. 45, 48, 58, 61, 67, and 81). The trousers are long and somewhat baggy, with web anklets worn at the bottom. The rather full blouse (so-called, but more like the U. S. shirt), which fastens up to the

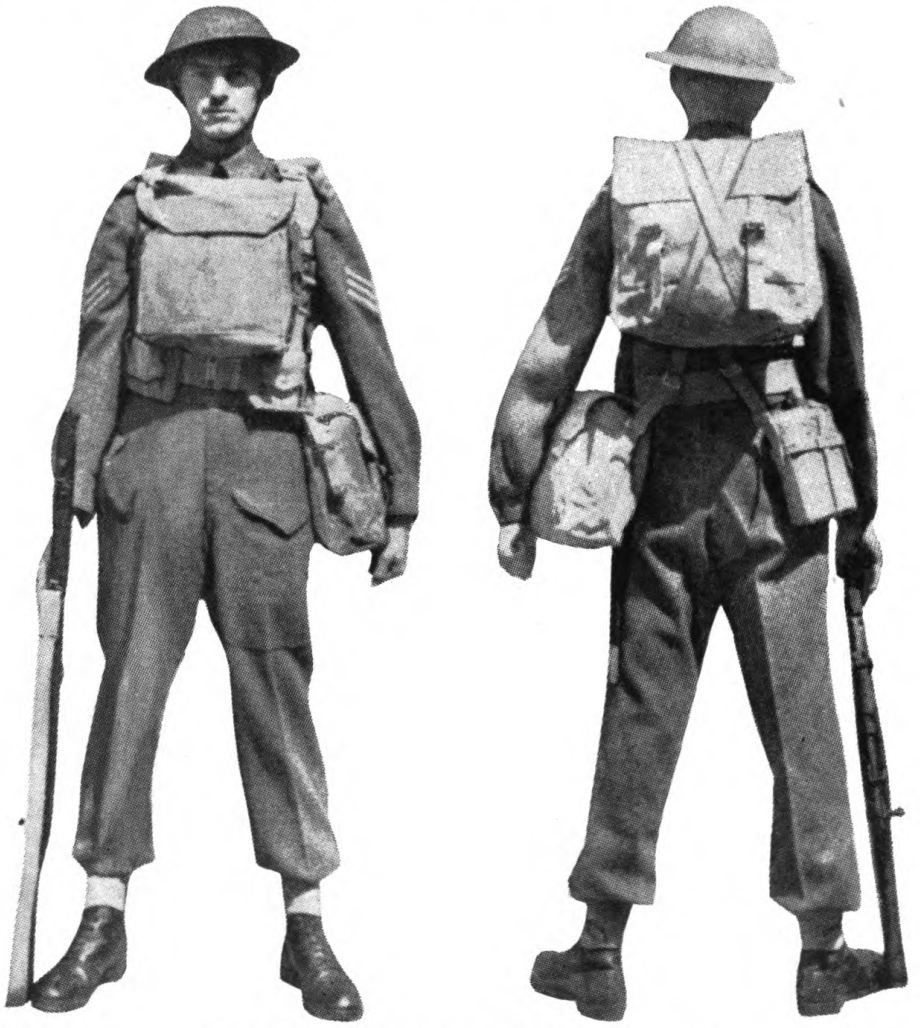
③ Battle order (showing rifle, bayonet, skeleton web belt, gas mask haversack, and haversack).

FIGURE 45 (*continued*).—Sergeant in various orders of battle dress.

throat, is of waist length and of the same material as the trousers. It has two breast pockets.[8] The blouse buttons onto the top of the trousers on the inside and is taken in at the waist by a cloth belt which fastens on the right side. Enlisted men wear the blouse buttoned up at the throat. Both officers and men wear a khaki shirt underneath;

[8] Actually, the complete uniform, trousers and blouse, has nine pockets, including a very large one on the front of the left thigh for maps and papers.

for officers, who unbutton the top two buttons of the blouse, the collar of the shirt is visible and is tied with a khaki necktie. There is no special battle-dress overcoat. Pipers in Scottish and Irish regiments may wear the kilt with battle dress at all times.



④ Full marching order (showing rifle, bayonet, gas mask haversack, haversack, pack, and other equipment).

FIGURE 45 (*continued*).—Sergeant in various orders of battle dress.

(*b*) The headgear is a field-service cap, but under active service, or when so ordered, the steel helmet. (See figs. 45 ③ and ④, 48, 50, 58, 61, 62, 67, 80, and 81.) The service-dress cap is also worn with battle dress, but this is the exception and not the rule.

(*c*) Washable two-piece or one-piece overalls are worn over the battle dress under certain circumstances, as, for example, in mechanized units (fig. 80).

(4) *Tropical dress.*—(*a*) This uniform is made of a light khaki material. The "walking out" dress for officers is of exactly the same cut as that of service dress, and it may be worn with shirt sleeves.

(*b*) Shorts of the same material and short sleeves may be worn in very hot weather. Ankle puttees (U. S. wrapped leggings or spiral

FIGURE 46.—Colonel and two lieutenant-colonels, Royal Army Medical Corps, in service dress.

puttees) are worn with woolen stockings; full puttees, with hose tops. (See figs. 58 and 62.)

b. Insignia.—(1) *Commissioned officers.*—(*a*) *General.*—In 1920, sleeve badges on officers' uniforms were abolished. Since 1939 the Sam Browne belt has not been required for officers except when on parade.

(*b*) *Service dress.—1.* Officers' ranks are shown by the metal insignia, usually gilt, on the shoulder straps of their coats and overcoats, as illustrated in plate II.

2. The "star," known in the vernacular as a "pip," is not actually a star, but a diamond-shaped, elliptical, or somewhat square device that may vary also in size according to the regiment or corps. For example, The Brigade of Guards and The South Wales Borderers wear an elongated "pip," whereas very small "pips" and crowns are worn by The Oxfordshire and Buckinghamshire Light Infantry.[9] The standard "pip" is slightly more than ¾ inch square, the crown being of appropriate size. On the base rests a cross patee surmounted by a green-enameled laurel wreath which, in turn, encircles a medallion. The medallion consists of three miters, two above one, surrounded by a motto on red enamel—"TRIA JUNCTA IN UNO," which refers to the union of the United Kingdom. The "pip" is worn with the miters pointing toward the collar. Some regiments wear the crown with a red backing.

3. The coloring of the "pip" also varies, from polished, unenameled to black. Bronze "pips," crowns, and buttons are worn by such regiments as The Hampshire Regiment and The North Staffordshire Regiment, whereas black ones are worn by rifle regiments and by chaplains (see plate II).

4. In some regiments the unit name in metal is worn on the shoulder strap nearest the arm, as, for example, in The Queen's Bays ("BAYS"—see plate II), the 10th Royal Hussars ("XRH"), etc.

(*c*) *Cap badges, cap bands, and tabs.—1.* All officers up to and including lieutenant-colonel wear buttons, cap badges, and insignia on the collar of the coat peculiar to their regiments or corps. (See plate III and fig. 47 for examples of regimental and corps insignia; see also the two lieutenant-colonels in fig. 46.)

2. Field-marshals, general officers, and brigadiers and colonels of the General Staff wear a scarlet band around the service-dress cap and wear General Staff buttons (embossed with the arms of Great Britain). (See plate II and the regimental sergeant-major's insignia, plate VIII.) On the collar of the coat they wear scarlet tabs, or gorget patches. (See the colonel in fig. 46 for the position of the tabs.)

3. Field-marshals wear as a cap badge cross batons within a laurel wreath surmounted by a lion above a crown (plate III). The tabs have a line of small gold oak leaves down the center (plate II).

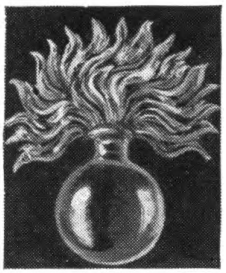
[9] For the regiments referred to in this chapter, see paragraph 167.

THE LIFE GUARDS

ROYAL REGIMENT OF ARTILLERY

CORPS OF ROYAL ENGINEERS

ROYAL CORPS OF SIGNALS



GRENADIER GUARDS

THE KING'S OWN ROYAL REGIMENT

THE CAMERONIANS

THE SOUTH STAFFORDSHIRE REGIMENT

ROYAL ARMY SERVICE CORPS

ROYAL ARMY MEDICAL CORPS

ROYAL ARMY ORDNANCE CORPS

FIGURE 47.—Regimental and corps insignia.

4. General officers wear as a cap badge crossed baton and sword within a laurel wreath surmounted by a lion above a crown (plate III). The tabs have a line of small gold oak leaves down the center (plate II).

5. Brigadiers and colonels wear as a cap badge a crown surmounted by a lion (plate III and fig. 46). The tabs of both have a straight maroon line down the center.

6. Full colonels of the services other than General Staff wear a band around the service-dress cap and tabs colored according to the service, as shown by the following examples:

Corps of Royal Engineers—Bright blue.
Royal Army Chaplains' Department—Purple.
Royal Army Medical Corps—Cherry.
Royal Army Ordnance Corps—Blue.
Royal Army Pay Corps—Yellow.
Royal Army Veterinary Corps—Maroon.
Army Educational Corps—Cambridge blue.
The Army Dental Corps—Emerald green.

7. In the case of the usual field-service cap, the cap badge is worn on the left side roughly 1 inch from the front, but the position varies according to the style of the cap (Tam O'Shanter, Glengarry, beret, etc.). For example, on the beret of the Royal Tank Regiment it is worn in the front center. (See plate III.)

(2) *Enlisted men.*—Since, as stated above, battle dress is at the present time the only official uniform for enlisted men, enlisted men's insignia of rank is discussed in (3)(*g*), below. On the field-service cap enlisted men wear regimental or corps insignia in the same manner as officers. (See plate III and fig. 45 ① and ②.)

(3) *Battle dress.*—(*a*) All insignia worn on the battle dress is of cloth, except in The Brigade of Guards, where officers may wear metal insignia of rank.

(*b*) Officers wear on their shoulder straps cloth insignia of rank surmounted on pieces of cloth (1¼ inches square) the color of which varies according to the arm of the service. Distinguishing marks, or strips of cloth (⅜ by 2 inches), which also vary in color according to the arm of the service, are worn on both sleeves by all ranks 3¼ inches below the shoulder straps. (An exception to this practice is made by The Brigade of Guards,[10] the five regiments of which wear the appropriate regimental name in crescent shape just below the shoulder. See figs. 48, 50, and 61.) The arms of the service with their corresponding colors for the backing to officers' insignia of rank and for distinguishing marks are indicated in plates IV and V.

[10] See paragraph 167*f*.

(*c*) In some regiments all ranks may wear the unit name on detachable loops on the shoulder straps nearest the arm.

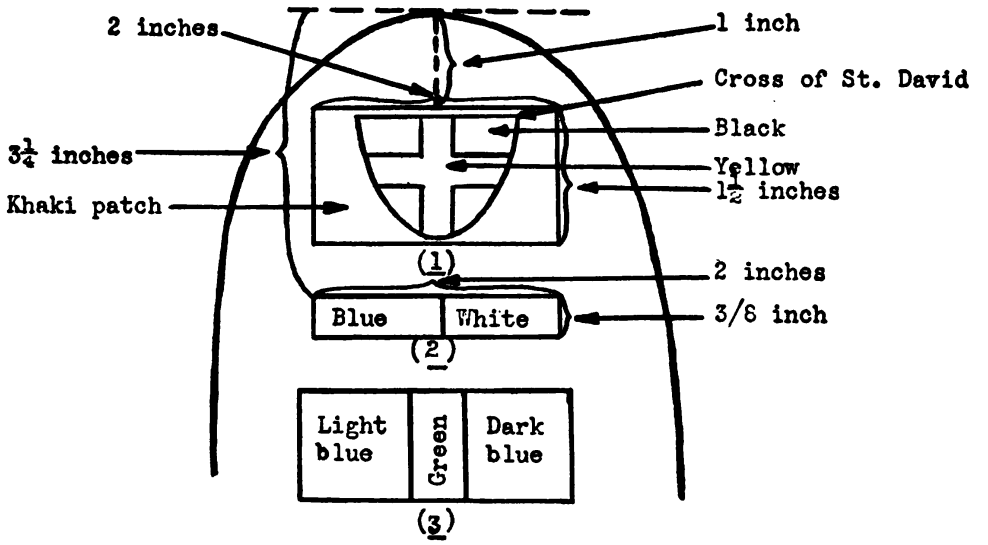
FIGURE 48.—Grenadier Guards in battle dress.

(*d*) Directly below the shoulder and above the colored strips all ranks wear divisional, army corps, etc., insignia (figs. 48 and 61), and below the strips regimental or corps colors may be worn, as illustrated in figure 49.

(*e*) Regimental or corps colors may be painted on the left side of the steel helmet (fig. 50).

(*f*) On the service-dress overcoat, which may be worn with battle dress, officers and enlisted men wear only insignia of rank and distinguishing marks. On mackintoshes (raincoats) insignia are not usually worn.

(*g*) Warrant officers and noncommissioned officers wear their insignia of rank on both sleeves a few inches above the cuff except in the case of the company quarter-master sergeant, the staff-sergeant (fig. 61), the sergeant (figs. 45 and 50), the lance-sergeant, the corporal



1. Divisional insignia (always worn).
2. Distinguishing marks (always worn).
3. Regimental or corps colors (may be worn).

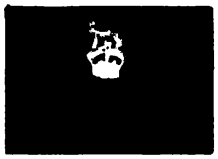
FIGURE 49.—Design for the left upper-arm sleeve of a member of the 38th Divisional Signals (battle dress).

(fig. 14), and the lance-corporal, who wear theirs on both sleeves above the elbow. Instructors' badges are worn in conjunction with insignia of rank. Thus a sergeant instructor wears both badges above the elbow, whereas a sergeant-major instructor displays both badges together on the cuff. The insignia of the essential grades of noncommissioned officers are illustrated in plate VIII. Other enlisted men's insignia showing duties are worn on both upper sleeves. Chevrons for good conduct are worn point up on the lower left sleeve only, as follows: 1 for 2 years, 2 for 5, 3 for 12, 4 for 16, and 5 for 21. See plate VIII.

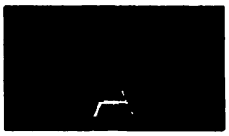
(4) *Armlets* (*arm bands, brassards*).—Officers below the rank of colonel holding staff appointments wear, with whatever uniform is

appropriate, a cloth armlet 3½ inches wide on the right arm above the elbow.

(*a*) *Officers on staff at War Office.*—The top half of the armlet is red; the bottom half, black. A gilt crown surmounted by a lion is situated in the center of the top half; the red lettering on the bottom half indicates the branch.



(*b*) *Headquarters, Home Forces, British Expeditionary Force, and Middle East.*—The armlet is similar to that worn by officers attached to the War Office, but without the central crest and with the lettering in yellow.



(*c*) *Command headquarters.*—The armlet is of red, black, and red horizontal strips, with red lettering on the central black strip.

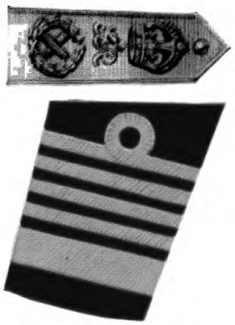
(*d*) *Divisional headquarters.*—The armlet is red with black lettering.

(*e*) *Area, district, and garrison headquarters.*—The armlet is green with black lettering.

(*f*) *Brigade headquarters.*—The armlet is blue with black lettering.

(*g*) *Movement, embarkation, and transport of troops.*—The armlet is white.

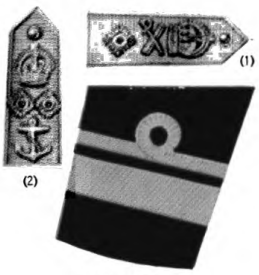
ROYAL NAVY OFFICERS' SLEEVE AND SHOULDER-STRAP INSIGNIA PLATE I



ADMIRAL OF THE FLEET
("GR" (GEORGE REX) INDICATES AIDE-DE-CAMP TO KING GEORGE VI)

ADMIRAL

VICE-ADMIRAL



REAR-ADMIRAL (1)
AND COMMODORE, 1ST CLASS (2)

COMMODORE, 2ND CLASS

CAPTAIN

COMMANDER

LIEUTENANT-COMMANDER

LIEUTENANT

SUB-LIEUTENANT
AND COMMISSIONED WARRANT OFFICER

WARRANT OFFICER

ARMY OFFICERS' INSIGNIA OF RANK

TAB OF A GENERAL OFFICER

SERVICE-DRESS CAP, BRIGADIER OR COLONEL, GENERAL STAFF

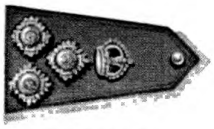
TAB OF A BRIGADIER OR COLONEL, GENERAL STAFF

FIELD-MARSHAL

GENERAL

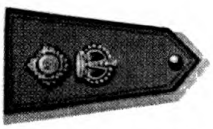
LIEUTENANT-GENERAL

MAJOR-GENERAL

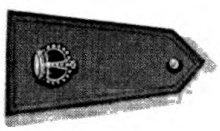


BRIGADIER

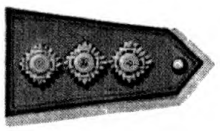
COLONEL



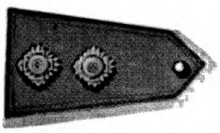
LIEUTENANT-COLONEL



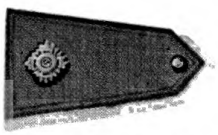
MAJOR



CAPTAIN



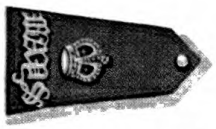
LIEUTENANT



SECOND-LIEUTENANT

CAPTAIN OF RIFLE REGIMENT OR CAPTAIN, ROYAL ARMY CHAPLAINS' DEPARTMENT (CHAPLAIN, 4TH CLASS)

COMMISSIONED OFFICER IN BATTLE DRESS



MAJOR OF THE QUEEN'S BAYS

ARMY FIELD-SERVICE CAPS AND CAP BADGES

PLATE III

FIELD-MARSHAL

GENERAL OFFICER

BRIGADIER AND COLONEL

COLONEL AND ABOVE

8TH KING'S
ROYAL IRISH HUSSARS

ROYAL TANK REGIMENT

THE BLACK WATCH

ROYAL ARMY CHAPLAINS'
DEPARTMENT

THE GORDON HIGHLANDERS

INTELLIGENCE CORPS

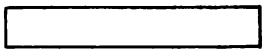
PLAIN KHAKI—ALL RANKS IN THE FIELD

DISTINGUISHING MARKS ON BATTLE DRESS — PLATE IV

Arm of service	*Color of backing to officers' insignia of rank*	*Distinguishing marks on sleeves for all ranks*
Staff Corps of Military Police	Red	 RED [1]
Royal Armoured Corps	Yellow	 YELLOW—RED [2]
Royal Regiment of Artillery	Red	 RED—BLUE
Royal Corps of Engineers	Blue	 BLUE—RED
Royal Corps of Signals	Blue	 BLUE—WHITE [2]
Infantry (except rifle regiments) and general list [3]	Scarlet	 SCARLET
Infantry (rifle regiment)	Rifle green	 RIFLE GREEN
Reconnaissance Corps	Green	 GREEN—YELLOW
Royal Army Chaplains' Department	Purple	 PURPLE
Royal Army Service Corps	Yellow	 YELLOW—BLUE

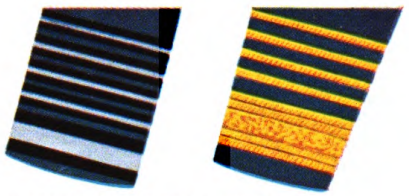
[1] Worn with the armlet in the case of CMP.
[2] Where two colors are mentioned, the first color will be worn to the front (see fig. 49).
[3] Unattached troops.

DISTINGUISHING MARKS ON BATTLE DRESS (CONTINUED) PLATE V

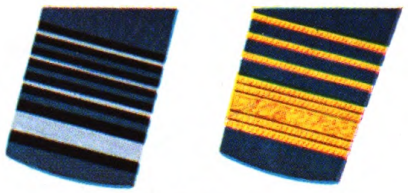
Arm of service	*Color of backing to officers' insignia of rank*	*Distinguishing marks on sleeves for all ranks*
Royal Army Medical Corps	Dull cherry	 DULL CHERRY
Royal Army Ordnance Corps	Blue	 BLUE
Royal Army Pay Corps	Yellow	 YELLOW
Royal Army Veterinary Corps	Maroon	 MAROON
Army Educational Corps	Cambridge blue	 CAMBRIDGE BLUE
The Army Dental Corps	Green	 GREEN—WHITE
Pioneer Corps	Red	 RED—GREEN
Intelligence Corps	Green	 GREEN
Army Catering Corps	Gray	 GRAY—YELLOW
Army Physical Training Corps	Black	 BLACK—RED—BLACK

RAF Officers' Sleeve Insignia

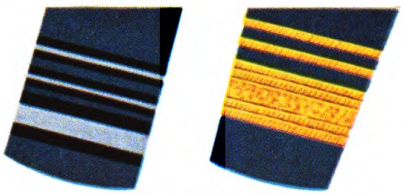
Plate VI



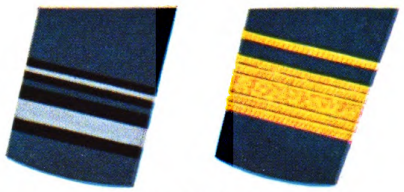
MARSHAL OF THE ROYAL AIR FORCE



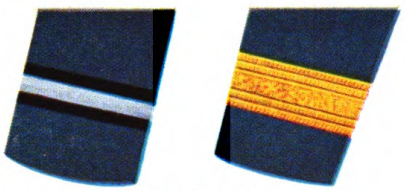
AIR CHIEF MARSHAL



AIR MARSHAL

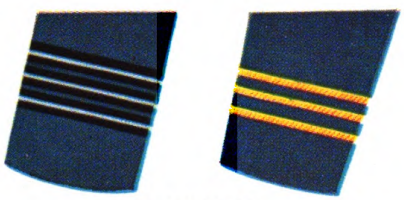


AIR VICE-MARSHAL

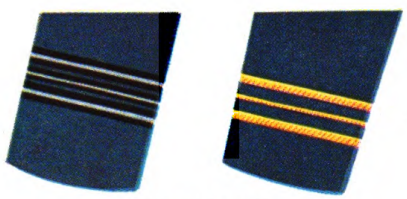


AIR COMMODORE

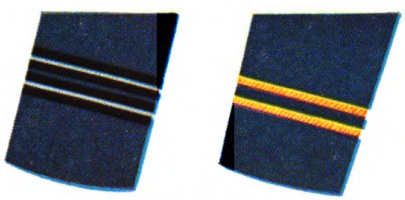
GROUP CAPTAIN



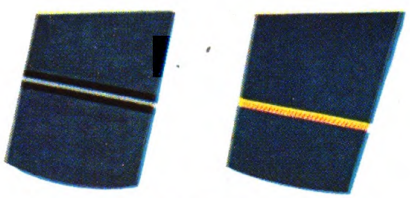
WING COMMANDER



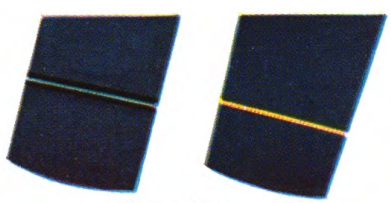
SQUADRON LEADER



FLIGHT LIEUTENANT



FLYING OFFICER



PILOT OFFICER

OFFICERS OF AIR RANK

GROUP CAPTAIN

OTHER OFFICERS

FIELD-SERVICE CAP

CHAPLAIN

AIRMAN

OBSERVER

PILOT

AIR GUNNER

ARMY ENLISTED MEN'S INSIGNIA

REGIMENTAL SERGEANT-MAJOR
(WARRANT OFFICER, CLASS I)

REGIMENTAL QUARTER-MASTER-SERGEANT AND COMPANY SERGEANT-MAJOR
(WARRANT OFFICERS, CLASS II)

COMPANY QUARTER-MASTER-SERGEANT AND STAFF-SERGEANT

SERGEANT AND LANCE-SERGEANT

CORPORAL

LANCE-CORPORAL

GUNNERY INSTRUCTOR

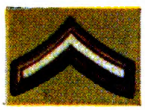
BANDSMAN

SIGNALLER

ARMOURER

PIONEER

BOMB DISPOSAL SQUAD



GOOD CONDUCT CHEVRON

RAF AIRMEN'S INSIGNIA

WARRANT OFFICER

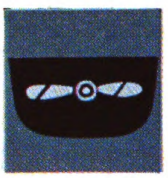
FLIGHT SERGEANT

SERGEANT

CORPORAL

WIRELESS OPERATOR

SERVICE-DRESS UNIFORM
(FLIGHT SERGEANT)



LEADING AIRCRAFTMAN

GOOD CONDUCT CHEVRON

AIRCRAFTMAN'S WORKING DRESS

PHYSICAL TRAINING INSTRUCTOR

MEDALS FOR VALOR AND GALLANTRY

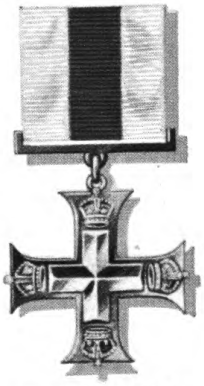
PLATE IX

GEORGE CROSS

VICTORIA CROSS

DISTINGUISHED SERVICE ORDER

DISTINGUISHED FLYING CROSS



MILITARY CROSS

DISTINGUISHED CONDUCT MEDAL

CONSPICUOUS GALLANTRY MEDAL (REVERSE)

GEORGE MEDAL

MILITARY MEDAL (REVERSE)

SERVICE RIBBONS

PLATE X

VICTORIA CROSS
(1856)

GEORGE CROSS
(1940)

ORDER OF THE GARTER
(1349)

ORDER OF THE THISTLE
(1687)

ORDER OF ST PATRICK
(1788)

ORDER OF THE BATH
(1399)

ORDER OF MERIT
(1902)

ORDER OF THE STAR OF INDIA
(1861)

ORDER OF ST MICHAEL
AND ST GEORGE
(1818)

ORDER OF THE INDIAN EMPIRE
(1877)

ROYAL VICTORIAN ORDER
(1896)

ORDER OF THE BRITISH EMPIRE
(MILITARY–1917)

ORDER OF THE COMPANIONS
OF HONOUR
(1917)

DISTINGUISHED SERVICE ORDER
(1886)

IMPERIAL SERVICE ORDER
(1902)

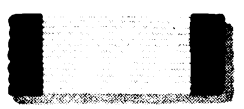
DISTINGUISHED SERVICE CROSS
(1914)

MILITARY CROSS
(1914)

DISTINGUISHED FLYING CROSS
(1918)

AIR FORCE CROSS
(1918)

DISTINGUISHED CONDUCT MEDAL
(1845)



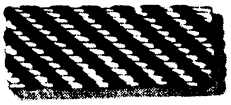
CONSPICUOUS GALLANTRY MEDAL
(1929)

SERVICE RIBBONS (CONTINUED)

PLATE XI

DISTINGUISHED SERVICE MEDAL
(1914)

MILITARY MEDAL
(1916)



DISTINGUISHED FLYING MEDAL
(1918)

AIR FORCE MEDAL
(1918)

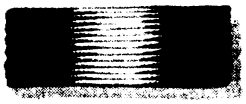
GEORGE MEDAL
(1940)

AFRICA GENERAL SERVICE MEDAL
(1902)

INDIA GENERAL SERVICE MEDAL
(1908)

NAVAL GENERAL SERVICE MEDAL
(1909 1914)

1914 STAR (MONS)



1914 1915 STAR

BRITISH WAR MEDAL
(1914 1918)

VICTORY MEDAL[1]
(1914-1918)

VICTORY MEDAL
(1914-1918)

TERRITORIAL WAR MEDAL
(1914 1919)

GENERAL SERVICE MEDAL
IRAQ-MESOPOTAMIA
(1923)

MERITORIOUS SERVICE MEDAL (ARMY)[2]
(1845)

MERITORIOUS SERVICE MEDAL (AIR FORCE)
(1919)

KING GEORGE VI S CORONATION
MEDAL

LONG SERVICE AND GOOD CONDUCT
MEDAL (ARMY)
(1830)

LONG SERVICE AND GOOD CONDUCT
MEDAL (NAVY)
(1831)

LONG SERVICE AND GOOD CONDUCT
MEDAL (AIR FORCE)
(1919)

[1] Oak leaf for citation in dispatches.
[2] Same for the Navy except blue for red.

(*h*) *Officers' branch of staff.*—The branch of the staff to which an officer belongs is indicated by the lettering on the armlet, as follows:

A	Adjutant-General's.
A (plus drawing of a gun).	Royal Artillery.
A & Q	Combined Adjutant-General's and Quarter-Master-General's.

FIGURE 50.—Scots Guards in battle dress.

ADC	Aides-de-Camp.
AD Mn (in gold letters).	Officer in Charge of Administration.
AEC	Education Officer's.
BM	Brigade Major.
C	Chaplain-General's.
CQM	Camp Quarter-Master's.
E	Royal Engineers.
G	General Staff.
GA	Garrison Adjutant.
JA	Judge-Advocate's.
M	Medical.
MS	Military Secretary's.
O	Ordnance.
P	Royal Army Pay Corps.
PM	Provost-Marshal's.
PR	Director of Public Relations.
Q	Quarter-Master-General's.
S	Signals.
SC	Staff Captain.
ST	Supply and Transport.
TA	Territorial Army Directorate.

(5) *Dominions Armies.*—Each dominion in the British Commonwealth of Nations has its own Army organized and equipped substantially in the same way as the British Army. The uniforms, insignia of rank, etc., are, with minor differences, the same.

85. Royal Air Force.—*a. Uniforms.*—(1) *General.*—There are two dress uniforms which are not worn during wartime: full dress, of slate blue (for use of officers on ceremonial occasions), and mess dress, of slate blue (for evening wear by officers in mess).

(2) *Service dress.*—The service-dress uniform, of slate blue, for officers and airmen (fig. 51 and plate VIII), is used for wear in cold or temperate climates. The single-breasted coat is belted at the waist and has four pockets (the upper two are patched). The trousers are long and cuffless. A black necktie is worn with the shirt, which is of lighter blue. Overcoats and raincoats are of slate blue, as well as the working dress (plate VIII). Officers and airmen wear a service-dress cap, or on informal occasions they may alternatively wear a field-service, or forage, cap (fig. 51).

(3) *Tropical service dress.*—This uniform, of khaki drill, for officers and airmen may be worn with the coat or with shirt sleeves. The

shirt is of khaki, and with it is worn a black necktie. Shorts and short sleeves may be worn in very hot weather.

(4) *Tropical mess dress.*—This uniform, of white drill, for wear by officers in mess is not obligatory in wartime.

b. Insignia.—(1) *Commissioned officers.*—(*a*) *Dress uniforms.*—The rank is shown by gold bands on both sleeves.

(*b*) *Service dress.*—The rank is shown by blue and white bands on the sleeves of the coat and on the shoulder straps of the overcoat. Both service-dress and dress sleeve insignia ("rings") are shown in plate VI.

FIGURE 51.—RAF officers in service dress (after receiving awards and decorations).

(*c*) *Tropical service dress.*—The rank is shown by blue and white bands on removable shoulder straps, or, if worn with shirt sleeves, on removable shoulder loops.

(*d*) *Tropical mess dress.*—The rank is shown by gold bands on blue removable shoulder straps.

(*e*) *Caps and cap badges.*—The service-dress cap for all officers up to and including the rank of wing commander has a plain (slate blue) cloth visor; for the group captain, a black (patent leather) visor with one row of gold oak leaves; and for air officers, a black (patent leather) visor with two rows of gold oak leaves. The cap badge is also different

for air officers and chaplains. (See plate VII.) The field-service cap for air officers is edged with pale blue piping (plate VII).

(*f*) *Other badges.*—The pilot's flying badge ("wings"), and the badges of the observer and the air gunner are worn on the left breast of the coat just above the pockets and above any service ribbons (fig. 51 and plate VII). Chaplains and medical and dental officers wear distinctive badges on the collar.

(2) *Airmen.*—(*a*) The rank of airmen is shown by insignia on both sleeves of the coat and the overcoat. The metal badge of rank of the warrant officer is worn on the cuffs of both sleeves. The insignia of rank of other noncommissioned officers are worn on both upper sleeves, the various chevrons point-down. (See fig. 51 and plate VIII.)

(*b*) Other insignia showing duties are worn on both upper sleeves. The chevron for good conduct is worn point-up on the lower left sleeve only. (See plate VIII.)

(*c*) At the top of both sleeves, all airmen wear a rectangular piece of cloth on which the RAF eagle is embroidered: in blue on the service dress; in red on the tropical service dress.

(*d*) The visor of the service-dress cap for all airmen is of black (patent leather), and the cap badge is distinctive (plate VII).

(3) *Distinguishing shoulder titles.*—During the present war, authority has been given to RAF personnel whose country of origin is a dominion of the British Commonwealth of Nations, or an allied nation, to wear the name of the country of origin in pale blue at the top of both sleeves in service dress. Some care may be needed on occasion not to confuse RAF personnel wearing these distinguishing badges with personnel belonging to the air forces of the dominions.

c. Royal Observer Corps.—The Royal Observer Corps (ROC) is a component of the RAF. Officers wear the RAF uniform with black braid on the cuffs of sleeves and a special cap badge. Other members wear a buttonhole badge.

d. Auxiliary and Volunteer Reserve.—The Auxiliary Air Force (AAF) and the RAF Volunteer Reserve (RAFVR) wear the same uniforms as the RAF. However, members of the Auxiliary wear the letter "A," and members of the Volunteer Reserve wear the letters "VR," in gilt on the collar. Members of the American Eagle Squadron also wear the letters "VR" in gilt on the collar, and a special badge at the top of both sleeves.

e. Dominions air forces.—Each dominion in the British Commonwealth of Nations has its own air force. The Royal Canadian Air Force (RCAF) and the Royal New Zealand Air Force (RNZAF) wear uniforms of the same pattern and color as the RAF uniform, but are

to be distinguished by slightly different buttons and by different lettering in the center of the pilot's badge. The Royal Australian Air Force (RAAF) wears a uniform of the same pattern but made of dark blue cloth. The South African Air Force (SAAF) wears a khaki uniform with Army insignia of rank.

86. Decorations and awards.—*a. General.*—Many decorations and awards are available for outstanding performances by civilians and by men and women in the Royal Navy, the Army, the Royal Air Force, and auxiliary services. The Victoria Cross and the George Cross take precedence over all other decorations. Then come the various Orders; other medals for valor or gallantry; campaign medals, in order of date; Coronation and Jubilee medals; long service and good conduct medals; and miscellaneous awards. Service ribbons for various medals are illustrated in order of precedence in plates X and XI.

b. Highest decorations.—(1) *Victoria Cross (VC)* (plate IX).—To all ranks of the three services and to civilians acting under their order, direction, or supervision; instituted in 1856. The VC can be won only "by performing in the presence of the enemy some signal act of valour or devotion to the Country," and when worn, this bronze cross takes precedence over every other decoration. When the service ribbon is worn, a miniature replica of the cross in bronze is affixed to the center of it (plate X). If the recipient wins the award twice, another replica cross is added to the ribbon. Women have been eligible for the VC since 1920.

(2) *George Cross (GC)*[11] (plate IX).—To men and women in all walks of life; instituted in 1940. The military division of the GC permits its award to members of the fighting services who have performed acts coming within the terms of the warrant. When the service ribbon is worn, a miniature replica of the cross in silver is affixed to the center of it (plate X).

c. Orders.—(1) The Most Noble Order of the Garter, the Most Ancient and Most Noble Order of the Thistle, and the Most Illustrious Order of St. Patrick are the three most important Orders of British chivalry, and the recipients of the awards, the Knight of the Garter (KG), the Knight of the Thistle (KT), and the Knight of St. Patrick (KP), represent the three highest Orders of Knighthood in Great Britain. The Garter is awarded, outside the British royal family, only to a few peers of very high rank, to one or two statesmen of

[11] The George Medal (plate IX), created at the same time as the George Cross, recognizes civilian bravery, and will be awarded more freely than the GC. The Medal of the Order of the British Empire, for Gallantry, known as the "Empire Gallantry Medal" (EGM), has been replaced by the GM, and all holders of the EGM have been awarded the GM.

particular eminence, and occasionally to members of certain foreign royal families. The Thistle and the Patrick, although awarded to equally eminent personages, are open only to Scotsmen and Irishmen, respectively. The Order of Merit (OM) is limited to a total of 24 eminent people, who may be in any sphere of activity, and is one of the very few distinctions of first rank which does not carry a knighthood. These four Orders are not indicated by any ribbons except when the holder is wearing full dress; and on these occasions the particular Order is indicated by various insignia, including a sash of the appropriate color.

(2) Other outstanding Orders, most of which contain military divisions, are the Most Honourable Order of the Bath, the Most Exalted Order of the Star of India, the Most Distinguished Order of St. Michael and St. George, the Most Eminent Order of the Indian Empire, the Royal Victorian Order, the Most Excellent Order of the British Empire, and the Order of the Companions of Honour. The first three of these Orders have three classes—Knights Grand Cross, Knights Commanders, and Companions. The next two Orders have five classes: the Victorian Order has the three mentioned above, and Members of the fourth and fifth classes; the Order of the British Empire has as its additional classes Officers and Members of the Order. The Order of the Companions of Honour consists of one class only, but ranks after the first class of the Order of the British Empire. The ribbons of these seven Orders are worn immediately after the VC and the GC and before other medals for valor and gallantry.

d. Other medals for valor and gallantry.—(1) *Distinguished Service Order* (*DSO*) (plate IX).—To commissioned officers in any of the three services. The DSO is awarded to an officer who has been specially mentioned in dispatches for meritorious or distinguished service in the field or in the presence of the enemy. The DSO is the next most important decoration after the George Cross.

(2) *Distinguished Service Cross* (*DSC*).—To naval and marine officers of or below the relative rank of lieutenant-commander, and to warrant officers, who have been mentioned in dispatches for meritorious or distinguished service.

(3) *Military Cross* (*MC*) (plate IX).—To Army officers of or below the rank of captain and to warrant officers, class I, for acts of distinction or gallantry in the field. Its naval counterpart is the DSC.

(4) *Distinguished Flying Cross* (*DFC*) (plate IX).—To officers and warrant officers of the RAF for valor, courage, or devotion to duty while flying in active operations against the enemy.

(5) *Air Force Cross (AFC).*—To officers and warrant officers of the RAF, or of the other services, and to civilians for courage or devotion to duty, though not in active operations against the enemy.

(6) *Distinguished Conduct Medal (DCM)* (plate IX).—To enlisted men of the Army for gallantry in action. The DCM is awarded on the recommendation of the Commander-in-Chief, and carries a small pension or gratuity. Its naval counterpart is the CGM.

(7) *Conspicuous Gallantry Medal (CGM)* (plate IX).—To enlisted men of the Royal Navy, the Royal Marines, and the Fleet Air Arm for acts of conspicuous gallantry in action. Its obverse is the same as that of the DCM and the MM.

(8) *Distinguished Service Medal (DSM).*—To enlisted men of the Royal Navy and the Royal Marines for acts of bravery under fire.

(9) *Military Medal (MM)* (plate IX).—To enlisted men of the Army for individual or associated acts of bravery brought to notice by the recommendation of the Commander-in-Chief in the field. Its naval counterpart is the DSM, and its obverse is the same as that of the DCM and the CGM.

(10) *Distinguished Flying Medal (DFM).*—To enlisted men of the RAF for the same feats of gallantry for which the DFC is awarded to RAF officers.

(11) *Air Force Medal (AFM).*—To enlisted men of the RAF, or of the other services, and to civilians for courage or devotion to duty while flying, though not in active operations against the enemy.

e. Campaign medals.—These medals have been awarded to cover campaigns which often extended over a period of years and usually included a number of individual battles. To commemorate these battles, clasps, with the names of the battles engraved on them, were awarded the holders who had taken part in them. These clasps are affixed to the ribbon above the medal, but are not worn when the service ribbon is worn.

f. Other miscellaneous decorations.—Other types of miscellaneous decorations include Jubilee and Coronation medals; commemorative medals struck in honor of special events or performances; and long service and good conduct medals. The Army award for long service and good conduct was instituted in 1830; the Royal Navy, in 1831; the RAF, in 1919.

	Weapon	Caliber (inches)	Approximate weight (pounds)	Rate of fire (rounds per minute)			Maximum effective range (yards)	Remarks
				Rapid	Medium	Slow		
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Rifle No. 1, Mk. III. No. 4, Mk. I.	.303	8¾	15		5	1,000	A shoulder-controlled weapon to which can be affixed a bayonet or a discharger cup (see 7, below). Individual fire is rarely effective beyond 600 yards.
2	Pistol	.38	1¾				50	A 6-shot pistol-revolver, carried by officers, dispatch riders, and noncommissioned officers of the rank of sergeant and above.
3	Boys anti-tank rifle	.55	36	9	5		500	A shoulder-controlled weapon.
4	Light machine gun (Bren).	.303	Gun, 23; tripod, 30	120	100	30 to 60	Bipod, 1,000; tripod, 2,000.	An air-cooled gun capable of being fired from the shoulder, with bipod or tripod; it can be laid on fixed lines.
5	Light machine gun (Lewis).	.303	26	120			1,600	A shoulder-controlled weapon with no equipment for laying on fixed lines.
6	Heavy machine gun (Vickers).	.303	Tripod, 56; gun with 10 pounds of water, 42.	250	125	60 to 75	2,000	A water-cooled gun capable of sustained rapid fire. Its heavy mounting admits of laying on fixed lines and of indirect fire. It has an all-around traverse.
7	Hand grenade, HE	2½	1½				By discharger, 80 to 200; by hand, 30.	The grenade can also be fired from a discharger cup attached to the rifle. It is propelled by a blank cartridge filled with ballistite.
8	Smoke grenade	2½	1¼				250	Fired from a discharger cup.
9	2-inch mortar	2	23½	10	5		470	Each bomb weighs 2¼ pounds; 33 percent of smoke bombs are carried.
10	3-inch mortar	3	Piece, 42; base plate, 37; bipod, sight, box, and cradle, 45.	10	5		1,600	Each bomb weighs 10 pounds; 25 percent of smoke bombs are carried.
11	29-mm spigot mortar	29-mm	494	12	6		425	A very good short-range AT weapon; throws 14- and 20-pound bombs.

FIGURE 52.—Characteristics of infantry weapons.

Chapter 5

ARMAMENT AND EQUIPMENT

SECTION I

INFANTRY

87. Characteristics of weapons.—The tabulation in figure 52 gives the characteristics of the principal British infantry weapons.

88. Hand arms.—Riflemen are armed with the Lee-Enfield rifle (fig. 53), caliber .303, weighing, when empty, from 8 pounds 10½ ounces to 8 pounds 14½ ounces, with a sword-type or dagger-type bayonet. Its maximum muzzle velocity is 2,400 feet per second. The standard pistol is a 6-shot revolver (Webley), caliber .38 (fig. 54).

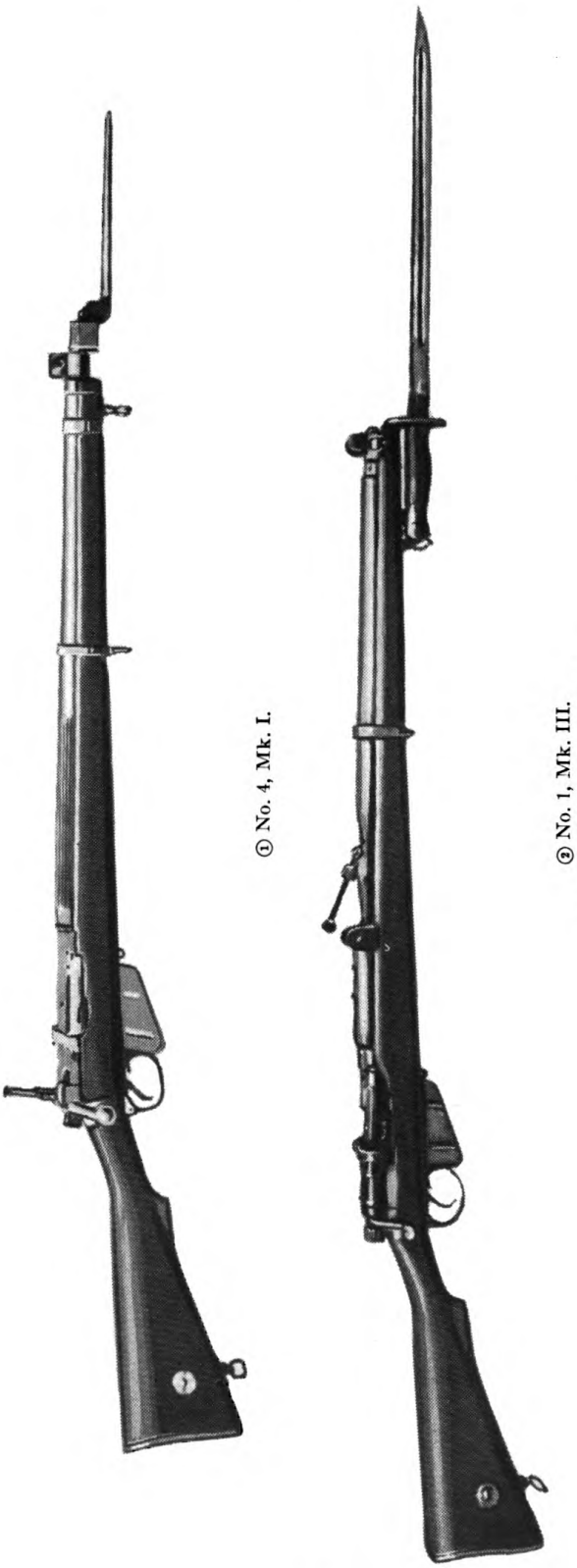
89. Rifle.—*a. General.*—The Lee-Enfield rifle is a breechloading magazine rifle of the bolt type. The No. 4, Mk. I, is now replacing the No. 1, Mk. III. Essentially, both types are like the U. S. rifle, caliber .30, M1903 (Springfield).

(1) Nature of weapon: magazine-fed bolt-action shoulder rifle.

(2) Weight: about 8¾ pounds (No. 1, Mk. III—8 pounds 14½ ounces; No. 4, Mk. I—8 pounds 10½ ounces).

(3) Length: 3 feet 8½ inches.

(4) Effective range: 600 yards; maximum, 2,000 yards.



① No. 4, Mk. I.

② No. 1, Mk. III.

FIGURE 53.—Lee-Enfield rifle.

(5) Ammunition: caliber .303 inch; weight of bullet, 175 grains; magazine holds 10 rounds.

(6) Rate of fire: 5 rounds per minute (normal); 15 rounds per minute (rapid).

b. Bayonets.—Two types of bayonets are employed, a sword-type (similar to the U. S. M1905) and a dagger-type (No. 4, Mk. I). The latter (fig. 53 ①), now standard, is 9 inches long, of cruciform section with tapering point. It weighs 10⅝ ounces (bayonet, 7 ounces; scabbard, 3⅝ ounces).

c. Ammunition.—Ammunition comes packed in wooden boxes, either carton-packed for loading into magazines of automatic weapons or bandolier-packed (i. e., in clips) for use with rifles. The type of ammunition is always plainly marked on the box.

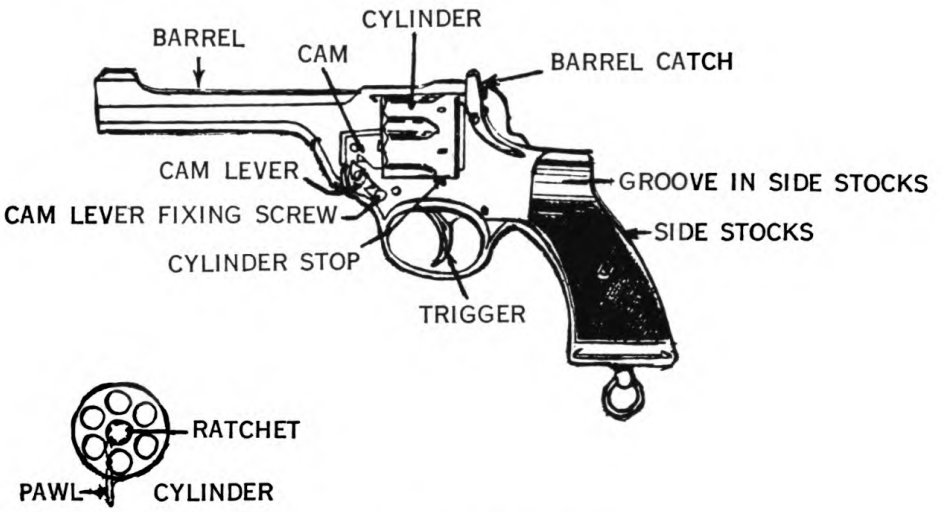


FIGURE 54.—Webley pistol-revolver.

90. Pistol.—The Webley pistol-revolver No. 2, Mk. I, caliber .38, which is replacing the Webley pistol-revolver, No. 1, Mk. VI, caliber .455, is carried by all officers, dispatch riders, and noncommissioned officers of the rank of sergeant or above. The cylinder carries six ball cartridges. Although the maximum effective range is 50 yards, it is most effective at 20 yards and under.

a. Weight: 1 pound 11½ ounces.
b. Length: 10¼ inches (barrel, 5 inches).
c. Depth: 5 inches.
d. Number of chambers: 6.
e. Pitch: 1 turn in 15 inches.
f. Number of grooves: 7.

91. Machine guns.—*a. Thompson submachine gun.*—The Thompson submachine gun, familiarly known as the "Tommy gun," is used extensively throughout the British Army. The gun, caliber .45, weighs approximately 10 pounds. It is equipped with 2 types of magazine: a box holding 20 rounds and a drum holding 50. It is reasonably accurate up to 50 yards or slightly more. (See the center guardsman in fig. 48.)

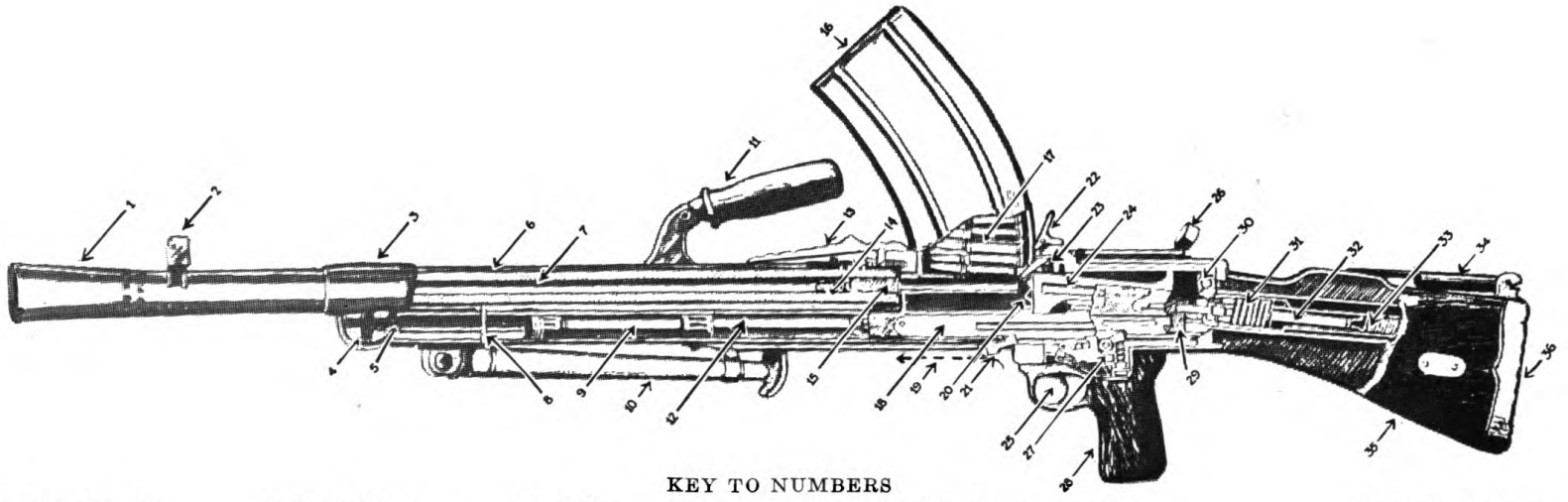
b. Sten machine carbine.—This gun is being issued at a rapid rate to air-borne forces, tank crews, reconnaissance units, etc. It can be produced rapidly and at small cost. This fact, together with its light weight, small size, high rate of fire, and great accuracy, has resulted in its use for tasks for which the pistol and the "Tommy gun" have proved inadequate.

(1) Nature of weapon: 9-mm machine carbine.
(2) Weight: 6 pounds 10 ounces.
(3) Length: 30 inches.
(4) Effective range: 200 yards.
(5) Ammunition: 8 magazines, each holding 32 rounds.
(6) Rate of fire: 500 rounds per minute.

c. Bren light machine gun (fig. 55; see also fig. 14).—The .303-inch Bren light machine gun is the basic automatic weapon in the British Army. The trigger mechanism provides for three positions: safety, continuous fire, and single shots (figs. 55 and 56).

(1) Nature of weapon: air-cooled gas-operated magazine-fed machine gun; ordinarily fired from a bipod, but may be mounted on a tripod (fig. 57), an antiaircraft mount (fig. 58), or an armoured automotive carrier (see par. 128). Two guns may also be mounted as a twin.
(2) Weight: 23 pounds.
(3) Length: 45½ inches (barrel, 25 inches).
(4) Traverse: 42° on tripod.
(5) Elevation: 19° on tripod.
(6) Effective range: 600 to 800 yards on bipod; maximum, 2,000 yards.
(7) Ammunition: packed in boxes containing 1,248 rounds per box, and fed into the receiver from a curved magazine, the capacity of which is 30 rounds (26 advisable).
(8) Rate of fire: 450 rounds per minute (maximum); 60 rounds per minute (normal); 120 rounds per minute (rapid).

d. Lewis medium (heavy) machine gun.—The .303-inch Lewis heavy machine gun (called a "medium" MG by the British), although obsolete, is still in use in the Home Guard, but not in the field army except

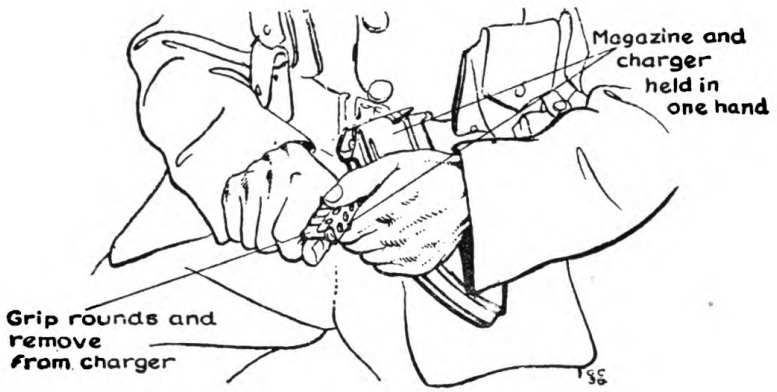


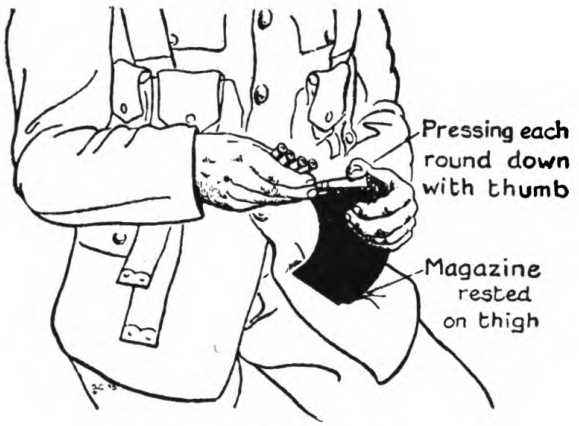
KEY TO NUMBERS

1. Flash absorber.
2. Fore sight.
3. Gas block.
4. Gas regulator.
5. Gas vent.
6. Barrel.
7. Rifled bore.
8. Fouling shield.
9. Gas cylinder.
10. Bipod legs (folded).
11. Carrying handle.
12. Piston.
13. Cover of magazine opening.
14. Barrel-locking nut.
15. Firing position of cartridge shown in dotted line.
16. Magazine (holding 30 cartridges).
17. Cartridges in magazine clip.
18. Slide.
19. Dotted line shows extent of cartridge-ejection opening.
20. Extractor (in bolt).
21. Locking piece.
22. Magazine catch.
23. Ejector.
24. Bolt.
25. Trigger.
26. Back sight.
27. Sear.
28. Pistol grip.
29. Back end of slide.
30. Body-locking pin.
31. Buffer spring.
32. Recoil spring push rod.
33. Recoil spring compressed.
34. Shoulder support (folded).
35. Butt.
36. Butt plate.

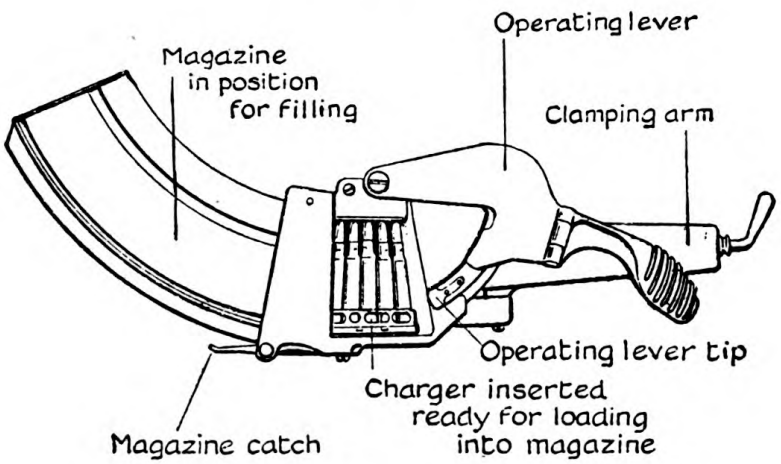
To fire the gun when it has been cocked, the trigger (25) is pulled; the sear (27) releases the slide (18), which is forced forward by the push rod (32) set in motion by the recoil spring (33). As the bolt (24) moves forward, it strips the cartridge from the magazine (16) into the firing position (15). Towards the end of its forward movement the slide (18) rises on beveled lugs and comes to a gradual stop and is locked. The bolt, however, continues its forward movement and its hammer strikes the firing pin and fires the cartridge. As the bullet passes the gas block (3), the expanding powder gases pass through the gas regulator (4) and the gas vent (5) into the gas cylinder (9) and drive back the piston (12). This unlocks the bolt and the slide opens the breech, extracts the spent cartridge, which is drawn back, strikes the ejector (23), and is thrown out through a hole in the base of the gun at 19. The gas, still driving back the piston and slide, compresses the recoil spring (33). When all this has been accomplished, the recoil spring again commences to force the bolt, slide, and piston forward, automatically places the next cartridge in position, and fires it. Then the whole cycle of operations is repeated until all the cartridges in the magazine have been fired. Then the empty magazine is removed and replaced by a charged one. Should the barrel get too hot, it can be replaced by a cool barrel by operating the barrel-locking nut (14).

FIGURE 55.—Diagrammatic sketch of Bren gun.



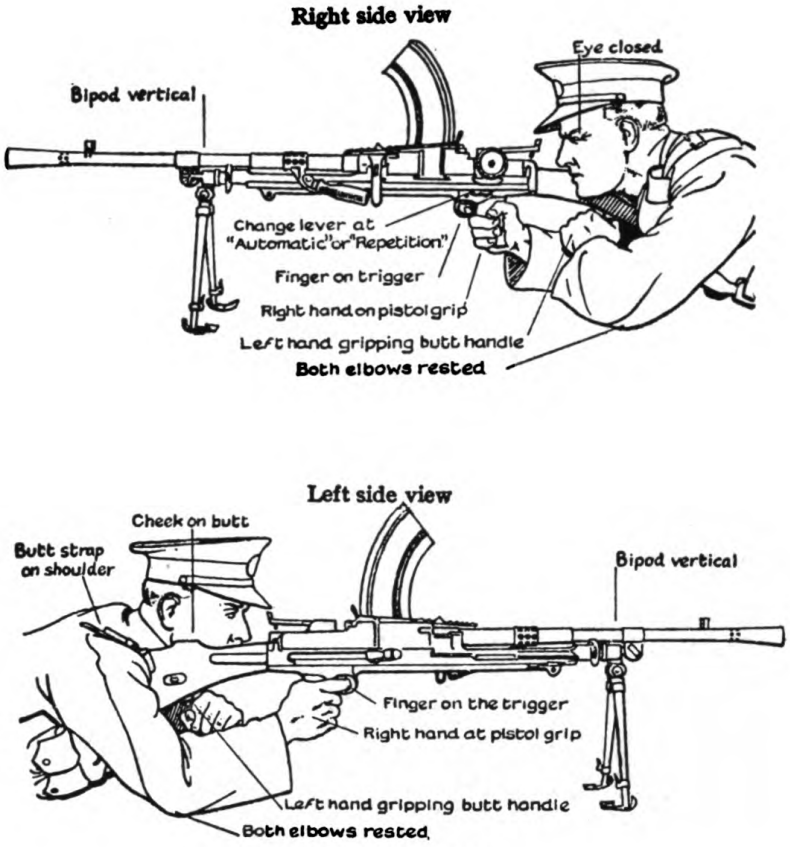


① Filling by hand.

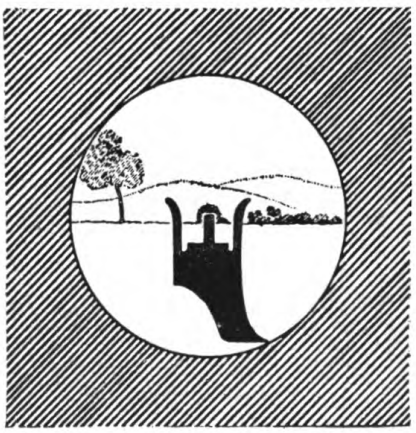


② Filling by magazine filler.

FIGURE 56.—Operation of Bren gun.



③ Holding and aiming.



④ Correct aim.

FIGURE 56 (*continued*).—Operation of Bren gun.

FIGURE 57.—Bren gun mounted on tripod, showing bipod.

FIGURE 58.—Bren gun on anti-aircraft mount.

occasionally as a weapon for ground defence. In the Home Guard it is used extensively for beach defence, and can be mounted on an anti-aircraft mount for use against low-flying airplanes.

(1) Nature of weapon: air-cooled gas-operated machine gun.
(2) Weight: 26 pounds.
(3) Length: 50½ inches.
(4) Length of barrel: 26¼ inches.
(5) Ammunition: fed by a circular steel cylinder.
(6) Rate of fire: 150 rounds per minute (maximum).

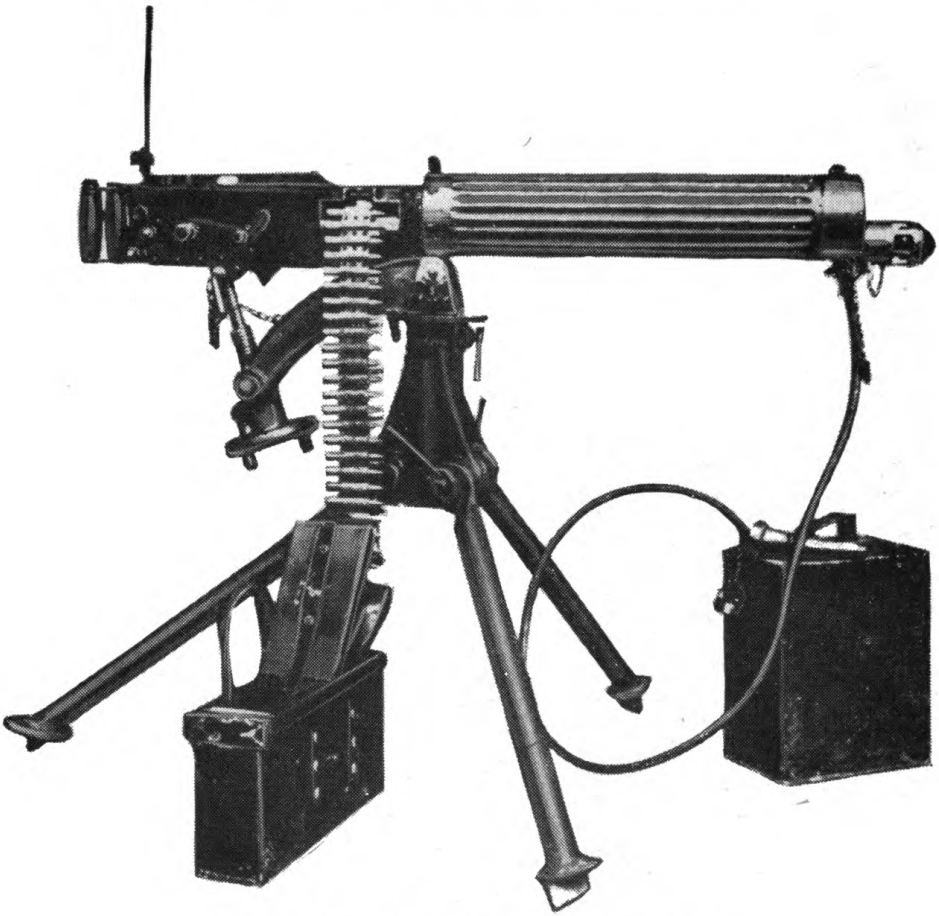
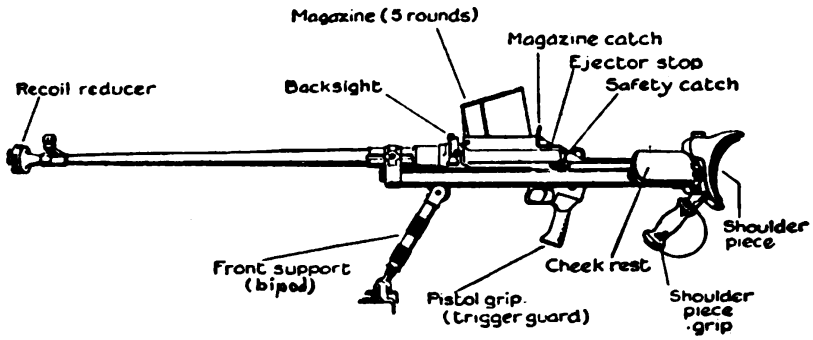


FIGURE 59.—Vickers .303 medium (heavy) machine gun.

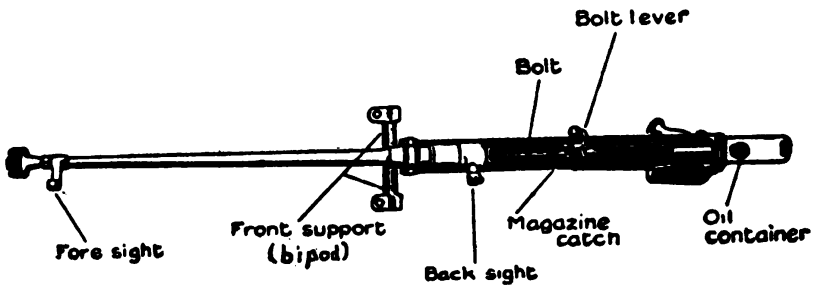
e. Vickers medium (heavy) machine gun (fig. 59).—The .303-inch Vickers heavy machine gun (called a "medium" MG by the British) is the basic weapon of the (heavy) machine-gun battalion. The mounting consists of a crosshead elevating gear and a socket mounted on three legs. Cartridges are held in a web belt which passes from right to left through the feed block.

(1) Nature of weapon: water-cooled recoil-operated machine gun.
(2) Weight: approximately 32 pounds; including water, 42 pounds.
(3) Length: 43¾ inches.
(4) Traverse: 360°.
(5) Elevation: −25° to +13°; by using adjustable legs, −55° to +43°.
(6) Effective range: 400 yards; maximum, 2,000 yards.
(7) Ammunition: web belt holds 250 rounds.
(8) Rate of fire: 500 to 600 rounds per minute (maximum); 125 rounds per minute (normal); 250 rounds per minute (rapid).

The caliber .303 Vickers is also mounted in tanks (see fig. 87). For other tank-mounted machine guns, see paragraph 110*c*.



① Left-side view.



② Top view.

FIGURE 60.—Boys anti-tank rifle.

92. Anti-tank rifle.[1]—*a. General.*—The Boys anti-tank rifle (fig. 60) is an ordinary bolt-action magazine rifle, caliber .55, firing a 930-grain armour-piercing bullet at an undisclosed muzzle velocity, probably about 3,000 feet per second. It will penetrate 24-mm armour at normal angle of incidence at 100 yards, and 9-mm armour at a 40° angle at 500 yards. Its rate of issue is one to each platoon

[1] Since the British consider anti-tank guns as part of the artillery, the 2-pounder and 6-pounder anti-tank guns are discussed under section II; anti-tank grenades are discussed in paragraph 94*b*.

FIGURE 61.—2-inch mortars.

or similar unit commanded by a subaltern, including those employed in rear areas.

b. Characteristics.—The shoulder rest has a quickly replaceable rubber pad. Neither it nor the left-hand support is adjustable, however. The bipod support is adjustable for height, the adjustment being made by the left hand. It is intended that the weapon be carried upside down by using the bipod as a handle. Both front and rear sights are offset to the left in order to clear the magazine, which projects vertically above the receiver. Both sights are of the ring type; the front is fixed and the rear is adjustable to two positions corresponding to 300 and 500 yards. The rifle has a hand-operated bolt. Recoil is absorbed by a muzzle brake and spring buffer.

(1) Nature of weapon: bolt-action magazine rifle, fired from bipod.
(2) Weight: 36 pounds.
(3) Length: 5 feet 4 inches.
(4) Effective range: 200 yards; maximum, 500 yards.
(5) Ammunition: magazine holds 5 rounds; weight of round, 1,994 grains.
(6) Rate of fire: 9 rounds per minute (for trained soldier).

93. Mortars.—*a. General.*—Infantry battalions are equipped with 2-inch and 3-inch trench mortars, and a 4.2-inch is being introduced. The 2-inch mortar weighs about 23½ pounds and fires a 2½-pound HE

FIGURE 62.— 3-inch mortar.

or smoke projectile a maximum of 470 yards. The 3-inch mortar fires a 10-pound HE or smoke projectile with a maximum range of 1,600 yards. It is transported in three loads with a total weight of 124 pounds.

b. 2-inch mortar.—This weapon (fig. 61), with some ammunition, can be carried in action by one man, but it is usually carried in a truck.

(1) Nature of weapon: smooth bore, muzzle-loading, high-angle fire.
(2) Weight: 23½ pounds.
(3) Length: 25 inches.
(4) Traverse: 60°.
(5) Elevation: 68°.
(6) Effective range: 470 yards.
(7) Ammunition: HE or smoke bomb; weight of shell, 2 pounds.
(8) Rate of fire: 5 rounds per minute.

c. 3-inch mortar (fig. 62).—On the move this mortar is carried in a specially constructed carrier box in a truck. When brought into action, it is carried by man-harness and is a load for three men. The ammunition is transported for short distances in three-round bomb carriers, but for long transit, or when the battalion is on the march, it is carried in steel ammunition boxes.

(1) Nature of weapon: smooth bore, muzzle-loading, high-angle fire.
(2) Weight: 124 pounds (weight of mortar, 42 pounds; mounting, 45 pounds; base plate, 37 pounds).
(3) Length: 51 inches.
(4) Traverse: 36°.
(5) Elevation: 45° to 80°.
(6) Effective range: 1,600 yards.
(7) Ammunition: HE or smoke bomb; weight of each, 10 pounds.
(8) Rate of fire: 5 rounds per minute.

d. 29-mm spigot mortar.—The 29-mm spigot mortar throws 14- and 20-pound bombs, which are very effective against 3½-inch armour. Other details are given in figure 52.

94. Grenades.—*a. General.*—(1) *Types.*—(*a*) There are three types of grenades: HE (fig. 63), smoke, and signal. The HE grenade can be thrown by hand a distance of 25 to 35 yards. The HE and smoke grenade can be fired from a rifle by means of an attachment called the "discharger" (see figs. 64 and 65). When fired from the rifle, both grenades have an approximate maximum range of 200 yards and a minimum of 80 yards.

(*b*) The weight of the HE grenade is about 1½ pounds, and that of the smoke grenade 1¼ pounds. The probable danger area of the HE grenade may be taken to be 20 yards in all directions from the point of burst. Large fragments may, however, have sufficient velocity to

inflict wounds at distances of 100 yards or more. Mechanically the grenade is very similar to the U. S. Mk. II grenade.

(2) *Operation.*—The grenade should be held firmly with the lever under the fingers while the safety pin is withdrawn. So long as the

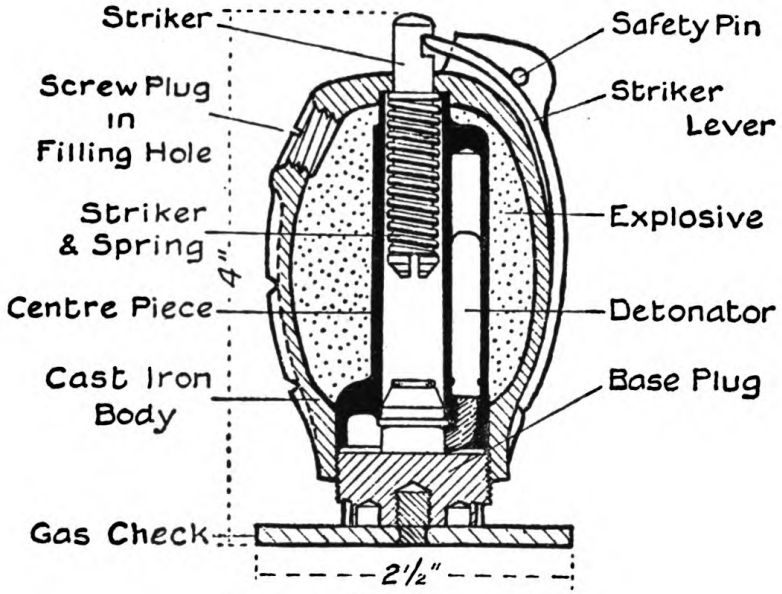


FIGURE 63.— High-explosive grenade.

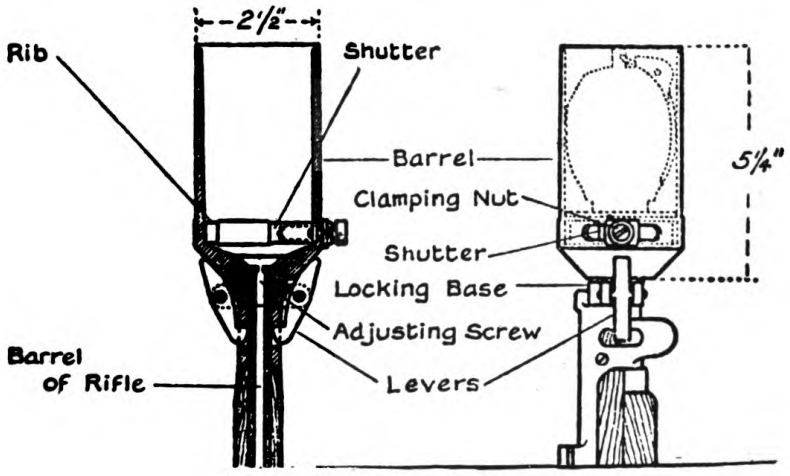


FIGURE 64.—Rifle grenade discharger.

lever is held, the grenade is safe. When the grenade leaves the hand or discharger, the lever flies off, and the striker is forced down onto the cap of the igniter-set by the spring and ignites the fuze, which burns for 7 seconds.

(3) *No. 69 bakelite hand grenade.*—This grenade, which weighs about 8 ounces, has been introduced with the object of providing a light

hand percussion grenade for offensive action. The area of burst is very restricted, and it may be thrown from a standing position in the open with impunity to the thrower. The material effect of the grenade is very small and local, but the moral effect is considerable. It is of particular value for patrols in a clash with the enemy. The No. 69 is replacing the heavier No. 36.

b. Anti-tank grenades.—There are several types of anti-tank grenades:

(1) *Phosphorus grenade, or AW (Albright & Wilson) grenade, an improved type of "Molotov cocktail."*—This grenade produces an

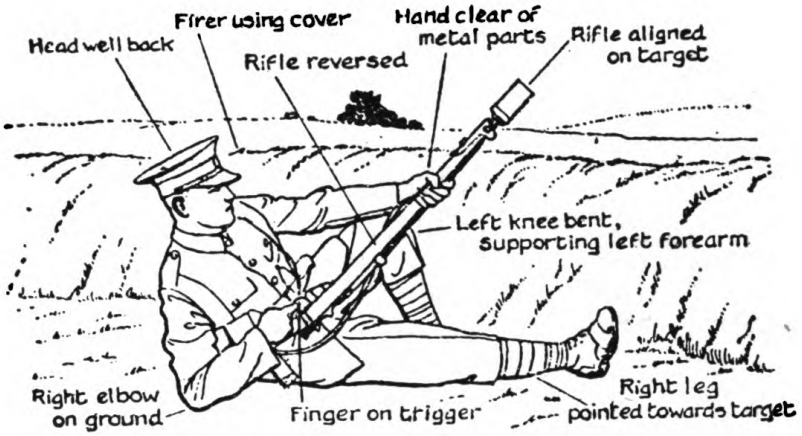


FIGURE 65.—Firing the rifle grenade discharger.

incendiary mixture and a dense cloud of smoke. A special mortar for throwing AW grenades, known as the Northover projector, has been developed.

(2) *No. 68 anti-tank grenade (rifle).*—(*a*) This grenade, which weighs about 1¾ pounds, is fired from the discharger fitted to the service rifle, a 30-grain ballistite cartridge being used. Since it is essential for the grenade to hit the vehicle, a rough sight is provided. Because the use of the sight requires a low trajectory, the effective range is from 75 to 100 yards. On impact, the armour of light, medium, and, in some cases, heavy tanks will be penetrated.

(*b*) The ballistite cartridge used with this grenade gives a considerable recoil; and because the rifle must be held at a flat angle, it is essential to place the butt of the rifle against a sandbag or similar object. If possible, the muzzle of the rifle should also be supported on a sandbag.

(3) *No. 73 anti-tank grenade (hand).*—The object of this grenade is to damage armoured fighting vehicles, the best effect being attained when it is used against the track or suspension of a tank. Because of

its weight (about 4 pounds) and shape, it can be thrown only short distances (10 to 15 yards); and because of its powerful nature, it is absolutely essential that the thrower be behind cover. The use of it, therefore, is limited to static defence or to road blocks.

(4) *ST (sticky type) anti-tank grenade (hand).*—(*a*) This grenade has been introduced for use against light AFV's (armoured force vehicles). It is designed to stick to a suitable target, thus insuring that the HE has its maximum effect. The grenade will not stick if the surface is wet or muddy.

(*b*) The ST grenade is suitable for use at road blocks and in positions of ambush, or for dropping from upstairs windows onto tanks.

(*c*) Although the effect of the explosion is localized, the thrower must take cover because of the blast.

(*d*) For night raids on tank parks, this grenade is an ideal weapon. It can be regarded as a portable demolition charge and planted by hand instead of thrown, so long as the operator retreats in such a direction that he is protected from the explosion. With practice and training, the grenade can be thrown up to about 20 yards.

(5) *Hawkins anti-tank grenade-mine (hand).*—This grenade really amounts to a hand-thrown AT mine. It consists of an oval-shaped tin 4¾ by 3¾ by 2¼ inches, filled with 1½ pounds of HE and bound with wire.

95. Rifle grenade discharger (fig. 64).—*a. To fire.*—In order to fire the grenade, the discharger is attached to the rifle, which is then loaded with a ballistite cartridge, and the grenade placed in the discharger. A ballistite cartridge only should be used; half of its length is blackened to distinguish it from other cartridges. In firing (fig. 65) HE or smoke grenades, the barrel of the rifle must be kept at an angle of 45°. In the case of signal grenades, the rifle will be held at an angle of 70°, with the gas port closed. Longer or shorter ranges will be obtained by adjustments of the gas port. To obtain extreme range, the gas port will be fully closed, whereas for the shortest range the gas port will be fully opened.

b. Range.—The following range table shows the average distances that the grenade will be fired according to the various adjustments made to the gas port with the rifle at 45°:

Gas port	*Range (yards)*
Fully open	80
¾ open	110
½ open	140
¼ open	170
Fully closed	200

FIGURE 66.—Some of the infantry soldier's individual equipment.

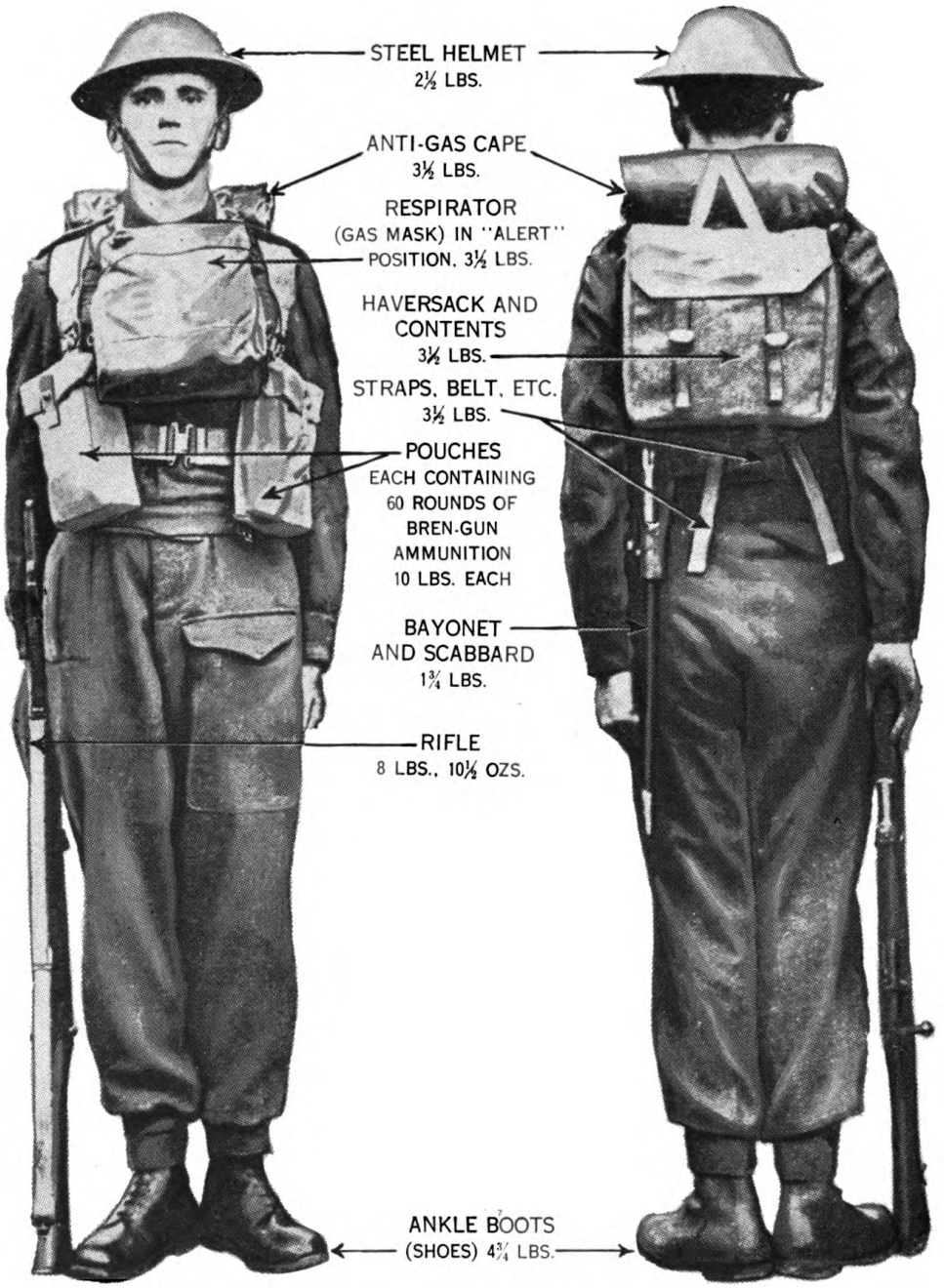


FIGURE 67.—Infantry soldier in some of his equipment.

96. Individual equipment.—*a.* The infantry soldier equipped for active service carries a caliber .303 rifle, a bayonet, 50 rounds of ammunition, rations in a ration bag, and the articles pictured in figure 66. These include (from left to right, back row, then front row): ground sheet; greatcoat (overcoat); pay book and identity disk; kit bag; service respirator (gas mask); socks; overalls; haversack; pack; water bottle (canteen); steel helmet; canvas shoes (sneakers); gloves; underclothes; hold-all containing jackknife, shaving brush, tooth brush, spoon, fork, knife, razor, etc.; five brushes; towel; soap and tooth powder; pull-over (sweater); cap-comforter; housewife (a roll of cloth containing cotton, needles, buttons, etc.); shirt; and spare shoes. The overcoat is usually carried in unit transport. The weight of equipment worn and carried is 55 pounds. A mess tin (not shown in the illustration) is also carried.

b. The illustrations in figure 67 show a soldier dressed in some of this equipment. However, when in full marching order he carries a valise (pack) on his back in place of the haversack, the latter being transferred to the left hip above the bayonet (see fig. 45③ and ④). The equipment of the officer differs from that of the enlisted man in that the officer carries a caliber .38 revolver and 12 rounds of ammunition.

SECTION II

ARTILLERY

97. General.—*a.* The tabulation in figure 68 contains data pertaining to the principal British field artillery weapons. These are the 2-pounder, the 6-pounder, and the 17-pounder antitank guns; the 25-pounder field gun-howitzer, (the standard field gun of the British); the 3.7-inch howitzer; the 4.5-inch gun; the 5.5-inch gun-howitzer; and the 7.2-inch howitzer.

b. Instead of mils the British use degrees, minutes, and tenths of minutes, and their instruments are so graduated.

98. Ammunition.—*a. General.*—Artillery ammunition falls into two categories: QF (quick-firing) and BL (breechloading, or U. S. separate loading). In turn, quick-firing is subdivided into "fixed," which is the same as U. S. "fixed," and "separate," which is approximately equivalent to U. S. "semifixed." Breechloading ammunition is always shipped in four parts, as follows:

Weapon	Employment	Maximum range	Traverse	Elevation	Weight in firing position	Muzzle velocity (foot-seconds)	Caliber	Length in calibers	Transport	Trail	Weight of projectile
		Yards	*Degrees*	*Degrees*	*Pounds*	*Foot-seconds*	*Inches*				*Pounds*
18-pounder (3.3-inch gun)	Miscellaneous	9,400	50	38	3,450	1,615	3.3	30	Motorized	Split	18.5
25-pounder (3.45-inch gun-howitzer)	Division	12,500	1 8	40	3,968	1,470 to 1,747	3.45	20.65	do	Box	25
3.7-inch howitzer	do	6,000	40	42½	1,860	971	3.7	12.6	do	Split	20
4.5-inch howitzer	do	6,600	60	45	3,464	1,006	4.5	15.5	do	Box	35
4.5-inch gun	Corps	20,500	60	45	16,048	2,265	4.5	42.8	do	Split	55
5.5-inch gun-howitzer	do	16,000	60	45	12,768	1,235 to 1,340	5.5	31.2	do	do	100
6-inch howitzer	do	11,400	8	45	10,088	1,235 to 1,352	6	13.3	do	Box	100
6-inch gun	Army	20,000	7	45	29,750	2,500	6	45	do	do	100
7.2-inch howitzer	do	16,900	8	45	22,750	1,700	7.2	23.7	do	do	200
9.2-inch howitzer	do	13,000	60	50	34,227	1,500	9.2	18.5	do	do	290

[1] 360° on firing platform.

FIGURE 68.—Characteristics of field artillery weapons.

(1) Tubes (equal U. S. primers).
(2) Cartridges (equal U. S. propelling charges).
(3) Shells.
(4) Fuzes.

b. Markings.—(1) *Basic colors.*—The following basic colors are used to denote the four main classes of ammunition:

(*a*) Yellow—High-explosive (HE).
(*b*) Green—Smoke.
(*c*) Grey—Gas.
(*d*) Black—Powder-filled ammunition of armour-piercing (AP) shot.

(2) *Filled shells.*—A red ring around the nose of the shell denotes that the shell is filled. In the case of filled HE shells suitable for tropical climates, the red ring is replaced by a band of red crosses.

(3) *HE shell.*—The various HE fillings are denoted as follows:

(*a*) *Lyddite.*—Yellow shell.

(*b*) *TNT.*—Yellow shell with a green band on the shoulder, stenciled "TNT" in black on the band.

(*c*) *TNT beeswax.*—As above, but stenciled "TNT/BX" with the fraction "93/7" in black below the green band.

(*d*) *Amatol 80/20.*—Yellow shell with a green band on the shoulder; if the mixture of ammonium nitrate and TNT is other than 80/20, the fraction is stenciled in black below the green band.

(*e*) *Pentolite.*—Yellow shell with a green band on the shoulder and a thin black line superimposed on the green band.

(*f*) *Research Department X beeswax.*—Yellow shell with a green band on the shoulder and "RDX/BX" stenciled in black on the band.

(4) *Smoke ammunition.*—The markings for smoke ammunition are as follows:

(*a*) *Phosphorus (burster container).*—Green shell stenciled "PHOS" in black on the shoulder.

(*b*) *Base ejection type.*—Green shell with two white rectangular patches and the number of smoke composition stenciled on each patch.

c. Additional markings.—The following additional markings are commonly encountered:

(1) *Shrapnel.*—Black shell, with a red tip.

(2) *AP shot.*—Black shell, with a double white ring around the nose.

(3) *Star shell.*—Black shell, with a white circle on the shoulder containing a red star.

(4) *AP shell.*—White ring on either side of the red filling ring.

(5) *HE shell with smoke box.*—Markings as already indicated with the addition of two diametrically opposed green disks.

(6) *Shell fitted with economy driving bands.*—Markings as already indicated with the addition of two stripes on opposite sides of the shell extending from the shoulder to the driving (rotating) band.

(7) *Projectiles fitted with tracer.*—"T" indicates tracer, and "TF" tracer combined with fuze; the markings are stenciled on the body of the shell.

(8) *Projectiles suitable for gun and howitzer.*—If a gun or howitzer of the same caliber exists, the letters "GUN" or "HOW" are stenciled after the caliber and a 2-inch black or white band is painted above the driving band of the shell suitable for use.

d. Base ejection smoke shell.—A bursting charge in the forward end forces, by means of steel baffle plates, three smoke canisters out of the rear. As extreme accuracy is not essential, a combination fuze with powder-train elements is used.

99. Anti-tank guns.—*a. 2-pounder.*—(1) *Characteristics.*—The Vickers-Armstrong 2-pounder AT gun, Mk. I, is a semiautomatic caliber 40-mm (1.58-inch) weapon with a muzzle velocity of 2,616 feet per second. It has a 5/16-inch armour-plate shield and is carried on two rubber-tired wheels, towed by a ¾-ton truck. For firing, it is lowered to three outriggers (figs. 69 and 70). It may also be installed in the turret of a tank. Its effective range is not more than 500 yards.

(*a*) Nature of weapon: high-velocity AT cannon.

(*b*) Weight: 1,848 pounds.

(*c*) Length: 11 feet 2 inches (bore, 78.75 inches).

(*d*) Traverse: 360° (if placed on legs).

(*e*) Elevation: −13° to +15°.

(*f*) Ammunition: fixed, AP with tracer (practice), weighing 4.5 pounds complete, the projectile alone weighing 2 pounds 6 ounces; 14 rounds carried on the carriage and 98 in the truck.

(*g*) Rate of fire: 22 rounds per minute.

(2) *Operation.*—(*a*) The gunner's position is on the seat to the left of the gun, as in figure 70. The vertical handwheel on the left controls elevation. The trigger control is attached to this handwheel. Traversing is accomplished by a horizontal handwheel to the right of the gunner. For rapid traverse, a throw-out clutch at the right foot of the gunner allows the NCO gun commander to traverse the gun, pedestal, and gunner together by pressing on the shoulders of the gunner.

(*b*) Three independent sights are provided. The first, a simple

ring and bead type, is used by the NCO gun commander for approximate setting. The other two sights are used by the gunner. The

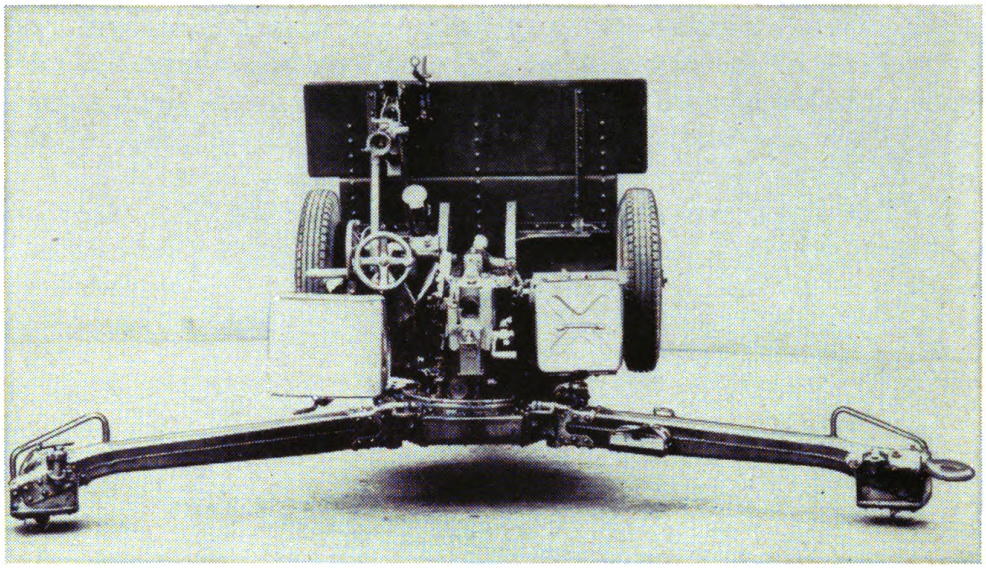


FIGURE 69.—Vickers-Armstrong 2-pounder (anti-tank gun), Mk. I (rear view).

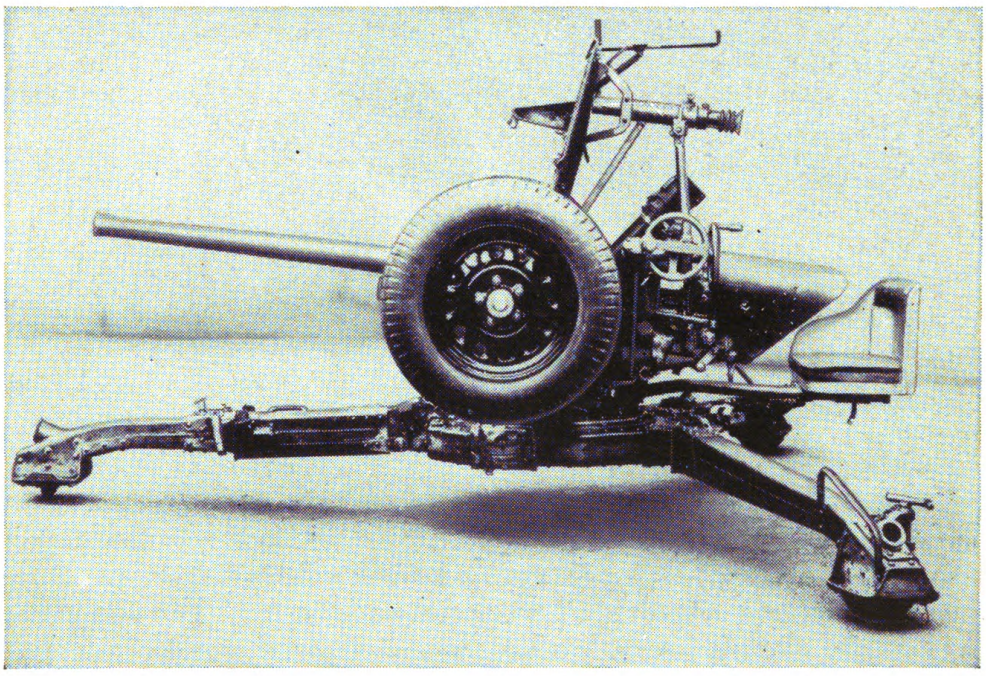


FIGURE 70.—Vickers-Armstrong 2-pounder (anti-tank gun), Mk. I (left view).

telescopic sight has a field of approximately 20°, and a magnification of approximately four times. There is a fixed vertical line and a movable horizontal line with range marks at the left for 300, 600, 900,

1,200, and 1,500 yards. A small knob directly above the sight, provided with a click, permits movement of the horizontal line by increments of 100 yards. This operation is performed by the NCO gun commander after initial setting by the gunner in accordance with oral instructions of the commander. Mounted on and above the telescopic sight is a forward bead sight and a rear notch-type sight, adjustable in training and elevation. Attached to the left side of the pedestal is a receptacle for a spare telescopic sight.

(3) *Portee.*—In order to increase the mobility of the 2-pounder anti-tank gun, the British have been employing it portee on a 30-cwt truck. A recent development has been light self-propelled or assault artillery in which the 2-pounder anti-tank gun is mounted on

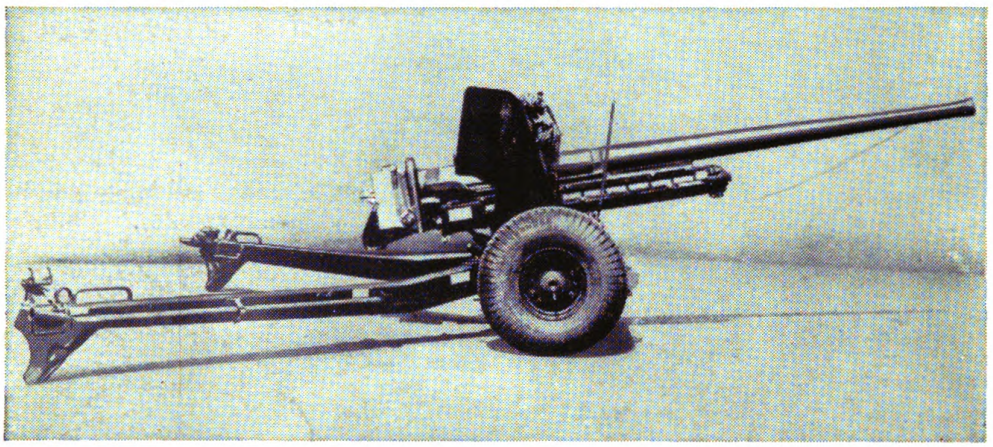


FIGURE 71.—6-pounder anti-tank gun.

the Loyd carrier. The regular shield of the 2-pounder is utilized for protection against small-arms fire from the front, and additional protection is provided by armour shields on the two sides of the gun.

b. 6-pounder.—The 6-pounder anti-tank gun (fig. 71), with a muzzle velocity of 2,700 feet per second, has been designed by the British for use against enemy armoured vehicles which are not vulnerable to the 2-pounder at distances of over 200 or 300 yards. A 57-mm gun, the 6-pounder will be able to engage tanks at much greater ranges than the 2-pounder, although the latter will still be important to the anti-tank defence of individual formations and units. The 6-pounder is normally mounted on a low 90-degree split-trail wheeled carriage, but it is also being installed in certain tanks. In order to facilitate the quick adoption of the proper gun for the circumstances, the wheeled carriage of the 6-pounder is so designed that the 2-pounder may be mounted alternatively. It is intended that the 6-pounder be standard in corps and army anti-tank organization.

(1) Nature of weapon: high-velocity AT cannon.
(2) Weight: 2,471 pounds.
(3) Length: 15 feet 5 inches.
(4) Traverse: 90°.
(5) Elevation: —5° to +15°.

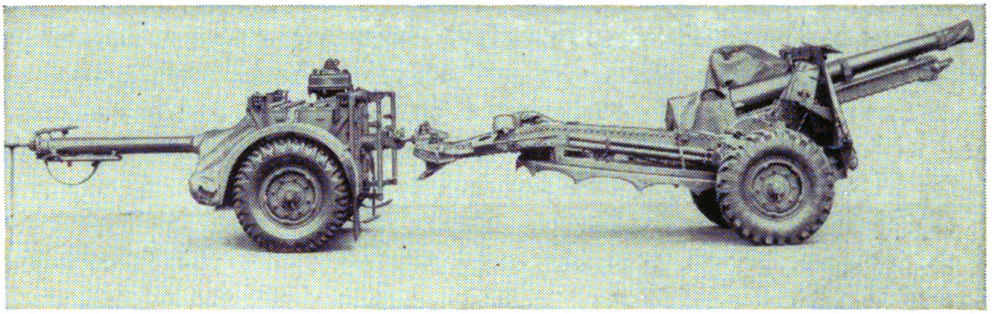


FIGURE 72.—25-pounder field gun-howitzer, Mk. II, on 25-pounder carriage, Mk. I (traveling position).

(6) Ammunition: weight of projectile, 6 pounds 4 ounces.
(7) Rate of fire: 20 rounds per minute.

100. Field guns and howitzers.—*a. 25-pounder field gun-howitzer.*—The 25-pounder (3.45-inch) field gun-howitzer is the basic

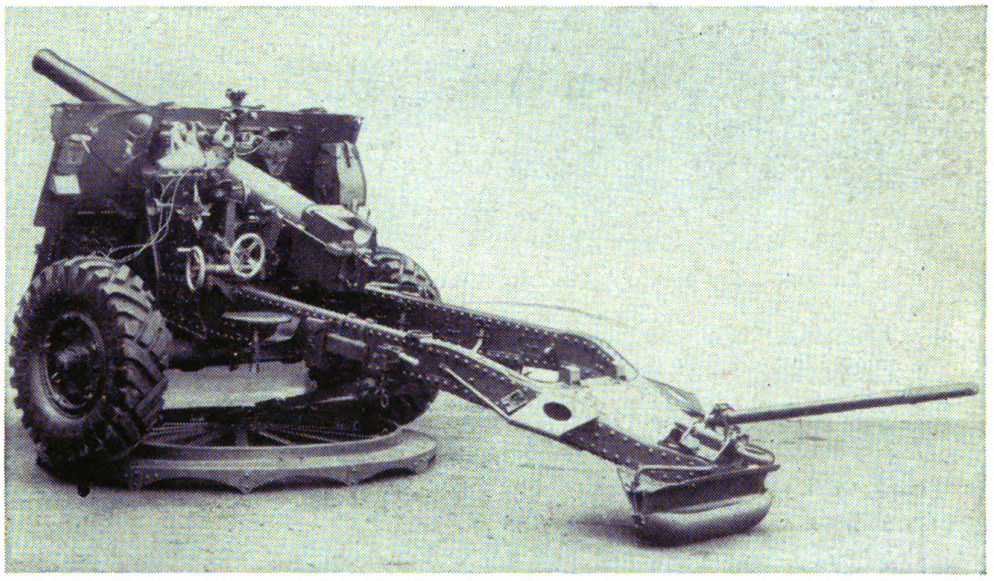


FIGURE 73.—25-pounder field gun-howitzer, Mk. II, on 25-pounder carriage, Mk. I (firing position, left rear view).

field piece of the British Army (figs. 72 and 73). It has been replacing both the 18-pounder (fig. 74) and the 4.5-inch howitzer of the last war. The tube has a removable liner which can be changed in the field. The gun can be placed in firing order on its platform in 1 minute. From its steady and easily worked mount it is capable of all-around

fire and of more effective close-in defence and anti-mechanized action than any U. S. field piece. The firing platform is in the form of a wheel which is carried either under the trail or on the back of the prime mover. To place the piece in action, the platform is lowered to the ground and the carriage is then manhandled or tractor-drawn over it and coupled to its center. To permit easy maneuvering of the trail, the spade has been imbedded in a "box" commonly called a "banana," which functions very effectively and prevents the trail from digging in. The muzzle velocity with normal charge is 1,470 feet per second, and with supercharge 1,747 feet per second.

(1) Nature of weapon: field gun-howitzer.

(2) Weight: 3,968 pounds.

(3) Length: 25 feet 11 inches, including trailer (barrel, 92.5 inches).

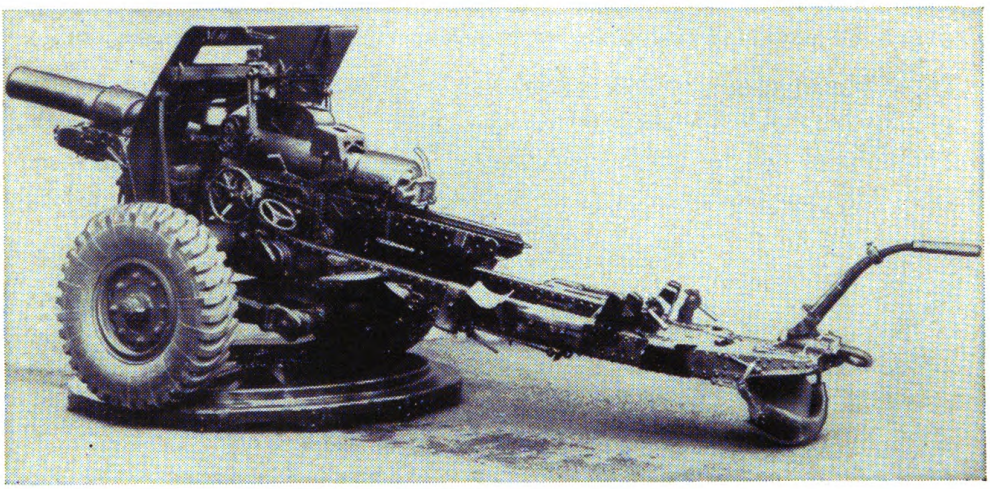


FIGURE 74.—18-pounder field gun, Mk. IVP, on firing platform (left rear view).

(4) Traverse: 360° on firing platform, 8° without platform.

(5) Elevation: —5° to +40°.

(6) Maximum range: 12,500 yards; 13,400 yards with supercharge.

(7) Ammunition: projectiles: armour-piercing (20 pounds), HE (25 pounds), and smoke (base-ejection type, 21.8 pounds); charges: 3 and supercharge.

(8) Rate of fire: 4 rounds per minute (normal).

b. 3.7-inch howitzer.—The 3.7-inch howitzer is the standard pack artillery weapon, and it is also planned for use with the air-borne division. For other details, see figure 68.

c. 4.5-inch gun and 5.5-inch gun-howitzer.—(1) *General.*—The 60-pounder has been converted and replaced by the 4.5-inch gun; the 6-inch howitzer is being replaced by the 5.5-inch gun-howitzer as the latter becomes available. The two new weapons are mounted on the

same carriage, which has a split trail and is simple and easy to get into and out of action. While the guns are being fired, the three points of support are the center of the axle and the two trail spades. When the trails are closed, a simple locking mechanism automatically locks in traveling position the carriage proper, the traveling axle, and the trails. Although the trunnions are well to the rear and equilibrators are provided, the recoil mechanism is variable. In addition, the carriage has a quick-release elevating mechanism which permits the tube to be placed in the horizontal position for loading while the elevating rack remains properly laid for the desired target.

(2) *4.5-inch gun* (fig. 75).—This medium artillery gun fires a 55-pound shell and has a muzzle velocity of 2,265 feet per second.

(*a*) Nature of weapon: medium gun.
(*b*) Weight: 16,048 pounds.
(*c*) Length: 16 feet.
(*d*) Traverse: 60°.
(*e*) Elevation: −5° to +45°.
(*f*) Maximum range: 20,500 yards.
(*g*) Ammunition: HE.
(*h*) Rate of fire: 2 rounds per minute.

(3) *5.5-inch gun-howitzer.*—This medium artillery gun-howitzer (fig. 76) fires a 100-pound shell and has a muzzle velocity of from 1,235 to 1,340 feet per second.

(*a*) Nature of weapon: medium gun-howitzer.
(*b*) Weight: 12,768 pounds.
(*c*) Length: 24 feet 8 inches.
(*d*) Traverse: 60°.
(*e*) Elevation: −5° to +45°.
(*f*) Maximum range: 16,000 yards.
(*g*) Ammunition: BL type HE shell.
(*h*) Rate of fire: 2 rounds per minute.

d. 6-inch howitzer.—This is a medium artillery howitzer (figs. 77 and 78) with a muzzle velocity of from 1,235 to 1,352 feet per second. It is made of steel (wire construction) and has a calibrating sight. The breech mechanism is of the Asbury single-motion type, having a parallel breech screw of the Welin pattern.

(1) Nature of weapon: medium howitzer.
(2) Weight: 10,088 pounds.
(3) Length: 17 feet 6 inches.
(4) Traverse: 8°.
(5) Elevation: 0° to 45°.
(6) Maximum range: 11,400 yards.

(7) Ammunition: separate, HE, two marks of shell weighing 100 pounds and 98½ pounds, respectively, the propellant charges being contained in serge cloth bags.

(8) Rate of fire: 2 rounds per minute.

101. Heavy artillery.—*a. 7.2-inch howitzer.*—The 7.2-inch (183-

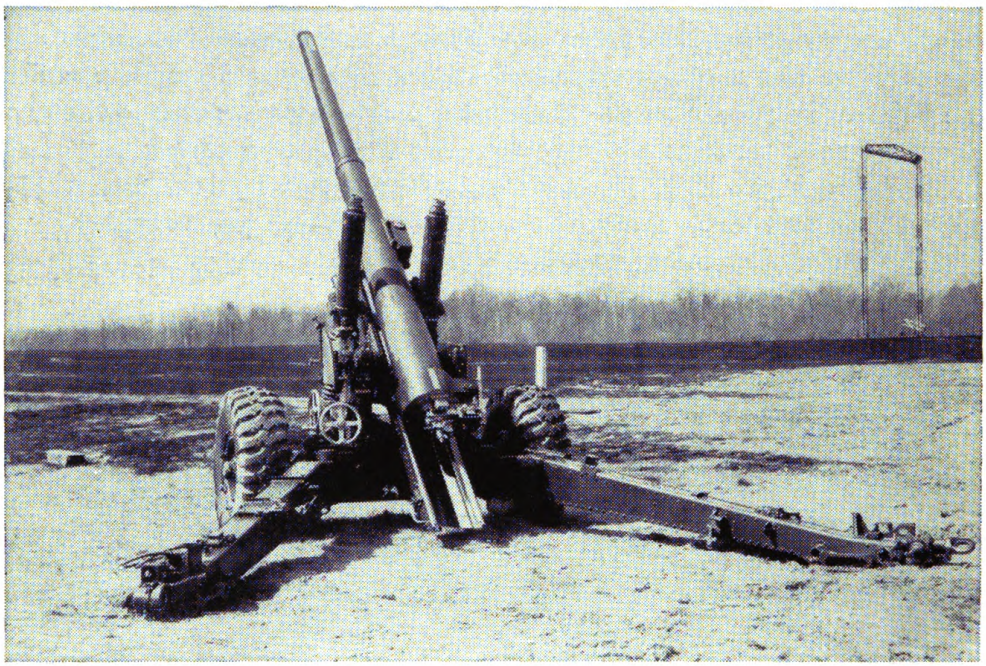


FIGURE 75.—4.5-inch gun on 4.5-inch gun–5.5-inch howitzer carriage (firing position).

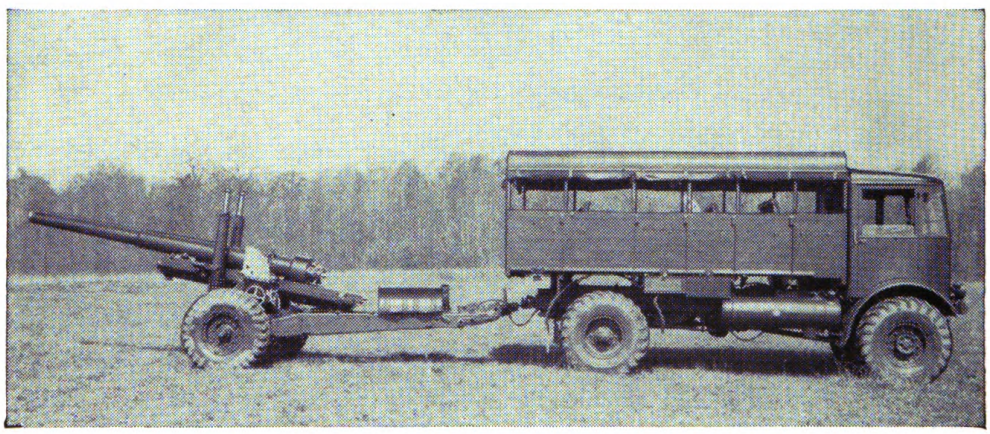


FIGURE 76.—5.5-inch gun-howitzer on 4.5-inch gun–5.5-inch howitzer carriage (traveling position).

mm) howitzer is planned as the largest standard field piece. The 8-inch (203-mm) howitzer is obsolete, and is being converted to the 7.2-inch. The mounting of the 7.2-inch is that of the original 8-inch, modernized for high-speed transport, with low-pressure tires. On

this is mounted a modern 7.2-inch piece firing a boat-tailed shell of the same weight as the original 8-inch shell and at 4,500 yards longer range. This 7.2-inch howitzer was developed as a result of the experience of the British in Flanders in 1940. They found the 9.2-inch howitzer much too slow and cumbersome for war of movement.

b. Other artillery.—Figure 79 illustrates a 6-inch gun. For details

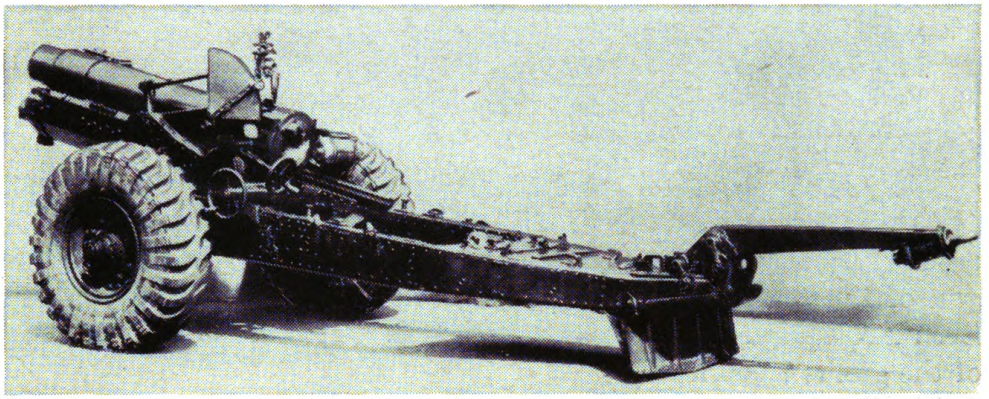


FIGURE 77.—6-inch howitzer. (Note calibrating sight.)

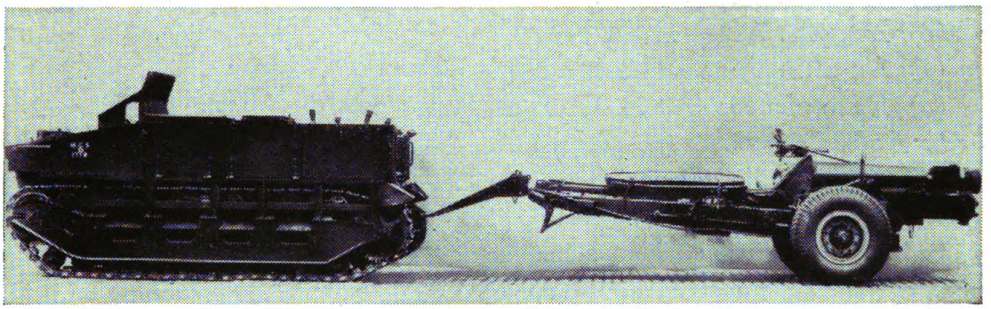


FIGURE 78.—6-inch howitzer, with medium dragon tractor.

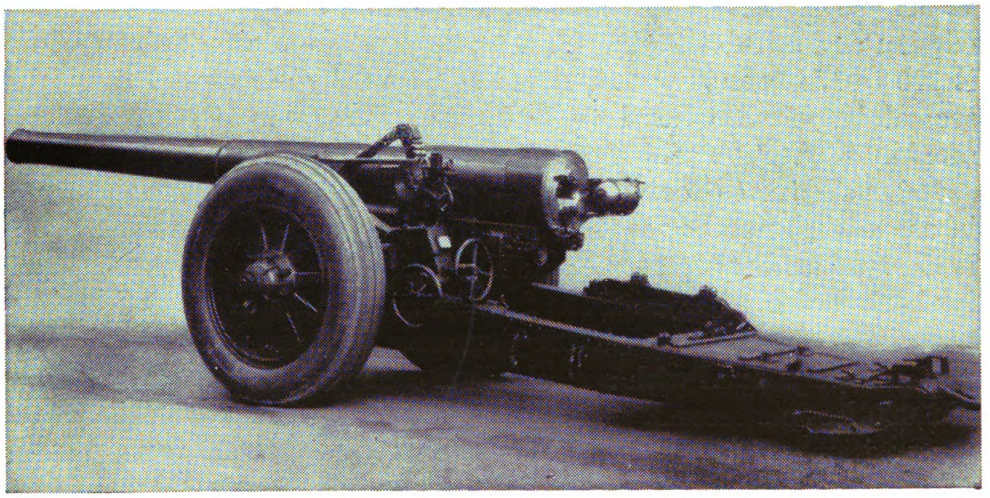


FIGURE 79.—6-inch gun, Mk. XIX, on Mk. VIIIAP carriage.

concerning the 6-inch gun and the 9.2-inch howitzer, see figure 68. Heavier models are the 9.2-inch gun, the 12-inch howitzer, and the 15-inch howitzer.

SECTION III

ANTI-AIRCRAFT

102. Light guns.—*a. Sten 20-mm gun.*—This light anti-aircraft (AA) gun, known as the "Polish Sten," or the "Polsten," with a muzzle velocity of 2,700 feet per second, is similar to the Oerlikon gun of the Royal Navy. It is designed to replace the caliber .303 Bren AA equipment (see par. 91*c*). The maximum effective ceiling of the gun is 7,500 feet.

(1) Nature of weapon: 20-mm anti-aircraft automatic cannon.
(2) Weight: 121 pounds.
(3) Length: 7 feet 1¾ inches.
(4) Ammunition: magazine holds 60 rounds.
(5) Rate of fire: 460 to 475 rounds per minute (maximum).

b. Bofors 40-mm gun.—Light AA batteries are equipped with the Bofors 40-mm light AA gun (figs. 80 and 81) some of which were purchased in Sweden, Poland, Hungary, and Belgium, and the remainder manufactured under patent in Great Britain. This automatic cannon has an elevation of from −5° to +90° and a 360° traverse, and fires an HE tracer shell weighing 2 pounds at a muzzle velocity of 2,952 feet per second. The shell is equipped with a percussion and self-destroying fuze. The possible automatic rate of fire is 120 to 135 rounds per minute, but single-shot firing at 1 round per second is normally used to facilitate observation of tracers. The maximum effective ceiling of the gun is 7,500 feet.

103. Medium (heavy) guns.—*a. 3.7-inch gun.*—Although there is in use a large number of 3-inch AA guns, the 3.7-inch heavy AA gun is the standard equipment of mobile anti-aircraft heavy-gun batteries for home defence and with the field forces. It has an elevation range from −5° to +80° and a 360° traverse, and fires a 28-pound HE projectile, equipped with a mechanical time fuze, at a muzzle velocity of 2,600 feet per second. The gun weighs 21,280 pounds in the traveling position. Its maximum effective ceiling is 30,000 feet. A considerable number of these guns are emplaced on concrete platforms.

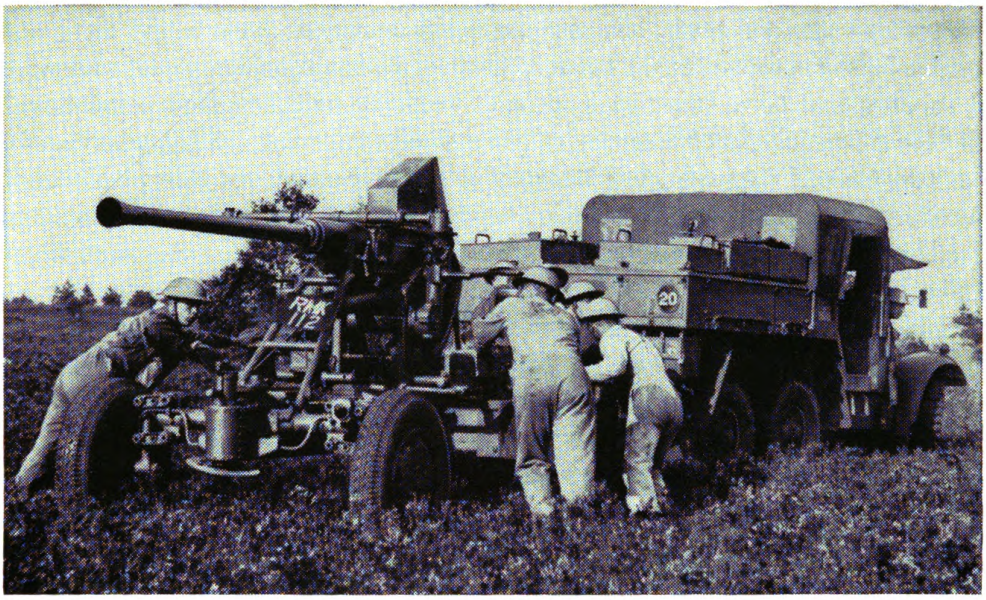


FIGURE 80.—Bofors 40-mm light anti-aircraft gun.

FIGURE 81.—Bofors 40-mm light anti-aircraft gun being prepared for action.

b. 4.45-inch gun.—The 4.45-inch heavy AA gun, known to the service as the 4.5-inch, has an elevation range of from −5° to +80° and a 360° traverse, and fires a 55-pound HE projectile, equipped with a mechanical time fuze, at a muzzle velocity of 2,410 feet per second. It has a firing rate of from 8 to 10 rounds a minute. This gun can be jacked onto 2 two-wheeled bogies for movement from one position to another, but must be fired from a previously prepared concrete base. In the firing position it weighs about 30,000 pounds. Its maximum effective ceiling is 30,000 feet.

104. Fire-control equipment.—Vickers and Sperry directors are both standard equipment. Sperry units manufactured in the United States have been delivered continuously since May 1938. The standard height-finder is a self-contained instrument of the coincidence type. A number of different makes, on bases of 9 feet, 16¼ feet, and 18 feet, are in service.

105. Rockets.—A new type of AA weapon is an unrotating HE shell projected on the rocket principle. The projectors from which the rockets are fired are of different design. Some can fire only 1 projectile, while others can fire up to 20 projectiles, at a single loading.

106. Detection devices.—*a. Searchlights.*—The 90-cm (35.5-inch) AA searchlight is standard, and is provided in two types, one for hand and one for remote control. There are also a number of 120-cm (47.38-inch) and 150-cm (59.1-inch) searchlights in service, as well as many U. S. type Sperry 60-inch lights. The 90-cm model is mounted on four small caterpillar tracks; the 150-cm model is mounted on its own four-wheeled trailer. Reflectors are almost invariably of glass, although a few metal ones are in use.

b. Sound locators.—At least three types of sound locators are standard. Each of the two latest types has four paraboloid horns arranged for electric or stethoscope listening. They are equipped with visual indicating equipment and course-finding sights. Acoustic correctors and a system of remote control of the searchlight make the use of intermediary comparators unnecessary.

c. Radio.—Radio detection devices are used extensively in conjunction with AA equipment.

SECTION IV

DEFENCE AGAINST CHEMICAL WARFARE

107. General.—*a.* The British Government has ratified an international agreement to prohibit the use of toxic gas in war. Its policy is to provide adequate protection of the military and civilian population against gas attack.

b. Chemical warfare groups are included in Royal Engineer establishments. Experimental work is carried out through the Chemical Defence Committee and the Chemical Defence Research Department under the general supervision of the War Office. Chemical warfare groups are trained to carry out all branches of field engineering except bridging (see par. 40*d*).

c. Each battalion or equivalent unit has a unit gas officer who is detailed from the personnel of the unit and is a graduate of one of the several anti-gas schools maintained by the British Army. The staff of each division and higher unit includes a General Staff Officer (GSO (CW)—see par. 21*a*(1)(*e*)) who is specially qualified in chemical warfare and is adviser to the commander and staff in all matters pertaining to his specialty. This General Staff Officer, who usually has other staff duties, is assisted at the headquarters of a corps or higher unit by a technical officer (chemist—see fig. 3). Gas protective training is a responsibility of unit commanders and is carried out in accordance with the provisions of training manuals similar to those of the U. S. Army.

108. Individual protection.—*a. General.*—British provisions for the protection of its armed forces are thorough and include numerous items of individual and organizational anti-gas equipment. Anti-gas schools provide courses for officers and noncommissioned officers. Troop training in the use of the gas mask, gas-chamber exercises, first aid, and identification of gases is generally similar to U. S. Army practice. British troops are provided with a number of special items of protective equipment for defence against spray or other forms of gas attack. Each battalion or similar unit has one or more squads specially trained for decontamination work. For prompt identification of gas and development of emergency measures for protection, field chemical laboratory units and first aid and cleansing centers are provided.

b. Equipment.—(1) *Gas mask* (fig. 82).—The gas mask has a fully moulded facepiece made of rubber which is connected to the canister by a short corrugated hose tube. The canister contains activated charcoal, an efficient smoke filter. The mask is carried in a haversack, which is slung over the shoulder by a shoulder strap. For use, the mask haversack is brought to a position on the chest and held in place by means of a body cord. (See figs. 84 and 85; see also figs. 45 ③ and ④, 48, and 67.)

(2) *Eye shields.*—Each British soldier carries in his mask haversack several simple eye shields made of plastic material. The purpose of these shields is to protect the eyes from chemical spray from aircraft pending adjustment of the gas mask.

(3) *Protective ointment.*—Several tubes of ointment, designed for protection against mustard gas and lewisite, are also carried in the mask haversack.

(4) *Impregnated protective clothing.*—Provisions are made for impregnating uniforms so as to protect the wearer against vesicant gas

Facepiece, Mk. V. Container, type E.
Haversack, Mk. V. Anti-dimming outfit.
FIGURE 82.—Service respirator (gas mask).

vapor. Impregnated clothing is being issued to all troops in Great Britain as other articles wear out and must be replaced.

(5) *Impervious protective clothing* (figs. 83, 84, 85, and 86).—Garments made of oil-treated fabric are provided for individual protection where liquid vesicants are likely to be encountered. These garments consist of the following items: cape, trousers, jacket, hood, overshoes, canopy, and gloves. The cape is issued to each soldier (see also figs. 48 and 67), whereas the other items are issued as specially required.

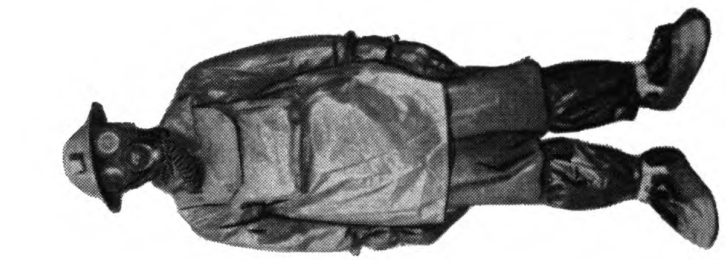


FIGURE 86.—Light anti-gas suit with anti-gas overshoes and gloves as worn by certain specialists. (For decontamination work the coat would be inside the trousers, in order to provide maximum protection against vapor, and in strong concentrations a hood would be worn.)

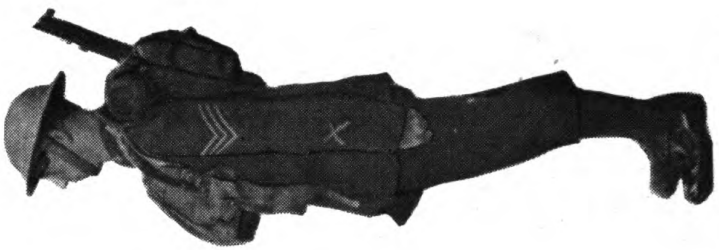


FIGURE 85.—Anti-gas cape in the "rolled" position.

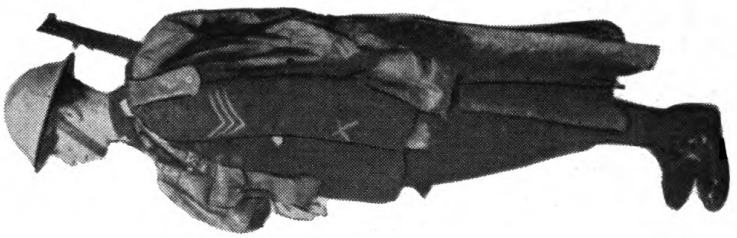


FIGURE 84.—Anti-gas cape in the "alert" position.

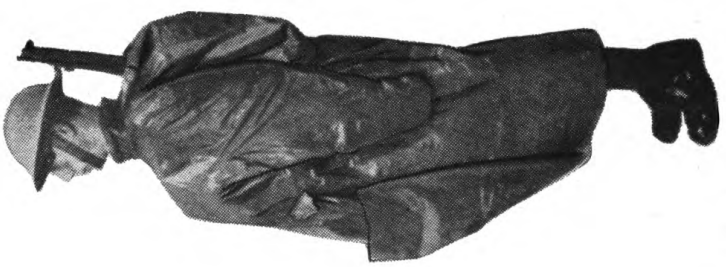


FIGURE 83.—Anti-gas cape in the "worn" position. (The front is fastened back for marching.)

(6) *Gas detectors.*—Each soldier is provided with paper arm bands which change color upon contact with blister gases.

109. Collective protection.—British collective protection devices include the following:

a. Anti-gas pathways, consisting of rolls of specially treated paper which may be laid down over contaminated areas to allow the safe passage of men.

b. Decontamination materials.

c. Clothing bags, made of specially treated fabric and used to collect contaminated clothing.

d. First aid and cleansing centers.

e. Gas alarms.

f. Gas sentries.

SECTION V

ARMOURED FIGHTING VEHICLES

110. Tanks (fig. 87).—*a. General.*—(1) British tanks fall into two categories: cruiser tanks and army, or infantry ("I"), tanks.[2] Cruiser tanks (figs. 88 and 89), the armoured fighting vehicles of the armoured brigades, are relatively fast and maneuverable, and sacrifice armour to speed and armament. Infantry tanks, which are slower and more heavily armoured, are designed to support infantry attacks on field fortifications, preceding the infantry and attempting to overrun the enemy defences. The role of British infantry tanks is one which is not normally envisaged by U. S. armored tactics, although in unusual circumstances U. S. heavy tanks might be called upon to perform a similar mission. See figure 90 for one type of infantry tank. Light tanks are considered by the British to be obsolete from the fighting point of view, although special types are produced for various special operations, including reconnaissance, mountain warfare, air transportation, and airdrome defence.

(2) In addition to the tanks listed in figure 87, the British are also using a new Mk. VII cruiser tank, popularly known as the Cromwell, and the following U. S. tanks:

Light M3 (General Stuart).
Medium M3 (General Lee).
Medium M3 with British turret (General Grant).
Medium M4 (General Sherman).

(3) British light tanks are generally lighter than U. S. light tanks, and are not designed for the same role. British cruiser tanks vary

[2] See FM 30-41 for a description of some of the various British tanks now in use.

considerably in weight, certain models weighing the same as U. S. light tanks, others weighing the same as U. S. medium tanks. The normal role, however, of British cruiser tanks is similar to that assigned to U. S. medium tanks.

b. U. S. light tanks.—U. S. M3 light tanks have been utilized by the British in both reconnaissance and fighting roles.

c. Armament.—For the armament of various British tanks, see figure 87. The caliber .50 Vickers medium (heavy) machine gun is similar in action and general design to the caliber .303 Vickers, but is generally larger owing to the increased size of the cartridge. It weighs approximately 63 pounds and has a rate of fire of 500 to 600 rounds per minute. The 7.92-mm Besa medium (heavy) machine gun weighs 42 pounds and has an actual rate of fire of 650 rounds per minute, or 800 rounds with an accelerator. This gun is also designed in a 15-mm model weighing 115 pounds and firing 400 rounds per minute.

d. Communications.—External communications are usually by radio, lamp, and flag, and internal communications are by voice tube or loud speaker.

111. Armoured carriers.[3]—There are two main types of armoured carriers, the Universal (figs. 91, 92, and 93) and the Loyd (fig. 94). Although there were formerly several models of the Universal carrier, each designed and equipped for a particular type of work, there is now only one. The Universal carrier fitted with rests for a Bren gun and a Boys anti-tank rifle is now what is commonly known as the Bren gun carrier. The Universal carrier can transport three or four men, depending upon the amount of equipment. The Loyd carrier is primarily a personnel and mortar carrier, holding nine men including the driver. The fact that the Loyd carrier has four bogie wheels, whereas the Universal carrier has only three, provides the easiest method of distinguishing between these two types. The following table shows the characteristics of these two carriers:

	Universal	*Loyd*
Weight	4 long tons.	3.8 long tons.
Length	12 feet.	13 feet 6 inches.
Width	7 feet.	7 feet.
Height	4 feet 10 inches.	4 feet 8 inches.
Armour	Front: 10 mm.	Front: 10 mm.
	Sides: 7 mm.	Sides: 7 mm.
Speed	Cross-country: 20 miles per hour.	Cross-country: 20 miles per hour.
	Road: 30 miles per hour.	Road: 30 miles per hour.
Radius of action	110 miles (approximately).	110 miles (approximately).

[3] For tactics of armoured carriers, see paragraph 128.

Name	Popular name	Crew	Weight	Radius	Speed (miles per hour)		Armament	Armour	Dimensions						Remarks
					Cross country	Roads			Length		Width		Height		
			Tons[1]	*Miles*					*Feet*	*Inches*	*Feet*	*Inches*	*Feet*	*Inches*	
Light tank, Mk. VI a, b, and c.		3	6.27	150	23	30	1 caliber .50 Vickers MG; 1 caliber .303 Vickers MG.	Basis, 0.50 inch	13	6	6	8	6	9	Obsolete; unsteady as a gun platform; used in the Western Desert for reconnaissance. The Mk. VIc light tank substitutes the 7.92-mm Besa machine gun for the caliber .303 Vickers.
Light tank, Mk. VII.	Tetrarch	3	7	250			1 40-mm gun; 1 7.92-mm Besa MG.	Front, 0.63 inch; sides, —; turret —.	14	3	8	4	7	0	One of the latest types of light tank; excellent riding qualities.
Light tank, Mk. VIII.	Harry Hopkins	3	8.6	160		25	1 40-mm gun; 1 7.92-mm Besa MG.	Front, 1.5 inches; sides, 0.79 inch; turret, 1.5 inches.	14	3	8	3	6	8	The latest type of light tank.
Cruiser tank, Mk. V A13.	Covenanter	4	18	130	20	25	1 40-mm gun; 2 MG's; 1 submachine gun.	Front, 1.57 inches; sides, 1.18 inches; turret, 1.57 inches.	19	6	9	1	7	3	1.57-inch armour to be replaced by 2.36-inch armour.
Cruiser tank, Mk. VI A15.	Crusader	5	19	140	23	25	1 40-mm gun; 2 7.92-mm Besa MG's.	Front, 1.57 inches; sides, 1.18 inches; turret, 1.57 inches.	19	3	8	8	7	2	Operates best at governed speed not greater than 27 miles per hour; 1.57-inch armour to be replaced by 2.36-inch armour.

Infantry tank, Mk. II.	Matilda	4	26.3	92	8	10	1 40-mm gun; 1 7.92-mm Besa MG.	Basis, 2.56 inches	19	9	8	6	7	9	1-inch armour on skirt.
Infantry tank, Mk. III.	Valentine	3	16.4	198	9	12	1 40-mm gun; 1 7.92-mm Besa MG; 1 2-inch mortar.	Front, 2.36 inches; sides, —; turret, 2.75 inches.	18	9	9	1	7	6	Narrow track.
Infantry tank, Mk. IV.	Churchill	5	37	100	------	------	1 40-mm gun; 1 3-inch howitzer; 1 7.92-mm Besa MG; 1 caliber .303 Bren MG; 2 submachine guns.	Front, 3.5 inches; sides, 3 inches; turret, 3.5 inches.	23	6	10	8	8	1	

[1] Long tons (see par. 161a).

FIGURE 87.—Characteristics of tanks.

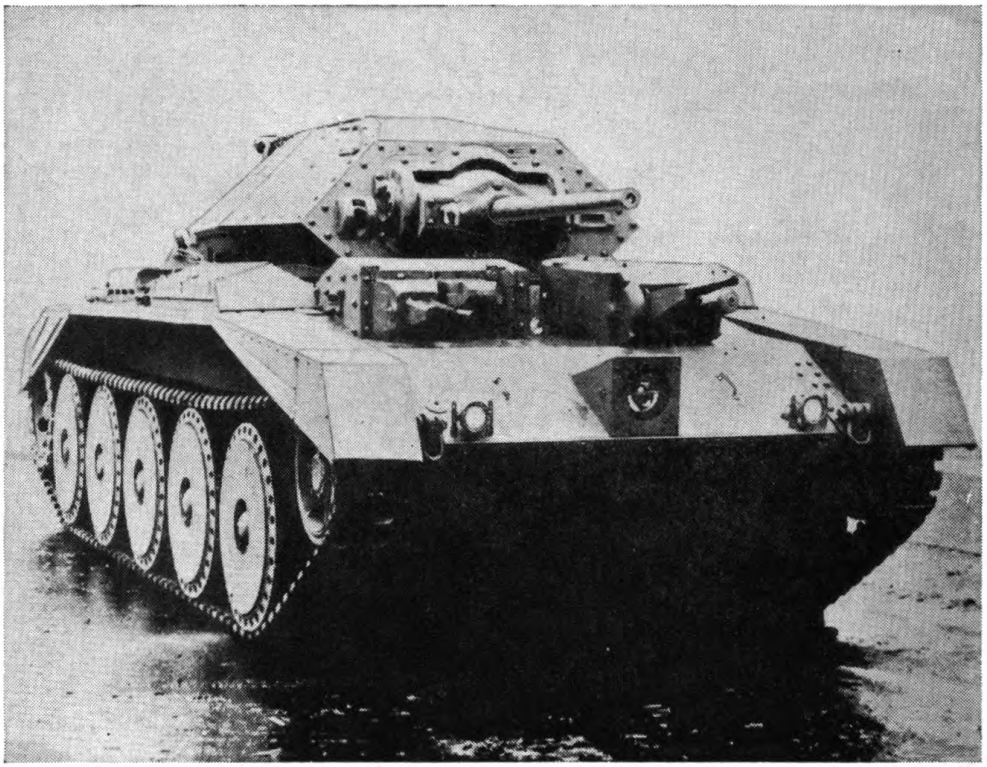


FIGURE 88.— Front view of cruiser tank, Mk. VI (Crusader).

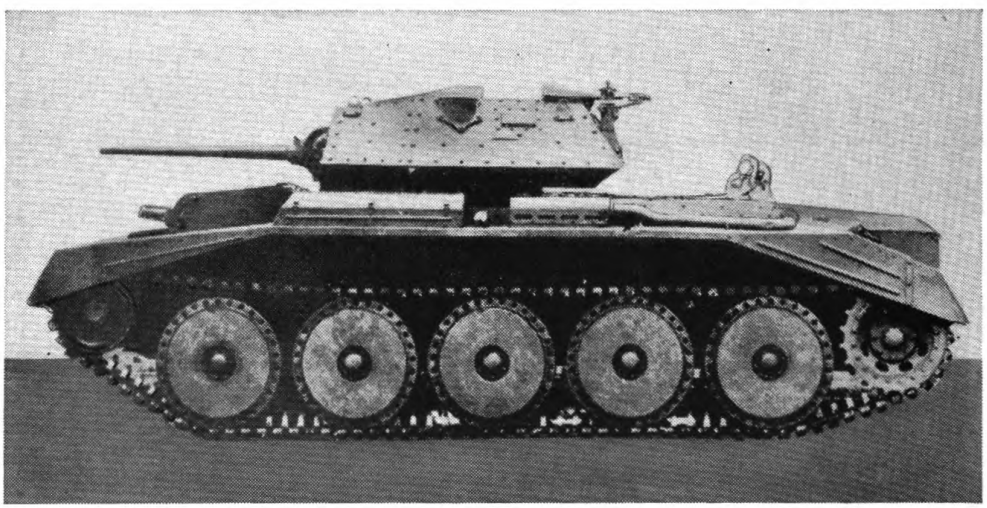


FIGURE 89.—Side view of cruiser tank, Mk. VI (Crusader).

112. Armoured cars.—*a. General.*—Although comparatively lightly armoured, British armoured cars are used extensively for reconnaissance and patrol work. Some of the types, with their characteristics, are listed in figure 95. More recent types, not listed in figure 95, are the Daimler and the heavily armoured AEC [4] Matador. The Daimler carries a crew of three, and is protected by 14-mm armour. It mounts a 2-pounder and, co-axially, a 7.92 Besa machine gun and a Bren gun. It is powered by a 6-cylinder 106-brake-horsepower motor with a maximum speed of 60 miles per hour and a radius of action of 150 miles.

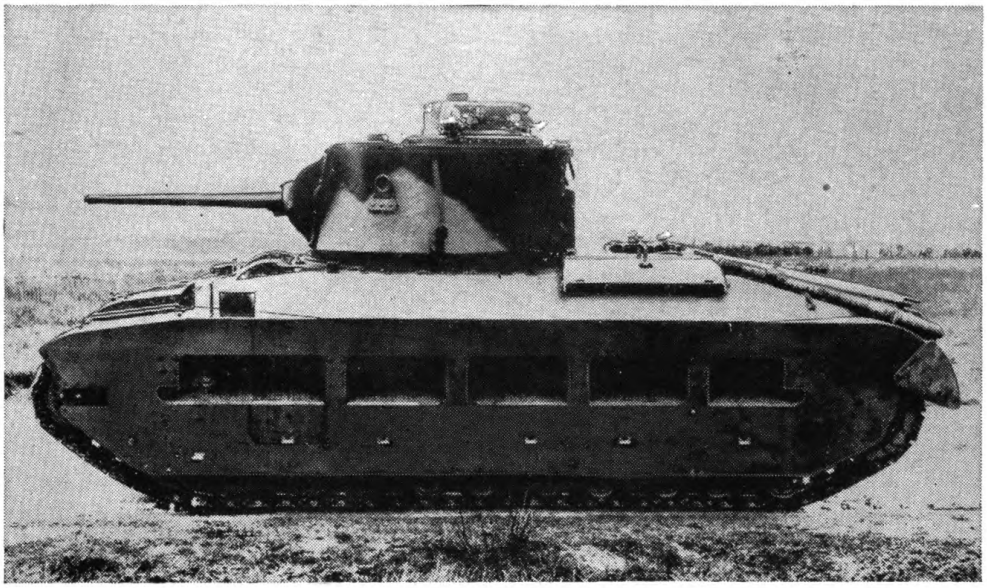
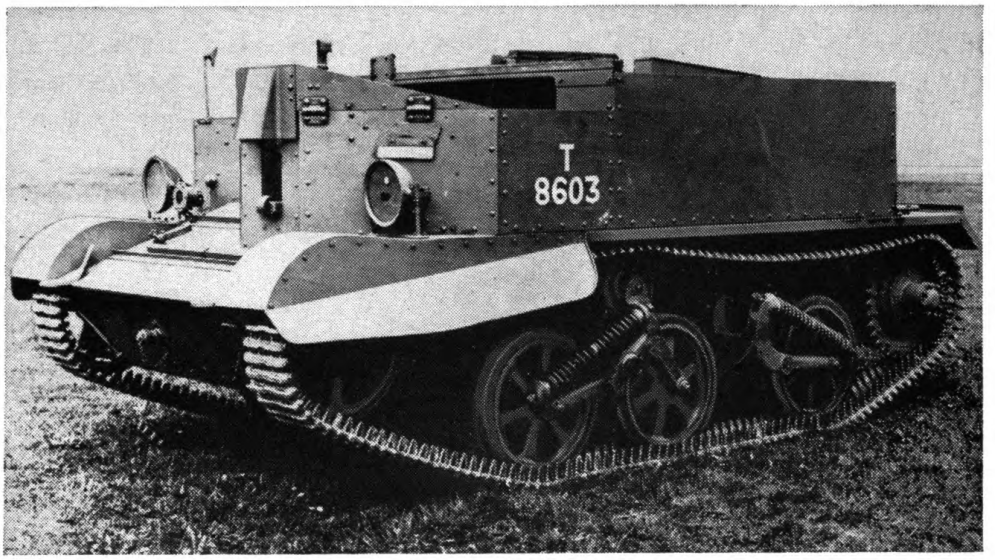


FIGURE 90.—Infantry tank, Mk. II (Matilda).

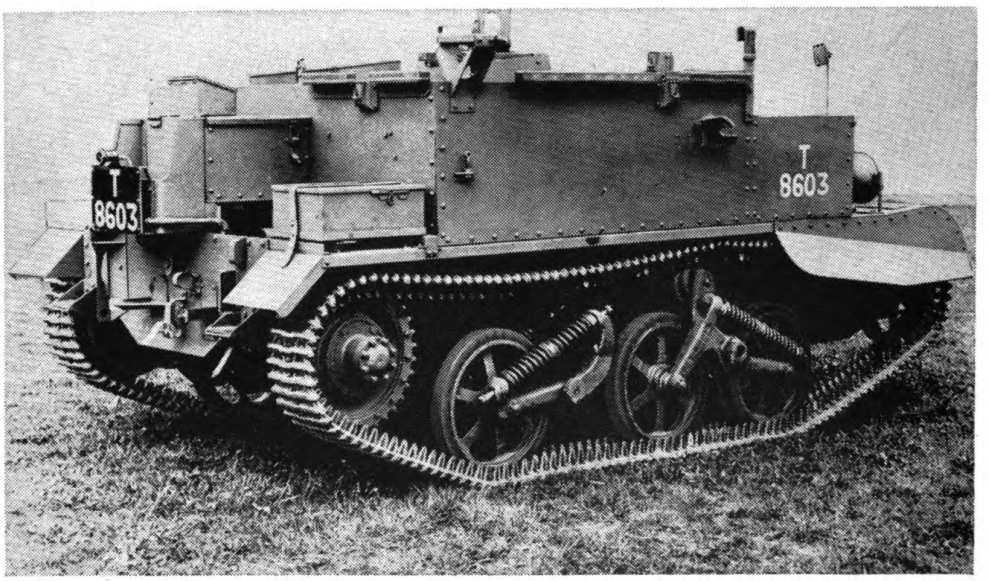
b. Armoured command vehicle.—For some mobile command posts of armoured divisions the British use an armoured command vehicle (ACV) known as the AEC Armoured Command Vehicle. Armour is provided on a 12-mm (0.49-inch) basis, and the chassis is that of a normal 5-ton truck. The vehicle normally carries three officers, three radio operators, and two drivers. Equipment includes seats, desks, and lockers for the personnel, three radio sets, a cipher machine, and necessary electrical equipment. Although there are no vehicular weapons, the enlisted men are armed with rifles.

(1) Weight: 11.93 long tons.
(2) Length: 20 feet.
(3) Width: 8 feet 6 inches.
(4) Height: 9 feet 5 inches.

[4] Associated Equipment Company.



① Front and side.



② Rear and side.

FIGURE 91.—Universal armoured carrier.

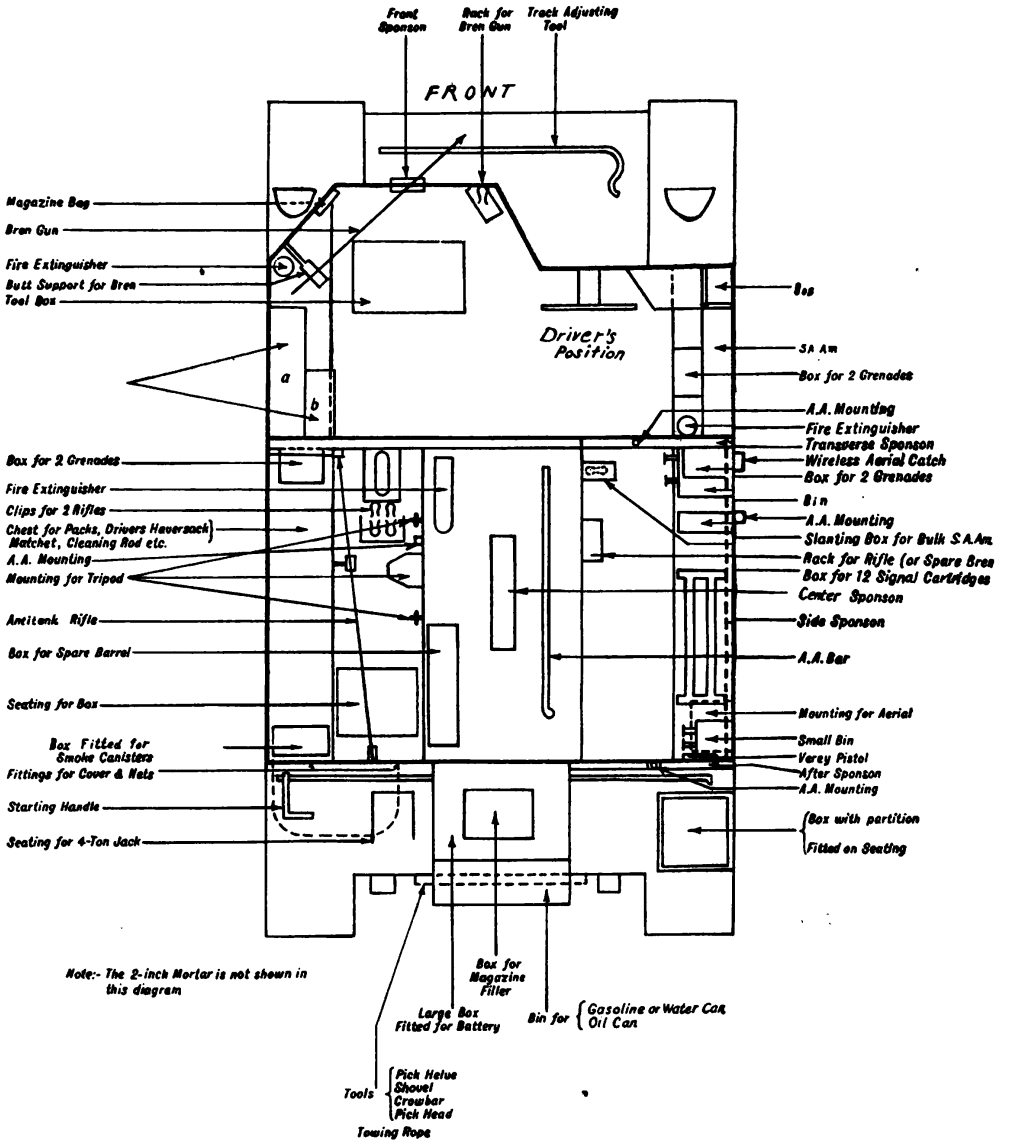
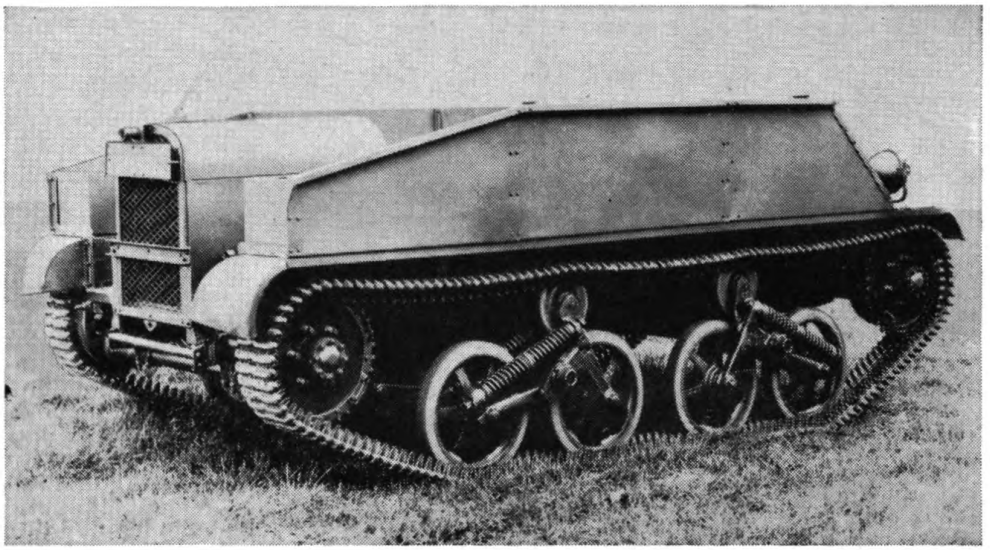
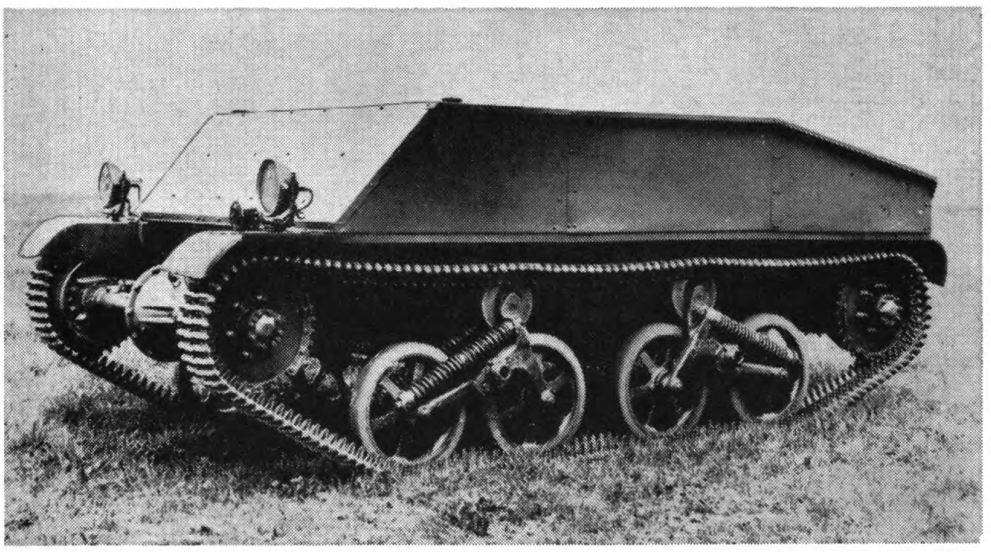


FIGURE 92.—Diagram of Universal armoured carrier.

FIGURE 93.—Universal armoured carrier fitted with Bren gun on anti-aircraft mount and with Boys anti-tank rifle.



① Right side.



② Left side.

FIGURE 94.—Loyd armoured carrier.

Name	Weight	Crew	Armour	Armament	Dimensions						Speed	Radius of action
					Length		Width		Height			
	Long tons				*Feet*	*Inches*	*Feet*	*Inches*	*Feet*	*Inches*	*Miles per hour*	*Miles*
Scout Car BSA	2.8	2	Upper structure, 1 inch; front, 0.19 inch; sides, 0.25 inch.	One caliber .303 Bren MG; one caliber .55 Boys AT rifle.	10	5	6	7	5	----	Cross-country, 20; road, 35.	200
Humber	----	3 or 4	Basis, 0.55-inch	One 7.92-mm Besa MG; one 15-mm Besa MG.	----	----	----	----	----	----	Maximum, 45	250
Morris	4.48	4	Basis, 0.38-inch	One caliber .303 Bren MG; one caliber .55 Boys AT rifle.	----	----	----	----	----	----	Cross-country, 24; road, 45.	240
Guy	5.6	3	Basis, 0.55-inch	One 15-mm Besa MG; one 7.92-mm Besa MG.	14	6	7	1	8	1	Cross-country, 16; road, 24.	200

FIGURE 95.—Characteristics of armoured cars.

SECTION VI

VEHICLES: MOTORCYCLES, MOTORCARS, TRUCKS, LORRIES, AND TRACTORS

113. General.—*a.* With extremely limited exceptions all transportation of the British Army is motorized. The standard motor vehicles are excellent in quality and reasonably adequate in quantity. Various forms of trailers are also provided. (See fig. 96 for characteristics of vehicles. In pars. 114 to 118 only representative types and models are discussed in detail.)

b. In the British Army a distinction is made between trucks and lorries, "truck" being used for any load-carrying vehicle of 1 long ton or less, and "lorry" for a load-carrying vehicle of 30-cwt or more (see par. 161*a*). In addition, the term "van" is used for a truck with a fixed top, and "tractor" for a lorry employed to pull or tow anything. Thus all artillery prime movers are designated as tractors.

c. The present trend in all wheeled vehicles is to design or modify them so that an anti-aircraft sentry, with an all-around field of vision, can be posted in the vehicle. British units in the Middle East have cut holes in the tops of the passenger cars and closed-cab trucks so that sentries can stand on the driver's seat and have their heads and shoulders protrude through the roof of the vehicle. On some of the closed-cab trucks the tops have been removed. On large cargo trucks the sentry is seated on top of the cover.

d. The standard prime movers now being procured are 1½-ton, four-wheeled Morris tractors (or similar tractors manufactured by other firms—see par. 118) for field artillery and 3-ton six-wheeled Scammell tractors for medium artillery (fig. 97). However, there are on hand a considerable number of full-tracked tractors, called dragons, which are still used. The medium dragon, with a chassis similar to that of a medium tank, is used for medium artillery. Satisfactory performance and the lessened cost caused the change from tracked vehicles to wheeled vehicles.

e. Certain U. S. vehicles are also in use, especially the ¼-ton 4 by 4 truck which the British call a "Blitz Buggy."

f. British vehicles normally employ right-hand drive. British rules of the road are exactly the reverse of those in the United States; that is, vehicles keep to the left of the road and pull to the right in passing.

Type [1]	Solo motorcycle	2-seater car	4-seater car	8-cwt truck	15-cwt truck	15-cwt truck
Make	(1) Norton; (2) BSA	(1) Austin; (2) Hillman; (3) Morris	(1) Ford; (2) Humber	(1) Morris; (2) Humber; (3) Chevrolet	(1) Bedford; (2) Morris; (3) Chevrolet	(1) Ford; (2) Guy.
Drive			(1) 2; (2) 4	(1)-(2) 2 and 4; (3) 2	(1)-(3) 2	(1)-(2) 2.
Type of engine [2]	500 cc, 1-cyl	10-hp, 4-cyl	(1) 30-hp, 8-cyl; (2) 27-hp, 6-cyl.	25 to 29-hp, 6-cyl	25 to 29-hp, 6-cyl	(1) 30-hp, 8-cyl; (2) 23-hp, 4-cyl.
Type of body		Utility	Utility	Personnel-carrying	Truck	Truck.
Personnel-carrying capacity.	1 or 2	4	6	5	7	7.
Radius of action (miles)	210	220	(1) 200; (2) 250	220 to 300	230 to 280	250.
Useful load [1]		1,700 lb			1½ tons	1½ tons.
Units to whom issued	All types in field force	All types	Most types	Some Motor Bns, Arty Regts, Field Cos, Div Sigs, Tk Brigs.	Most types	Most types.
Remarks	See text for additional material.	See text for additional material on the Austin.	See text for additional material on the Ford.	See text for additional material on the Humber.	May be fitted as an office, water-carrier, compressor, or wireless truck. See text for additional material.	

Type [1]	30-cwt 4-wheeled lorry	4-wheeled AT portee lorry	30-cwt 6-wheeled lorry	30-cwt breakdown lorry
Make	(1) Austin; (2) Bedford; (3) Gen Mot; (4) Chevrolet; (5) Dodge; (6) Ford.	Morris	Morris	Morris.
Drive	(1)-(2), (6) 2; (3) 2 and 4; (4)-(5) 4	4	4	4.
Type of engine [2]	(1)-(5) 27-hp, 6-cyl; (6) 30-hp, 8-cyl	25-hp, 4-cyl	25-hp, 4- and 6-cyl	25-hp, 6-cyl.
Type of body	Load-carrying	Portee with hand winch	(1) Load-carrying; (2) equipped with 4-ton winch.	1-ton hoist; 4-ton.
Personnel-carrying capacity	22	5	(1) 22; (2) 2	2.
Radius of action (miles)	(1)-(2) 240; (3) 450; (4) 310; (5) 320; (6) 170.	260	180	260.
Useful load [1]	1½ tons		1½ tons	
Units to whom issued	Most types	Anti-tank regiments	(1) Light aid detachments; (2) Field Cos and Sqs, Field Park Cos and Sqs, and Tunnelling Cos.	Light aid detachments and anti-aircraft regiment workshops.
Remarks	Obsolescent; see text for additional material.		Obsolescent	

Type [1]	3-ton 4-wheeled lorry	3-ton 4-wheeled lorry	3-ton 6-wheeled lorry	3-ton 6-wheeled lorry	3-ton 6-wheeled lorry	3-ton 6-wheeled lorry	3-ton 6-wheeled lorry
Make	(1) Austin; (2) Bedford; (3) Karrier; (4) Ford.	(1) Dennis; (2) Ford	(1) Albion; (2) AFC; (3) Austin; (4) Leyland; (5) Gen Mot; (6) Chevrolet-Thornton.	(1) Guy; (2) Leyland; (3) Gen Mot.	(1) Albion; (2) Leyland.	Leyland	(1) Leyland; (2) Dodge; (3) Guy; (4) Albion.
Drive	(1) 2; (2) 2 and 4; (3)-(4) 4.	(1)-(2) 2	(1)-(6) 4	(1)-(3) 4	(1)-(2) 4	4	(1)-(4) 4.
Type of engine [2]	(1)-(3) 27-hp, 6-cyl; (4) 30-hp, 8-cyl.	(1) 25-hp, 4-cyl; (2) 30-hp, 8-cyl.	(1) 3.89 liters, 4-cyl; (2) 31-hp, 4-cyl; (3) 3.99 liters, 6-cyl; (4) 29-hp, 4-cyl; (5) 33-hp, 6-cyl; (6) 30-hp, 6-cyl.	(1) 5.1 liters, 4-cyl; (2) 5.9 liters, 4-cyl; (3) 33-hp, 6-cyl.	(1) 3.89 liters, 4-cyl; (2) 5.9 liters, 4-cyl.	5.9 liters, 4-cyl	(1) 5.9 liters, 4-cyl; (2) 34-hp 4-cyl; (3) 5.1 liters, 4-cyl; (4) 3.89 liters, 4-cyl.
Type of body	Load-carrying	Hydraulic dump	Detachable hoops and canvas covers.	Flat floor with searchlight projector.	(1) Bridging equipment; (2) Machinery.	House-type body with sound-ranging equipment.	Variously outfitted with derricks, cranes, and superstructure.
Personnel-carrying capacity.	28	2	28	10	2		2
Radius of action (miles)	(1) 280; (2) 230 to 280; (3)-(4) 240.	160 to 180	(1) 170; (2) 180; (3) 210; (4) 195; (5) 372; (6) 140.	(1) 145; (2) 200; (3) 350.	(1) 170; (2) 200	200	(1) 200; (2) 250; (3) 140; (4) 170.
Useful load [1]	3⅗ tons	3⅗ tons	3⅗ tons	3⅗ tons			
Units to whom issued	All types	Engineers	All medium and heavy artillery regiments, anti-aircraft regiments, etc.	Searchlight units of ADGB (Air Defence of Great Britain).	Engineer and ordnance units.	Artillery survey units.	Light aid detachments, ordnance units, and engineer units.
Remarks	See text for additional material.						

See footnotes at end of table.

FIGURE 96.—Characteristics of motor vehicles.

Type [1]	Tractor	Tractor	Tractor	Tractor	18-ton 6-wheeled tank transporter	30-ton 10-wheeled tank transporter
Make	(1) FWD; (2) AEC	Scammell	Morris	(1) Ford; (2) Guy; (3) Chevrolet.	(1) White-Ruxtell; (2) Mack.	Scammell.
Drive			(1), (2) 4	(1)-(3) 4		
Type of engine [2]	(1) 51-hp, 6-cyl; (2) 7.58 liters, 6-cyl.	8.4 liters, 6-cyl	(1) 25-hp, 6-cyl; (2) 25-hp, 4-cyl.	(1) 30-hp, 8-cyl; (2) 3.68 liters, 4-cyl; (3) 27-hp, 6-cyl.	(1) 51-hp, 6-cyl; (2) 46-hp, 6-cyl.	8.4 liters, 6-cyl.
Type of body	Flat floor, detachable hoops and cover.	(1) Gun tractor, steel paneled with ½-ton hoist; (2) Heavy breakdown truck with sliding jib and hand winch.	All-metal gun tractor	All-metal gun tractor	Flat floor with ramps	Articulated flat floor with ramps.
Personnel-carrying capacity.	12	(1) 12; (2) 3	(1) 7; (2) 6	6	2	7.
Radius of action (miles)	(1) 700; (2) 360 (towing)	(1) 355 (towing); (2) 535	175 to 180	(1)-(3) 240; (2) 160	400	175.
Useful load [1]	3⅗ tons				20⅓ tons	33⅗ tons.
Units to whom issued	Medium artillery regiments and heavy anti-aircraft regiments.	(1) Heavy artillery regiments; (2) Recovery units of armoured formations and brigade ordnance companies.	(1) Light anti-aircraft regiments; (2) Field regiments.	Field regiments	RASC tank transporter companies.	Armoured division recovery sections and army tank brigades.
Remarks		See text for additional material.	See text for additional material.			

[1] In indicating the type of vehicle, British designations and weights have been used (see par. 161*a*). Approximate U. S. values have been used, however, in the weights given under useful loads.

[2] British horsepower ratings are used here (see par. 161*b*).

FIGURE 96 (*continued*).—Characteristics of motor vehicles.

114. Motorcycles.—*a.* The two standard solo motorcycles are the BSA[5] (fig. 98) and the Norton. They will normally carry one rider, with his pack and blanket stored in pannier bags on either side of the rear wheel. A pillion seat is also provided for occasional use. Brakes are mechanically operated, internal expanding. A foot brake operates the rear wheel; a hand brake, the front wheel. Standing orders require that every British Army officer below the grade of colonel be a proficient motorcycle operator. Motorcycles are widely used by dispatch riders (messengers).

(1) Engine: single cylinder.
(2) Speed: 60 miles per hour.
(3) Fuel consumption: 46 miles per gallon.
(4) Gas tank capacity: 3⅜ U. S. gallons (approximately).
(5) Net weight: 310 pounds.

b. The Norton, in a combination passenger-carrying model, is also issued to infantry battalions and armoured regiments, and, in a combination box body, to provost companies.

115. Motorcars.—*a. Austin 10-horsepower two-seater car.*—This is a light two-seater open runabout (fig. 99) with a baggage space behind the seat. It is a convenient vehicle for directing convoys because of its ability to cut through congested traffic where a larger vehicle would be held up.

(1) Engine: 4-cylinder.
(2) Maximum speed: 52 miles per hour.
(3) Fuel consumption: 33 miles per gallon.
(4) Radius of action: 220 miles.
(5) Gas tank capacity: 7 U. S. gallons.
(6) Net weight: 1,512 pounds.

b. Ford V8 30-horsepower four-seater saloon (sedan) car (fig. 100).—This is a standard passenger car, except for the tire equipment (9 by 13 inches) and the special increased clearance between fenders and tires. It has a wheel base of 112 inches and a standard sedan body. The Humber four-seater is similar to the Ford and is also standard.

(1) Engine: Ford, 8-cylinder.
(2) Maximum speed: 76 miles per hour.
(3) Fuel consumption: 13 miles per gallon.
(4) Gas tank capacity: 15 U. S. gallons.
(5) Net weight: 3,136 pounds.

c. Light reconnaissance cars.—Light reconnaissance cars, provided with light armour and with a turret, are issued to reconnaissance regiments (battalions).

[5] Birmingham Small Arms (Company).

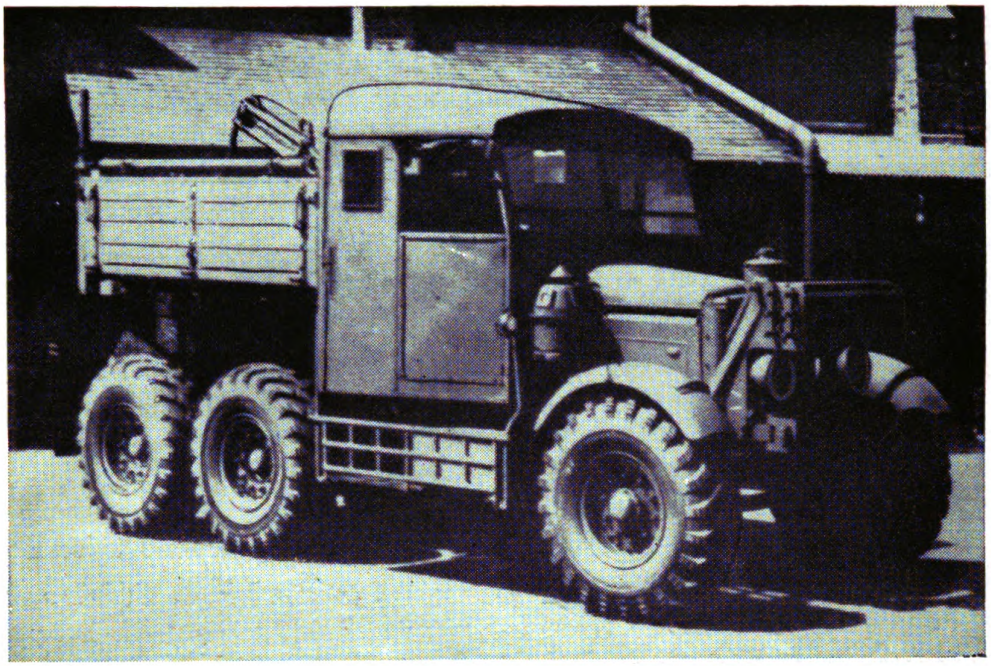


FIGURE 97.—Scammell rigid 6-wheeled gun tractor, showing machine-gun mount.

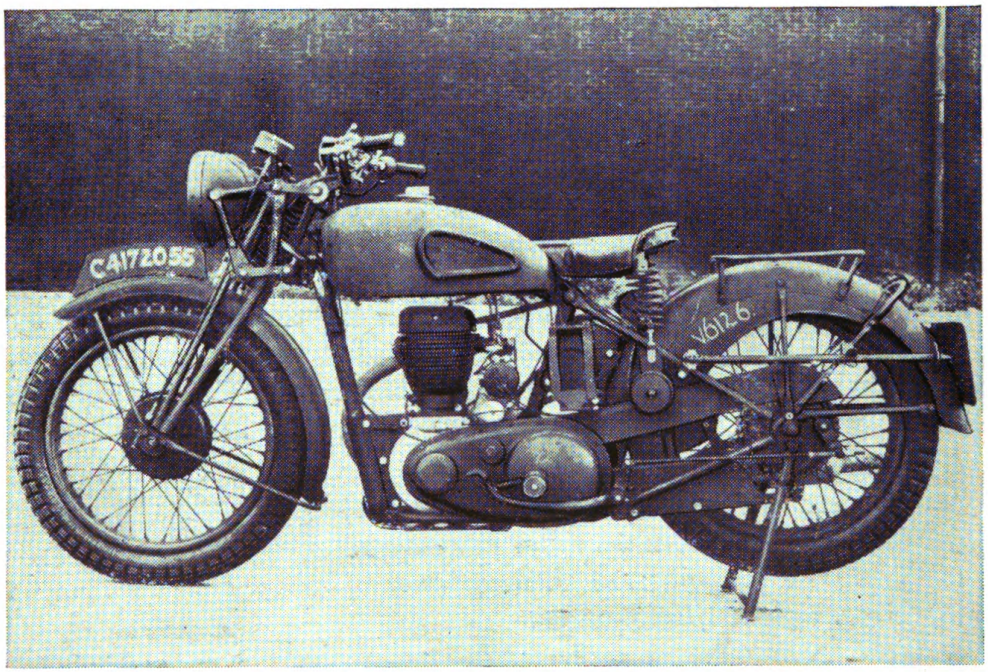


FIGURE 98.—Solo motorcycle (BSA).

FIGURE 99.—10-horsepower two-seater car (Austin).

FIGURE 100.—30-horsepower four-seater saloon car (Ford).

116. Trucks.—*a. Humber 8-cwt 4-wheeled personnel or wireless vehicle.*—This truck (fig. 101) has a well-type body providing seating accommodations for three men, two facing the off side and one the near side. Lockers are provided for kit and equipment. The whole is protected by a demountable waterproof cover on tubular superstructure. The canopy is removable and can be used on the ground as a shelter.

	4 by 2 chassis	*4 by 4 chassis*
(1)	*Engine:* 6-cylinder;	6-cylinder.
(2)	*Maximum speed:* 55 miles per hour (45 miles per hour governed);	55 miles per hour (50 miles per hour governed).
(3)	*Fuel consumption:* 12½ miles per gallon;	11½ miles per gallon.
(4)	*Gas tank capacity:* 19 U. S. gallons;	19 U. S. gallons.
(5)	*Net weight:* 4,800 pounds;	6,339 pounds.

b. Bedford MW 15-cwt 4-wheeled infantry truck.—When fitted with seats and a canopy, this truck (fig. 102) can be converted into a passenger-carrying vehicle. It is the main transport vehicle for the equipment of an infantry battalion, and often mounts a Bren gun. Its general-service (GS) body has the following dimensions:

Internal length, 6 feet 5½ inches.
Internal width, 6 feet.
Over-all width, 6 feet 7½ inches.

The driver's compartment has a folding detachable canvas top and two adjustable bucket-type seats.

(1) Engine: 6-cylinder.
(2) Maximum speed: 53 miles per hour (40 miles per hour governed).
(3) Fuel consumption: 10 miles per gallon.
(4) Gas tank capacity: 24 U. S. gallons.
(5) Net weight: 4,480 pounds.

117. Lorries.—*a. Bedford OX (30-cwt, general service).*—This lorry (fig. 103) is a semiforward-control vehicle fitted with the standard Bedford steel cab but with the radiator and front end exactly like the 15-cwt Bedford truck, model MW. The internal dimensions of the body are 8 feet 8 inches by 6 feet 6 inches by 2 feet 3 inches. Provision is made for carrying a spare wheel inside the body, at the rear on the near side. The lorry has a standard Bedford all-steel cab with laminated safety glass in the windshield, toughened glass in the doors, and a black light. The windshield wiper—on the driver's side only—is vacuum-operated with reserve tank.

(1) Engine: 6-cylinder.

(2) Maximum speed: 43 miles per hour (40 miles per hour governed).

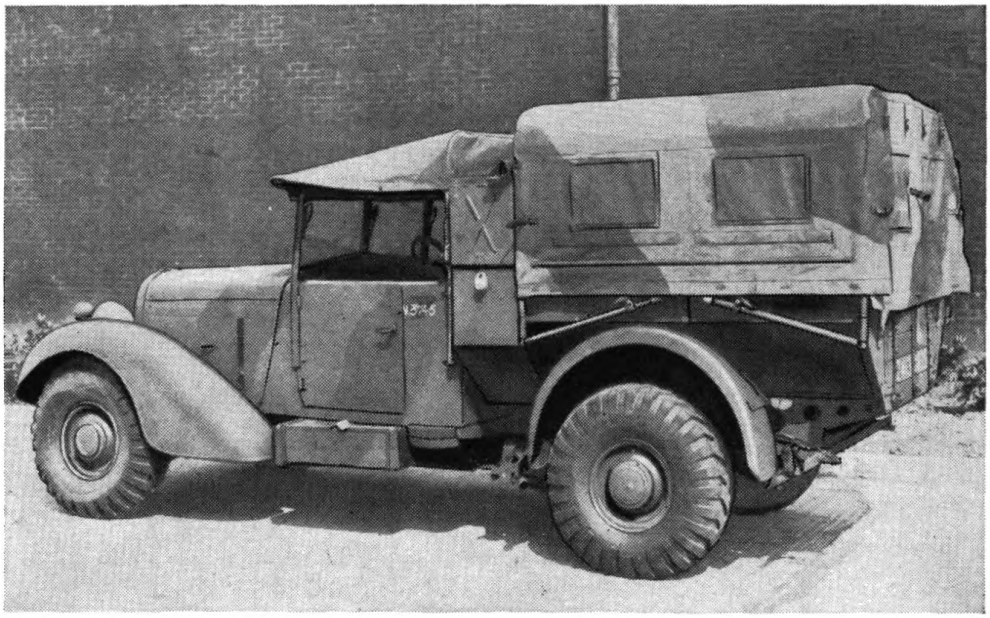


FIGURE 101.—8-cwt 4-wheeled personnel or wireless truck (Humber).

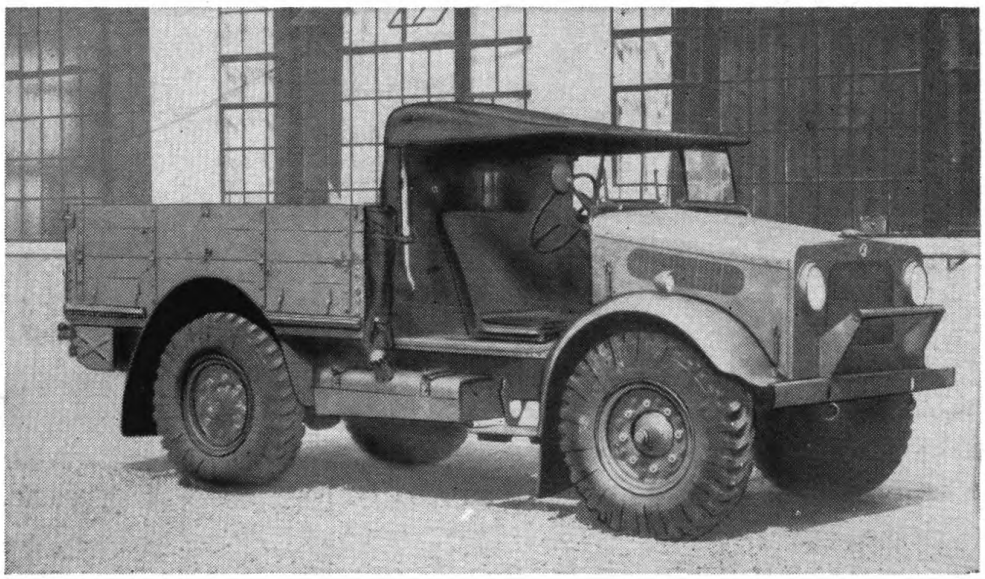


FIGURE 102.—15-cwt 4-wheeled infantry truck (Bedford MW).

(3) Fuel consumption: 8½ miles per gallon.
(4) Gas tank capacity: 28 U. S. gallons.
(5) Net weight: 5,600 pounds.

b. Bedford OY (3-ton, 4-wheeled, general service).—This lorry (fig. 104) is representative of the type adapted to take special low-pressure tires and to give adequate clearance for moderate cross-country work. This type is the main load-carrier of the Army. The body is a general-service body with a flat floor and with a detachable canopy mounted on hoopsticks. The enclosed steel-paneled cab seats two. The dimensions are: internal length, 11 feet 6 inches; internal width, 6 feet 6 inches; over-all width, 6 feet 6 inches.

(1) Engine: 6-cylinder.

(2) Maximum speed: 43 miles per hour (40 miles per hour governed).

(3) Fuel consumption: 7½ miles per gallon.

(4) Gas tank capacity: 38 U. S. gallons.

(5) Net weight: 5,824 pounds.

118. Tractors.—*a.* The Morris C8 tractor is a 4-wheeled 4-wheel-drive field artillery tractor-lorry used for the "haulage" of field guns (fig. 105). It has a good cross-country performance when towing. The all-metal body carries ammunition and gun stores and holds four men, a driver, and a commander. Lockers are provided for kit and ammunition. Either a spare wheel or a firing platform may be carried at the rear. It has the following dimensions: over-all length, 14 feet 8¾ inches; over-all width, 7 feet 3 inches; over-all height, 7 feet 5 inches.

(1) Engine: 4-cylinder.

(2) Maximum speed: 47 miles per hour (42 miles per hour governed).

(3) Fuel consumption: 6.15 miles per gallon.

(4) Gas tank capacity: 36 U. S. gallons.

(5) Net weight: 7,504 pounds.

b. Light dragon.—The light dragon, Mk. III, has been superseded. The standard prime mover for all field artillery is the Morris C8 tractor described above, or a similar tractor manufactured by other firms.

c. Medium dragon.—The medium dragon, a tank-tractor, is now used principally as one of the tractors of medium artillery brigades (fig. 106; see also fig 78).

(1) Engine: Armstrong-Siddeley, 8-cylinder, 90 horsepower.

(2) Maximum speed: Road: 15 miles per hour; cross-country, 10; towing: 9 miles per hour.

(3) Fuel consumption: 15 miles per gallon on roads; 2 miles per gallon under service conditions.

(4) Radius of action: 88 miles.

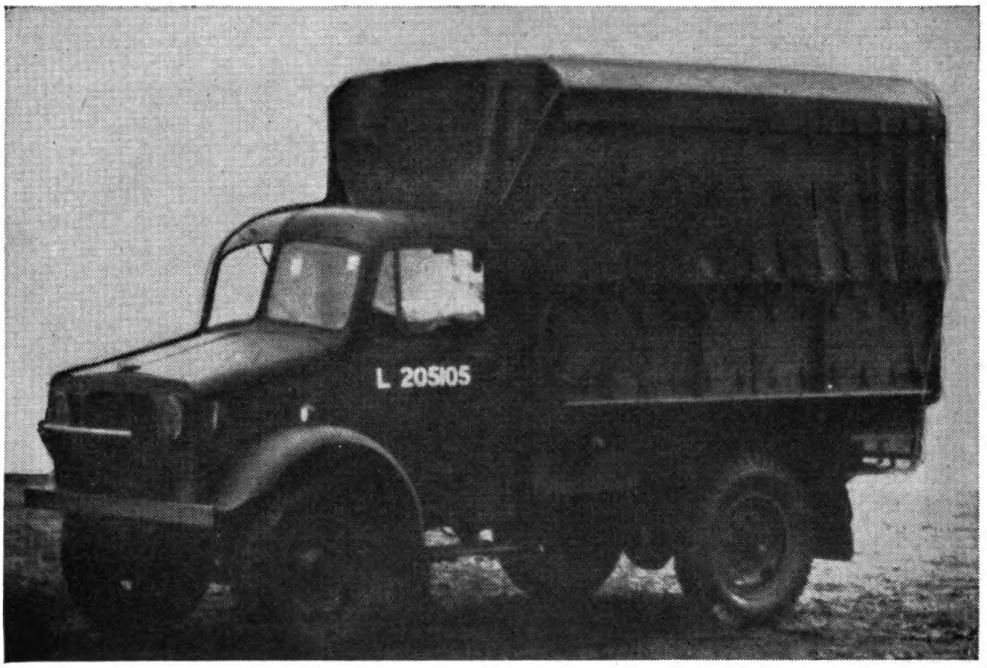


FIGURE 103.—30-cwt general-service lorry (Bedford OX).

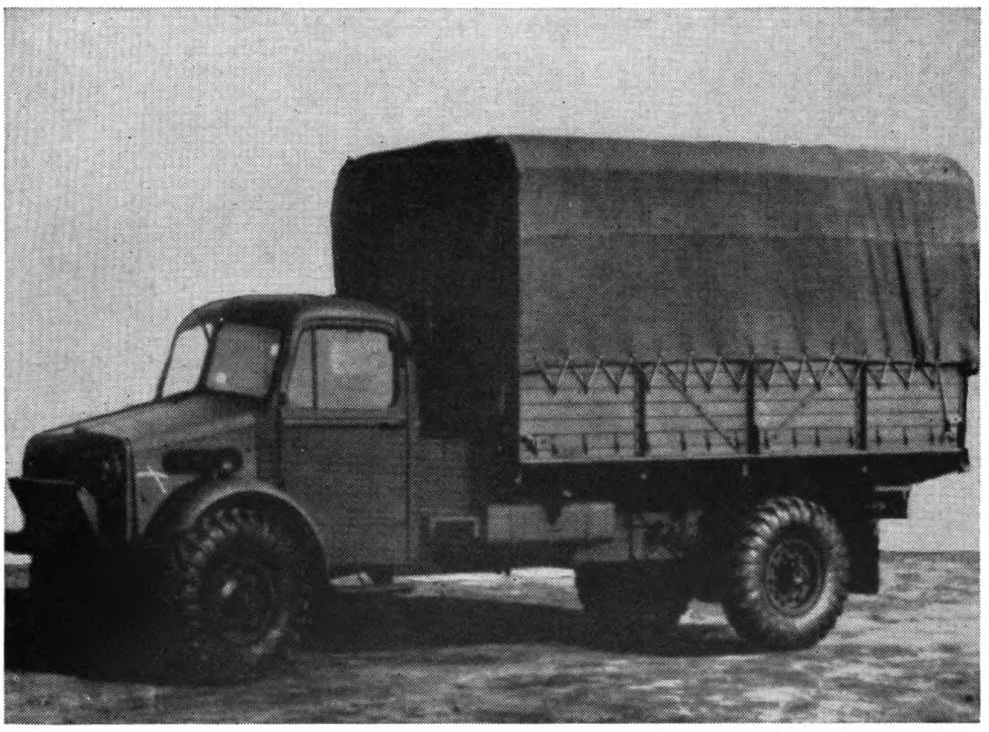


FIGURE 104.—3-ton 4-wheeled general-service lorry (Bedford OY).

(5) Gas tank capacity: 44 U. S. gallons.
(6) Net weight: 7.5 long tons.

FIGURE 105.—Morris C8 4-wheeled field artillery tractor (model stage).

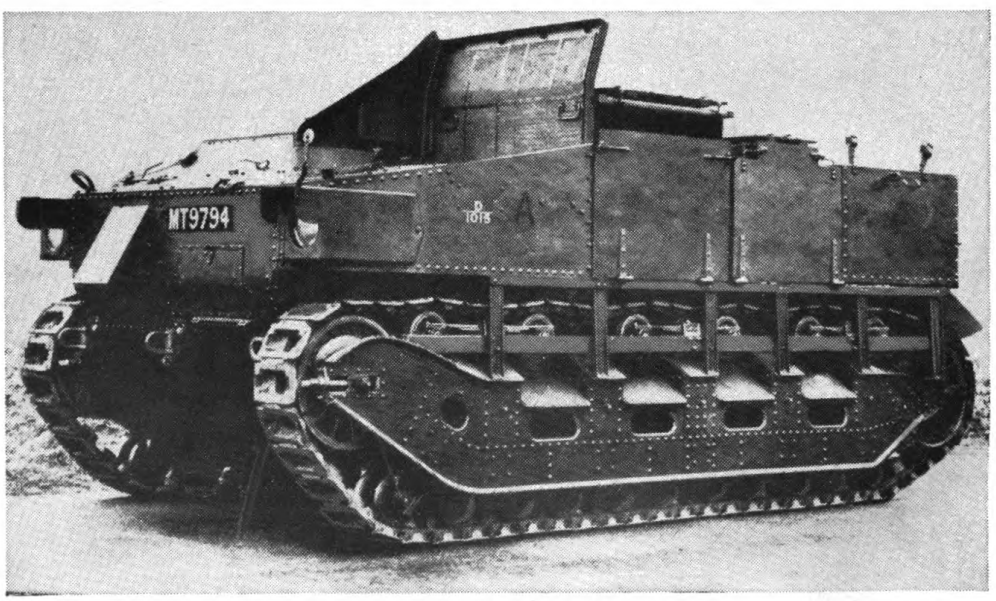


FIGURE 106.—Medium dragon tractor, Mk. IIIc.

In medium artillery brigades, trucks are used alternatively as tractors.

Chapter 6
TACTICS

119. General.—Since British tactical doctrine is generally similar to that of the U. S. Army, it will be discussed briefly.

120. Offensive.—British doctrine of the offensive may be stated as follows:

a. Decisive victory on the battlefield, the ultimate purpose of the Army, can be achieved only by the offensive. Only by attack can a commander get control of the two vital factors in war—time and space—and thereby seize the initiative.

b. The offensive spirit must be shared by all ranks down to the last individual soldier. The most junior commander, rather than wait for orders, must use his initiative to reach his immediate objective, and, in default of a stated objective, must devise one himself.

c. The four basic factors taught by the British in the attack are: surprise, speed, simplicity, and concentration.

(1) Surprise is taught as the most effective weapon in the hand of the attacker, for it enables him to secure superiority of force at the critical moment when he most needs it.

(2) Speed in all stages of the planning and execution of the attack is essential if the initiative is to be gained and maintained. Commanders must make rapid decisions and staffs must insure that the machinery of command works smoothly and efficiently.

(3) A plan should be as simple as possible, for simplicity gives flexibility. The simpler the plan, the more likely it is to succeed, though simplicity must not be made the excuse for carelessness.

(4) The attacker can concentrate his forces at the point that he chooses to attack; the defender, in ignorance of the selected place of attack, must dispose his forces to meet every possible area and point of attack. However, the defender, once the attack is launched, moves his reserves to meet the foe's main effort, and the favorable balance to the attacker begins to disappear. Therefore, the attacker must profit by his initial advantage.

121. Normal operating technique.—The following is the British technique for deployment (development) for combat from a march formation:

a. Organization for deployment.—Before any operation is put into execution, time is necessary for reconnaissance by commanders both for planning and issuing orders and for deploying troops and organizing supporting fire. It is obviously of vital importance to reduce this time to a minimum. This can be done by—

(1) Mental reconnaissance—thinking ahead for possible future action.

(2) Careful organization of the arrangements for reconnaissance.

(3) Rehearsal of deployment.

(4) Carrying out certain preparations concurrently.

b. Stages of deployment.—Deployment drill need not differ materially whether for attack or for defence. It will normally be carried out in the following stages:

(1) *Stage 1.*—(*a*) Reconnaissance by the commander initiating the plan and by the commanders of the units detailed to support.

(*b*) Movement of subordinate commanders to a rendezvous to receive orders.

(*c*) Movement of fighting troops and administrative parts of the force to assembly areas.

(2) *Stage 2.*—(*a*) Issue of orders by the commander.

(*b*) Reconnaissance by subordinate commanders and by the commanders of affiliated supporting units.

(*c*) Movement of fighting troops to unit assembly areas.

(*d*) Opening of battle Hq.

(*e*) Administrative preparations.

(The procedures outlined in (*b*), (*c*), (*d*), and (*e*), above, take place concurrently.)

(3) *Stage 3.*—(*a*) Issue of orders by subordinate commanders.

(*b*) Movement of fighting troops to deployment areas.

c. Group system.—The main body or fighting portion of each unit and also the transport not required with the fighting troops (i. e., "B" echelon) are, however, also concerned in deployment and

must receive orders. There are, therefore, four main groups concerned in deployment:

(1) The Reconnaissance, or "R," Group, which is the commander's group for reconnaissance and planning.

(2) The Orders, or "O," Group, which is the group for receiving orders. This will normally consist of the subordinate commanders' "R" groups.

(3) The Fighting, or "F," Group, which is the main body of the formation or unit.

(4) The Transport, or "T," Group, which is the transport not required with "F" Group.

This nomenclature saves time when issuing orders. (For the composition of groups, see figs. 107 and 108. Note the "Remarks" column and the fact that such groups may be adapted to circumstances.)

d. System of working.—The principle is that while reconnaissance is being carried out and orders are being issued, there should be a simultaneous and continuous movement forward ending in deployment onto battle frontages by the fighting troops. This process should continue in successive stages from formations down to sub-units. Note also the following:

(1) Need for early issue of warning orders to start groups moving. Assembly areas should be en route to the proposed deployment area.

(2) Reconnaissance by "R" Group must be carefully planned, and the composition of the group, the route to be taken, and the points of observation to be visited must be considered.

(3) Rendezvous for "O" Group should be in the vicinity of a place from which important terrain features within the field of operations are visible. The time fixed for assembly at this rendezvous will depend upon the time that the commander's reconnaissance is estimated to take.

(4) Representatives of supporting arms must be put into early touch with the commanders of units that they are to support.

(5) Arrangements must be made in advance for the supply of food, ammunition, overcoats, blankets, etc., and for the speedy evacuation of casualties.

(6) Orders for "T" Groups (for instance, whether they are to be left under brigade control or released to subordinate units) will depend upon the situation and decisions made under stage 2 (*b*(2), above).

e. Saving time.—This can be done by—

(1) Deciding everything possible at once from the map: for instance, sectors, boundaries, areas, allotment of troops, etc. By this means

Group	Brigade[1]	Battalion	Company	Platoons of rifle and Hq companies	Remarks
Reconnaissance (R)	Brigade Commander. Brigade Major[2] or Brigade Intelligence Officer. Brigade Signal Officer. Brigade Anti-Tank Battery Commander. Brigade Light Anti-Aircraft Battery Commander. No. 11 R/T set. Despatch Riders. Similar "R" Groups of units of supporting arms may accompany Brigade "R" Group (a).	Battalion Commander. Adjutant[2] or Battalion Intelligence Officer. Signal Officer. Despatch Rider. Similar "R" Groups of subordinate units of supporting arms may accompany Battalion "R" Group (b).	Company Commander. Orderly.	Platoon Commander. Orderly.	(a) Equivalent groups, artillery regiment or group, tank battalion, field company, machine-gun company, etc. (b) Equivalent groups, artillery, anti-tank, light anti-aircraft, tank, and machine-gun subunits, sections of field companies, and carrier platoons. (c) Equivalent groups of supporting arms may be ordered to RV (rendezvous). (d) Certain Hq platoons such as anti-aircraft and pioneer will often receive orders early and be dispersed and in action. (e) In certain circumstances may be with "T" Group.
Orders (O)	Battalion "R" Groups (c).	Company "R" Groups; "R" Groups of Hq Company platoons (d).	Platoon "R" Group.	Section or Detachment Commander.	
Fighting (F)	Brigade Hq and Signal Section. Anti-Tank Battery. Light Anti-Aircraft Battery. 3 Infantry Battalions. Units under command (attached).	Battalion Hq. 4 Rifle Companies. Platoons of Hq Company. "A" echelon transport (e).	Company Hq. 3 Platoons. Platoon trucks (e).	Platoon Hq. Sections or detachments. Platoon trucks (e).	
Transport (T)	Brigade Hq Administrative Transport (if any); "B" echelon of battalions.	"B" echelon, if under battalion control.			

[1] The British brigade is roughly equivalent to the U. S. reinforced regiment.

[2] Neither the Brigade Major from Brigade Hq nor the Adjutant from Battalion Hq should be absent at the same time as the commanders.

FIGURE 107.—Composition of groups in an infantry brigade.

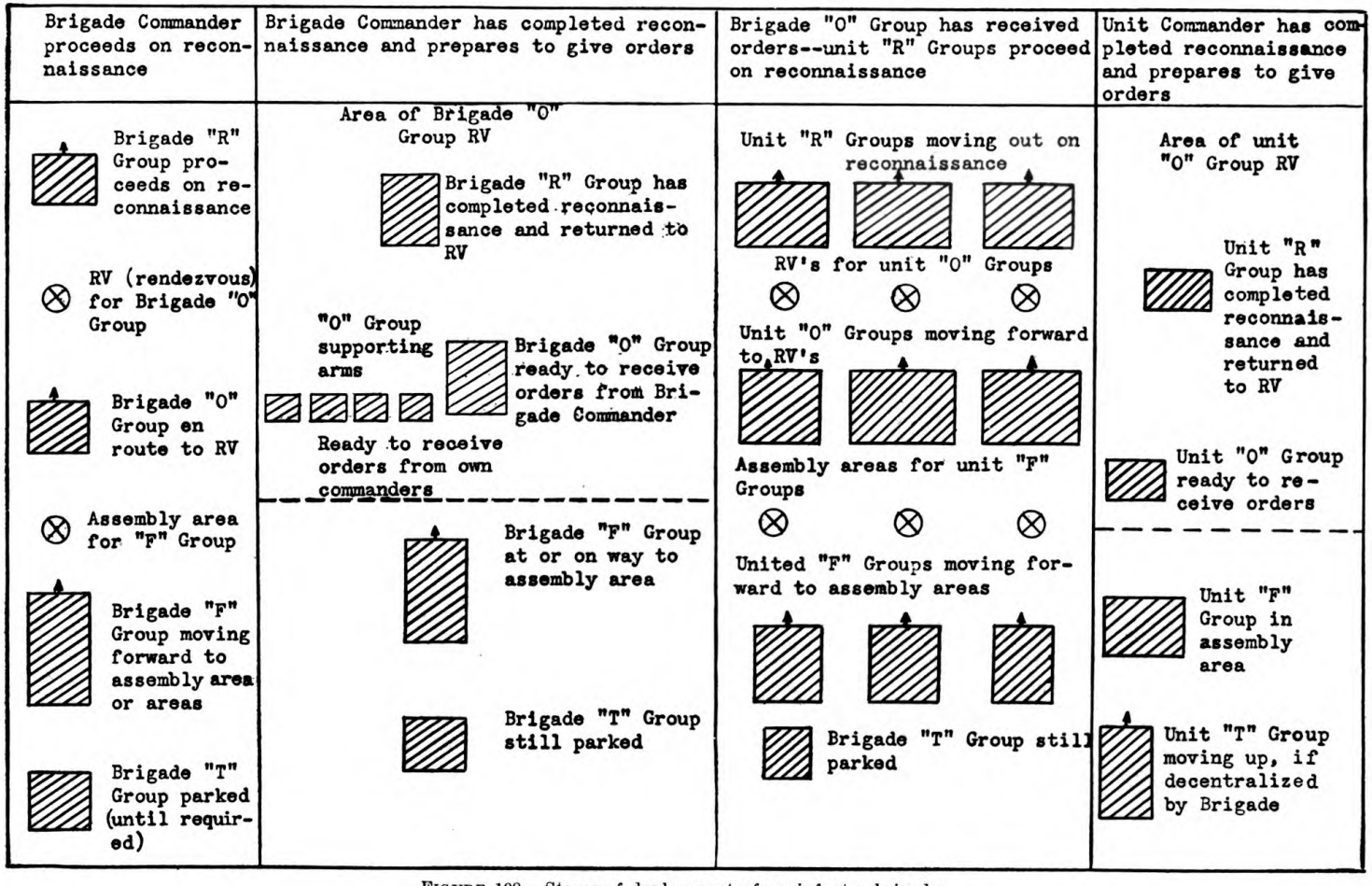


FIGURE 108.—Stages of deployment of an infantry brigade.

subordinate commanders can carry out some reconnaissance concurrently with the commander's reconnaissance.

(2) Sending a staff officer with oral orders regarding essentials to those subordinate commanders who are most pressed for time. Should adequately trained Motor Contact Liaison Officers be available, these may be used to replace the staff officer.

(3) Having the commander of supporting artillery travel in the commander's car during his reconnaissance. In this case the risk of both becoming casualties must be accepted.

f. Commander's responsibility.—(1) To insure the efficient functioning of all arms in a coordinated plan, the stages outlined for deployment (*b*, above) and illustrated diagrammatically in figure 108 should be carried out in the sequence laid down. Such time as is found necessary to carry out each phase in peacetime, with an ample margin of safety for the many accidents which may occur in wartime, should be allowed.

(2) In proportion as this procedure is condensed, or as parts of it are omitted and as the time allowance is cut down, so the risk of failure, or of success with such heavy casualties as will approximate failure, will steadily increase. Of this there can be no doubt. The question of when and where time can be saved, with and without risk, must therefore be studied continuously. The staff must be prepared at all times to warn the commander if, in their opinion, insufficient time is being allowed. But on every occasion the commander must balance up the pros and cons and gauge the risks. He alone must make the final decisions.

(3) As previously stated, while reconnaissance is being carried out and orders are being issued, there should be a simultaneous and uninterrupted movement forward of all units until final battle development has been completed. While the "R" Group is making its reconnaissance, the "O" Group is assembling at a previously designated point which normally should have good terrain observation characteristics. While each commander of a subordinate unit is moving to his assembly point to receive orders, he should know that his combat units are moving forward to the designated assembly area of a higher command. As soon as he receives his orders, he, in turn, makes his reconnaissance with his subordinate commanders. This whole process is repeated until all units are in position.

122. Operation orders.—*a.* All operation orders adhere to the following form and technique:

(1) *Information.*—(*a*) *Of hostile forces.*—A statement of facts and deductions from all sources, giving a general picture of the situation.

(*b*) *Of friendly forces.*—The intentions of the higher command and of friendly troops, arranged logically (e. g., corps, divisional, and brigade situations).

(*c*) *Of boundaries.*—As laid down by the higher command.

(2) *Intention.*—A brief statement of what the commander issuing the orders intends to achieve (i. e., the decision).

(3) *Method.*—Missions, in logical sequence, allotted to the fighting troops and aircraft.

(4) *Administrative arrangements.*—General instructions for supply, transport, ammunition, medical services, etc.

(5) *Intercommunication.*—Locations of command post's (CP's) lateral lines, etc.

(6) *"Ack" ("Acknowledge").*—Always used in an operation order.

b. A transcript of an actual operation order (involving the 11th Indian Infantry Brigade) follows:

Copy No. —
11 Mar 1941.

11 IND INF BDE OPERATION ORDER NO. 16.

Reference Maps: GIANGHEREN, 1/50,000.
Air Survey Sheets.

1. INFORMATION.

(a) Vide Appendix "A".

(b) Following under comd 11 Ind Inf Bde from 2130 hrs DI–2 day:—
1 R. F.
4 Fd Coy S & M.
4 Raj Rif
"A" Coy 17 Fd Amb.

2. INTENTION.

11 Ind Inf Bde will capture and hold the line of the high ground incl Mt SANCHIL—BRIGS PEAK feature—HOGS BACK—FLAT TOP (see Appendix "B").

3. METHOD.

The day of attack will be known as DI day and will be notified later.

4. Troops and Objectives.

2 Camerons—incl Mt SANCHIL—incl BRIGS PEAK feature.

1 Raj Rif—excl BRIGS PEAK feature—incl HOGS BACK.

2 Mahrattas—excl HOGS BACK—incl FLAT TOP.

5. ZERO HOUR.

0700 hrs—(Check Zero 0600 hrs).

6. Starting Line.

Present front line from excl Pt 1616 (3586) to 50 yards to WEST of left Coy Posn.

(Units will be responsible for cutting gaps in the wire before 0500 hours DI day. 1 Raj Rif will cut gaps for 2 Camerons and will provide guides to show 2 Camerons the posn of the gaps).

7. Bde Reserve.

1 R. F.
4 Raj Rif.

For role of this reserve see Appendix "D".

8. Assembly.

(a) Reliefs on the hill will be carried out (vide 11 Ind Inf Bde No. 0385 dated 10 Mar 41) and will be completed by 0500 hrs DI day.

(b) It is essential that the enemy should not become aware of the assembly and movement will be restricted as follows:—

(i) M-I

2 Mahrattas—Movement in rear areas will be reduced to a minimum. Except for small recce parties, movement in the front line is forbidden.

P. T. O.____

(ii) DI

No movement in front line by 2 Camerons and 2 Mahrattas between first light and 0700 hours.

(c) Dispersion.

Space is restricted but as wide a dispersion as possible will be maintained at all times.

9. Arty.

(a) See Appendix "C".

(b) Arty Screens will be carried and will be used as directed in 11 Ind Inf Bde No. 13/106/G dated 11 Mar 41. 2 Mahrattas will show screens in the direction of Pt 1572 (3387) when the objective has been captured.

10. R. E.

(a) 4 Fd Coy S & M is placed in support of bns as follows:

One Sec—2 Camerons
Two Secs—{2 Mahrattas, 1 Raj Rif}

(b) Tasks.

(i) To make tracks forward;
(ii) To assist in the consolidation by making strong points.

(c) Secs will NOT be employed in any other manner without orders from Bde HQ.

(d) Secs will move to respective Bn areas in rear of the Coy 1 R. F. moving up the track at 0700 hrs DI day. (See App "D".) Other than recce parties, secs will not move further forward until ordered by O. C., 2 Camerons, and Bde HQ in case of the secs in support of 2 Mahrattas and 1 Raj Rif.

(e) HQ 4 Fd Coy S & M will remain in the Indian Dump area.

11. Consolidation.

(a) Immediate steps will be taken on capture of the objective to prevent penetration by counter-attack.

(b) D. F. tasks will be arranged by Bn Comds direct with F. O. O.'s as soon as possible after the objective has been captured.

(c) Forward positions will be sited, whenever possible, in front of the crest line of the objective.

(d) Wire will be erected at first opportunity and at such a distance from forward troops as to put them out of bombing range.

12. A Tk.

(a) Two A Tk rifles per bn may be taken forward to assist, if required, in overcoming enemy strong points.

(b) A Tk Pls remain under comd bns.

13. R. A. F.

See Appendix "E".

P. T. O.----

14. Stores.

(a) Wire Cutters.—Extra cutters are allotted as follows:

2 Camerons—80
2 Mahrattas } —90 each
1 Raj Rif }

(b) Sandbags.—At the scale of two per man will be held in dumps for consolidation.

(c) Order of Priority of forward despatch of stores during and after attack.

Ammunition.
Water.
Wire and sandbags.
Food.

15. Carrying Parties.

(a) Units will arrange for their own carrying parties, under the command of an officer, for the immediate supply of the forward troops during and after the capture of the objective.
Later, it is hoped that mules will be available.

(b) Each bn will provide one carrying party for taking forward wire for F. O. O.'s. C. R. A., 4 Ind Div., is notifying units direct of the time and place these parties will report.

Strength—Six Other Ranks.

(c) All personnel of carrying parties will wear a white armband on the right arm.

16. Secrecy.

(a) No orders, marked maps, etc., will be taken forward of the Starting Line.

(b) Men will be warned particularly NOT to "talk" should they be captured. They may, however, be informed that there is a possibility of Australian troops following them up.

(c) SECRECY is of PARAMOUNT IMPORTANCE.

ADM.

17. Instructions issued separately.

INTERCOMN.

18. Bde HQ will open at HQ present LEFT Bn at 2130 hrs DI-2 day.

19. Location of Bn HQ.

2 Camerons —In area now occupied by RIGHT forward Coy of present LEFT Bn.
1 Raj Rif —CRACK—moving to NEAR FEATURE and later HOGS BACK.
2 Mahrattas—Centre of area now occupied by LEFT Coy of present LEFT Bn. Moving to SLAB ROCK.

P. T. O.----

20. Communications.

Sig Offr will arrange for:

(a) L/T and W/T to all bns.
(b) R/T to 2 Mahrattas (to be used ONLY if L/T fails).
(c) L/T, V/T and R/T to HQ 4 Ind Div.

21. L. O.'s (less 4 Raj Rif) will remain with Bns. L. O. 4 Raj Rif will report Bde HQ at 0600 hrs DI day.

22. Synchronisation.

Sig Offr will synchronise with C. R. A., 4 Ind Div., at 0600 hours DI day and pass to units.

23. S. O. S. Signal.

Signals for D. F. after capture of objective are being issued by C. R. A., 4 Ind Div.

24. Password.

From 1800 hours DI-I day to 2359 hours DI day:

KHARTOUM

ACK. (Signed)
Time of signature 1200 hours. Major,
Method of despatch—by D. R. Brigade Major.

DISTRIBUTION:

1 1 R. F.
2 2 Camerons
3 2 Mahrattas
4 1 Raj Rif.
5 4 Raj Rif.
6 A Tk Coy.
7 4 Fd Coy SM.
8 A Coy 17 Fd Amb.
9 Comd.
10 B. M.
11 S. C.
12 Sigs.
13 B. I. O.
14 B. T. O.
15 B. O. O.
16 RIASC Offr.
17 L. O. 1.
18 L. O. 2.
19 L. O. 3.
20 Div L. O.
21 Lt-Col. ———.
22 Maj. ——— (DAQMG).
23 5 Ind Inf Bde.
24 C. R. A., 4 Ind Div.
25 4 Ind Div.
26 5 Ind Div.
27 File.
28, 29 War Diary.

APPENDIX "A"—All copies.
APPENDIX "B"—NOT issued to copy Nos. 6, 14, 15 and 16.
APPENDIX "C"—NOT issued to copy Nos. 6, 7, 8, 11–22, 24–26.
APPENDIX "D"—NOT issued to copy Nos. 6, 8, 14–16.
APPENDIX "E"—NOT issued to copy Nos. 6, 8, 11, 14–20, 22–26.

c. The following outline indicates the general content of the appendixes referred to in the operation order as given in *b*, above:

(1) *Appendix A.*—Reference maps and information on—

(*a*) Enemy.

(*b*) Own troops.

(2) *Appendix B.*—Mimeographed panoramic sketch of terrain occupied by enemy.

(3) *Appendix C.*—Task table of the Royal Artillery, with columns showing the following:

(*a*) Serial number.

(*b*) Time and duration of firing.

1. From.

2. To.

(*c*) Task.

(*d*) Rate.

(*e*) Ammunition.

(*f*) Remarks.

(4) *Appendix D.*—Instructions for brigade reserve.

(5) *Appendix E.*—Air plan.

(*a*) Tasks of supporting aircraft.

(*b*) Air-ground communications.

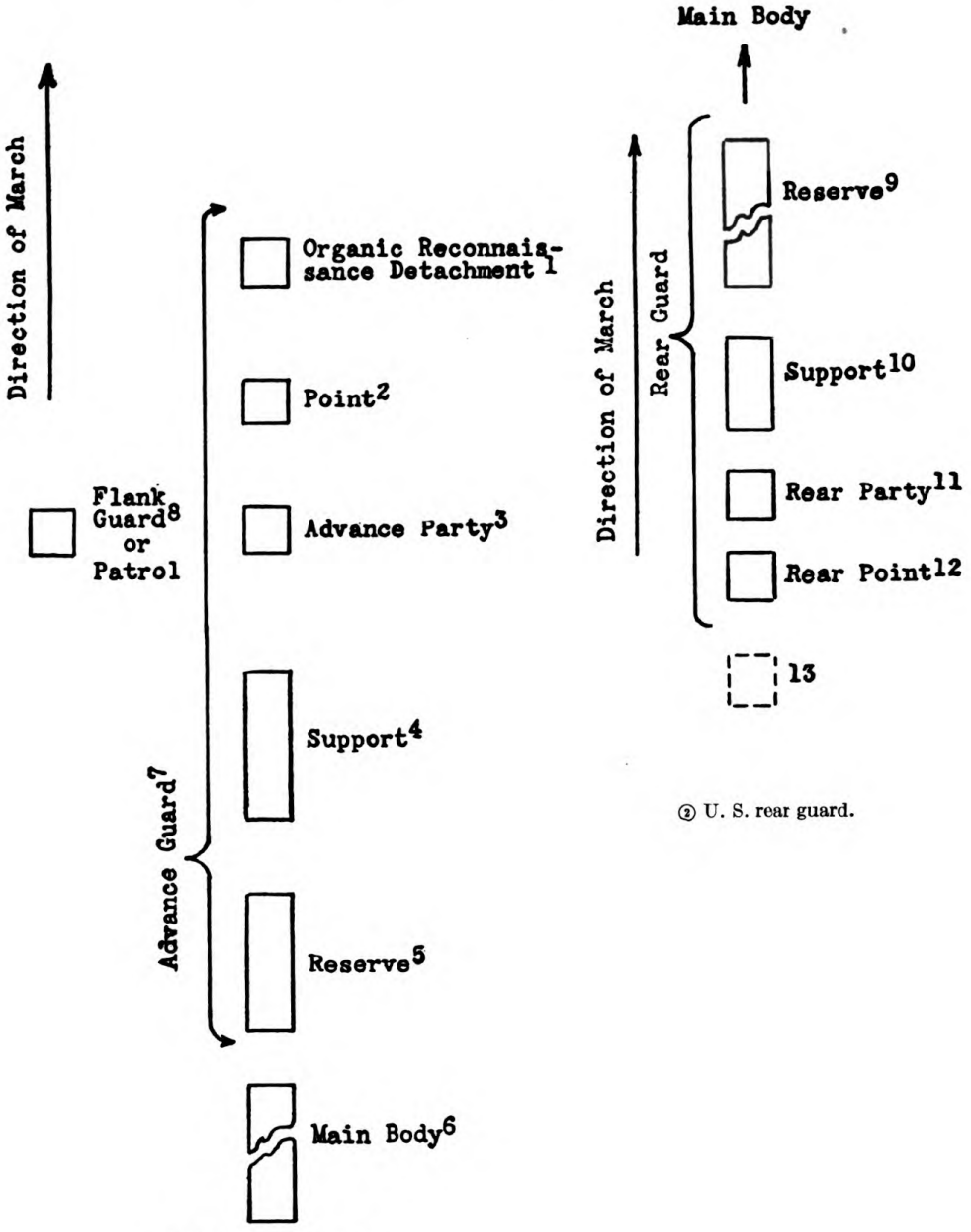
123. British and U. S. equivalent terms for advance guard and rear guard formations.—See figure 109.

124. British and U. S. equivalent terms for the attack.—See figure 110.

125. Defensive.—*a.* The British *Field Service Regulations*, Volume II (Operations—General), 1935, page 132, makes the following statement on defensive principles:

"The adoption of the defensive does not necessarily imply weakness or inferiority. It may be necessary to gain time for the arrival of reinforcements or for the execution of a decisive maneuvre in some other part of the battlefield or of the theatre of operations. It may also be desirable to induce the enemy to commit himself to a ground favorable to the counter-offensive and to waste his strength in attacks on a well-prepared position; just as some of the most effective falls in wrestling are given by inducing the opponent first to exert his strength in a certain desired direction."

b. The discussion of this doctrine is continued with excerpts from the more recent British War Office publication *Operations*, Military Training Pamphlet No. 23, Part II (Defence), 1939, pages 5–6:



① U. S. route column.

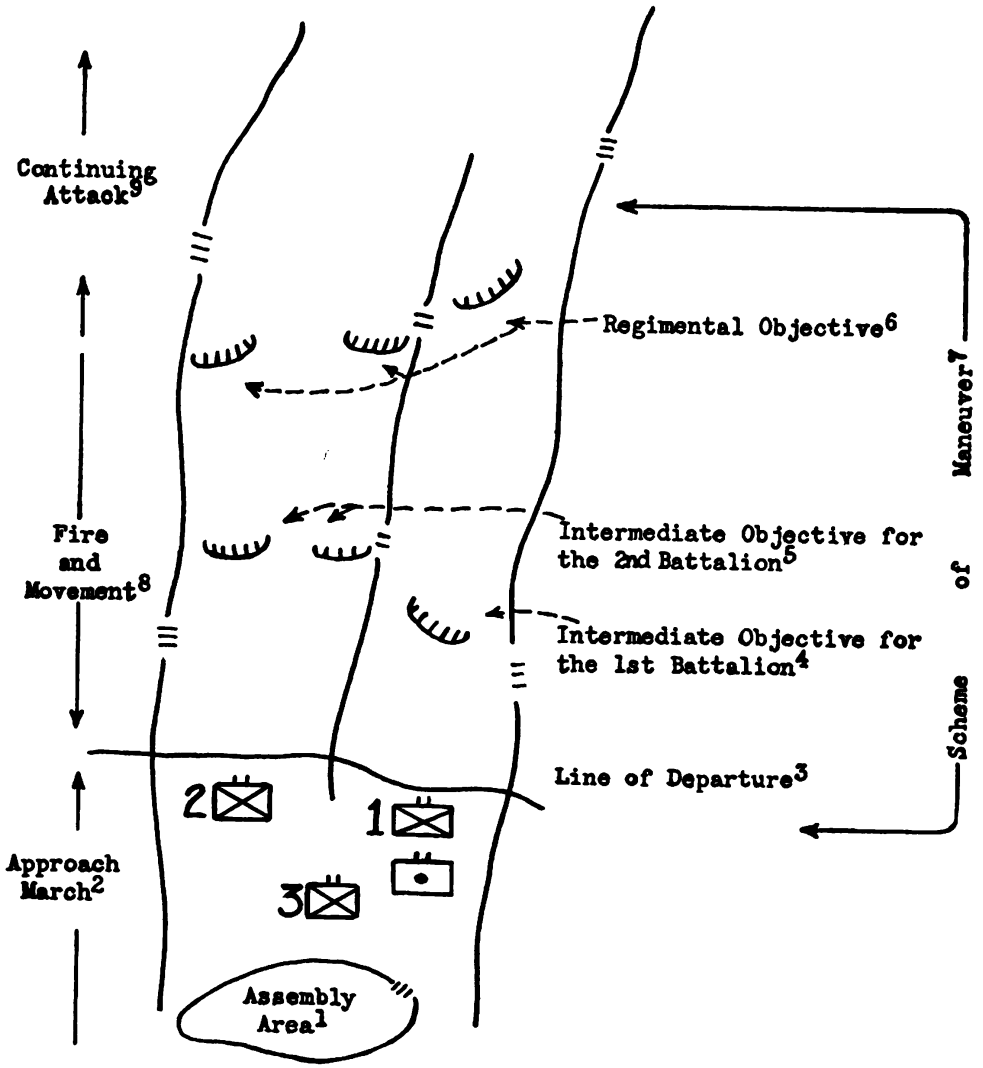
② U. S. rear guard.

British equivalents

Route column:
1. Mobile troops (recce unit).
2, 3, 4. Van guard.
5. Main guard.
6, 7, 8. (Same.)

Rear guard:
9, 10. Main body of rear guard.
11, 12. Rear parties of rear guard.
13. Rear guard mobile troops.

FIGURE 109.—U. S. march dispositions (with equivalent British terminology).



British equivalents

1. Assembly position.
2. (Same.)
3. Start(ing) line.
4. (Same.)
5. (Same.)
6. (Same.)
7. Plan of attack.
8. (Same.)
9. Exploitation.

FIGURE 110.—U. S. regiment in attack (with equivalent British terminology).

"The advantage which the defence confers upon the defender, where he has freedom of action, is that he has the opportunity to select ground that will allow of the greatest possible development of the fire power of his weapons; and as time allows, the defences can be progressively improved. The chief object of the defender is to reduce and exhaust the enemy's forces with the minimum expenditure of his own. He may then eventually be able, either in the same part of the battlefield or elsewhere, to pass to the offensive and complete the defeat of the enemy; or it may, in certain situations, be sufficient if the enemy is prevented from attaining his object.

"The principal weakness and danger of the defence is that freedom of action and maneuvre is temporarily surrendered and allowed to pass to the enemy, who can choose the time and place of his attack. Active reconnaissance is therefore of great importance. * * *

"Troops allotted to the defence of a locality must defend it to the end without a thought of withdrawal, whatever may happen on their right or left, unless and until their commander receives orders to retire.

"A special feature of the defence imposed by modern weapons is that it must be in depth and designed to withstand attack supported by tanks, heavy artillery fire and aircraft. The power of modern weapons is such that the attacker, by concentrating his effort, can usually make a breach on a limited front and to a limited depth in even an organised and prepared defence."

c. British doctrine in defence is now veering away from the defended line in depth towards heavily armed pockets of resistance in depth or behind an anti-tank obstacle. The enemy is engaged by one after the other of these pockets of resistance, which should be in tank-proof localities. Great stress is now laid on alternate firing positions for all troops in any defensive position, especially infantry and artillery.

126. Organization of defensive position.—*a.* The following excerpt (with slight changes) from British War Office publication *Operations*, Military Training Pamphlet No. 23, Part II (Defence), 1939, pages 10–11, states some British principles for anti-tank defence:

"The occupation and preparation of a defensive position will be protected by covering troops, which will occupy a position to cover the defensive position during this period. The covering position or positions should be sufficiently far from the defensive position to give the covering troops room for delaying action, and should not be so close that the enemy could bring observed artillery fire to bear on the main position. Occasions may arise, however, when, owing to the proximity of the enemy or other causes, the covering troops will be obliged to occupy a closer position which may in extreme cases coincide with that eventually to be occupied by the outposts. The covering troops will usually be provided by complete formations. They may, however, be provided by units thrown out by forward brigades in cases where the covering position is close. They will be withdrawn ultimately into reserve. As they may be required to hold the covering position against enemy attack, they must be strong in anti-tank guns and must be provided with the support of artillery, which will usually be under orders of the commander of the covering troops. Where, however, the position of the covering troops is so close that it is adequately covered by guns of the defensive position, the artillery may more suitably be 'in support' of such covering troops. OP's

(observation posts) will always be established on the covering position. The divisional light tank regiment with some medium machine guns will as a rule form part of the covering troops. When a complete formation with its own signal personnel is not provided, an allotment of the necessary signals to the commander of the covering troops must be made.

"The withdrawal of the covering troops will be coordinated along the whole army front. This will usually be effected by higher commanders, who will give the time at which these troops are to be withdrawn. As the units comprising the covering troops, with the exception of the cavalry, will be required to prepare their own positions in the defensive organisation, it will be advantageous if they can be withdrawn in good time. The dominating factor affecting their withdrawal, however, is that they must not be withdrawn until the main position is sufficiently prepared to meet the enemy's attack.

"When the main body of the covering troops is withdrawn, the divisional reconnaissance regiment (battalion), which must be adequately supported by artillery and, when possible, machine guns and anti-tank guns, should remain in observation on or in front of the covering position to gain information and to delay and mystify the enemy as long as possible. These detachments will fall back under pressure, and it is essential that good lateral liaison be maintained to ensure that the movement is properly coordinated.

"A main position will be organised to provide:

"(1) The area of forward defended localities protected by a tank obstacle;

"(2) The brigade (U. S. regiment) reserve area;

"(3) The divisional reserve area protected by a tank obstacle.

"Outposts will be established in front of the line of foremost defended localities (main line of resistance) for local protection. Their role will be:

"(1) To prevent the enemy's reconnoitring troops from obtaining information;

"(2) To obtain information of the enemy's approach;

"(3) To gain such time by resistance as may be necessary to enable the garrison of the main position to prepare for action.

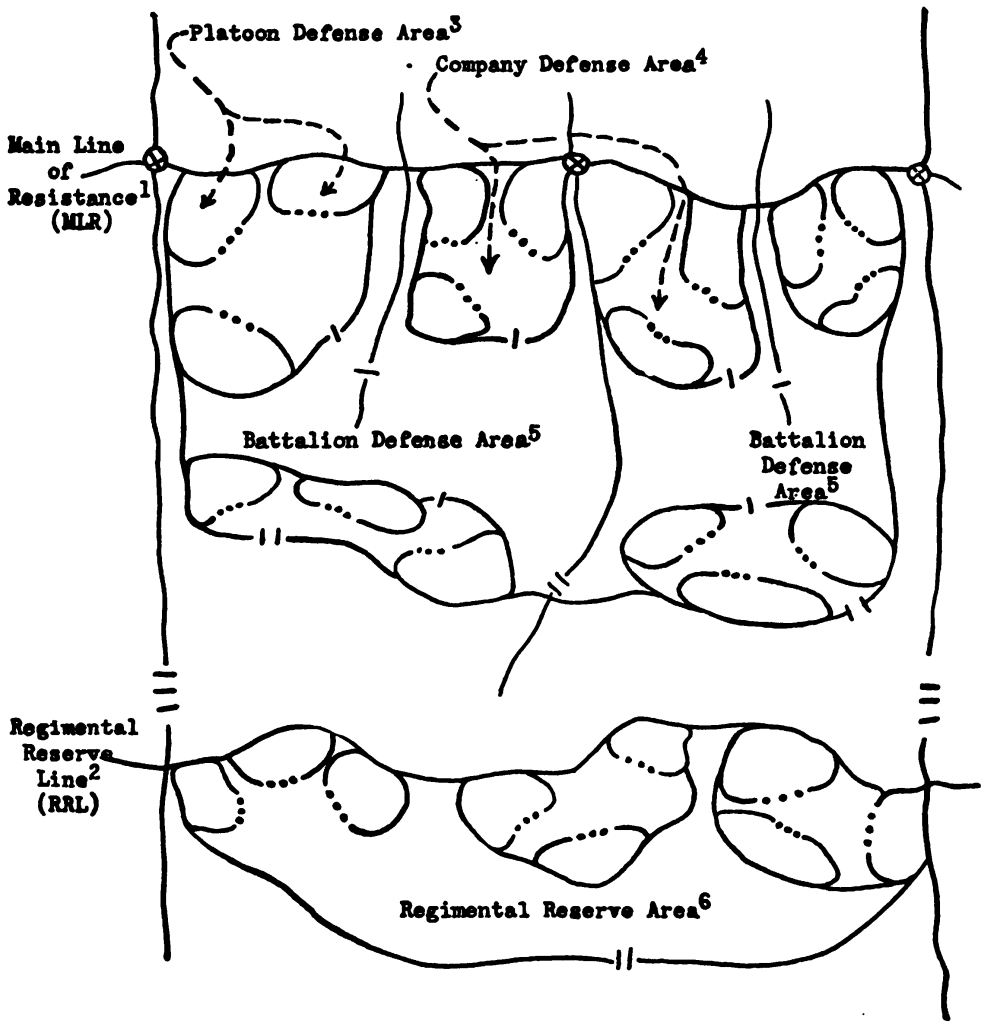
"The distance at which outposts are placed in front of the main position will depend chiefly on the ground. It will be advantageous if they can be placed behind a tank obstacle."

b. British officers have reported that during operations in France in 1940 it often was unavoidably necessary to hold extended frontages. With limited resources this may occur again. Under these conditions it may often be difficult to reconcile the two principles that a position organized for defence against a tank attack must be in the greatest depth possible, and that an obstacle must be kept under small-arms fire throughout its length. However, to keep the whole length of the obstacle under small-arms fire may be possible only at the expense of depth.

c. Under these circumstances depth must be the primary consideration and some gaps in the belt of fire along the anti-tank obstacle must be accepted. If these conditions prevail, however, it is essential to maintain mobile reserves which can counterattack the enemy as soon as the latter has discovered the gaps and commenced infiltration.

Furthermore, these gaps must be constantly observed by day and night either by patrolling or other suitable means in order to get the earliest information of any enemy penetration or other activity.

127. British and U. S. equivalent terms for regiment (British brigade) in defence.—See figure 111.

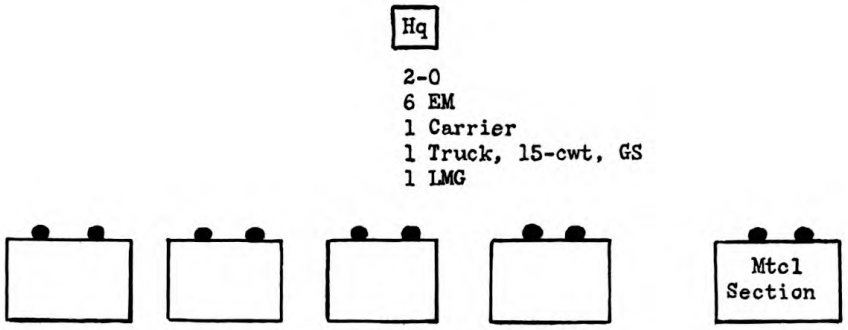


British equivalents

1. (Line of) forward (foremost) defended localities.
2. Brigade reserve position.
3. Platoon sector.
4. Company sector.
5. Battalion sector.
6. Brigade reserve area.

Figure 111.—U. S. regiment in defence (with equivalent British terminology).

128. Tactics of carrier platoon.—*a. Organization.*—The organization of the carrier platoon, an integral part of the rifle battalion (see par. 26*a* and fig. 9), is illustrated in figure 112.



Total personnel and weapons:

2-O	2 Pistols.	13 Bren guns.
56 EM.	58 Rifles.	4 2-inch mortars.
6 EM attached.	4 Submachine guns.	4 AT rifles.

FIGURE 112.—Organization of the carrier platoon.

b. Characteristics.—(1) The carrier is bulletproof against rifle fire on the same level, but the crew is vulnerable to fire from above, or when the carrier is on a forward slope. It is, therefore, a partially protected vehicle only. (See fig. 113.)

FIGURE 113.—Carriers in close cooperation with infantry.

(2) The carrier can move fast across good country, but will be stopped by trenches, by any obstacle which is a tank obstacle, and by many which are not. There will be occasions, therefore, when it will be unable to follow tanks forward. Continuous scouting will always be necessary.

(3) The light machine-gun detachment, consisting of two men, cannot be expected to do more than keep the gun in action, either in the vehicle or on the ground. Once in action, the detachment has little or no power to protect itself by observation, and is therefore very vulnerable to a quick attack by one or two determined infantrymen. If an isolated position has to be held for any length of time, the three detachments in a section must be sited to provide mutual support. Carriers cannot carry out mopping-up operations.

(4) The period of dismounting from the carrier and getting into action is one of considerable danger to personnel and vehicle. Dismounting must be carried out under cover and very quickly. The carrier, once the LMG is dismounted, is entirely vulnerable, and must either withdraw to the cover of other troops or must be concealed close to the LMG and under cover.

(5) The fire power of the carrier platoon is considerable, and the platoon should for short periods be able to hold a front varying from 500 yards to 1,000 yards according to the depth in which it is disposed. But, as stressed above, gun detachments are very vulnerable unless protected from the flank and rear.

(6) The LMG can give fire as effective from 400 yards as from closer up. There is no need to move close in to a target to gain fire effect.

(7) From these characteristics the tactical employment of the carrier may be deduced. It must be remembered that the carrier is not a light tank; it is an armoured machine designed to convey the LMG from place to place and a machine from which the LMG can be fired if necessary.

c. Carrier platoon in attack.—(1) *Tasks in attack.*—(*a*) Close cooperation with infantry alone (figs. 113 and 114).

(*b*) Close cooperation with infantry and infantry tanks.

(*c*) Flank protection.

(*d*) Consolidation.

(2) *Close cooperation with infantry alone.*—(*a*) Throughout the attack, reconnaissance by both the infantry commander and the carrier commander, especially for the purpose of obtaining knowledge of terrain features, must be continuous. Points to be looked for are likely carrier positions, the line of advance, and obstacles to movement.

(*b*) During the advance, the infantry commander may realize that some of his leading troops are held up by fire from enemy defence areas. If the advance is only partially checked, he may decide to move forward his carriers, in the immediate rear of the troops still advancing, to positions from which the carriers can bring fire to bear on the enemy from the flank or rear, and so enable the advance to continue.

(*c*) On other occasions, carriers may be sent wide to a flank to a position from which flanking fire against enemy resistance may be employed.

(3) *Close cooperation with infantry and infantry tanks.*—(*a*) When the infantry attack is supported by a prearranged fire plan, the carriers will usually be best kept in hand as a mobile reserve of fire power. As the attack proceeds, they may be used to infiltrate through gaps and to turn enemy areas which are still holding out, or to guard a flank.

FIGURE 114.--Carriers in an advance.

(*b*) The attack against light opposition will often be more in the nature of an advance, and will rely mainly on infiltration and maneuver. In such cases carriers may precede the infantry, reconnoitering for gaps in the defence and flanks of enemy resistance.

(*c*) In an attack in which infantry tanks are cooperating, the role of the carrier platoon, provided that the ground permits of its moving forward, is to advance from fire position to fire position in order to

give close support to tanks moving ahead of the infantry. This implies in the first instance close support against anti-tank weapons disclosing themselves within the area of attack and on the flank of the attack, and, subsequently, support against weapons located beyond the objective. In an attack in which the leading echelon of tanks moves directly to the final objective, the carrier platoon will rarely be able to accompany this echelon, but will probably move protected by the tanks of the second echelon. As the infantry with the second echelon of tanks approach the final objective, carriers may go forward to the objective to engage anti-tank weapons located beyond it. But plans will vary in accordance with circumstances, and no stereotyped method can be contemplated.

(4) *Flank protection.*—(*a*) Flank protection consists not only in stopping enemy counterattacks, but also in the neutralization of enemy fire coming from the flank. Efficient performance of this task depends mainly on good observation.

(*b*) Carrier platoons and sections employed on this task may be attached to leading rifle companies, or given an independent task directly under battalion control.

(*c*) The closest cooperation with leading rifle companies should be maintained, and carrier platoon and section commanders should make full use of their carriers for keeping contact.

(5) *Consolidation.*—(*a*) On reaching an objective there will, as a rule, be some measure of disorganization, and it is then that the attacking troops are most vulnerable to immediate counterattack. The actual objective reached may not be the best ground on which to consolidate. The process of consolidation will therefore include the reconnaissance and organization of the position for defence, the reorganization of troops, the replenishment of ammunition, etc. Carriers will often be most valuable to cover consolidating troops during this very difficult period; and if they are used in this role, they must be relieved as soon as possible.

(*b*) If the ground is not suitable for the employment of carriers in a fighting role, they may be used to bring forward ammunition of all sorts, mortars, wire, anti-tank mines, and entrenching tools for consolidation.

d. Carrier platoon in defence.—(1) The tasks that may be allotted to carriers in defence are—

(*a*) To assist the outposts.

(*b*) To provide a mobile reserve of fire power.

(*c*) To support counterattack, by dismounted or armoured action.

(*d*) To give depth to the defensive fire of the battalion.

(2) *Carriers on outpost.*—(*a*) Carriers are suitable for employment with outpost troops, as, by day, they can be established forward of the outpost line and so give early warning of the enemy's approach.

(*b*) If employed in static roles for anything but short periods, they should be supported by infantry. Owing to the limited number of men that crews can provide for observation, carriers are easily stalked and surrounded.

(3) *Carriers as mobile reserve.*—(*a*) A mobile reserve of fire power will enable the battalion commander to support hard-pressed areas, stop gaps, and obtain surprise by fire from unexpected directions. Careful prior reconnaissance by all ranks of the carrier platoon will be necessary in order to insure an intimate knowledge of the battalion area.

(*b*) The battalion commander should, as a rule, hold all carriers under his own command in defence, and not disperse them by allotment to companies.

(4) *Carriers in counterattack.*—(*a*) Carriers can be used quickly and boldly in the immediate counterattack, in either dismounted or armoured action, or they may be used to provide supporting fire from previously reconnoitered positions.

(*b*) Again, all ranks of the carrier platoon should acquire a good knowledge of the terrain by previous reconnaissance.

(5) *Carrier fire power in defence.*—The carrier platoon should rarely be employed in the static role of increasing the depth of the position, unless guns so allotted can also be available as a mobile reserve. At night, or in fog or mist, the LMG's of the carrier platoon can, by means of the tripod, be laid on fixed lines. If the carriers themselves can be concealed close at hand, then it may be possible for the two roles—the provision of depth and a mobile reserve—to be linked, but the retention of a mobile reserve is the first consideration.

e. Carrier platoon in protection.—(1) *Advance and gaining of contact.*—Carriers can be used in the advance and contact phase, when useful short reconnaissances can be made to the front and flanks. The method of movement on roads or across country on all occasions in face of the enemy will be by bounds, and carriers will often be used to take over and hold points gained by reconnaissance troops.

(2) *Flank guards.*—(*a*) Carriers can be used with advantage on flank guards, whether fixed or moving parallel to the column which they are protecting. In both cases their ability to move quickly from point to point can be so used as to give to the enemy the impression that the flank is wider and more strongly held than is actually the case.

(*b*) Carriers can also be used as detached posts on side roads. The

distance of these posts will depend on the topography, but, as a rule, they should not be farther than is necessary to safeguard the main column from direct fire or observation.

(*c*) This duty will usually consist of making temporary barbed-wire concertina road blocks, covered by the anti-tank rifle.

(3) *Rear guards and withdrawal.*—(*a*) In a withdrawal, the carrier platoon forms a most suitable unit for holding an intermediate position through which groups of the rear guard withdraw, whether the action takes place by day or night.

(*b*) In this form of action there are unlimited opportunities for initiative. By a skillful maneuvering of the carriers behind ridges, using either dismounted or armoured action, the enemy can be deceived as to the strength of the rear guard. As an alternative rear-guard action, on suitable ground, carriers may be left in ambush in concealed and camouflaged positions, holding their fire until the enemy is close enough to be so punished that his advance will be checked.

f. Other uses in war.—(1) Carriers have been found to be of value in—

Reconnaissance.
Intercommunication.
Wood, village, and river fighting.
Raids.
Night operations.

(2) Carriers have also been used frequently to transport—

Small-arms ammunition, grenades, etc.
Tools.
Mortars.
Wire.
Anti-tank mines.
Reinforcing personnel.
Wounded.

(3) *Use of carrier as reconnaissance vehicle.*—The armour and mobility of the carrier permit reconnaissance of all kinds to be carried out with speed and comparative safety. This reconnaissance includes—

(*a*) Inspection of occupied defence areas by brigade (regimental) and battalion commanders.

(*b*) Flank reconnaissances to find the location and examine the dispositions of adjacent units.

(*c*) Short-distance reconnaissances forward of the main line of resistance, in the nature of daylight patrols.

(*d*) Reconnaissance of successive positions during withdrawals.

(*e*) Close reconnaissance by junior commanders and by intelligence personnel of elements of the defence under fire.

(4) *Intercommunication.*—During battle the carrier has been found to be a good means of intercommunication, and has been used in this capacity by battalion, company, and platoon commanders. Its reliability in getting through messages and information under fire has been proved in action where other methods have failed. It has, in fact, on many occasions replaced the runner in forward areas.

(5) *Wood fighting.*—In spite of the disadvantages of being restricted to roads and trails, and of being liable to casualties from snipers in trees, etc., carriers have been used to advantage in wood fighting. The method has generally been to lie hidden in the undergrowth on the near side of clearings and surprise the enemy as he emerges into the clearings. In such instances it was found necessary to have well-reconnoitered lines of withdrawal.

(6) *River fighting.*—Carriers have been found useful in holding up the enemy at canal and river crossings, especially at some canals where the carriers could move up and down under cover, or even partial cover, of the raised banks, and then, by getting the LMG into position, enfilade a section of the canal. Carriers have also been used to bring up troops with grenades under the banks of canals, the troops throwing their grenades among the enemy on the far side with good effect.

(7) *Raids.*—Carriers have been used with effect to raid and bomb enemy positions held by machine guns, and groups in defence areas. Examples for two such cases follow:

(*a*) On one occasion successful action was carried out when 3-inch mortars shelled some farm buildings, and the carriers, moving around on both flanks, struck the enemy as he withdrew.

(*b*) On another occasion the carriers of one unit penetrated the advanced elements of the hostile infantry, thus slowing up its advance. The raid entailed a cruise along 3 or 4 miles of road within an area occupied by the enemy, and all hostile units which were met either fled or took cover immediately. The appearance of tanks could not have been more effective.

(8) *Transport.*—On numerous occasions carriers have been used to transport munitions and reinforcements across fire-swept terrain, where other means would have proved either impossible or very costly. Carriers have also been frequently used for carrying back wounded.

129. Leaguering[1] (bivouacs of armoured regiments).—*a. General.*—Bivouacs of armoured regiments in Libyan desert warfare are called leaguers by the British, and fall into two categories:

(1) Leaguers, both by day and by night, when contact with the enemy is expected.

(2) Leaguers when air attack but not ground attack may be expected. This form of leaguer involves merely dispersion, siting of anti-aircraft positions, digging of slit trenches (see par. 130 *b*), and maintenance of strict light discipline.

b. Principles involved.—Leaguering, when ground attack as well as air attack is expected, involves the following principles:

(1) All-around protection must be secured. Although units may be so sited as to afford mutual protection during the day, this is not possible during the night, because of the danger of firing on other friendly tanks and vehicles in the leaguer.

(2) Every vehicle must halt, facing in the proper direction to move out at a moment's notice if necessary.

(3) Dispersion must be maintained during daylight hours, but visual distance must be maintained after dark.

(4) Perimeter defence must be maintained.

c. Open leaguer.—During the hours of daylight, units are formed into what is known as an open leaguer, which is a form of dispersed bivouac. Vehicles are disposed in generally the same manner as when moving during the day. If air attack is expected, however, intervals and distances may be increased. In this open leaguer an all-around defence is habitually maintained.

d. Close leaguer (fig. 115).—(1) Upon halting for the night, units of the size of a regiment are formed into what is known as a close leaguer. Armoured vehicles, facing outwards, form either a triangle or a square, and the smaller units occupy the leg or side, with 10 to 15 yards between vehicles. Close leaguers are usually formed about dusk; but if the troops believe themselves to have been observed from the air or ground, they often change position after darkness falls. "B" echelon of the supply unit comes forward after dark and moves inside the triangle or square. Unit vehicles then move to the rear of their respective organizations.

[1] In British terminology the terms "harbouring" and "leaguering" occur as synonyms of the American word "bivouacking." The British use "harbouring" generally for all temporary camps, and therefore it comes closer to the meaning of "bivouacking" than does "leaguering." The latter term has been applied during the present war particularly to the specific type of "protective formation" employed in Libyan desert operations. The term "leaguering" or "leaguer" was derived by the British from the words "laagering" or "laager," which were used in the days of the South African wagon trains to denote a circular defensive formation, somewhat like that practiced by the American pioneers with their covered wagons.

(2) Night listening posts, as well as day patrols, are kept well out from the leaguer. Armoured vehicles are not used for this purpose. Within the leaguer one tank or other armoured vehicle is detailed to approximately every five vehicles. One man in each vehicle is always on the alert, and these sentries are changed hourly.

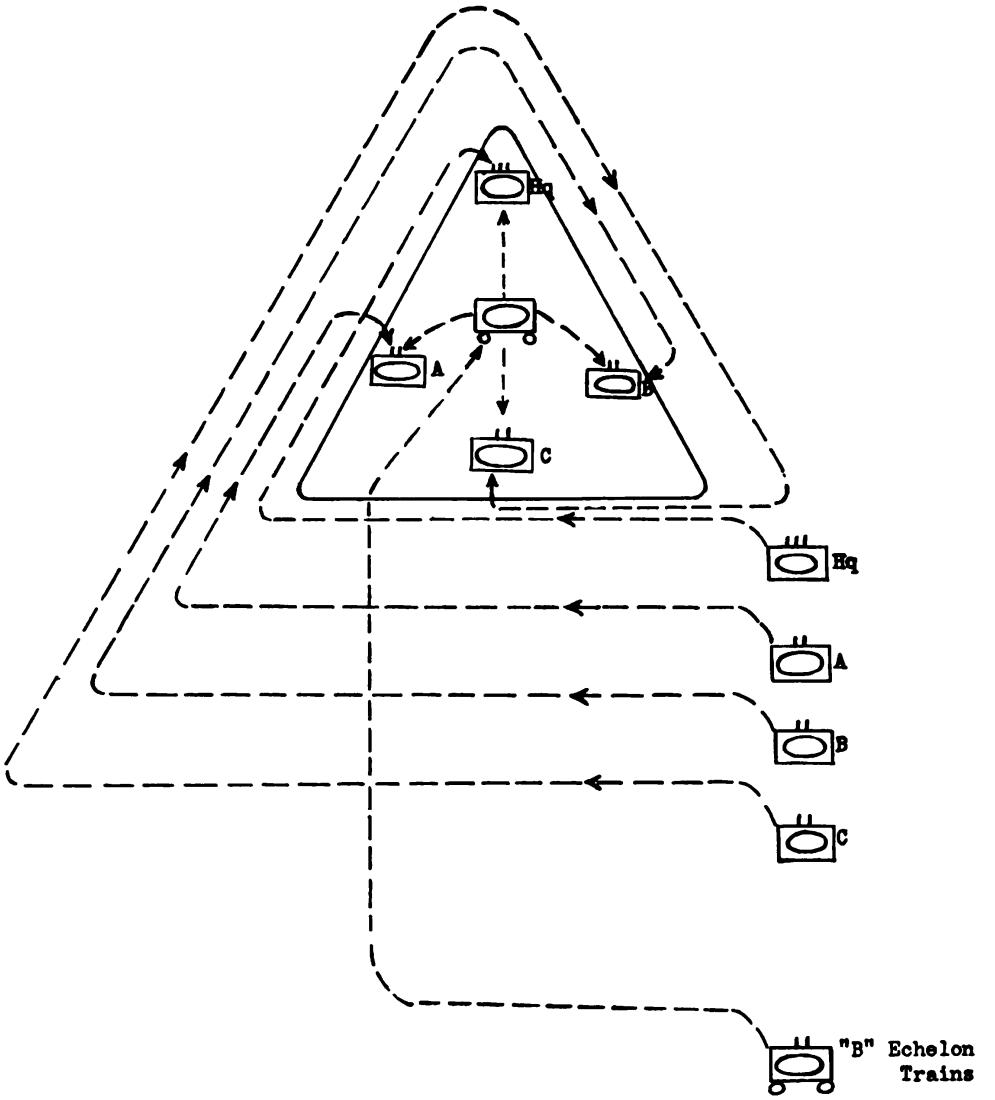


FIGURE 115.—Formation of the close leaguer.

(3) The lights which are necessary for administration, maintenance, and cooking are carefully concealed by tarpaulins. When there is no danger of observation or attack, a leaguer light is shown intermittently in order to assist "B" echelon or other units in finding the leaguer.

(4) Except in cases of emergency, radio silence is observed during the hours of darkness and for at least half an hour before moving into the leaguer area. Just prior to dawn, "B" echelon moves to the rear. When there is no danger of an attack by enemy ground forces, the open leaguer is used for both day and night formations. This is done in order to provide dispersal protection against air attacks.

130. Anti-aircraft defence.—*a. Riflemen and Bren gunners.*—Riflemen and Bren gunners are trained to take anti-aircraft targets while swinging guns through an arc, and to fire with a 12° lead.

b. Slit trenches.—Although passive, the "slit trench" is unquestionably the best means of anti-aircraft defence for the individual. Whenever a unit is halted for any appreciable length of time, men are trained to prepare to dig slit trenches at once. Units which made great use of slit trenches in Greece suffered almost no casualties from air attacks. The slit trench is most effective against dive bombardment aviation. Unit commanders have found that after men realize the protection which is afforded them by the slit trench, they dig slit trenches most enthusiastically and become very nonchalant about air attacks. If there is time, a slit trench should be dug deep enough to allow a man to use a rifle or light machine gun while standing.

c. In bivouac.—In bivouac, anti-aircraft precautions are primarily defensive. Slit trenches are dug; vehicles are dispersed with from 100 to 200 yards between vehicles; and at least one-third of the light machine guns are mounted for anti-aircraft defence. When available, a section of two Bofors guns may be assigned to a bivouac area. Bivouacs are usually by battalion or other small units.

d. On the march.—(1) The Bren guns on Motley mountings are dispersed throughout the column or formation. At least one-third of the light machine guns are tied to cross bows of trucks or are otherwise mounted for anti-aircraft defence. An anti-aircraft sentry is placed on each vehicle. (Openings have been cut out in the tops of all closed-bodied or closed-cab vehicles to make it possible for a sentry to stand on the driver's seat and have his head and shoulders protrude through the top of the vehicle—see par. 113*c*.)

(2) When the formation is attacked, every effort is made to keep it moving. On the desert when the attack is persistent, vehicles may keep moving and disperse over a very wide area, for they invariably move across country. In Greece, where the roads ran through many defiles and corridors and the air attacks were most persistent, the movements of motor columns were constantly interrupted, and during the evacuation period they had to be made largely during the night.

131. Motor marching.—*a. Definitions.*—(1) *Speed* (*U. S. equiva-*

lent "rate").—Speed, which is expressed "miles in the hour" (mih), means the average speed over a route, including the time spent on short halts up to 10 minutes in 1 hour, or 20 minutes in 2 hours.

(2) *Cruising speed* (*U. S. equivalent "speed"*).—The speedometer reading at which a vehicle must travel over open sections of road to maintain a given average of speed (i. e., mih) is known as "cruising speed." It is expressed as "miles per hour" (mph). The relation between speedometer speed and mih depends on road conditions; for example, gradients, defiles, traffic, etc.

(3) *Density* (*U. S. "density"*).—The general spacing of vehicles on a route is known as "density" and is expressed as "vehicles to the mile" (vtm). Five to ten vtm will probably escape air observation. Ten vtm do not offer a good bombing target. Thirty or forty vtm are suitable densities at night.

(4) *Time past a point* (*U. S. equivalent "time length"*).—The following formula may be used to obtain the time past a point in minutes:

$$\frac{\text{60 minutes}}{\text{mih}} \times \frac{\text{Number of vehicles}}{\text{vtm}}$$

Thus the 2,500 vehicles of an embussed (entrucked) division moving at 12½ mih and 10 vtm will take 1,200 minutes, or 20 hours, to pass a point. With allowances for gaps between unit or formation groups of vehicles, this figure becomes approximately 30 hours.

(5) *Group* (*U. S. equivalent "march unit"*).—A group is a small number of vehicles moving as a formed unit.

(6) *Starting point* (*SP*) (*U.S. equivalent "initial point" (IP)*).—The SP is the place at which a column or group is timed onto the route. Columns, groups, etc., pass the SP at the speed and density ordered for the move.

(7) *Traffic control post* (*TCP*) (*U. S. equivalent "traffic control point"*).—TCP's are posts along the route through which the move is controlled. Normally, these are not necessary for small moves.

(8) *Dispersal point* (*U. S. equivalent "release point"*).—The dispersal point is the place where a column or group is timed off the route at the destination area.

b. Responsibility of staff for moves by road.—Decisions concerning movement are made by the commander. The General Staff is then responsible for the logistical aspect: for instance, the order of moves of units and formations. The "G" Staff and the "Q" Staff arrange the move generally. The "A" Staff is responsible for the traffic control arrangements of the move. In an infantry division the sequence will generally be as follows: [2]

[2] See paragraph 21*a* and figure 5 for the officers mentioned; see also p. 259, notes 3–5, and p. 260, note 7.

SECRET
COPY NO.2.
6th July,1941.

MOVEMENT TABLE.

APPENDIX "A" to 1 Div.O.O.No.5.

Route:- CAMBERLEY - ODHIUM - LONG SUTTON - NEWBURY.
Speed:- 15 m.i.h.
Density:- 10 v.t.m.
Halts:- At 20 mins to each even clock hour for 20 mins.
S.P:- Rd Junc 214632
T.C.P.No.2:- X rds 284793
Dispersal Point:- X rds 306981

Serial No. (a)	Formation or Unit. (b)	To (c)	S.P.		T.C.P.No.2.		DISPERSAL Point.		REMARKS. (j)
			Head (d)	Tail (e)	Head (f)	Tail (g)	Head (h)	Tail (i)	
1	15 Inf.Bde.	BLEWBURY	0900	1043	1015	1158	1257	1440	
2	40 Fd Regt.	BLEWBURTON	1100	1152	1215	1307	1457	1549	
3	182 Fd Coy.	ASPLEY	1210	1224	1325	1389	1607	1621	
4	18 Lt.A.A.Bty	ROMER	1234	1249	1349	1404	1631	1646	

FIGURE 116.—An actual divisional movement table.

(1) The divisional commander makes the decision regarding a move.

(2) GSO 1 decides on tactical aspects of the move, and consults with AA & QMG regarding the administrative problems of the move and the administrative layout of the division at the end of the move.

(3) GSO 2 writes the general operation order dealing with the move.

(4) GSO 3 (O) with DAQMG arranges the actual move, that is, movement tables, staff tables, graphs, etc.

(5) DAAG (with DAPM) arranges necessary traffic control for the move, obtaining additional traffic control personnel, if required, through GSO 2.

c. Movement (march) table.—See figure 116 for an actual British divisional movement table for a motorized unit.

Chapter 7

MILITARY INTELLIGENCE IN THE FIELD

SECTION I

GENERAL

132. Methods.—The methods followed by the intelligence service of the British Army in the collection, evaluation, and dissemination of military information are similar to those used by the U. S. Army.

SECTION II

ORGANIZATION

133. GHQ.—*a.* The Intelligence Section of GHQ is directed by a General Staff officer known as GSO 1 (I), and is divided into four sub-sections, each under control of a General Staff officer. The general distribution of intelligence duties among the sub-sections is as follows:

Ix—Organization and administration.
Ia—Information.
Ib—Security.
Ic—Censorship, publicity, and propaganda.

b. The organization shown in figure 117 is prepared on the basis of a field force of a strength up to four or five infantry divisions, and may consequently require expansion or alteration to suit any particular campaign.

GSO 1 (I)

Intelligence appreciations. Organization of military intelligence in the field. Liaison with British and allied naval, air, and civilian intelligence services and officials.

IX. ORGANIZATION AND ADMINISTRATION

General organization, coordination, and administration of the military intelligence service in the field. Intelligence appointments. Records, registry, and finance. Editing and printing of intelligence reports, summaries, and publications. Interviews. Liaison with Commandant, Intelligence Corps, on questions dealing with organization, administration, and training of the Intelligence Corps, and with the Field Survey Directorate regarding the issue of maps. General war diary.

Ia. INFORMATION

Coordination of work of subsection and distribution of information. Ia war diary.

Ia. (i) Enemy intentions and operations

Enemy strategy; political intelligence; intentions and plans; enemy tactics and methods of warfare. Situation reports.

Ia. (ii) Enemy order of battle

Order of battle. Identifications of formations and units. Strengths and locations. Discipline and morale. Equipment. Casualties, wastage, replacements, and reserves. Troop movements. Lines of communication and supplies. Interrogation of prisoners of war and study of captured documents.

Ia. (iii) Enemy defences, rear organization, and resources

Enemy defences, artillery, ordnance, munitions, armoured force vehicles, gas. Technical matters relating to rear organizations. Preparation of guide books and route reports.

Ia. (iv) Enemy signals

Enemy signal system, equipment, and traffic. Interception and translation of messages. Correspondence with the enemy.

Ia. (v) Air co-operation

Issue of information to air component. Collection and distribution of air intelligence. Advice to operations section on bombing targets. Photographs.

Ib. SECURITY

Collection of information by special methods. Organization and control of security intelligence. Security of operations and information. Issue of security instructions. Distribution of security intelligence. Ib accounts.

Ib. (i) Collection of information by special methods.

Ib. (ii) Civil security

Counterespionage. Countersabotage. Control of civilians and employment of field security police. Signal security section. Security lists.

Ib. (iii) Military security

Control of the observance of security orders by all military personnel. Elimination of untrustworthy personnel from military establishments. Security of offices. Security of military signal traffic and ciphers. Advice on all forms of military deception, including camouflage. Advice on wireless silence.

Ic. CENSORSHIP, PUBLICITY, AND PROPAGANDA

Coordination and supervision of censorship, publicity, and propaganda in the field, GSO 2 (I) being chief field censor. Liaison with British technical intelligence officers, British and foreign press representatives, attachés, and visitors. Ic war diary and general records.

Ic. (i) Censorship

Postal censorship of private and official correspondence and parcels passing in and out of the theater of war. Telegraph and telephone censorship. Trade and blockade censorship and economic intelligence. Traffic in arms and war material. Special censorship. Communications to and from prisoners of war.

Ic. (ii) Publicity

Press censorship. Press representatives in the field. Study of British, enemy, and neutral press. Examination of publicity material for use by Ic (iii) as propaganda and counterpropaganda. Attachés and visitors—control of their movements and censorship of their correspondence. Photographers and artists—control of their movements and censorship of all pictorial matter produced in the field.

Ic. (iii) Propaganda

Propaganda and counterpropaganda for civilians (local and home) and for own and allied forces. Propaganda for enemy forces and civilians. Supervision of propaganda, printing, and distribution.

FIGURE 117.—Organization of the Intelligence Section of the General Staff at GHQ.

c. In addition to the four sub-sections mentioned above, there is a Survey Directorate which is responsible for all questions on surveying and mapping. The organization of this office is as follows:

FIELD SERVICE (FS) DIRECTOR OF SURVEY

ASSISTANT DIRECTOR OF SURVEY

Organizations and administration of the Field Survey Directorate. Field survey personnel, quartering, interior economy, stores, and transport. Field survey war diary and special records.

FS (i) Field Survey

Acquisition, recording, and indexing of information required for field surveys and maps. Initiation of surveys and coordination of those carried out by other branches. Supply of survey information required by artillery for sound-ranging and flash-spotting, etc.

FS (ii) War Topography

Topography. Compilation and revision of route and topographical reports (in conjunction with Ix). Topographical interpretation and custody of air photographs, as supplied by air services.

FS (iii) Field Survey Maps and Publications

Production, revision, reproduction, custody, and supply of maps and survey publications in the field.

134. GHQ, Home Forces.—The General Staff "I" of the GHQ, Home Forces, is similar in organization to the General Staff "I" of a field GHQ. The major difference is that in the former there is no provision for an Ic section to handle censorship, publicity, and propaganda. The "I" branch of the GHQ, Home Forces, maintains very close liaison with the Directorate of Military Intelligence in the War Office, and with the Admiralty and the Air Ministry.

135. Corps.—*a.* The intelligence duties at corps headquarters are under the direction of the senior General Staff officer and are carried out by a GSO 2, assisted by officers of the Intelligence Corps. Officers for intelligence duties are also allotted to the commander, corps Royal Artillery, and the commander, corps medium artillery. The duties of GSO 2 include—

(1) Coordination of intelligence work within the corps.

(2) Collation of reports from forward areas.

(3) Distribution of any information of value to those who can make best use of it.

(4) Arrangements, in conjunction with the Adjutant-General's branch, for the interrogation of prisoners of war.

(5) Supervision and execution of all security measures prescribed by higher authority.

b. The corps headquarters Deputy Assistant-Director of Survey acts as the advisor on technical subjects.

136. Divisions.—The intelligence duties for divisions are directed by a GSO 1. He has an intelligence staff, whose duties comprise—

a. Coordination and supervision of all intelligence work in the divisional area of operations.

b. Collation of intelligence and its transmission to higher authority.

c. Distribution of information within the division.

d. Arrangements for air reconnaissance and air photography and for the custody, interpretation, and distribution of air photographs supplied to the division.

e. Arrangements for the preliminary examination of prisoners of war.

f. Arrangements for the provision of maps.

137. Infantry brigades.—*a.* The Brigade Intelligence Officer (Bde IO or BIO), acting under the orders of the Brigade Major, coordinates all intelligence duties within the brigade and within the limits laid down by higher authority. He is held responsible for the collection, collation, and dissemination of all information obtained within the brigade area of operations.

b. Among the responsibilities of BIO in the field are—

(1) Identification of enemy units.

(2) Watch on enemy dispositions, movements, and field works within the brigade area of operations.

(3) News of, and deductions as to, enemy intentions.

(4) The study of all intelligence reports and summaries.

(5) Topography of adjacent country, particularly as affecting the movement of armoured fighting vehicles.

(6) Distribution (upward and downward) and record of information.

(7) Arrangements for the disposal of prisoners of war and of captured documents.

(8) Supply of maps and air photographs to units.

(9) Security measures to be adopted within the brigade.

(10) Upkeep of the brigade gas map.

c. To assist in the execution of these duties, BIO has at his disposal a small brigade intelligence section.

d. BIO must constantly be prepared to produce for his commander an estimate of the situation from the point of view of the enemy.

e. The responsibilities of BIO in connection with air and ground reconnaissance are as follows:

(1) *Air reconnaissance.*—(*a*) He must be proficient in interpreting air photographs, and should lose no opportunity of studying the air photographs taken.

(*b*) Information of immediate importance obtained from air photographs must be communicated to units even before the photographs themselves reach them.

(*c*) He will bring to the notice of the brigade commander all intelligence gleaned from air sources which may affect the operations of his command, and he is responsible, under his orders, for the dissemination of such information to lower units and other troops which may be cooperating with the brigade.

(2) *Ground reconnaissance and observation.*—(*a*) He should coordinate all patrolling that is being done by subordinate units, in order to prevent wasteful overlapping; he should also coordinate patrol work with flanking brigades and make arrangements to insure that any information so obtained reaches him with a minimum loss of time.

(*b*) He should coordinate the intelligence work of subordinate units in order to insure that enemy troops which have once been located are kept under continuous observation.

138. Cavalry and tank brigades.—The task of collating information and of keeping the commander informed rests with the Brigade Intelligence Officer.

139. Artillery formations.—The artillery intelligence staff and other personnel of the artillery whose duties involve intelligence work are as follows:

a. Corps artillery.—(1) *At Hq, corps artillery.*

One captain, RA.
One captain, RA, for liaison with the RAF.

(2) *At Hq, corps medium artillery.*

One captain, RA
One lieutenant, RA
One lieutenant, RA
} (As CBO's (counter-battery officer's) assistants for CB (counter-battery) intelligence)

(3) *Duties.*—(*a*) The captain, RA, appointed to corps artillery Hq for intelligence duties, collects, studies, and collates artillery information from all sources, working in close cooperation with the intelligence section of the General Staff, which he keeps informed of artillery intelligence requirements. He makes a special study of enemy intentions as shown by artillery activities.

(*b*) The captain, RA, at corps artillery Hq for liaison with the RAF, coordinates within the corps the results of artillery air reconnaissance.

(*c*) CBO's assistants, in addition to their other duties, are responsible for the intelligence work of the counter-battery office (for example, the location of hostile batteries); the examination and filing

of photographs; the keeping of shelling reports, records, and general artillery intelligence from observation posts, the air, flash-spotting posts, and other sources of information. It must be remembered that apart from its value to the artillery, counter-battery intelligence may also furnish a guide to the enemy's intentions and may therefore be of immediate importance to the General Staff. When CB control is decentralized to divisions, CBO's assistants will be attached to divisional artillery Hq, in order to assist in CB work.

(*d*) One of the lieutenants, RA, at corps medium artillery Hq, carries out duties similar to those of the lieutenant, RA, for reconnaissance and intelligence for divisional artillery. He will get much of his information from air observation and air photography and must keep in close touch with the Air Intelligence Liaison Officer (AILO). He must also be in closest liaison with the counter-battery staff.

b. Divisional artillery.—At divisional artillery Hq there is a lieutenant, RA, for reconnaissance and intelligence. His duties are—

(1) To collect information concerning enemy artillery, enemy movements and defences, the position of his own forward troops and artillery, the general situation, and the particular situation on the divisional front.

(2) To collate information and keep an intelligence situation map.

(3) To keep such counter-battery records as are necessary.

(4) To supply information to the General Staff of the division, with whom it is essential that he should work in close cooperation, and to artillery regiments, corps artillery Hq, corps medium artillery Hq, and the artillery Hq of neighboring formations.

140. Intelligence duties in units.—*a.* The personnel for intelligence duties varies with different arms.

b. The duties which the intelligence officer may be called upon to perform include the following:

(1) To organize the system of intelligence within the unit.

(2) To observe and report enemy movements and dispositions.

(3) To study the progress of the battle on the front and flanks of the unit, and to be prepared to give information on the dispositions of his own unit and of friendly troops.

(4) To study the topography of the unit area and of the surrounding country, including lines of approach to and from the enemy's position.

(5) To collect, sift, and collate intelligence reports emanating from within the unit, and to distribute the information so obtained to higher and lower Hq's.

(6) To study the information received from higher authority or

friendly units, and to draw the attention of the unit commander to any items of importance.

(7) To insure that the unit is kept supplied with up-to-date maps and air photographs.

(8) To see that orders are carried out regarding prisoners of war and captured documents and material.

(9) To keep unit intelligence records up to date.

(10) To supervise military security measures within the unit.

SECTION III

INTELLIGENCE CORPS

141. General.—*a.* The Intelligence Corps is made up of officers and enlisted men with special qualifications and training. This corps is controlled, under the orders of the GSO 1 (I), by the GSO 2 in charge of the organization sub-section of the intelligence staff at GHQ, assisted by the Commandant of the Intelligence Corps.

b. The Commander-in-Chief of each field GHQ is authorized to attach to the intelligence section of the General Staff personnel from the Intelligence Corps. Other sections of the Intelligence Corps are attached to corps and divisional headquarters and to the line of communications (L of C) area.

c. The Intelligence Corps as such does not exist in peacetime.

142. Commandant.—Working in conjunction with the organization sub-section, the principal duties of the Commandant of the Intelligence Corps are as follows:

a. To command the corps and to superintend its organization and administration, and the discipline of its personnel.

b. To carry out any changes in organization rendered necessary by modifications of policy or new developments.

c. To arrange for and to supervise the training of all ranks of the corps.

d. To keep in close touch with the requirements of the General Staff and to provide suitable personnel at short notice for special duties.

SECTION IV

AIR COMPONENT INTELLIGENCE

143. General.—The air officer commanding at GHQ and the air force commanders attached to the headquarters of lower formations obtain the following information from army intelligence staffs, air-defence formations, and air-force sources:

a. The order of battle of enemy air forces.

b. Reports of enemy air activity, raids, etc.; this information is generally passed to air headquarters by the air defence organization.

c. Enemy air intentions.

d. Enemy air tactics.

e. Enemy air casualties, losses, wastage, reserves, resources in personnel and air material, repair facilities, details of equipment, development and performance of aircraft.

f. Captured enemy aircraft, equipment, and air-force prisoners.

g. Enemy anti-aircraft defences.

h. Suitable ground objectives for air attack and the effect of raids carried out by their own air forces.

i. General intelligence regarding both air and land operations.

SECTION V

RECORDS AND MAPS

144. Records of information.—The following records are kept by the brigade intelligence section:

a. "*Enemy Order of Battle Book.*"—Particulars as to the enemy's order of battle fall into the following categories:

(1) Identifications.

(2) Titles, organization, and composition of formations.

(3) Characters of commanders.

(4) Fighting qualities and morale.

(5) Armament and equipment.

b. "*Own Forces Book*"—This information is kept in a book form on the same principle as the "Enemy Order of Battle Book."

c. Brigade intelligence diary.—This is a permanent record of information and events and includes all deductions made as a result thereof.

d. Brigade intelligence diary (mobile).—This diary is kept for use when there is an advanced (or rear) brigade headquarters or when the brigade headquarters is on the move and clerical and office facilities are not available.

145. Situation maps.—The maps that should be maintained are—

a. Situation map.—Preferably for a large area (such as that of the division and the flanking divisions).

b. Brigade commander's map.—Portable, covering a suitable area (probably that of the division of which his brigade is a part).

c. Brigade commander's map (duplicate).—This duplication is necessary in order to insure that the brigade commander has an up-to-date map for a sudden move to a reconnaissance, conference, etc., or for use on return from such absence.

d. Situation map (mobile).—Portable, covering a suitable area (from the brigade bivouac area to the forward echelons).

e. Air reports map.—Suitably large area; with tracing cover which can be removed every 24 hours or when detail gets confused; each tracing is numbered, recorded in the brigade intelligence diary, and filed with it; information of both enemy and own troops is recorded as received.

Chapter 8

MAPS AND CONVENTIONAL SIGNS AND SYMBOLS

SECTION I

MAPS

146. General.—British maps are similar to U. S. maps, but familiarity with their marginal data is essential in order to obtain a working knowledge of them.

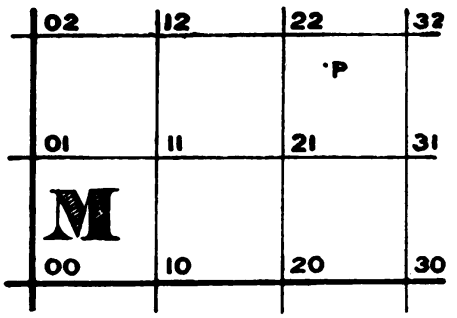
147. Scales.—The British have adopted the scales of 1:25,000 and 1:100,000 (and suitable smaller scales) in areas outside the British Isles. They plan to use local grids and local scales when necessary. Within the British Isles, maps are made with a scale of inches to the mile. The following indicates the relation between the usual British and U. S. scales:

British		United States	
Scale	Common name	Scale	Common name
1 inch to 10 miles	Small	1:633, 600	Small.
¼ inch to 1 mile	Small	1:253, 440	Small.
½ inch to 1 mile	Small	1:126, 720	Intermediate.
1 inch to 1 mile	Standard	1:63, 360	Medium.
1.584 inch to 1 mile	Large	1:40, 000	Large.
3.168 inch to 1 mile	Large	1:20, 000	Large.

148. Systems of reference.—*a. General.*—The British System was adopted in 1919 and remained in use until 1927, when it was superseded by the Modified British System. Suitable only for large and medium scales, the British System is of little assistance in de-

scribing the movements of mechanized troops or in framing orders concerning a large area. The Modified British System is now in use on all military editions of maps of Great Britain.

b. British System.—(1) *Description.*—The grid is composed of squares made by lines running north and south, east and west. Every tenth line is thickened, thus making large squares identical in size. The thin lines merely serve to divide the thick lines into tenths. Each of these large squares is given a letter: for example, P, L, M, U, Q, and R. The southwest corner of each lettered square is the starting point from which the coordinates are measured. Each lettered square thus becomes an independently numbered grid, points being located in the square in the same manner as on U. S. military grid maps. The distance east of the southwest corner is read first, this being called "easting." The second reading is termed "northing" and involves measuring the distance north of the southwest corner.



(Points are described by their coordinates in kilometers in the large lettered squares. The easterly coordinate is always given first. Thus the point P, in the small square 21, is described as: M 2317 to nearest 100 meters; M 232174 to nearest 10 meters.)

FIGURE 118.—British System grid.

A complete reference is composed of the letter of the square followed by the easting and the northing: for example, Q 7506. The manner of writing the coordinates should be noted. There is no dash between the easterly and northerly coordinates; the figures are run together as shown above and in figure 118.

(2) *Use.*—This particular system was designed for use on the now obsolete 1:20,000 map series of Great Britain. Location of coordinates is easy on these maps because in each little (kilometer) square are printed two figures, the first of which is the number (eastwards) of the west edge, whereas the second is the number (northwards) of the south edge. (See fig. 118.)

c. Modified British System.—(1) *General.*—In the British System the whole system of reference is repeated every 50 kilometers. Thus in the smaller scale maps it is possible to have on the same sheet two

identical map references referring to two different places. The Modified British System obviates this difficulty.

(2) *Description.*—In this system the area is divided into squares of 500 kilometers to the side, each of which is designated by a letter.

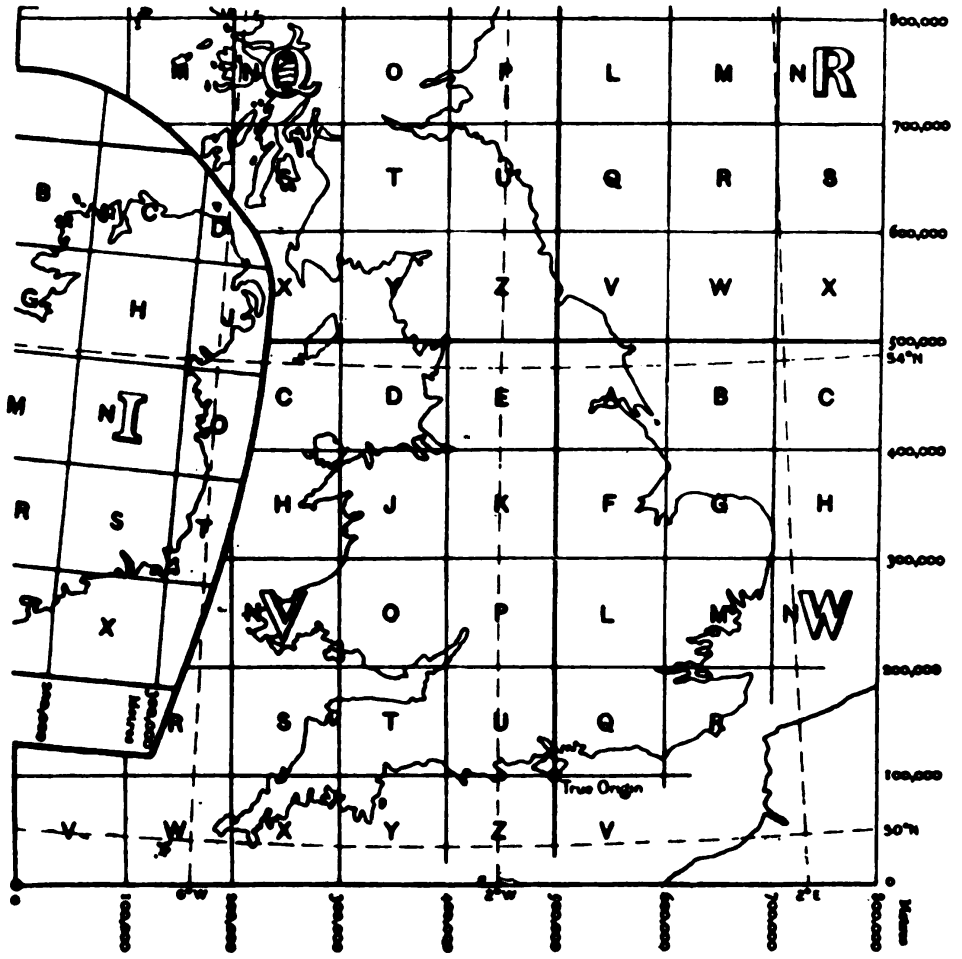


FIGURE 119.—Grid lettering, Modified British System.

Each of these squares is subdivided into 25 squares of 100 kilometers to the side which are also lettered from "A" to "Z," omitting the letter "I." (See fig. 119.) These squares are again subdivided, each into 100 squares of 10 kilometers to the side.

(3) *1 inch to 10 miles map.*—The sides of each 100-kilometer square are thickened; the appropriate letter is printed in the center of the square, and to the left of it in smaller type is printed also the letter of the 500-kilometer square in which the 100-kilometer square falls. Of the grid lines forming the sides of the 10-kilometer squares, every fifth—horizontally and vertically—is numbered, as shown in figure

120. The number denotes the distance, in 10-kilometer units, of the grid line east or north of the left-hand bottom corner of the 100-kilometer lettered square in which it lies. This is the point to which map references are normally referred; hence it may be described as the point of reference. Thus the point P in figure 120 is $6\frac{3}{10}$ units east and $3\frac{5}{10}$ units north of the point of reference. It lies in square vH; its reference is therefore vH 6355.

(4) *¼ inch to 1 mile map.*—The grid in this case is the same as that on the 10 miles to 1 inch map, but owing to the larger scale it is possible, without unduly obscuring the detail, to print the letters of

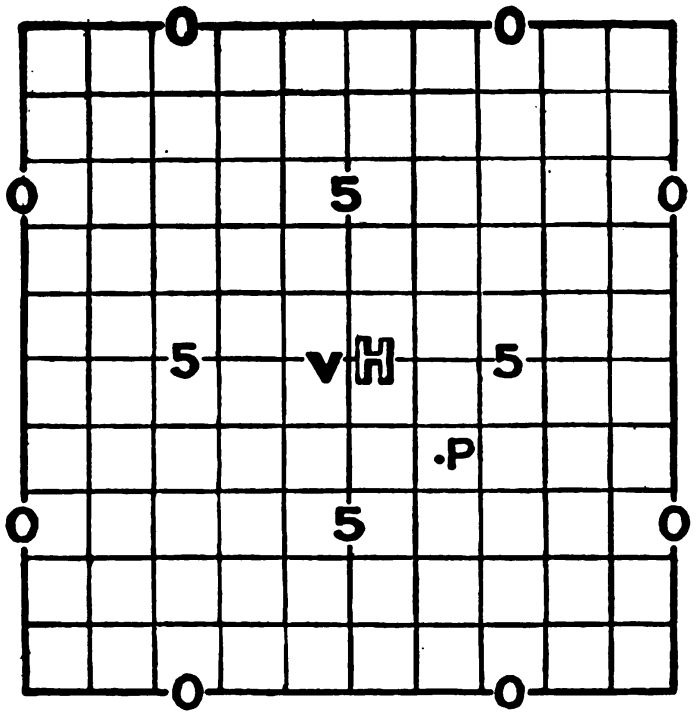
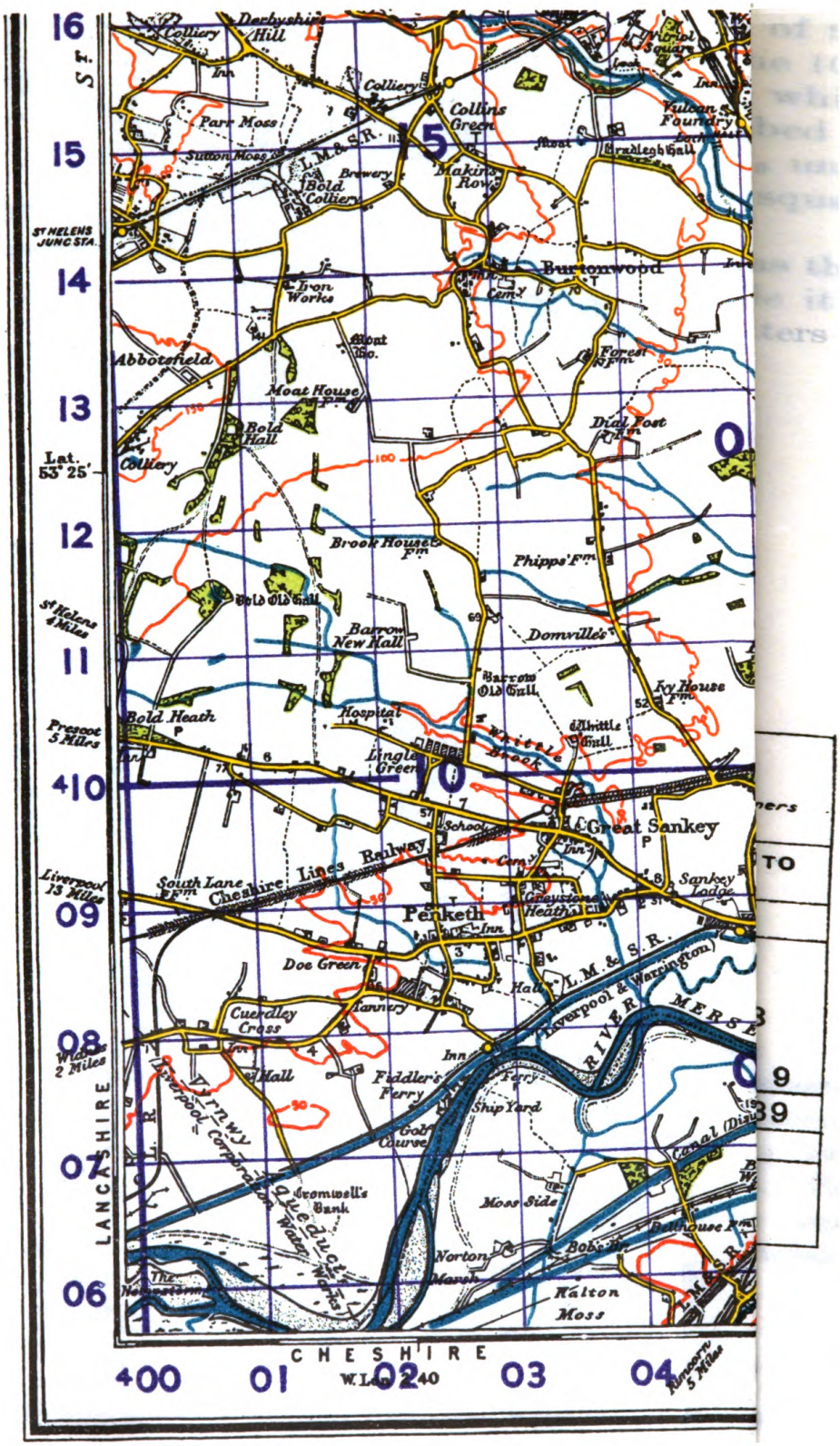


FIGURE 120.—Modified British System grid, 1 inch to 10 miles map.

the 100-kilometer squares and the numbers of the 10-kilometer squares as shown in figure 121. The sides of the 100-kilometer lettered squares are thickened and the reference letter to the 500-kilometer square is shown in the smaller type in parentheses. The reference of the point P in figure 121 is the same as in that in figure 120, namely, (v)H 6335, but in this case the smaller letter is usually omitted.

(5) *1 inch to 1 mile and larger scale maps.*—On maps of these scales, since there is no possibility of duplication, the letters referring to the 500-kilometer and the 100-kilometer squares are omitted from the grid. A small diagram in the map margin indicates the letter (or


Derbyshire Hill
Colliery
Collins Green
Parr Moss
Sutton Moss
L.M.& S.R.
Brewery
Bold Colliery
Makin's Row
Burtonwood
Iron Works
Abbotsfield
Moat House
Bold Hall
Colliery
Forest Fm.
Didi Post Fm.
Brook House Fm.
Phipps' Fm.
Bold Old Hall
Barrow New Hall
Domville's
Barrow Old Hall
Ivy House Fm.
Bold Heath
Hospital
Whittle Hall
Great Sankey
Schools
Inn
Sankey Lodge
South Lane Fm.
Cheshire Lines Railway
Penketh
Greystead Heath
Doe Green
Hall
Cuerdley Cross
Tannery
Fiddler's Ferry
Ferry
Ship Yard
Golf Course
Cromwell's Bank
Moss Side
Norton Manor
Halton Moss
Liverpool & Warrington L.M.& S.R.
RIVER MERSEY
Manchester Ship Canal
Runcorn 5 Miles
LANCASHIRE
CHESHIRE
W. Long. 2° 40'
St. Helens Junc. Sta.
Lat. 53° 25'
St. Helens 4 Miles
Prescot 5 Miles
Liverpool 13 Miles
Widnes 2 Miles
16
15
14
13
12
11
10
09
08
07
06
400
01
02
03
04

letters) of the 100-kilometer square (or squares) in which the particular sheet lies. (See plate XII.) The 10-kilometer squares are further subdivided into 100 squares of 1 kilometer to the side; the sides of the 10-kilometer squares are thickened and the grid lines are numbered as shown in figure 122. The number appearing on any grid line denotes, this time in kilometer units, the distance of the grid line east or north of the point of reference. In the sheet margin every grid line is so numbered, and to every tenth number is added, in smaller print, the figure required to convert the shortened coordinate into the full coordinate referred to the (false) origin of the grid system. A pin-

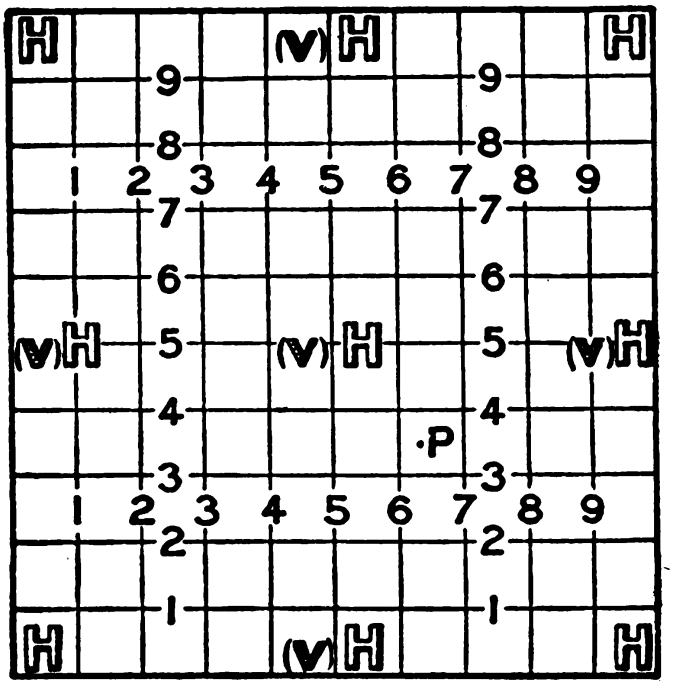


FIGURE 121.—Modified British System grid, ¼ inch to 1 mile map.

point reference can be given to the nearest tenth of a kilometer. Thus, in figure 122, the point Q is 53⅗ units east and 67⅘ units north of the point of reference. Its reference is therefore 533675. The appropriate square letter may be included before the reference, but this is not normally necessary. Plate XII is an illustration of part of an inch to the mile map of Great Britain, the well-known and widely distributed type of British map, together with an explanation of the Modified British System.

149. Aerial photography.—*a. Personnel.*—Aerial photography for maps and for intelligence purposes is done by the photographic section of the Royal Air Force. The photographic section consists of

a trailer with two dark rooms. There is one section attached to each Army Co-operation squadron and the latter has an Air Intelligence Liaison Officer (AILO) who interprets photographs and is responsible for their dispatch to interested Army units.

b. Methods.—The methods used are similar to U. S. practice. One interesting development is the Merton method of gridding oblique aerial photographs.

c. Merton method of gridded oblique photography.—The description of

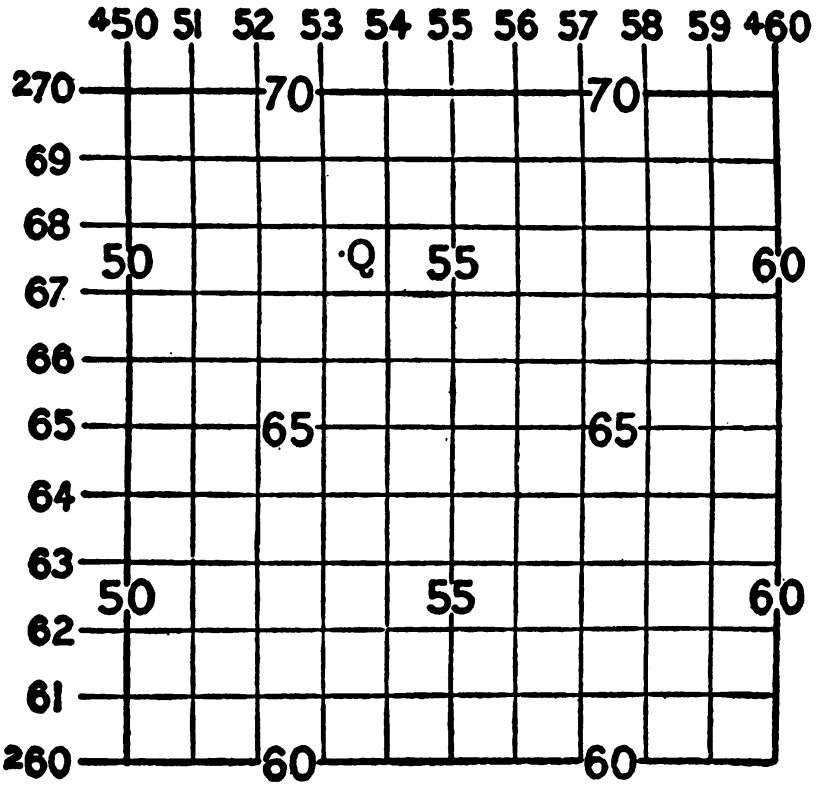


FIGURE 122.—Modified British System grid, 1 inch to 1 mile map.

the Merton method that follows is taken, with slight changes, from British *Army Training Memorandum*, No. 42 (1942), pages 43 to 45:

(1) A series of overlapping oblique photographs is taken at a height of about 3,000 feet and on a line some distance behind the general line of forward defended localities (FDL's). Any two consecutive photographs from this series cover a large area of the same ground. A target appearing in one photograph can, therefore, be identified in at least one other of the series.

(2) A grid is reproduced on the photograph during the printing process. The vertical grid lines provide a means of finding bearings on points appearing in the photograph. These lines represent the rays

of a large horizontal-degree fan placed over the landscape with the apex of the fan at the plumb point, that is, the point over which the aircraft was flying at the moment the photograph was taken (see fig. 123). The rays of the fan are at degree intervals and are numbered

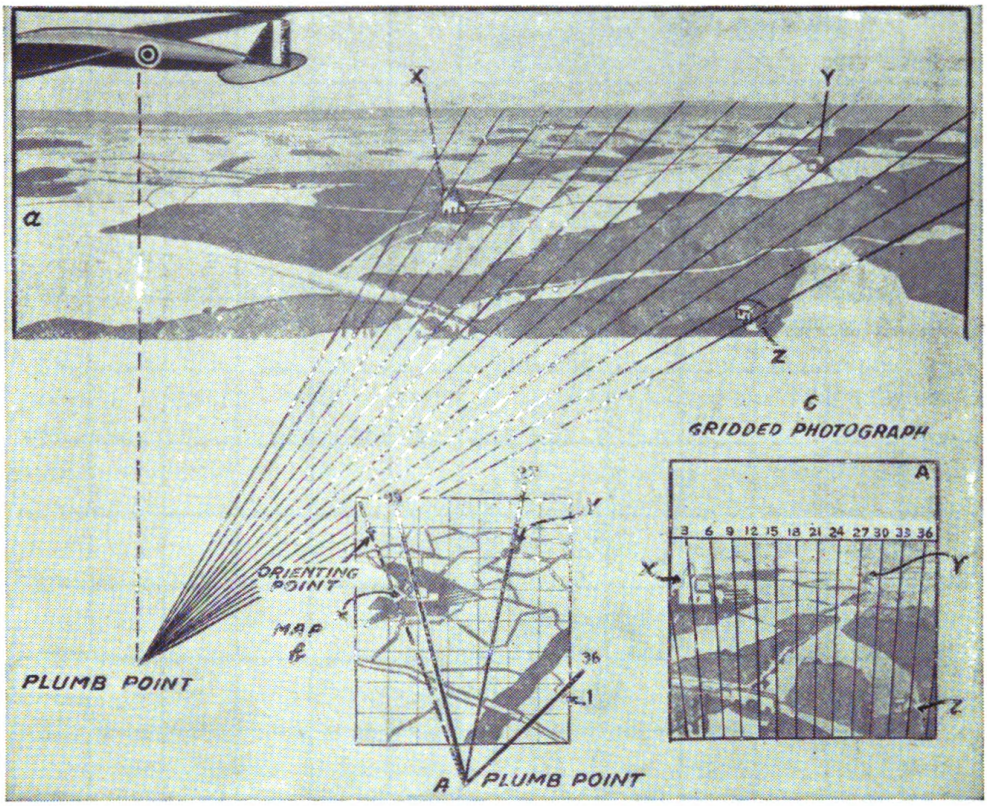


FIGURE 123.—Explanation of vertical grid lines.

from 0 to 36. (For clarity, in the figure only every third line has been drawn, and the horizontal lines on the photograph have been omitted.) The horizontal grid lines, in conjunction with the vertical lines, form an approximately squared grid, which has, of course, no relation to the map grid.

(3) The artillery officer is provided with the position of the plumb point, in the form of coordinates or a trace, and the bearing of the 0° grid line (the left-hand ray of the fan described above) for each photograph. This bearing is given by the coordinates of a point (orienting point) on the left-hand ray. (See fig. 124.) This point is taken at a given distance from the plumb point and need not either appear on the photograph or be a map feature. The broken line joining the plumb point to the orienting point therefore represents the 0° vertical grid line.

(4) The positions of the plumb points and orienting points are plotted on an artillery board. The plumb points are labeled with

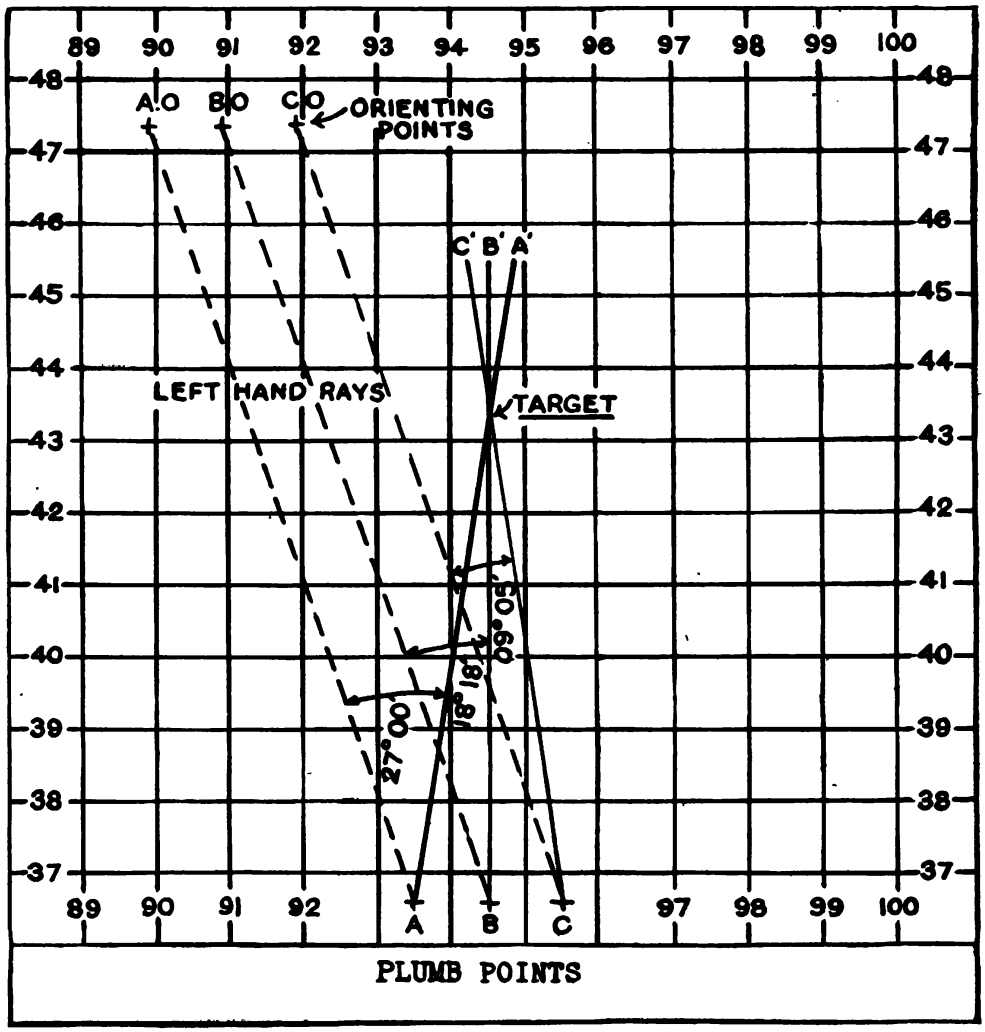


FIGURE 124.—Target plotting.

the letters of the photographs which they represent (A, B, C, etc., fig. 124) and the orienting points AO, BO, CO, etc. It is not in practice necessary to draw the broken lines AAO, BBO, etc., on the artillery board. A pilot-observer can then indicate the position of a target by either of two methods:

(*a*) *When only the pilot is equipped with photographs.*—If he sees a target—say the gas works at "y" in figure 123—he can describe it as having a reading of 27° on the vertical grid lines of photograph A. (See *c*, fig. 123.) This gives the angle to the right of the plotted 0° line on the artillery board. A ray from plumb point A can therefore

be plotted at this angle. The target must lie somewhere along this ray. The same point is identified by the pilot in a second overlapping photograph and a similar ray plotted (at 18°18′ from plumb point B). The target then lies at the intersection of these rays and may be engaged by ordinary artillery methods.

(*b*) *When ground personnel are also provided with photographs.*—The target may be indicated as a six-figure reference from the squared grid of a single photograph. It can then be identified by the ground personnel on an identical photograph and, by locating the same point in other photographs (B and C) and plotting rays from their plumb points, a trisection may be obtained. (See fig. 124.) This method is preferred by the pilot, since he can concentrate on locating the target in one photograph only. In mapped country, once the map position of the target has been found, the angle of sight is obtained by spotting the heights of battery and target. In unmapped or poorly mapped country, heights may be determined from the horizontal grid lines. This, however, is done by Royal Artillery survey and regimental survey officers, who have received special instruction. The reading of the photographs and the plotting of targets require no special knowledge. To locate targets, the officer requires only the coordinates of plumb points and orienting points, and not the photographs themselves. The number of photographs distributed to ground personnel depends largely upon the commitments of the photographic section of the Army Co-operation squadron. No additional equipment is required at the gun position, although the introduction of the Tetley fan (similar to fans used by U. S. artillery officers but with measurements in yards and degrees) will greatly facilitate the plotting process.

SECTION II

CONVENTIONAL SIGNS AND SYMBOLS

150. Ordinary maps and sketches.—*a.* Signs for operations of a particular character are published in specific orders. When colors are used, red represents British and friendly installations, whereas blue represents the enemy. It is important to note that the U. S. practice is exactly the opposite. See FM 21-30, paragraph 7.

b. The following signs and symbols are used on maps and sketches as well as on annotated photographs:

(1) *Topographic.*—(*a*) *Anti-tank obstacles:*

1. Projected anti-tank ditch

2. Anti-tank ditch under construction

3. Completed anti-tank ditch

4. Anti-tank ditch facing both ways

5. Anti-tank obstacle

6. Tank trap

7. Road block

8. Areas strewn with rocks or boulders of 18-inch or greater diameter

(*b*) *Bridges:*

1. Weight capacity of bridges and culverts is given in tons (British maps give weight in long tons; see par. 161*a* and *d*)

2. Bridge demolitions [1] proposed

3. Bridge demolitions [1] charged

4. Bridges blown [1]

(*c*) *Craters:* [1]

1. Site for

2. Charged

3. Blown

(*d*) *Embankments and cuttings* (*cuts*).—Height of embankment in feet +9

(*e*) *Flame traps* [1]

(*f*) *Inundations:*

1. Projected

2. Under construction

3. Completed

(*g*) *Mines:* [1]

1. Mine

2. Mine field

3. Beach mines:

Electrically fired

Contact

(*h*) *Water:*

1. Width of waterway in feet 16w

2. Depth of waterway in feet 5d

[1] Demolitions, craters, flame traps, mines, and mine fields are shown in green when colors are employed.

(*i*) *Wire entanglements:*

1. Abatis

2. Single (on posts)

3. Multiple (on posts)

4. Coiled or Dannert

5. Chevaux de frise

(*j*) *Woods:*[2]

1. Average diameter of trees in inches 5d

2. Average spacing of trees in feet 10S

(2) *Special military.*[3]—(*a*) *Anti-aircraft:*

1. Section of guns

2. Machine gun

3. Searchlight

Nature of AA guns to be stated, i.e., 3.7″, 3″, or B (Bofors).

4. Visual plotting station

(*b*) *Anti-tank:* No concrete Concrete

1. Projected anti-tank gun emplacement

2. Anti-tank gun emplacement under construction

3. Completed anti-tank gun emplacement

4. Artillery anti-tank guns

5. Cavalry or infantry anti-tank guns

6. Anti-tank rifle

(*c*) *Batteries and gun emplacements.*[4]—General

No concrete Concrete

(*d*) *Bren guns:*

1. Projected Bren gun emplacement

2. Bren gun emplacement under construction

3. Completed Bren gun emplacement

[2] The symbols used in this instance are generally similar to those on U. S. maps.
[3] Arrows show the line of fire of the gun or, if in concrete, the direction of loopholes.
[4] When the scale allows, individual emplacements fixed by photographs are shown.

(*e*) *Dumps:*

1. Supply ---- S

2. Petrol (gasoline), oil, and lubricants (POL) ---- P

3. Ammunition ---- A

4. Engineer ---- E

(*f*) *Gas.*—Gassed areas (shaded yellow if possible) ---- Mustard

(*g*) *Hospital, clearing station, or aid post* ----

(*h*) *Machine guns:*

	No concrete	Concrete
1. General symbol		
2. Symbol for use on maps of 1:25,000 and larger, especially in field sketching		
3. Projected machine-gun emplacement		
4. Machine-gun emplacement under construction		
5. Completed machine-gun emplacement		

(*i*) *Mortars:*

1. Mortar emplacement projected	M	Nature of mortar to be shown
2. Mortar emplacement under construction	M2"	
3. Mortar emplacement completed	M3"	

(*j*) *Observation post:*

	No concrete	Concrete
1. Projected	OP	OP
2. Under construction	OP	OP
3. Completed	OP	OP

(*k*) *Railway stop* ----

(*l*) *Searchlight* ----

(*m*) *Shelters:*

1. Dugouts ----

2. Hutments (cantonments) ----

(*n*) *Signal symbols:* [5]

	No concrete	Concrete
1. Telephone or telegraph office		
2. Wireless-telegraph station		
3. Radio-telephone station		
4. Beam station		
5. Direction-finding (DF) station		
6. Visual signaling station		

(*o*) *Tanks.* Special symbols are used for drill formations of light tanks. When distances and intervals are shown, they are in paces for dismounted drill and in yards for mounted drill.

1. Regimental commander (in armoured force vehicle) 

2. Squadron leader (in AFV) 

3. Troop leader (in AFV) 

4. Tank 

5. Carrier 

6. Squadron (etc.) leader (dismounted) 

7. Troop (etc.) leader (dismounted) 

8. Crew commander (dismounted) 

9. Crew of leader's tank (dismounted) 

10. Men (dismounted) 

[5] See paragraph 154 for more specialized signal symbols.

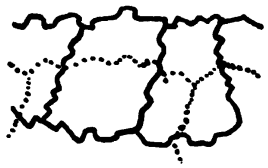
(*p*) *Trenches:*

1. Projected

2. Under construction

3. Completed

4. System of trenches (old or disused trenches are shown dotted)



(*q*) *Troops and headquarters.*—Titles will be written alongside the appropriate symbol and the authorized abbreviations used.

1. Units	Cavalry	Artillery	Infantry	Tanks	Armoured Cars or Carriers	Transport	
						HT	MT
Individual							
General							
Column of route							

(Insert (M) against mechanized units.)

2. Parachute troops (frame enclosing area in which parachute troops have been reported) P

3. Air-borne troops (frame enclosing area in which air-borne troops have landed) A

4. Headquarters:

		Example:
GHQ	Brig (Cav or Inf)	5 Inf Bde
Army	Regt, Bn, or Arty Regt	5 R Tks
Corps	Sq, Co, or Btry	B Coy
Division	Tr or Plat	5 Pl

AA Div AA Brig AA Regt, Bn AA Btry, Co

5. Boundaries:

Inter-army

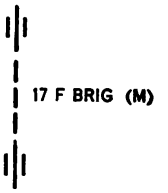
Inter-corps

Inter-division

Inter-brigade

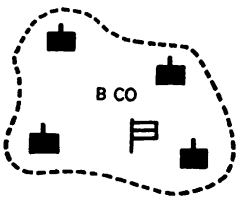
Inter-battalion

6. Examples of disposition of troops and headquarters:[6]



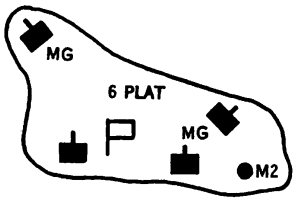
F Brig, Royal Artillery (mechanized—in column of route).

①



Unit deployed—one company.

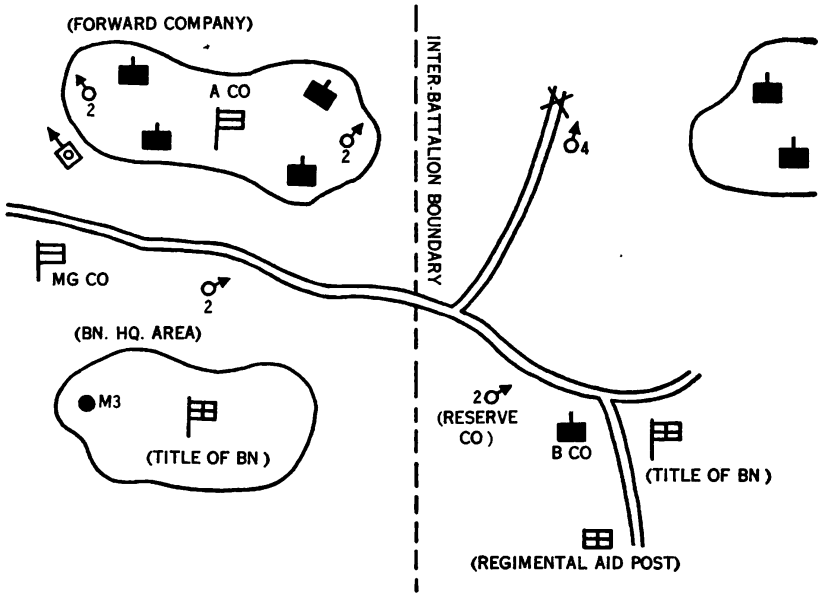
②



Defended locality—one platoon.

③

7. Troops in defence (showing portions of two battalions):[6]

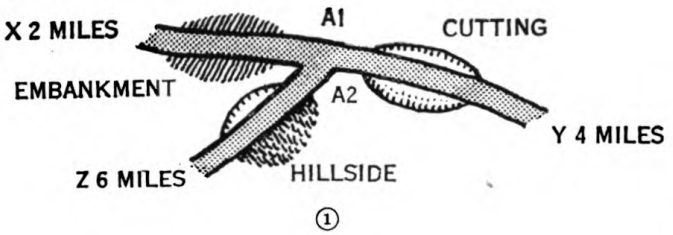


④

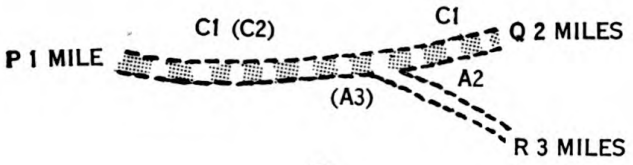
[6] These examples show the use of signs and symbols, and are not to be taken as standard dispositions.

151. Field sketches.—The typical scale for a sketch is 1:15,840, or 4 inches to 1 mile.

Roads and paths:



①



②

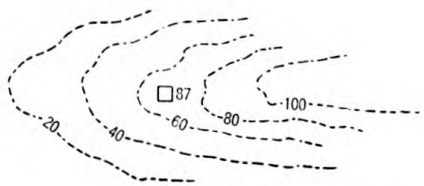
Road ① enclosed by, and road ② without, hedge, fence, ditch, or obstacle of any kind.

A brown tint denotes a metalled (paved) road suitable for traffic at all times. Metalled roads likely to be cut up in bad weather are dotted brown. If a brown color is not available, the word "metalled" or "unmetalled" should be inserted.

The classification of the road must be added: for example, A1, A2, C1, etc.[7]

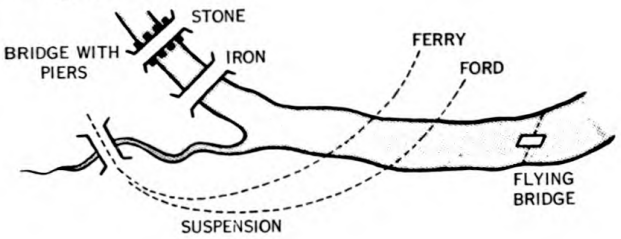
Footpath

Contour lines—spots for elevations



[7] The letters refer to the width of the road as well as to its condition; the numbers, to the traffic loads that can be supported. For example, an A road will accommodate two-way vehicular traffic; a B road, one-way with occasional passing; a C road, one-way only. A No. 1 road will support traffic loads of 9 long tons, and a No. 2 road traffic loads of 4 long tons, whereas a No. 3 road is for horse transport only and a No. 4 road either is for pack transport only or is no more than a bridle path. Letters and numbers in parentheses denote exceptions at given points.

Bridges, etc:

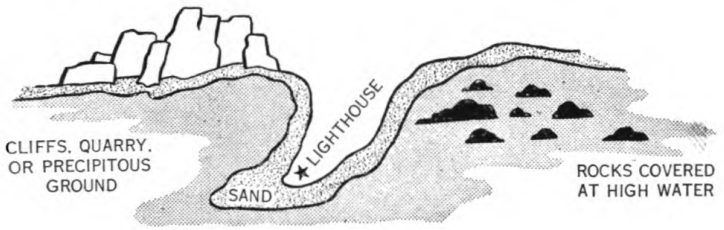


Bridges: state the nature—"stone," "iron," "suspension," etc.
Ford or ferry: state the nature of the traffic that can use it.

Rivers:

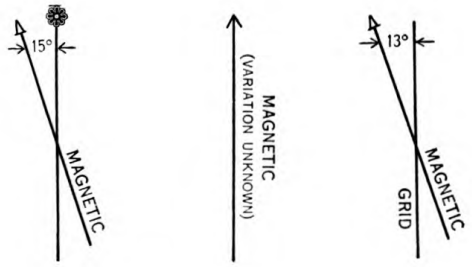
State the nature of the banks, and, if possible, of the bottom, and whether it is dry or flowing and whether subject to floods.
Width of waterway in feet: 50 w.
Depth of waterway in feet: 8 d.
Height of banks in feet: —7.

Coast line:



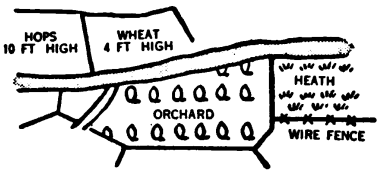
State the nature of the foreshore (i. e., the part of the shore between high watermarks and low watermarks) and at what state of the tide it is practicable for landing. Quarries and precipitous ground are shown in the same manner as cliffs.

North points:



If the magnetic variation is not known, show only the magnetic north and state: "Variation unknown."

Fields (with walls, hedges, fences, ditches, or any obstacle)------



It is unnecessary to state the nature of the cultivation unless such information is required by the object of the sketch.

Villages---------

These scales are only suggested. The amount of detail in sketches of villages depends upon the object of the sketch and the time.

Post office---------- P

Telegraph office---------- T

Signpost---------- SP

Well---------- W

Spring---------- S

Church or chapel with tower----------

Church or chapel with spire----------

Church or chapel without tower or spire--

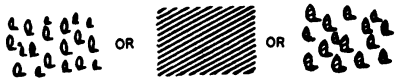
Windmill----------

Telephone or telegraph:

Air line or cable----------

Buried----------

Woods----

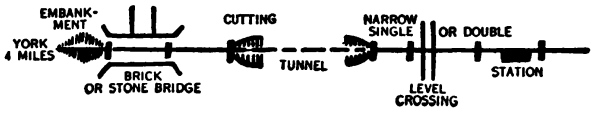


The nature of the wood should be given: "oak," "pine," "mixed," etc., and cover from air observation should also be indicated: "dense" or "open."

Clearance or demolitions---------

When there is not sufficient time to draw the cross bars, a railway may be shown by a broad black or red line with the word "railway" written along it. The gauge of the railway must be inserted, as "broad," "standard," "narrow," or "tramway."

Railway---



152. Demolition maps.—*a.* The following conventional signs, with serial numbers, are used on maps illustrating demolition reconnaissance and on maps accompanying schedules of demolitions approved by the higher commands:

(1) Major demolitions (reserved for GHQ orders)

(2) Other main demolitions excluding road craters and equivalent road blocks

(3) Cratered areas or road blocks or equivalent delaying value

(4) Demolitions ordered to be prepared

(5) Demolitions—preparations completed

(6) Demolitions executed

b. The center of the sign is the pin-point of the demolition in maps prepared to illustrate coordinated demolition schemes. On maps illustrating approved plans of demolitions, all conventional signs for demolitions included in the "primary" belt or series will be in red. All others will be in black. On maps of original reconnaissance reports, all signs will be in red.

153. Royal Air Force.—Special RAF conventional signs and symbols are illustrated below:

a. Signs and symbols used on ¼-inch RAF series of maps:

Main roads between towns

Other metalled (paved) roads

Railways

Mineral lines (spur lines to mines or quarries) and tramways

Racecourse

Church or chapel with tower or spire

Golf course

Windmill

Lighthouse

Lightship

Direction-finding (DF) station

Airdrome

Airdrome with direction-finding W/T (radio) station

Seaplane station (dotted over the land)

Landing ground (permanent)

W/T (radio) station with masts exceeding 250 feet in height

Air navigation light

Prominent landmarks or ground signs

Prohibited flying area

Name of airdrome landing ground or seaplane station HENDON

b. Administrative signs and symbols used on ordinary maps, sketches, and annotated photographs:

Airdrome

Temporary landing ground. (The internal sign denotes the character and the outline gives the actual shape on the ground. This outline is given only on large-scale maps.)

Army Co-operation squadron

Bombing, day or night squadron

Fighter squadron

Naval cooperation unit

Air stores park

Aircraft depot

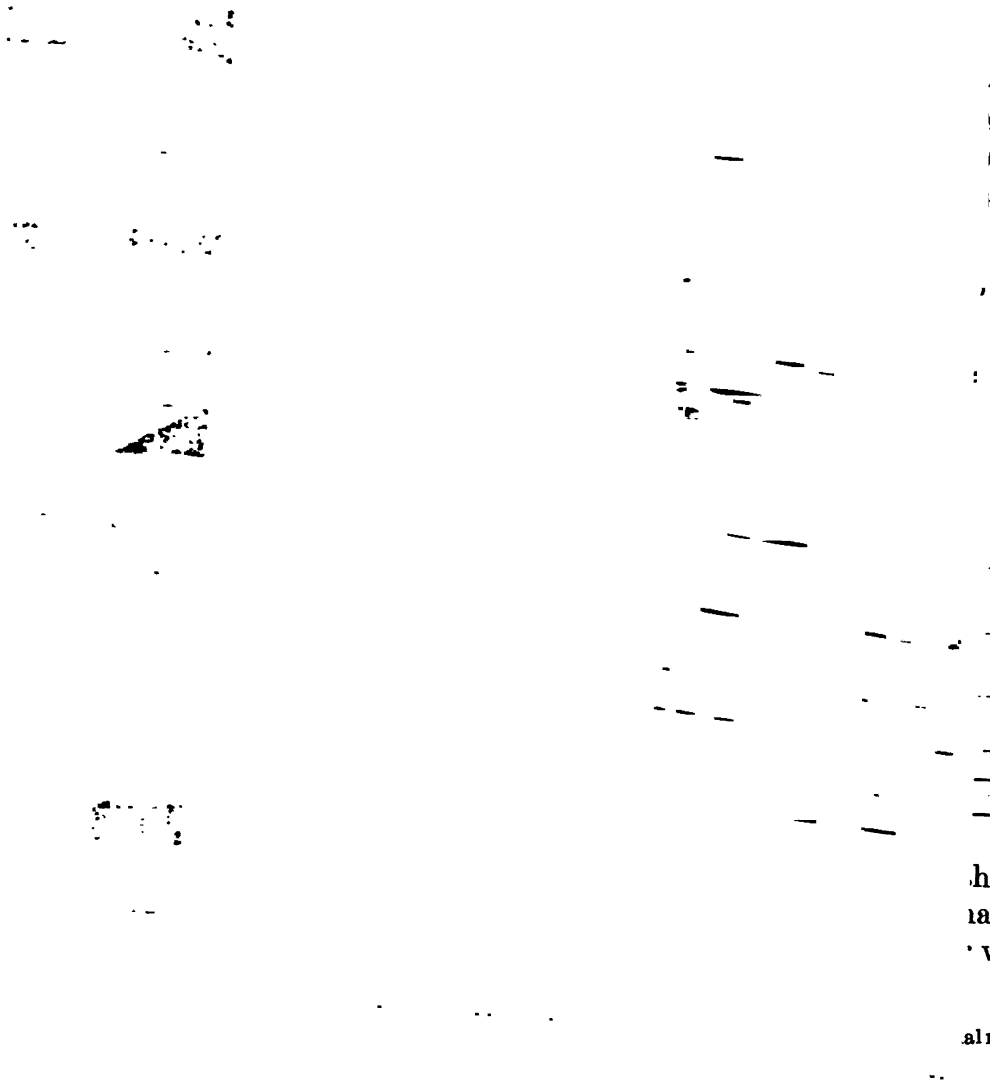
Port detachment

Wing headquarters

Group headquarters

Airship

Balloon



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154. Signal service maps.—The following conventional signs and symbols are used in signal diagrams:

a. Transmission:

(1) Visual signaling

(2) Wire on the ground, in trenches, or on hedges [8]

(3) Buried wire

(4) Poled wire

(5) Field airline

(6) Semipermanent or permanent line

(7) Radio (wireless-telegraph or radio-telephone)

(8) Wire crossing without connection

(9) Messenger route

(10) Messenger relay post

b. Stations:

(1) Signal office (message center)

(2) Test point of lineman's post

(3) Radio station

(4) Telephone exchange:[9]

(*a*) Buzzer

(*b*) Magneto

(*c*) Buzzer telephone

(*d*) Magneto telephone

155. Distinguishing flags and lamps.—Figure 125 shows the various flags and lights which are used as distinguishing marks. It will be noted that a white flag is for drinking water, blue for watering places for animals, and red for washing or bathing places.

[8] The figure over the conventional sign shows the number of wires in the route. A marginal note is sometimes added to indicate metallic circuits if any are in use.

[9] Figures representing the total capacity of the exchange may be added as shown.

156. Naval maps.—The signs and symbols used by the British Admiralty on maps, plans, and sketches are shown below:

Landing ground (name underlined in red, blue, or black for air forces, naval, or civil)

Seaplane station (name underlined in red, blue, or black for air forces, naval, or civil)

Seaplane mooring area (name underlined in red, blue, or black for air forces, naval, or civil)

Airdrome and seaplane station (name underlined in red, blue, or black for air forces, naval, or civil)

Airship station (name underlined in red, blue, or black for air forces, naval, or civil)

Airdrome and airship station (name underlined in red, blue, or black for air forces, naval, or civil)

Airship station and mooring mast (name underlined in red, blue, or black for air forces, naval, or civil)

Mooring mast for airships

Hangar for airships

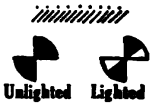
Airway beacon

Airdrome with beacon

Overhead power transmission line

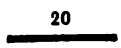
Airway corridor

Airway obstruction over 200 feet (60 meters) above ground
(If the height of the obstruction above ground level exceeds 300 feet, the maximum height in feet above sea level is given thus: 2,545 feet).



Limit of area prohibited for aircraft

Line of mines with depth in feet at low-water springs



Controlled line of mines with cable to control station

Mine control station

Indicator loop

Indicator loop station

Other seaward defences (type to be stated: e. g., booms, nets, etc.)

Disused fort

Searchlight

Searchlight (the number of degrees refers to the limits of the illuminated area)

Battery or fort where arc of fire is known
(If the scale permits and the information is available, the shape of the fort is to be shown in black and red work superimposed).

Battery where position only is known

Prepared position for mobile artillery (coast defences)

Magazine

Visual signal station

Port war signal station

Telephone exchange

Range-finding transmitter post

Range finder

Command post or battery control post

Anti-aircraft gun or section

AA battery Hq

Sound locator with AA searchlight

Limit of mine field

Examination anchorage

MNBDO[10] beach roadway

MNBDO[10] pier

Coast practicable for landing

Entrenchments

Demolitions

[10] Mobile Naval Base Defence Organisation.

Obstacles (description of obstacle to be written above the symbol)

Anchorage as classified in "Ports and Anchorages"

Naval base

Defended port (size of largest gun to be stated) ●12" ●6"

Defended port (defences uncertain) ●?

Steamship route

British submarine cables

Foreign submarine cables (nationality indicated in the circle)

Railway, double-track

Railway, single-track

Railway, under construction

Railway, projected

Telegraph or telephone (underground line)

Telegraph or telephone (overhead line)

Power station

Gas works

Hospital

Coal depot

Coal bunkering facilities

Coal mine

Oil wells

Fuel-oil bunkering facilities

Oil refinery

Oil tanks

Cable landing place o Cable Landing

Lifting appliances

W/T (radio) station

Radio broadcasting station

MNBDO [11] W/T (radio) station ⊕M

Marine light ★

Airdrome (name to be underlined in red, blue, or black for air forces, naval, or civil) ◉

Kite balloon 

Coast watching post oCWP

Coast watching patrol o·····oCWP

Water supply oW

One-way traffic for motor transport (MT) (at road junction) △→

Turning point for MT 

Machine-gun post, with number of guns 

[11] Mobile Naval Base Defence Organisation.

455245°—43——17

Chapter 9

MISCELLANEOUS

SECTION I

CLASSIFICATION OF DOCUMENTS

157. Categories.—*a.* The British use the following categories in classifying documents and military information:

(1) "Most secret."

(2) "Secret."

(3) "Security."

(4) "Confidential" (or "Private and confidential").

(5) "Not to be published."

b. The "Most secret" category is normally restricted to the following subjects:

(1) War plans and future operations when in the planning state.

(2) Comprehensive statements regarding rates of production of major munitions of war, discussions on new types of weapons, or forecasts of manpower, etc.

(3) Political papers dealing with negotiations for alliances and the like.

(4) Intelligence obtained by "Most secret" means.

(5) Technical secrets connected with new weapons of warfare.

(6) Other matters, such as code words, ciphers, etc., which War Establishments prescribe or which originators may consider should be included within this category.

c. The "Secret" category is normally restricted to the following subjects:

(1) Operations in their executive status.

(2) Ciphers, etc., and technical secrets which do not warrant the "Most secret" category.

(3) Trcop movements for operational purposes or dispatch overseas, location lists, and orders of battle.

d. Both the "Most secret" and the "Secret" categories require

transmission in two envelopes, the outer one plain and the inner one wax-sealed and labeled with the address and classification. The safe custody of documents in these categories is the responsibility of an officer; whenever possible, he sees that they are locked in a safe, the combination of which is known only to him and a few other officers.

e. "Security" is normally used for documents which by reason of their very wide circulation cannot be kept secret.

f. "Confidential" classification is used in connection with any matters dealing with the character of an individual, or a matter of policy which should not become generally known. For example, the proceedings of a court-martial are confidential until the finding is promulgated.

g. Documents in the "Security" and "Confidential" categories should be kept under lock and key, but are not necessarily the responsibility of an officer.

h. "Private and confidential" imposes the additional safeguard of requiring the addressee to open it personally and places upon him the responsibility for the safe custody of the document while it is in his possession.

i. "Not to be published" is normally used for such publications as training memoranda, military training pamphlets, and other documents of a military nature, the contents of which should not be divulged to people outside the armed forces. Documents marked "Not to be published" must not be taken into the front line.

j. "By safe hand" means that delivery is to be effected by a trusted messenger.

158. Breaking or degrading (cancellation or change of classification).—Officials qualified to classify material as "Most secret" are also qualified to break or degrade (cancel or change) the classification. Certain staff officers are permitted to issue in a lower classification extracts from documents in a higher classification, provided that the extracts are still properly safeguarded. All papers are subject to continual review so that they may be broken or degraded when elapsed time has removed the need for their original classification.

159. Comparison of British and U. S. security categories.—The following is an official comparison of British and U. S. security categories:

British	*United States*
"Most secret"	"Secret"
"Secret"	"Confidential"
"Security"	
"Confidential"	"Restricted"
"Not to be published"	

SECTION II

CONVERSION TABLES

160. Currency.—*a. General.*—The pound sterling, which is the standard unit of money in the United Kingdom, now exchanges for about $4.00 in U. S. currency. The table of equivalents given below, however, is based on comparative purchase power rather than on international exchange rates. Prices are usually written in pounds, shilling, and pence, abbreviated £, *s*, and *d*. Thus the price of an article might read £2/1/6, meaning 2 pounds, 1 shilling, and 6 pence.

British	*U. S. equivalent*
COPPER COINS:	
Farthing (rare) (¼d.) ("farthin' ")	½ cent
Halfpenny (½d.) ("hayp'ny")	1 cent
Penny (1d.)	2 cents
Threepence (rare) (3d.) ("thrup'nce" or "thrup'ny bit" or a stever)	6 cents
SILVER COINS:	
Threepence (3d.) ("thrup'nce" or "thrup'ny bit" or a stever)	6 cents
Sixpence (6d.) ("sixp'nce" or a tanner or a kick)	12 cents
Shilling—12 pence (1s., 1/–) (a bob)	25 cents
Florin—2 shillings (2s., 2/–) (two-bob piece)	50 cents
Half crown—2 shillings and 6 pence (2s. 6d., 2/6) (two and six or half a crack)	62 cents
Crown (rare)—5 shillings (5s., 5/–)	$1.00
PAPER CURRENCY:	
10-shilling note (10s., 10/–) (10 bob)	$2.50
Pound note—20 shillings (£1) (a quid)	$5.00
Larger denominations of pound notes, £5 and up.	

b. Other monetary terms.—(1) The British also refer to coins no longer in existence, such as a guinea, which is equal to 1 pound, 1 shilling. Thus, when an article sells for a guinea, the purchaser is expected to pay 1 pound, 1 shilling. Expensive articles such as furniture, automobiles, jewelry, precious stones, etc., are usually priced in guineas.

(2) Articles which commonly sell for a nickel in the United States often sell in the United Kingdom for the equivalent of two pence, half penny ("tup'nce-hayp'ny").

161. Weights and measures.—*a. Differences to be noted.*—The following differences between British and U. S. weights and measures should be particularly noted (see also *d*, below):

British	*United States*
1 imperial quart	1.2 liquid quarts. 1.032 dry quarts.
1 imperial gallon	1.205 gallons (roughly 5 quarts).
5 imperial gallons	About 6 gallons.
1 imperial peck	1.03 pecks.
1 imperial bushel	1.03 bushels.
1 stone (14 pounds) ("I weigh 12 stone 7.").	("I weigh 175 pounds.")
1 quarter (28 pounds)	1 quarter (25 pounds).
1 hundredweight (cwt.), long (112 pounds)	1 hundredweight (cwt.), short, or cental (100 pounds).
1 ton, long (20 long cwt., or 2,240 pounds)	1 ton, short (20 short cwt., or 2,000 pounds).
1 statute mile	1 mile.
1 milliard, or thousand millions (1,000,000,000).	1 billion.
1 billion (1,000,000,000,000)	1 trillion.
1 thousand billions (1,000,000,000,000,000)	1 quadrillion.
1 trillion (1,000,000,000,000,000,000)	1 quintillion.

b. Horsepower.—(1) In Great Britain, as in the United States, horsepower may be computed in a variety of ways. One horsepower is the unit of force required to raise 33,000 pounds 1 foot in 1 minute (or 550 pounds 1 foot in 1 second).

(2) Often the British rate their vehicles by the arbitrary Society of Automotive Engineers (SAE) formula. However, it is impossible to establish a conversion factor for SAE horsepower, since the SAE formula has no mathematical or even empirical relationship to other methods of computing horsepower, all of which are similar. In some tables of equivalents, 1 "British" horsepower is given as equal to 3 "U. S." horsepower, but such a ratio is incorrect. For example, the GM 270 engine has brake horsepower of 95 and SAE horsepower of approximately 34.5, but the Willys ¼-ton engine has brake horsepower of 63 and SAE horsepower of 15.7.

(3) The brake horsepower formula, which is normally used in the United States, is the simplest and most common method of computing horsepower. The results obtained by this method approximate those

obtained by all other methods except the SAE formula. Brake horsepower is computed by the formula $BHP=\frac{2\pi QN}{33,000}$, π being 3.1416, Q being the measured torque in foot-pounds, and N being the measured speed in revolutions per minute.

(4) SAE horsepower is computed by the formula SAE $HP=.4\ D^2N$, D^2 being the square of the cylinder bore in inches and N being the number of cylinders.

c. Gasoline, oil, and water.—(1) *Formulas.*—For converting petrol (gasoline) and oil to long tons, use the following formulas:

(*a*) $\frac{\text{Petrol gallons}}{300}=\text{long tons.}$

(*b*) $\frac{\text{Oil gallons}}{240}=\text{long tons.}$

(2) *Weight of petrol and oil:*

(*a*) One 2-gallon can of petrol weighs 19¾ pounds.

(*b*) One 4-gallon tin of petrol weighs 35½ pounds.

(*c*) One 5-gallon drum of lubricating oil weighs 54 pounds.

(3) *Weight of water in petrol cans and oil drums:*

(*a*) One 2-gallon petrol can of water weighs 23¼ pounds.

(*b*) One 4-gallon petrol can of water weighs 42¾ pounds.

(*c*) One 5-gallon oil drum of water weighs 60 pounds.

d. General reference table for converting weights and measures.

Column 1	Column 2	Multiplier	Reciprocal
Acres	Hectares	.405	2.47
Centimeter	Inch	.3937	2.5399
Inches	Millimeters	25.4	.039 37
Inches	Feet	.0833	12.0
Inches	Meters	.0254	39.37
Inches	Yards	.0377	36.0
Feet	Meters	.304 8	3.280 8
Yards	Meters	.914 4	1.093 6
Miles	Kilometers	1.609 3	.621 37
Miles per hour	Knots (6,087 feet)	1.152	.867 4
Square inches	Square millimeters	645.16	.001 55
Square inches	Square centimeters	6.451 6	.155
Square feet	Square meters	.092 9	10.764
Cubic inches	Cubic centimeters	16.387	.061
Cubic inches	Liters	.0164	61.0
Cubic feet	Cubic meters	.028 32	35.314 8
Cubic meters	Cubic yards	1.308	.7646
Grains	Grams	.0648	15.432
Grams	Ounces	.03527	28.35
Pound	Kilograms	.453 59	2.204 62
Hundredweight (112 pounds)	Kilograms	50.802	.019 68
Hundredweight (112 pounds)	Quintals	.508	1.97

Column 1	Column 2	Multiplier	Reciprocal
Tons (short)	Tons (long)	.892 8	1.12
Tons (short)	Tons (metric)	.907 2	1.102 2
Tons (long)	Tons (metric)	1.016	.984 2
Kilograms	Ounces	35.27	.02835
Pounds per yard	Kilograms per kilometer	496.06	.002 02
Pounds per square inch	Kilograms per square centimeter.	.070 31	14.223
Pounds per square inch	Atmospheres	.068 03	14.706
Feet per second	Miles per hour	.681 82	1.466 7
Feet per second	Meters per second	.304 8	3.280 8
Feet per second	Kilometers per hour	1.097 28	.911 33
Feet per minute	Miles per hour	.011 363 6	88.0
Feet per minute	Meters per second	.005 08	196.85
Feet per minute	Kilometers per hour	.018 288	54.68
Meters per minute	Feet per second	.0547	18.288
Miles per hour	Meters per second	.447 04	2.236 9
Miles per hour	Kilometers per hour	1.609 34	.621 37
Kilometers per hour	Meters per second	.227 78	3.6
Square kilometers	Square miles	.3862	2.589
Square meters	Square yards	1.197	.8361
Pints	Liters	.568	1.76
Gallons	Liters	4.546	.22
Gallons (water)	Cubic feet	.161	6.211 1
Gallons (imperial)	Gallons, U. S	1.205	.830
Horsepower	Horsepower (metric) [1]	1.013 85	.986 3
Horsepower	Foot-pounds per second	550.0	.001 818 2
Horsepower	Kilogram-meters per second	76.04	.013 15
Force de cheval	Horsepower	.986	1.014
Centigrade	Fahrenheit	(F–32)×5/9	C×9/5+32
Joules	Gram calories	.238 8	4.186
Joules	British thermal unit	.000 948	1055.36
Joules per second	Horsepower	.001 340 3	746.08
Watts	Horsepower	.001 340 3	746.08
Watts	British thermal units per second.	.000 948	1055.36
Watt-hours	Foot-pounds	2654.0	.000 376 8
Killowatts	Horsepower	1.340 3	.746 08

Example:
Column 1 × multiplier=column 2: inches × 25.4=millimeters.
Column 2 × reciprocal=column 1: millimeters × .039 37=inches.

[1] The metric horsepower=75 kilogram-meters per second.

SECTION III

CIVIL TITLES

162. The King and the Royal Family.—The King's title is King of Great Britain and Northern Ireland and of the British Dominions beyond the Seas, Emperor of India. The King's sons and daughters,

and grandchildren if in the direct line of succession, are Royal Highnesses. The King and Queen are addressed as "Your Majesty."

163. The Peerage.—*a.* The House of Lords is the Upper House of the British Parliament, but its members are ordinarily hereditary and not elected. Not all peers are called to the House of Lords. The King creates new peerages on the recommendation of the Prime Minister. Proceeding from highest to lowest, the ranks of the peerage (including wives) are as follows:

(1) Duke—duchess.
(2) Marquess (pronounced as written)—marchioness.
(3) Earl—countess.
(4) Viscount (pronounced "vi-count")—viscountess.
(5) Baron—baroness.

b. In formal conversation a duke, as well as the Archbishop of Canterbury and the Archbishop of York, is addressed as "Your Grace," except by members of the armed forces, who address any Royalty or peer as "Sir." In correspondence a duke is addressed as "His Grace, the Duke of _____." A marquess or an earl would be addressed in formal conversation as "My Lord," but in writing as "The Marquess (or the Earl) of _____." A viscount or a baron is addressed in conversation as "My Lord," but in writing as "Viscount or Lord _____."

c. Children of peers are commoners but are accorded courtesy titles as follows:

(1) The eldest son of a peer who is an earl or above is known by a second and lower title of his father. For example, the eldest son of a marquess is ordinarily "The Earl of _____," and the eldest son of an earl generally "Viscount _____."

(2) Younger sons of a duke or marquess are called "Lord," plus the Christian and family name.

(3) Daughters of a duke, marquess, or earl are called "Lady," plus the Christian and family name.

(4) Younger sons of earls, and all children of viscounts or barons, have the courtesy prefix "Honourable." However, this is used only in writing or reference.

164. Other titles.—*a.* Among the titles which do not belong to the peerage are baronet (hereditary), knight, and Right Honourable. Wives of baronets and knights are entitled to use the prefix "Lady," plus the husband's last name. Right Honourable (Rt. Hon.) is used by members of His Majesty's Privy Council, but not by their wives.

b. In the Army, titles of nobility are not used orally. The form

of oral address is always the military rank followed by the individual's last name. In writing, however, the correct form of address is "Major, the Duke of ----------," or "Captain, Lord ----------."

c. The title "esquire," formerly used by courtesy to designate the eldest son of a knight, is now commonly used in addressing letters to professional and business men (in actual practice, to all men not holding an official title): for example, John Doe, Esq.

d. The prefix "Mister" is used (1) in introducing any man not holding an official title, and (2) in addressing a letter to a man and his wife when neither holds an official title: for example, Mr. and Mrs. John Doe.

Chapter 10
ABBREVIATIONS

165. Headquarters, formations, staff, appointments, and services.—These abbreviations are for general use and for addressing messages or correspondence *to*, but many of them are used only by special or technical services or units.[1] Abbreviations for the titles of units are not used when code names are employed. Names and individual designations of officers do not appear in messages unless they are intended for delivery to individuals. Distinguishing letters are to be used with the originator's number on the message form (see par. 51*c*(3) and fig. 34).

a. Headquarters and formations.

Full title	*Abbreviation*	*Distinguishing letter*
General Headquarters.	GHQ	------
First (Second, etc.) Army.	First (Second, etc.) Army	------
1st (2nd, etc.) Corps.	1 (2, etc.) Corps	------
1st Armoured Division.	1 Armd Div	------
1st (2nd, etc.) Division.	1 (2, etc.) Div	------
1st Light (Heavy) Armoured Brigade.	1 Lt (Hy) Armd Bde	------
1st (2nd, etc.) Cavalry Brigade.	1 (2, etc.) Cav Bde	------
1st (2nd, etc.) Infantry Brigade.	1 (2, etc.) Inf Bde	------
Royal Regiment of Artillery (RA):		RA[2]
1st (2nd, etc.) Corps Artillery.	RA 1 (2, etc.) Corps	RA
1st (2nd, etc.) Corps Medium Artillery.	MA 1 (2, etc.) Corps	MA
1st (2nd, etc.) Divisional Artillery.	RA 1 (2, etc.) Div	RA
1st (2nd, etc.) Field (Medium, etc.) Regiment.	1 (2, etc.) Fd (Med, etc.) Regt	------
Corps of Royal Engineers (RE):		RE
1st (2nd, etc.) Divisional Engineers.	RE 1 (2, etc.) Div	RE
Royal Corps of Signals (R Sigs):		Sigs
General Headquarters Signals.	Sigs GHQ	Sigs
First (Second, etc.) Army Signals.	Sigs First (Second, etc.) Army	Sigs
1st (2nd, etc.) Corps Signals.	Sigs 1 (2, etc.) Corps	Sigs
1st (2nd, etc.) Divisional Signals.	Sigs 1 (2, etc.) Div	Sigs

[1] In addressing a headquarters, the branches of the staff will not be included (e. g., "1 Div" is correct and "Q1 Div" is incorrect), but abbreviations denoting subordinate commanders or services will be included (e. g., "RA 1 Div" and "Medical 2Corps" are correct).

[2] The staff of MGRA, CCRA, CCMA, and CRA (see par. 166) will use the originators' letters "RAO," "RAI," and "RAQ." Units (regiments, battalions, etc.) will use the distinguishing letters "O," "I," and "Q" only.

Full title	*Abbreviation*	*Distinguishing letter*
Anti-Aircraft Defence (AAD):		
1st (2nd, etc.) Anti-Aircraft Brigade.	1 (2, etc.) AA Bde	------
Royal Army Service Corps (RASC):		
1st (2nd, etc.) Divisional Royal Army Service Corps.	RASC 1 (2, etc.) Div	ST
Royal Air Force (RAF):		
Royal Air Force Component with the Army in the Field.	Air GHQ	------
b. Staff.		
General Staff Branch (G or GS):[3]		
Operations Section.	------	O
Intelligence Section and Intelligence Officers.	------	I
Staff Duties and Training Section.	------	SD
Brigade Majors.	------	O
Signal Officer in Chief, Chief Signal Officers, and their Staffs.	------	X
Adjutant-General's Branch (A):[4]	------	A
Officer in Charge, 2nd Echelon.	O2E	ECH
Staff Captain.	------	A
Quarter-Master-General's Branch (Q):[5]	------	Q
Staff Captain.	------	Q
Movement Control.	------	QM
c. Appointments.		
Aide-de-Camp.	ADC	ADC
Camp Commandant.	Camp	CP
Military Secretary.	MS	MS
Personal Assistant.	PA	------
d. Services.[6]		
Army Postal (Q).	Postal	P
Canteen (Q).	Canteens	CAN
Chaplains (A).	Chaplains	CH
Engineer Stores (G).	Restores	ES
Graves (A).	Graves	GR
Hirings (A).	Hirings	HGS
Judge Advocate-General (A).	DJAG	JAG
Labour (Q).	Labour	LB

[3] The General Staff is responsible for operations, intelligence, training, and coordination in general. At the War Office and other large headquarters separate branches of the "G" Staff (or "GS") are established. (See notes 4 and 5, below.)

[4] The Adjustant-General's Staff is responsible for personnel administration. It enlists the soldier, pays him, promotes him, looks after his discipline and welfare, supervises his medical arrangements, and eventually discharges or buries him. The "A" Staff also considers the questions of man power and statistics, and in this regard links very closely with the "G" Staff. (See note 5, below.)

[5] The Quarter-Master-General's Staff is responsible for every article that the soldier needs, whether it be clothing, equipment, weapons, ammunition, food, vehicles, petrol (gasoline), or oil. The "Q" Staff is also responsible for movement, except when troops are actively engaged in operations. Operational movement is controlled by the "G" Staff. At every Hq there is an officer who coordinates "A" and "Q" duties.

[6] The letter in parentheses following each service indicates which branch of the staff exercises control.

Full title	*Abbreviation*	*Distinguishing letter*
Medical (A).	Medical	M
Dental.	Dental	M
Hygiene.	Hygiene	M
Medical and Surgical.	Medical	M
Nursing.	Nursing	M
Pathology.	Pathology	M
Ordnance (Q).	Ord	OS
Pay (A).	Pay	PAY
Printing and Stationery (A).	Print	PS
Provost (A).	Pro	PRO
Remounts (Q).	Remounts	RM
Supply (Q).	Sup	S
Survey (G).	Survey	CV
Transport (Q).	Tpt	T
Transportation (Q).	Transit	TN
Docks.	Docks	D
Inland Water Transport.	IWT	IW
Light Railways.	Lightrail	LR
Railways.	Rail	RY
Veterinary (Q).	Vet	Vet
Works (Q).	Works	Wks

166. Commanders and staffs.[7]

Title	*Abbreviation*
Chief of the Imperial General Staff at the War Office	CIGS
Commander-in-Chief	C-in-C
Major-General, Royal Artillery	MGRA
Commander, Corps Royal Artillery	CCRA
Commander, Corps Medium Artillery	CCMA
Commander, Royal Artillery	CRA
Engineer-in-Chief	E-in-C
Chief Engineer	CE
Commander, Royal Engineers	CRE

[7] Staff officers of the rank of colonel and above are ungraded and, in general, exercise a coordinating function over a number of branches. First-grade staff officers, who are graded as lieutenant-colonels, are in charge of branches at the War Office and larger headquarters. Second-grade staff officers are majors; third-grade, captains. Titles according to the branch of the staff are as follows:

	"G" Staff	*"A" Staff*	*"Q" Staff*
1st Grade	General Staff Officer, Grade 1 (GSO 1, or G1)	Assistant-Adjutant-General (AAG)	Assistant-Quarter-Master-General (AQMG)
2nd Grade	General Staff Officer, Grade 2 (GSO 2, or G2)	Deputy Assistant-Adjutant-General (DAAG)	Deputy-Assistant-Quarter-Master-General (DAQMG)
3rd Grade	General Staff Officer, Grade 3 (GSO 3, or G3)	Staff Captain (A) (SC(A))	Staff Captain (Q) (SC(Q))

It will be observed that the titles "G1," "G2," and "G3" when used in the British Army relate to gradings, and not to the branch of the staff.

Title	*Abbreviation*
Signal Officer-in-Chief	Chief Sigs (*formerly* SO-in-C)
Chief Signal Officer	CSO
Commander, Royal Army Service Corps	CRASC
Naval Staff Officer	NSO
Principal Sea Transport Officer	PSTO
Air Officer Commanding	AOC
Chief of the General Staff in the Field	CGS
Deputy Chief of the General Staff	DCGS
Major-General, General Staff	MGGS
Brigadier, General Staff	BGS
General Staff Officer	GSO
Brigade Major	BM
Deputy Adjutant-General	DAG
(Deputy) Assistant-Adjutant-General	(D)AAG
Staff Captain	SC
Deputy Quarter-Master-General	DQMG
(Deputy) Assistant-Quarter-Master-General	(D)AQMG
(Deputy) Assistant-Director of Transportation	(D)AD Tn
(Deputy) Assistant-Adjutant and Quarter-Master-General	(D)AA & QMG (*or* AAQMG *or* AQ)

167. Regiments and corps of Regular Army.[8]—The regiments and corps of the Regular Army are listed in order of precedence, as follows:

a. Household cavalry.[9]	*Abbreviation*
The Life Guards[10]	LG
Royal Horse Guards (The Blues)[11]	RHG

b. Mechanized cavalry of the line.—The 20 cavalry regiments of the line have been merged with the Royal Tank Corps to form the Royal Armoured Corps (RAC), which includes the Royal Tank Regiment (R Tanks).[12]

[8] Yeomanry (cavalry) and infantry territorial units, many of which are attached to regular cavalry and infantry regiments, respectively, are not included in this list.

[9] Household cavalry and infantry form the King's bodyguard.

[10] Now one regiment; formerly known as The Life Guards, 1st and 2nd, that is, the 1st and 2nd Regiments.

[11] The Royal Horse Artillery (RHA), now mechanized, which is a part of the Royal Regiment of Artillery (see *c*, below), follows the Royal Horse Guards in order of precedence. But when on parade with its guns, it takes the right and marches at the head of the household cavalry. At the present time, two units of The Honourable Artillery Company (HAC) of the City of London, one of the oldest existing military units in Great Britain, are a part of the RHA.

[12] Formerly known as RTR, the Royal Tank Corps then being known as R Tanks.

	Abbreviation
1st King's Dragoon Guards	KDG
The Queen's Bays (2nd Dragoon Guards)	Bays
3rd Carabiniers (Prince of Wales's Dragoon Guards).	3 DG
4th/7th [13] Royal Dragoon Guards	4/7 DG
5th Royal Inniskilling Dragoon Guards	5 Innis DG
1st The Royal Dragoons	Royals
The Royal Scots Greys (2nd Dragoons)	Greys
3rd The King's Own Hussars	3 H
4th Queen's Own Hussars	4 H
7th Queen's Own Hussars	7 H
8th King's Royal Irish Hussars	8 H
9th Queen's Royal Lancers	9 L
10th Royal Hussars (Prince of Wales's Own)	10 H
11th Hussars (Prince Albert's Own)	11 H
12th Royal Lancers (Prince of Wales's)	12 L
13th/18th Hussars	13/18 H
14th/20th Hussars	14/20 H
15th/19th The King's Royal Hussars	15/19 H
16th/5th Lancers	16/5 L
17th/21st Lancers	17/21 L
Royal Tank Regiment	R Tanks
c. Artillery.	
Royal Regiment of Artillery [14]	RA
d. Engineers.	
Corps of Royal Engineers	RE
e. Signals.	
Royal Corps of Signals	R Sigs
f. Household infantry (The Brigade of Guards). [15]	
Grenadier Guards (The First or Grenadier Regiment of Foot Guards).	Gren Gds
Coldstream Guards (The Coldstream Regiment of Foot Guards).	Coldm Gds
Scots Guards (The Scots Regiment of Foot Guards).	SG

[13] Two ordinal numbers separated by a diagonal stroke (as 4th/7th) denote two original regiments now merged into one.

[14] The Field Branch takes precedence over the Coast Defence and Anti-Aircraft Branch. (See also note 11, above.)

[15] A "Guards' brigade" is a brigade formed of two or more battalions from these regiments. A "Guards' general" is a general officer promoted to that rank after having served as a field officer in a regiment of Foot Guards.

	Abbreviation
Irish Guards (The Irish Regiment of Foot Guards).	IG
Welsh Guards (The Welsh Regiment of Foot Guards).	WG

g. Infantry of the line.—The 64 Foot Regiments that make up the infantry of the line are numbered from (1) to (91), beginning with The Royal Scots; the last to be formed, The Rifle Brigade, has no number. The numbers are the old numbers by which the regiments were formerly known. Each regiment received a number as it was formed, the number indicating the age and seniority of the regiment (in many cases actually a regiment of one battalion). These numbers no longer have any significance except from a historical and sentimental point of view. The missing numbers refer to disbanded organizations (for example, No. 18 was that of The Royal Irish Regiment, which ceased to exist in 1922) or to junior battalions of existing regiments (for example, No. 52 is the 2nd Battalion of the 43rd Regiment, all battalions of which are known as The Oxfordshire and Buckinghamshire Light Infantry).

	Abbreviation
The Royal Scots (The Royal Regiment) (1)	RS
The Queen's Royal Regiment (West Surrey) (2)	Queen's
The Buffs (Royal East Kent Regiment) (3)	Buffs
The King's Own Royal Regiment (Lancaster) (4)	King's Own
The Royal Northumberland Fusiliers (5)	NF
The Royal Warwickshire Regiment (6)	Warwick
The Royal Fusiliers (City of London Regiment) (7).	RF
The King's Regiment (Liverpool) (8)	King's
The Royal Norfolk Regiment (9)	Norfolk
The Lincolnshire Regiment (10)	Lincolns
The Devonshire Regiment (11)	Devon
The Suffolk Regiment (12)	Suffolk
The Somerset Light Infantry (Prince Albert's) (13).	Som LI
The West Yorkshire Regiment (The Prince of Wales's Own) (14).	W Yorks
The East Yorkshire Regiment (The Duke of York's Own) (15)	E Yorks
The Bedfordshire and Hertfordshire Regiment (16).	Bedfs Herts
The Leicestershire Regiment (17)	Leicesters
The Green Howards (Alexandra, Princess of Wales's Own Yorkshire Regiment) (19).	Green Howards

	Abbreviation
The Lancashire Fusiliers (20)	LF
The Royal Scots Fusiliers (21)	RSF
The Cheshire Regiment (22)	Cheshire
The Royal Welch Fusiliers (23)	RWF
The South Wales Borderers (24)	SWB
The King's Own Scottish Borderers (25)	KOSB
The Cameronians (Scottish Rifles) (26)	Cameronians
The Royal Inniskilling Fusiliers (27)	Innisks
The Gloucestershire Regiment (28)	Glosters
The Worcestershire Regiment (29)	Worc R
The East Lancashire Regiment (30)	E Lan R
The East Surrey Regiment (31)	Surreys
The Duke of Cornwall's Light Infantry (32)	DCLI
The Duke of Wellington's Regiment (West Riding) (33).	DWR
The Border Regiment (34)	Border
The Royal Sussex Regiment (35)	R Sussex
The Hampshire Regiment (37)	Hamps
The South Staffordshire Regiment (38)	S Staffords
The Dorsetshire Regiment (39)	Dorset
The South Lancashire Regiment (The Prince of Wales's Volunteers) (40).	PWV
The Welch Regiment (41)	Welch
The Black Watch (Royal Highland Regiment) (42).	Black Watch
The Oxfordshire and Buckinghamshire Light Infantry (43).	Oxf Bucks
The Essex Regiment (44)	Essex
The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment) (45).	Foresters
The Loyal Regiment (North Lancashire) (47)	Loyals
The Northamptonshire Regiment (48)	Northamptons
The Royal Berkshire Regiment (Princess Charlotte of Wales's) (49).[16]	R Berks
The Queen's Own Royal West Kent Regiment (50).	RWK
The King's Own Yorkshire Light Infantry (51)	KOYLI

[16] The precedence of the Royal Marines is established as follows:

When serving under the Naval Discipline Act (i. e., when landed from HM ships or from naval establishments), they will form part of the naval contingent and take precedence immediately after the Royal Navy. When serving under the Army Act (i. e., when a Royal Marine unit is furnished from a Royal Marine division or from a Royal Marine battalion), they will take precedence after The Royal Berkshire Regiment (Princess Charlotte of Wales's).

	Abbreviation
The King's Shropshire Light Infantry (53)	KSLI
The Middlesex Regiment (Duke of Cambridge's Own) (57).	Mx
The King's Royal Rifle Corps (60)	KRRC
The Wiltshire Regiment (Duke of Edinburgh's) (62).	Wilts
The Manchester Regiment (63)	Manch
The North Staffordshire Regiment (The Prince of Wales's) (64).	N Staffs
The York and Lancaster Regiment (65)	Y & L
The Durham Light Infantry (68)	DLI
The Highland Light Infantry (City of Glasgow Regiment) (71).	HLI
The Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's) (72).	Seaforth
The Gordon Highlanders (75)	Gordons
The Queen's Own Cameron Highlanders (79)	Camerons
The Royal Ulster Rifles (83)	RUR
The Royal Irish Fusiliers (Princess Victoria's) (87).	R Ir F
The Argyll and Sutherland Highlanders (Princess Louise's) (91).	A & SH
The Rifle Brigade (Prince Consort's Own) (No number).	RB
h. Other corps.	
Reconnaissance Corps	Recce Corps
Royal Army Chaplains' Department	RAChD
Royal Army Service Corps	RASC
Royal Army Medical Corps	RAMC
Royal Army Ordnance Corps	RAOC
Royal Electrical and Mechanical Engineers	REME
Royal Army Pay Corps	RAPC
Royal Army Veterinary Corps	RAVC
Army Educational Corps	AEC
The Army Dental Corps	AD Corps
Pioneer Corps [17]	P Corps
Intelligence Corps	IC
Army Catering Corps	ACC

[17] Formerly the Auxiliary Military Pioneer Corps (AMPC).

	Abbreviation
Army Physical Training Corps	APTC
Corps of Military Police	CMP
Military Provost Staff Corps	MPSC
Queen Alexandra's Imperial Military Nursing Service.	QAIMNS
Auxiliary Territorial Service	ATS
Officers' Training Corps	OTC

168. Titles of units other than cavalry and infantry.

a. Royal Armoured Corps (RAC).	*Abbreviation*
1st Armoured Car Company	1 Armd C Coy
3rd Royal Tank Regiment	3 R Tanks
b. Royal Regiment of Artillery (RA).	
3rd Anti-Aircraft Battery, RA	3 AA Bty
1st Anti-Tank Battery, RA	1 A Tk Bty
A/E Battery, Royal Horse Artillery	A Bty RHA
42nd/53rd Field Battery, RA	42 Fd Bty
4th Heavy Battery, RA	4 Hy Bty
4th Light Anti-Aircraft Battery, RA	4 Lt AA Bty
17th Medium Battery, RA	17 Med Bty
2nd Searchlight Battery, RA	2 SL Bty
1st Survey Battery, RA	1 Svy Bty
c. Corps of Royal Engineers (RE).	
100th Army Field Company	100 A Fd Coy
103rd (Glasgow) Army Troops Company	103 A Tps Coy
105th Corps Field Park Company	105 Corps Fd Pk Coy
12th (Field) Company, RE	12 Fd Coy
6th (Field Park) Company, RE	6 Fd Park Coy
19th (Field Survey) Company, RE	19 Fd Svy Coy RE
3rd (Fortress) Company, RE	3 Frt Coy
109th Workshop and Park Company	109 Wkshop and Pk
d. Royal Corps of Signals (R Sigs).	
No. 1 Anti-Aircraft Brigade Signals	1 AA Bde Sigs
No. 1 (No. 2, etc.) Field Artillery Signal Section.	1 (2, etc.) Fd Arty Sig Sec
No. 1 (No. 2, etc.) Medium Artillery Signal Section.	1 (2, etc.) Med Arty Sig Sec
No. 1 (No. 2, etc.) Squadron, Armoured Divisional Signals.	1 (2, etc.) Sqn Armd Div Sigs
e. Royal Army Service Corps (RASC).	
Anti-Aircraft Group Company	AA Gp Coy
Ambulance Car Company	Amb C Coy

	Abbreviation
Armoured Brigade Company	Armd Bde Coy
Armoured Division Ammunition Park	Armd Div Amn Pk
Armoured Division Petrol Park	Armd Div Pet Pk
Armoured Division Reserve Supply Park	Armd Div Res Sup Pk
Armoured Division Troops Company	Armd Div Tps Coy
Bridge Company	Bridge Coy
Corps Ammunition Park	Corps Pk
Corps Petrol Park	Corps Pet Pk
Corps Troops Ammunition Company	CT Amn Coy
Corps Troops Ammunition Sub-Park	CT Amn Sub Pk
Corps Troops Supply Column	CT Sup Col
Divisional Ammunition Sub-Park	Div Amn Sub Pk
Divisional Troops Company	Div Tps Coy
GHQ Troops Company	GHQ Tps Coy
Infantry Brigade Company	Inf Bde Coy
Line of Communication Motor Transport Company.	L of C MT Coy
Motor Ambulance Convoy	MAC
Reserve MT Company	Res MT Coy
Tank Brigade Company	Tank Bde Coy
f. Royal Army Medical Corps (RAMC).	
Casualty Clearing Station	1 (2, etc.) CCS
Cavalry Field Ambulance	1 (2, etc.) Cav Fd Amb
Field Ambulance	1 (2, etc.) Fd Amb
Field Hygiene Section	1 (2, etc.) Fd Hyg Sec
General Hospital	1 (2, etc.) Gen Hosp
Light Field Ambulance	1 (2, etc.) Lt Fd Amb
Light Field Hygiene Section	1 (2, etc.) Lt Fd Hyg Sec
g. Royal Army Ordnance Corps (RAOC).	
Anti-Aircraft Brigade Workshop	AA Bde Wkshop
Armoured Brigade Ordnance Company	Armd Bde Ord Coy
Army Field Workshop	A Fd Wkshop
GHQ Troops Workshop	GHQ Tps Wkshop
Infantry Brigade Ordnance Company	Inf Bde Ord Coy
Light Aid Detachment	LAD
Ordnance Field Park	Ord Fd Pk
Recovery Section	Rec Sec
Tank Brigade Ordnance Company	Tank Bde Ord Coy
h. Royal Army Veterinary Corps (RAVC).	
Mobile Veterinary Section	1 (2, etc.) Mob Vet Sec
Veterinary Evacuating Station	1 (2, etc.) VES

i. Corps of Military Police (CMP).

	Abbreviation
Provost Company	1 (2, etc.) Pro Coy
Provost Squadron	1 (2, etc.) Pro Sqn

169. Reconnaissance code.—No single code can embrace every observation likely to be required. Resource to the use of plain language will be inevitable for certain types of observation. The most usual requirements are, however, covered by the following:

AAG	Anti-aircraft guns.
ACT	Activity at (used only to denote haphazard movement in a small area).
ALA	All arms (used in conjunction with COL).
AMC	Armoured cars.
ART	All artillery, not in action.
BDG	Bridge.
BIV	Bivouac.
BUS	"Bus" (as distinct from MET).
CAV	Mounted men.
CLM	Cancel last message.
CLO	Closed.
CNO	Cannot observe____previously located at____(e. g., CNO GNS 356469).
COL	Column.
DFP	Defended post.
DIG	Digging.
ENG	Engine.
FCG	Facing.
GCB	Concentration of hostile batteries in action.
GNF	Guns now firing.
GNS	Guns in action, but not firing.
HDT	Horse-drawn transport.
HOR	Horses.
INF	Men.
MET	Mechanical transport.
MGS	Machine guns.
NMS	No movement seen.
OPN	Open.
RFA, RFB, RFC, etc.	Reference point A, B, C, etc.
RHP	Ranging point.
RIV	River.

SDG	Siding.
SNU	Steam not up. (All railway observations will be taken to refer to engines with steam up unless this group of letters follows.)
TCH	Trench.
TCK	Track.
TKV	Tracked vehicles.
TMG	Target moving.
TNK	Tank.
TNT	Tent.
TRG	Goods trucks (i. e., freight cars).
TRN	Railway train (complete with engine).
TRP	Passenger coaches.
WTS	Wireless station.

170. Miscellaneous.—The following list of abbreviations, which is arranged alphabetically according to the abbreviations, has been compiled from both official and unofficial sources. It represents abbreviations for designations as used mainly by the Army and the Royal Air Force, though some as used by the Royal Navy have been included.

A *or* "A"	Adjutant General's Branch *or* Adjutant *or* Army.
(A)	Accountant Branch Officer.
AA	Anti-aircraft (*see also* Ack-ack *and* Flak) *or* Army Act.
AA & CD	Anti-Aircraft and Coast Defence.
AAD	Anti-Aircraft Defence.
AAF	Auxiliary Air Force.
AAFGL	Auxiliary Air Force, General list.
AAFRO	Auxiliary Air Force Reserve of Officers.
AAG	Assistant - Adjutant - General.
AALMG	Anti-aircraft light machine gun.
AA & QMG *or* AAQMG	Assistant Adjutant and Quarter-Master-General (*see also* AQ).
AAS	Advanced Air Station.
AASC	Army Air Support Control.
AASL(Coy)	Anti - Aircraft Searchlight (Company).
AATE	Anti-Aircraft Training Establishments.
AB	Army Book.
ABCA	Army Bureau of Current Affairs.
ABM	Assistant Beachmaster.
ABS	Automatic bomb sight.
AC	Air Commodore (*see also* A Cdre) *or* Aircraftman (followed by 1 or 2 to denote the class).
AC *or* A/C	Aircraft *or* Army Co-operation (aircraft) *or* armoured car.
AC (Sqn)	Armoured car *or* Army Co-operation (Squadron)
ACAS(G)	Assistant Chief of the Air Staff (General).
ACAS(I)	Assistant Chief of the Air Staff (Intelligence).
ACAS(T)	Assistant Chief of the Air Staff (Operational Requirements and Tactics).
ACC	Army Catering Corps.
Acft C	Aircraft carrier.
ACH	Aircrafthand.

ACI	Army Council Instruction.
ACIGS	Assistant Chief of the Imperial General Staff.
Ack *or* ACK	Acknowledge.
Ack-ack	Anti-aircraft (*see also* AA *and* Flak).
ACM	Air Chief Marshal.
ACNS	Assistant Chief of Naval Staff.
ACT	Air Commandant.
ACV	Armoured command vehicle.
Ad	Administrative.
AD	Air Defence *or* Ammunition Depot *or* Assistant-Director (in combination).
ADA(A)	Assistant-Director of Accounts (Allowances).
ADA(C)	Assistant-Director of Accounts (Cash).
ADA(G)	Assistant-Director of Accounts (General).
ADA(M)	Assistant-Director of Accounts (Miscellaneous).
ADA(S)	Assistant-Director of Accounts (Stores).
ADC	Aide-de-camp *or* The Army Dental Corps (*see also* AD Corps).
ADCA	Assistant-Director of (Home) Civil Aviation.
ADC(Clo)	Assistant-Director of Contracts (Clothing).
AD Corps	The Army Dental Corps.
ADC(Fuel)	Assistant-Director of Contracts (Fuel).
ADC(S)	Assistant-Director of Contracts (Service).
ADC(W)	Assistant-Director of Contracts (Works).
addsd *or* Addsd	Addressed.
ADG	Assistant-Director-General (in combination).
ADGB	Air Defence of Great Britain.
ADGD	Assistant-Director of Ground Defence.
ADG Tn	Assistant-Director-General of Transportation.
ADH	Assistant-Director of Hygiene.
ADHP	Assistant-Director of Hydrogen Production.
ADI	Assistant-Director of Intelligence.
ADI(Maps)	Assistant-Director of Intelligence (Maps).
Adj *or* Adjt	Adjutant.
Adm *or* Admn	Administration *or* administrative.
ADMC	Assistant-Director of Military Co-operation.
ADMO	Assistant-Director of the Meteorological Office.
ADMS	Assistant-Director of Medical Services.
Admty	Admiralty.
ADO(Est)	Assistant-Director of Organisation (Establishments).
AD of S(2)	Assistant-Director of Signals (Civil Aviation).
AD of S(3)	Assistant-Director of Signals (Ground Communications).
ADOS	Assistant-Director of Ordnance Services.
ADPL	Assistant-Director of Pioneer and Labour.
A Dpo	Aircraft Depot.
ADPR	Assistant-Director of Press Relations.
ADRC	Assistant-Director of Regional Control.
ADRDE	Air Defence Research and Development Establishment.
ADS	Advanced Dressing Station.
ADSM	Assistant-Director of Servicing and Maintenance.
ADST	Assistant-Director of Supplies and Transport.
AD Svy	Assistant-Director of Survey.
AD Tn	Assistant-Director of Transportation.
Adv	Advance *or* advanced.
Adv Bse	Advanced base.
Adv Gd	Advance guard.

ADW(M& E)	Assistant - Director of Works (Mechanical and Electrical).
ADWAAF	Assistant-Director of the Women's Auxiliary Air Force.
AEC	Army Educational Corps *or* Associated Equipment Company.
AEO	Assistant Embarkation Officer.
Aerp	Aeroplane.
AF	Army Form *or* Admiral of the Fleet.
AFC	Air Force Cross.
AFDU	Air Fighting Development Unit.
A Fd Wkshop	Army Field Workshop.
AFM	Air Force Medal.
Afme	Airframe.
AFS	Auxiliary Fire Service.
AFV	Armoured fighting vehicle.
AG	Adjutant-General *or* Air Gunner.
AGPO	Assistant Gun Position Officer.
AHQ	Air Headquarters.
AI	Aircraft Interception (airborne).
AIG	Assistant Instructor of Gunnery.
AI(LO)	Air Intelligence (Liaison Officer).
Air Bse	Air Base.
A Cdre	Air Commodore.
Air Comdr	Air Commander.
Air M	Air Marshal.
ALC	Assault landing craft.
ALG	Advanced landing ground.
ALM	American Liaison and Munitions.
ALO	Air Liaison Officer.
AM	Albert Medal *or* Air Ministry *or* Air Marshal *or* morning.
Amb	Ambulance.
AMDP	Air Member for Development and Production.
A/MEN	Anti-personnel (ammunition).
AME Sta	Air Ministry Experimental Station.
AMLO	Assistant Military Landing Officer.
amn *or* Amn	Ammunition.
AMNL	Ammonal (bulk explosives).
AMNL CH	Ammonal with charcoal.
AMO	Air Ministry order.
AMP	Air Member for Personnel.
AMPC	Auxiliary Military Pioneer Corps (*see* P Corps).
Amph	Amphibian.
AMS	Assistant Military Secretary.
AMSO	Air Member for Supply and Organisation.
AMT	Air Member for Training.
AMTB	Anti-motor torpedo battery *or* anti-motor torpedo boat.
AO	Army order *or* Accountant Officer.
AOC	Air Officer Commanding.
AOC-in-C	Air Officer Commanding-in-Chief.
AOD	Army Ordnance Depot.
AOER	Army Officers' Emergency Reserve.
AOFP	Army Ordnance Field Park.
A of S	Line/angle of sight.
AOW	Army Ordnance Workshop.
AP	Armour-piercing (projectile) *or* Ammunition Point *or* air pilotage.
APC	Armour-piercing, capped (projectile).
APCBC	Armour-piercing, capped with ballistic cap (projectile).
APD	Air Personne' Department.
APIU	Air Photographic Intelligence Unit.
APM	Assistant-Provost-Marshal.
APO	Acting Pilot Officer.
APP	Armour-piercing projectile.
Appx	Appendix.
APR	Army Plotting Room.
APS	Army Pigeon Service.
APSHOT	Armour-piercing (inert).
A Pt	Aiming point.

APTC	Army Physical Training Corps.
APV	Average projectile velocity *or* armoured patrol vessel.
AQ	Assistant-Adjutant and Quarter-Master-General (*see also* AA & QMG).
AQMG	Assistant-Quarter-Master-General.
ARC	Automatic remote control.
ARH	Ammunition Railhead.
Armd C	Armoured car.
Armn	Airman *or* Airmen.
Armt	Armament.
ARO	Army routine order.
ARP	Ammunition Refilling Point.
ARRC	Associate of the Royal Red Cross.
ARS	Aeroplane Repair Section.
ARWS	Air Raid Warden's Service.
Arty	Artillery.
Arty R	Artillery reconnaissance.
AS *or* A/S	Air Service *or* Air Station *or* anti-submarine.
ASA	Ammunition, small arms.
ASD	Ammunition Sub-Depot.
A & SH	The Argyll and Sutherland Highlanders (Princess Louise's).
Ashp	Airship.
ASI	Air speed indicator.
ASO	Assistant Section Officer.
ASP	Air Stores Park.
Asst	Assistant.
ASV	Anti-surface vessel (airborne) *or* air to surface vessel.
AT *or* A/Tk	Anti-tank.
AT *or* A Tps	Army troops.
ATC	Air Training Corps.
ATS	Auxiliary Territorial Service.
att	Attached.
AUG CHAR	Augmenting charges (preceded by nomenclature of bomb).
AUIT	Armoured Unit Initial Training.
AUS	Assistant Under-Secretary of State.
Auto	Automatic.
AVM	Air Vice-Marshal.
AVRP	Advanced Vehicle Reception Park.
AW	Albright & Wilson (grenade).
AWAS	Air Warfare Analysis Section.
AZ	Anti-zeppelin.
B	Bomber (airplane).
(B)	Balloon Branch Officer.
BAC	Brigade Ammunition Column.
BALCAP	Ballistic cap.
BAO	Base Accountant Officer.
Bart	Baronet.
BASFUZ	Base fuze.
BBC	British Broadcasting Corporation.
BC	Battery Commander.
BCS	Battle Cruiser Squadron.
Bde	Brigade.
Bde IO (*see also* BIO)	Brigade Intelligence Officer.
Bde Sigs	Brigade Signal Officer.
bdr	Bandolier.
Bdr	Bombardier.
BE	Base ejection.
BEF	British Expeditionary Force.
BESA	British Engineering Standards Association.
BF	Bring forward.
BFPO	Branch Field Post Office.
BG	Box-girder (bridge).
BGS	Brigadier, General Staff.
BHP	Brake horsepower.
BIB	Baby incendiary bomb.
BIO	Branch Intelligence Officer *or* Brigade Intelligence Officer (*see also* Bde IO).
BL	Breechloading.
BLR	Beyond light repair.
bm *or* BM	Bomb.
BM	Brigade Major *or* Beachmaster (*see also* Bmr).
Bmr	Beachmaster.

BMRA	Brigade Major, Royal Artillery.
Bn	Battalion.
Bndy	Boundary.
BOD	Base Ordnance Depot.
BOP	Battery Observation Post.
BOR	Battery Operations Room.
BOW	Base Ordnance Workshop.
BOWO	Brigade Ordnance Warrant Officer.
BPC	British Purchasing Commission.
BPSO	Base Personnel Staff Officer.
BQMS	Battery Quarter-Master Sergeant.
br	Bridge.
BRA	Brigadier, Royal Artillery.
Brig	Brigadier.
BS	Battle squadron.
BSA	Birmingham Small Arms (Company).
BSD	Base Supply Depot (Harbour).
Bse	Base.
BSM	Battery Sergeant-Major.
BT	Bomb thrower *or* bomber transport.
BTNI	British Troops in Northern Ireland.
BTU *or* Btu	British thermal unit(s).
Bty	Battery.
BX	Beeswax.
C	Car.
CA	Coast Artillery *or* Command Accountant.
CAD	Central Ammunition Depot.
CAEE	Coast Artillery Experimental Establishment.
Cal	Caliber.
Camp	Camp Commandant (*see also* CC).
CAN	Canteen(s).
CAO	Chief Accountant Officer.
CAP	Company Aid Post.
Capt	Captain.
CART *or* Cart	Cartridge(s).
CAS	Chief of the Air Staff.
CASL	Coast Artillery searchlight.
Cat	Catering.
Cav	Cavalry.
Cav Armd C Regt (Sqn)	Cavalry Armoured Car Regiment (Squadron).
Cav Fd Amb	Cavalry Field Ambulance.
CB	Counter-bombardment *or* counter-battery *or* confinement to barracks *or* Companion of the Order of the Bath.
CBBOP	Counter-Bombardment Battery Observation Post.
CBE	Commander of the Order of the British Empire.
CBO	Counter-battery Officer.
CBOA	Counter-battery Officer's Assistant.
CC	Camp Commandant *or* Colonel Commandant.
"CC"	Class "CC," Reserve of Air Force Officers (RAFO).
CCI	Chief Chemical Inspector.
CCMA	Commander, Corps Medium Artillery.
CCRA	Commander, Corps Royal Artillery *or* Colonel Commandant, Royal Artillery.
CCS	Casualty Clearing Station.
CD	Coast Defence.
CDBOP	Coast Defence Battery Observation Post.
CD/CHH	Coast Defence Chain (Station), high angle (coastal radio direction finder (RDF) for high-flying airplanes).
CD/CHL	Coast Defence Chain (Station), low angle (coastal radio direction finder (RDF) for low-flying airplanes).
CE	Chief Engineer *or* Chief of Engineers *or* chemical explosive(s).
CF	Chaplain to the Forces.
CGE	Controller-General of Economy.

CGM	Conspicuous Gallantry Medal.
CGMP	Controller-General of Munitions Production.
CGRD	Controller-General of Research and Development.
CGS	Chief of the General Staff (in the field).
CH	Chaplain *or* Chain (Station) (coastal long-range radio direction finder (RDF)), *or* Member of the Order of the Companions of Honour.
CHH	Chain (Station), high angle (coastal radio direction finder (RDF) for high-flying airplanes).
Chief Sigs	Signal Officer-in-Chief (*formerly* SO-in-C).
CHL	Chain (Station), low angle (coastal radio direction finder (RDF) for low-flying airplanes).
CI(A)	Chief Inspector of (Armaments) (Accidents).
CIC	Combined Intelligence Committee.
CIE	Chief Instructor of Equipment *or* Companion of the Order of the Indian Empire.
CIESS	Chief Inspector of Engineer and Signal Stores.
CIG	Chief Instructor of Gunnery.
CIGS	Chief of the Imperial General Staff (at the War Office).
CIPAD	Chief Inspector of Passive Air Defence.
CIRES	Chief Inspector of Royal Engineer Stores.
CISA	Chief Inspector of Small Arms.
CIST	Chief Inspector of Supplementary Transport.
Cl R	Close reconnaissance.
Cl Sp Tp	Close Support Troop.
CMB	Coastal motorboat.
CMG	Commander of the Order of St. Michael and St. George.
CMG	Companion of the Order of St. Michael and St. George.
CMH	Centimeter height finding.
CMO	Chief Maintenance Officer.
CMP	Corps of Military Police.
CMT	Corrected mean time.
CO	Commanding Officer.
COD	Central Ordnance Depot.
C of A	Chief of Artillery.
Col	Colonel *or* column (*see also* Coln).
Coln	Column.
COLO	Combined Operations Liaison Office.
Comd	Command *or* Commander (*see also* Comdr) *or* Commanding (*see also* Comdg).
Comdg	Commanding.
Comdr	Commander.
Comdt	Commandant.
COME	Chief Ordnance Mechanical Engineer.
Comn	Communication.
Comp	Component.
COO	Chief Ordnance Officer.
Coord	Co-ordinating *or* co-ordinate.
COS	Controller of Ordnance Services.
COS (GS)	Colonel on the Staff (General Staff).
Coy	Company.
CP	Car Post *or* Command Post *or* counter-preparation or common-pointed (projectile).
CPBC	Common - pointed bell-capped (*or* with ballistic cap) (projectile).
CPC	Common-pointed capped (projectile).
CPG	Controller of Projectile Development.
Cpl	Corporal.
CPO	Command Post Officer.

C Prep	Counter-preparation.
CQMS	Company Quarter-Master-Sergeant.
CQSC	Camp Quartering Staff Captain.
CRA	Commander, Royal Artillery.
CRE	Commander, Royal Engineers.
CRASC	Commander, Royal Army Service Corps.
CRO	Corps routine order.
CRS	Corps Rest Station.
CRT	Cathode ray tube.
CS	Cruiser Squadron.
CSI	Companion of the Order of the Star of India.
CSAA	Controller of Small Arms Ammunition.
CSM	Company Sergeant-Major.
CSO	Chief Signal Officer.
CSRD	Chief Superintendent, Research Department.
CSU	Central Statistical Unit.
CT	Communication trench *or* corps troops (*see* C Tps).
ctn	Carton.
C Tps	Corps troops.
CTTB	Central Trade Test Board.
CV	Closed vessel.
CVO	Commander of the Royal Victorian Order.
cw *or* CW	Continuous wave.
CW (RE)	Chemical Warfare (Royal Engineers).
CWP	Coast Watching Post (*or* Patrol).
CWS	Central Wireless Station.
cwt	Hundredweight.
d	Penny *or* pence.
D	Docks *or* delay *or* detonation.
"D" *or* D	Debussing Point.
(D)	Dental Branch Officer.
DA	Deputy Adjutant *or* direct action (fuze) *or* Deputy Assistant (in combination).
DAA & CD	Deputy Assistant-Director of Anti - Aircraft and Coast Defence.
DAAG	Deputy Assistant-Adjutant-General.
DAA & QMG	Deputy Assistant-Adjutant and Quarter-Master-General.
DAC	Director of Army Contracts *or* Divisional Ammunition Column.
DACG	Deputy Assistant-Chaplain-General.
DAD	Deputy Assistant-Director (in combination) *or* Defence Aid Depot.
DADG	Deputy Assistant-Director-General (in combination).
DADG Tn	Deputy Assistant-Director-General of Transportation.
DADH	Deputy Assistant-Director of Hygiene.
DADMS	Deputy Assistant-Director of Medical Services.
DADOS	Deputy Assistant-Director of Ordnance Services.
DADPS	Deputy Assistant-Director of Postal Services.
DADR	Deputy Assistant-Director of Remounts.
DADS	Director of Army Dental Services *or* Deputy Assistant-Director of Supplies.
DADT	Deputy Assistant-Director of Transportation.
DAE	Director of Army Education.
DAFL	Director of Allied Air Co-operation and Foreign Liaison.
DAFV	Director of Armoured Fighting Vehicles.
DAI	Director of Aeronautical Inspection *or* direct action impact (fuze).
D Air (*or* (Air))	Director of Air.
DALM	Director of American Liaison and Munitions.
DAQMG	Deputy Assistant-Quarter-Master-General.

D Arm D	Director of Armament Development.
D Arm P	Director of Armament Production.
DA/SRS	Director of Air/Sea Rescue Services.
DATS	Director of the Auxiliary Territorial Service.
DB Ops	Director of Bomber Operations.
DC	Defence Commander *or* difficult communication.
DCAF	Directorate of Civil Aviation Finance.
D Can	Director of Canteen Service.
DCAS	Deputy Chief of the Air Staff.
DCB	Distant control boat.
DCD	Director, Communication Development.
DCIGS	Deputy Chief of the Imperial General Staff.
DCLI	The Duke of Cornwall's Light Infantry.
DCM	Distinguished Conduct Medal *or* District Court-martial.
DCRE	Deputy Commander, Royal Engineers.
DCRP	Director of Civil Research and Production.
DCT	Director of Clothing and Textiles.
DDA	Deputy Director of Accounts.
DDAFV	Deputy Director of Armoured Fighting Vehicles.
DDALM	Deputy Director of American Liaison and Munitions.
DDAT	Deputy Director of Air Tactics.
DDC(AM)	Deputy Director of Contracts (Air Ministry).
DDE	Deputy Director of Equipment.
DDGCA	Deputy Director-General of Civil Aviation.
DDGCD	Deputy Director-General of Chemical Defence.
DDG of M	Deputy Director-General of Mechanisation.
DDGMS	Deputy Director-General of Medical Services.
DDGNC	Deputy Director-General of Operations (Naval Co-operation).
DDGOF	Deputy Director-General of Ordnance Factories.
DDG of TS	Deputy Director-General of Tank Supply (M of S).
DDGTD	Deputy Director-General of Tank Design.
DDHG	Deputy Director of the Home Guard.
DDHO	Deputy Director of Operations (Home).
DDI	Deputy Director of Intelligence.
DDIP	Deputy Director of Information and Propaganda.
DDMI	Deputy Director of Military Intelligence.
DDMO	Deputy Director of the Meteorological Office *or* Deputy Director of Military Operations.
DD (Movements)	Deputy Director of Movements.
DDMS	Deputy Director of Medical Services.
DDMT	Deputy Director of Military Training.
DDO	Deputy Director of Organisation.
D Docks	Director of Docks Service.
DD of M	Deputy Director of Manning.
DD of P	Deputy Director of Postings.
DD of S(1)	Deputy Director of Signals (Air Communications).
DD of S(4)	Deputy Director of Signals (Radio Services).
DD of SI	Deputy Director of Signals (Wireless Intelligence).

DDO(MT)	Deputy Director of Organisation (Mechanical Transport).
DDOP	Deputy Director of Organisation Planning.
DDOR	Deputy Director of Operational Requirements.
DDOSI	Deputy Director of Operational Services and Intelligence.
DD Photos	Deputy Director of Photography.
DD Plans (JP)	Deputy Director of Plans (Joint Planning).
DD Plans (Op)	Deputy Director of Plans (Operational).
DDPR	Deputy Director of Public Relations.
DDPS	Deputy Director of Personal Services.
DD (Q Maint)	Deputy Director (Quarter-Master Maintenance).
DDRA	Deputy Director of Royal Artillery.
DDRS	Deputy Director of Repair and Servicings.
DDSD	Deputy Director of Staff Duties.
DDSD(W)	Deputy Director of Staff Duties (Weapons).
DD Sigs	Deputy Director of Signals.
DDSM	Deputy Director of Servicing and Maintenance.
DDST	Deputy Director of Supplies and Transport.
DDT(A)	Deputy Director of Training (Armament).
DDTA	Deputy Director of the Territorial Army.
DDTF	Deputy Director of Flying Training.
DDTS	Deputy Director of Technical Training (Schools).
DDTT	Deputy Director of Technical Training.
DDV	Deputy Director of Vehicles.
DDW	Deputy Director of Weapons.
DDWO	Deputy Director of War Organisation.
decn	Decontamination.
Def	Defence *or* defensive.
DEL	Defence electric light.
Dept	Department.
DES	Director of Educational Services *or* Director of Engineer Stores Service.
Dest	Destroyer.
Det	Detachment.
Detn	Detention.
DF	Direction-finding (by radio) *or* defensive fires.
DFC	Distinguished Flying Cross.
DFM	Distinguished Flying Medal.
DF Ops	Director of Fighter Operations.
DFT	Director of Flying Training.
DFW	Director of Fortifications and Works.
DGAE	Director-General of Army Equipment.
DGAMS	Director-General of Army Medical Services.
DGAP	Director-General of Ammunition Production.
DGAR	Director-General of Army Requirements.
DGCA	Director-General of Civil Aviation.
DG & CP	Director of Gun and Carriage Production.
DGD	Director of Ground Defence.
DGE(S)	Director-General of Equipment (and Stores).
DGHG & TA	Director - General of the Home Guard and Territorial Army.
DG Mech E	Director-General of Mechanical Equipment.
DGMS	Director-General of Medical Services.
Dgn	Dragoon.
DGO	Director-General of Organisation.
DGOF	Director-General of Ordnance Factories.
DG of E	Director-General of Economy.
DGP	Director-General of Programmes.

DGR	Director of Graves Registration.
DGR & E	Director of Graves Registration and Enquiries.
DGS	Director of General Stores.
DGSS	Director-General of Supply Services.
DG Tn	Director-General of Transportation (Services).
DGTP	Director-General of Tank Production.
DGW	Director-General of Works.
DGW & E	Director-General of Welfare and Education.
DGWP	Director-General of Weapons and Instruments Production.
DH	Director of Hygiene (*see also* D of H).
DHCA	Director of Home Civil Aviation.
D Hgs	Director of Hirings Service.
DHP	Director of Hydrogen Production.
D Inst P	Director of Instrument Production.
Dir	Director (aiming circle).
DIS	Director of Investigation and Statistics.
Dis pt	Dispersal point.
Dist	District.
Dist R	Distant reconnaissance.
Div	Division *or* divisional.
DIWT	Director of Inland Water Transport Service.
DJAG	Deputy Judge Advocate-General.
DL	Dead load.
D Lab	Director of Labour Service.
D Lds	Director of Lands Service.
DLI	The Durham Light Infantry.
DL Ry	Director of Light Railways.
DMC	Director of Military Co-operation.
DMI	Director of Military Intelligence.
DMM	Director of Mechanical Maintenance.
DMO	Director of the Meteorological Office *or* Director of Military Operations.
DMO & P	Director of Military Operations and Plans.
D Mov	Director of Movements.
dmr	Diameter.
DMS	Director of Medical Services.
DMT	Director of Military Training.
DNO	Director of Operations (Naval Co-operation).
DO	Drill order.
DOCA	Director of Overseas Civil Aviation.
DOF	Director of Ordnance Factories.
D of A	Director of Artillery (Ministry of Supply) *or* Director of Accounts.
D of C (AM)	Director of Contracts (Air Ministry).
D of E	Director of Equipment *or* Director of Establishments.
D of H	Director of Hygiene (*see also* DH).
D of I	Director of Intelligence.
D of M	Director of Manning *or* Director of Mechanisation.
D of O (*or* Organ)	Director of Organisation.
D of Ops (Home)	Director of Operations.
D of P	Director of Postings.
D of Plans	Director of Plans.
D of S	Director of Signals.
D of W	Director of Works.
DOF	Director of Ordnance Factories.
DONC	Director of Operations (Naval Co-operation).
DOO	Director of Operations (Overseas).
DOR	Director of Operational Requirements.
DORA	Defence of the Realm Act.
DOS	Director of Ordnance Services.

DOSI	Director of Operational Services and Intelligence.
DOT	Director of Operational Training.
DP	Delivery Point *or* Dispersal Point *or* Director of Postings.
D Path	Director of Pathology.
DPET	Director of Pre-Entry Training.
D Plans	Director of Military Operations (Plans).
Dpo	Depot.
DPPO	Deputy Press and Publicity Officer.
D Post	Director of Postal Services.
DPR	Director of Public Relations.
DPS	Director of Personal Services.
DPSD	Deputy Director of Staff Duties.
DPSD (W)	Deputy Director of Staff Duties (Weapons).
DPSS	Director of Printing and Stationery Services.
DPW	Director of Prisoners of War.
DQ	Director of Quartering.
DQMG	Deputy Quarter-Master-General.
Dr	Driver *or* drummer.
DR	Despatch rider *or* dead reckoning.
DRA	Director of Royal Artillery.
DRAE	Director of Royal Aircraft Establishment.
DR Compass	Distant-reading compass (German).
D Remounts	Director of Remounts.
DRLS	Despatch Rider Letter Service.
DRM	Director of Reuniting and Mobilisation *or* Director of Raw Materials.
DRO	Division routine orders *or* daily routine order.
DRP	Director of Radio Production.
DRS	Division Rest Station *or* Director of Repair and Service.
DRY *or* DRy	Director of Railways.
DS	Dental surgery *or* Director of Signals (*see also* D Sigs).
D Sal	Director of Salvage.
DSC	Distinguished Service Cross.
DSD	Director of Staff Duties.
DSD (W)	Director of Staff Duties (Weapons).
D Sigs	Director of Signals.
DSM	Distinguished Service Medal *or* Director of Servicing and Maintenance.
DSO	Distinguished Service Order.
DSR	Director of Scientific Research.
DST	Director of Supplies and Transport.
D Svy	Director of Survey.
DTD	Director of Tank Design.
DTMA	Director of Technical and Military Administration.
D Tn	Director of Transportation.
DTO	Director of Operational Training.
DTT	Director of Technical Training.
DUS	Deputy Under-Secretary of State.
D Vets & Remounts	Director of Veterinary Services and Remounts.
DVO	Director of Voluntary Organisations.
DVS	Director of Veterinary Services.
DW	Director of Works.
DWAAF	Director of the Women's Auxiliary Air Force.
DWO	Director of War Organisation.
DWR	The Duke of Wellington's Regiment (West Riding).

DWS	Director of Warlike Stores.
DWV	Director of Weapons and Vehicles.
E	Echelon (*see also* Ech).
(E)	Equipment Branch Officer.
EC	Engineer Captain.
Ech	Echelon.
ED	Efficiency decoration.
EDC	Extended Defence Commander.
EF	Elevation finder.
EFI	Expeditionary Force Institutes.
EGM	Empire Gallantry Medal.
EIB	Explosive incendiary bomb.
E-in-C	Engineer-in-Chief.
EL	Electric light.
EL Cr	Engineer Lieutenant-Commander.
El L Cr	Electrical Lieutenant-Commander.
ELOP	Electric Light Observation Post.
E & M	Excavation and maintenance *or* electrical and mechanical.
EMO	Embarkation Medical Officer.
Ensa *or* ENSA	Entertainments National Services Association.
EO	Emergency operations *or* Education Officer *or* Engineer Officer.
Eqpt	Equipment.
Eqpt O	Equipment Officer.
E/R	Elevation/range.
ERA	Engine Room Assistant.
ERS	Engine Repair Section.
ESO	Embarkation Staff Officer.
Est	Establishment.
Eva *or* EVA	Engineer Vice-Admiral.
Excl *or* excl	Exclusive.
F	Fighter (aeroplane).
FA	Financial adviser *or* fixed ammunition.
FAA	Fleet Air Arm (Royal Navy).
FAD	Field Ammunition Dump.
FANY	Female Auxiliary Nursing Yeomanry.
Far	Farrier.
FAS	Forward area sight.
FASL	Forward Air Support Link.
FAT	Field artillery tractor.
FAVO	Fleet Aviation Officer.
FB	Flying boat.
FBE	Folding boat equipment.
FC	Fire Commander.
Fd	Field.
Fd Amb	Field ambulance.
FDB	Fighter dive bomber.
Fd Bty	Field Battery.
Fd Bde	Field Brigade.
Fd Coy	Field Company.
Fd Hyg Sec	Field Hygiene Section.
Fd Imp	Field imprisonment.
FDL	Forward (*or* foremost) defended localities.
Fd ldg	Forced landing.
Fd Sqn	Field Squadron.
FDT	Fire direction table.
FF	Fleet fighter.
FFC	Field Force Consumption (Rate) (a long-term procurement unit) *or* fuze factor correction.
FFR	Fleet Fighter Reconnaissance.
FGCM	Field General Court-martial.
FI	Firing interval *or* fuze ignition.
FIU	Fighter Interception Unit.
FL	Flight Lieutenant (*see also* Flt Lt).
Flak	Anti-aircraft (gun) (from the German "*Fl*ieger- *or* *Flug*abwehr*k*anone") (*see also* AA *and* Ack-ack).
Flt Lt	Flight Lieutenant.
Flt Sgt	Flight Sergeant.
FLARED	Flares, ground, red.
Flot	Flotilla.
Flt	Flight.
FM	Field-Marshal.
FMC	Field Maintenance Center.
Fmn	Formation.
FO	Field Officer *or* Flying Officer *or* Flight Officer.
F of S	Factor of safety.
FOO	Forward Observation (*or* Observing) Officer.

FOP	Future operational planning.
FR	Fighter reconnaissance (Fleet Air Arm).
Frt	Fortress.
fs *or* FS	Feet per second.
FS	Field Service *or* Flash spotting (*see also* F Sp) *or* full scale (drawing).
FSD	Field Supply Depot *or* field service dressing.
F Sgt	Flight Sergeant.
FSM	Field Service Manual.
FSMO	Field Service Marching Order.
FSO *or* FS Offr	Field Security Officer.
F Sp	Flash spotting.
FSPB	Field Service Pocket Book.
FSR	Field Service Regulations.
FSS	Fixed Signal Services.
FS Sec	Field Security Section.
FSTC	Field Security Training Center.
FT	Flame thrower.
FTB	Fleet torpedo bomber.
FTS	Flying Training School.
fwd	Forward.
FWD	Four-wheel drive.
Fus	Fusilier.
G *or* "G"	General Staff.
(G)	Air Gunner Officer.
G–1	General Staff Officer, Grade 1 (*see also* GSO 1).
G–2	General Staff Officer, Grade 2 (*see also* GSO 2).
G–3	General Staff Officer, Grade 3 (*see also* GSO 3).
GAF	German Air Force.
GBE	Knight (or Dame) Grand Cross of the Order of the British Empire.
GC	George Cross *or* Group Captain *or* guncotton.
GCB	Knight Grand Cross of the Order of the Bath.
GCI	Ground control interception.
GCIE	Knight Grand Commander of the Order of the Indian Empire.
GCM	General Court-martial.
GCMG	Knight Grand Cross of the Order of St. Michael and St. George.
GCSI	Knight Grand Commander of the Order of the Star of India.
GCVO	Knight Grand Cross of the Royal Victorian Order.
Gd	Guard.
GD	General duties.
GDA	Gun Defended Area.
Gdsm	Guardsman.
Gen	General.
Gen Hosp	General Hospital.
GF	Gun fire.
GHQ	General Headquarters.
GL	Gun laying *or* gun light (radio direction finding).
gm *or* GM	Ground-maximum (horsepower).
GM	George Medal.
GMT	Greenwich mean time.
Gnr	Gunner (*see also* Gr).
GO	General order.
GOC(-in-C)	General Officer Commanding (-in-Chief).
GOR	Gun operation room.
Gp (C) (Comdr)	Group (Captain) (Commander).
GP	General purpose *or* gunpowder.
GPO	Gun Position Officer.
Gr	Gunner (*see also* Gnr).
GR	Graves *or* general reconnaissance (airplane).
GR	George Rex (George, King).
GRI	George Rex et Imperator (George, King and Emperor).
GREN	Grenades.
GRO	General routine order.
GRU	Gunnery Research Unit.
GS	General Staff or general service.
GSO	General Staff Officer.
GSO 1	General Staff Officer, Grade 1.
GSO 2	General Staff Officer, Grade 2.

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GSO 3	General Staff Officer, Grade 3.
H	Hygiene.
HA	High angle.
HAA	Heavy anti-aircraft.
HAB	High-altitude bombing.
HAC	The Honourable Artillery Company.
HB	Heavy bomber.
HCD	High current density.
HD	Horse-drawn.
HE	High explosive *or* horizontal equivalent.
HEAP	Armour-piercing (filled with HE).
HEDA	HE delayed-action fuze.
HEGRAZ	HE graze fuze.
HEDELAY	HE graze fuze with delay.
HEIT	HE incendiary tracer.
HES	HE substitute.
HETF *or* HETIM	HE time fuze.
HF	Hostile fire *or* Home Fleet.
HF *or* H/F	High frequency.
HG	Hotchkiss gun *or* Home Guard.
HIH	His (Her) Imperial Highness.
HIM	His (Her) Imperial Majesty.
HLI	The Highland Light Infantry (City of Glasgow Regiment).
HM	His (Her) Majesty *or* His (Her) Majesty's.
HMAS	His Majesty's Australian Ship.
HMCS	His Majesty's Canadian Ship.
HMIS	His Majesty's Indian Ship.
HMS	His Majesty's Ship (*or* Service).
HMSAS	His Majesty's South African Ship.
Hosp	Hospital (in combination).
HOTCH	Hotchkiss (ammunition).
How	Howitzer.
HP	Hospital pattern (tent) *or* high power (radio set).
HQ	Headquarters.
HQBA	Headquarters Base Area.
HQMA	Headquarters Medium Artillery.
HRH	His (Her) Royal Highness.
hr(s)	Hour(s).
H & R P	Holding and Reconsignment Point.
HRS	Heavy Repair Shop.
HT	High tension (voltage) *or* horse transport.
HV	High velocity.
Hy	Heavy.
Hyg	Hygiene.
I	Intelligence (*see also* Int).
"I"	Infantry (tank).
(I)	Intelligence Officer.
IA	Immediate action.
IAF	Indian Air Force.
IB	Infantry Brigade.
i/c	In charge *or* in charge of.
IC	Internal combustion *or* Intelligence Corps.
ICI	Imperial Chemical Industries.
IDC	Imperial Defence College.
IE	Initial equipment.
IFF	Identification friend or foe.
IG	Instructor of Gunnery *or* Irish Guards (4th Regiment of Foot Guards).
IGN SAFE	Igniter's safety fuze.
ILS	Indicator Loop Station.
Impt HL	Imprisonment with hard labour.
INC	Incendiary.
Incl	Inclusive.
Ind A (*formerly* IA)	Indian Army.
Indep	Independent.
Inf	Infantry.
INSTAL A	Installations, type A.
Int	Intelligence (*see also* I).
Intercomn	Intercommunication.
IO	Intelligence Officer.
IOO	Inspecting Ordnance Officer.
IORA	Intelligence Officer, Royal Artillery.
IORE	Intelligence Officer, Royal Engineers.
IP	Indian pattern (tent).

IQMGS	Inspector, Quarter-Master-General's Service.
IR	Immediate reserve.
IRA	Irish Republican Army.
IRV	India rubber vulcanized (wire).
ISO	Companion of the Imperial Service Order.
ITC	Infantry Training Center.
ITW	Initial Training Wing.
IWT	Inland Water Transport.
JAG	Judge Advocate-General.
JP	Joint planning *or* Justice of the Peace.
JTC	Junior Training Corps.
junc	Junction.
KB	King's Bench *or* Knight Bachellor *or* kite balloon.
KBE	Knight Commander of the Order of the British Empire.
KCB	Knight Commander of the Order of the Bath.
KCIE	Knight Commander of the Order of the Indian Empire.
KCMG	Knight Commander of the Order of St. Michael and St. George.
kc/s *or* KC/S	Kilocycles.
KCSI	Knight Commander of the Order of the Star of India.
KCVO	Knight Commander of the Royal Victorian Order.
KDG	1st King's Dragoon Guards.
KG	Knight of the Garter.
KOSB	The King's Own Scottish Borderers.
KOYLI	The King's Own Yorkshire Light Infantry.
KP	Knight of St. Patrick.
KR	King's Regulations.
KRRC	The King's Royal Rifle Corps.
KSLI	The King's Shropshire Light Infantry.
Kt	Knight.
KT	Knight of the Thistle.
L	Light (weight of fuzes) (*see* LL).
(L)	Legal Branch Officer.
£	Pound (monetary unit).
LAA	Light anti-aircraft.
LAC	Leading Aircraftman.
LAD	Light Aid Detachment.
Lat	Latitude.
lb(s)	Pound(s).
LB	Labour *or* light bomber.
L/Bdr	Lance-Bombardier.
LC	Line (*or* lines) of communications (*see also* L of C).
L/Cpl	Lance-Corporal.
LD	Light draught *or* lands.
LDF	Land Defence Force.
Ldr	Leader.
LF	The Lancashire Fusiliers.
L/F *or* LF	Low frequency.
LG	The Life Guards *or* Lewis gun *or* landing ground.
LGS Wagon	Limbered general-service wagon.
LH	Lighthouse *or* left hand.
Lieut	Lieutenant.
Lieut Cmdr	Lieutenant-Commander.
LL	Very light (weight of fuzes) (*see* L).
LMG	Light machine gun.
LO	Liaison Officer.
LOB	Left out of battle.
L of C	Line (*or* lines) of communications.
Long	Longitude.
LPS	Lord Privy Seal.
LR	Light railway(s).
LRS	Light Repair Section.
LS	Land Service.
LS & GC	Long Service and Good Conduct (Medal).
L/Sgt	Lance-Sergeant.
Lt	Light.
LT	Local time *or* low tension (voltage) *or* line telegraphy.
L/T *or* LT	Line telegraphy (*or* telephony).
Lt-Col	Lieutenant-Colonel.
Lt-Gen	Lieutenant-General.

LTW	Landing Transport and Workshop (Company).
LV	Low velocity.
LW	Long wave.
LX	Left section.
M	Medical *or* movement.
(M)	Medical Branch Officer.
MAAD	Manual of Anti-Aircraft Defence.
MAC	Motor Ambulance Convoy.
Mag	Magazine.
Maj	Major.
Maj-Gen	Major-General.
MB	Medium bomber.
MBE	Member of the Order of the British Empire.
MC	Military Cross *or* motorcycle *or* movement control *or* Message Centre.
M/C *or* MC	Motorcycle.
(Mc)	Marine Craft Officer.
MCDR *or* M/C DR	Motorcycle despatch rider.
MCLO	Motor Contact Liaison Officer.
MCMG	Motorcycle machine gun.
MCO	Movement Control Officer *or* Motor Contact Officer (*who should be known as* Motor Contact Liaison Officer—*see* MCLO).
mc/s *or* MC/S	Megacycles.
MCS	Mine Control Station.
mcw *or* MCW	Modulated continuous wave.
MD	Mine Depot *or* message-dropping.
MDS	Main Dressing Station.
ME	Military engineering.
Mech	Mechanised.
Med	Medium.
Met *or* MET	Meteorology *or* meteorological *or* miscellaneous enemy transport.
MEW	Ministry of Economic Warfare.
MF	Medium frequency.
MFO	Military Forwarding Officer.
MFP	Military Foot Police.
MFS	Military Forwarding Service.
MFW	Military Foreman of Works.
MG	Machine gun.
MGB	Motor gunboat.
MGGS	Major-General, General Staff.
MGRA	Major-General, Royal Artillery.
MI	Military Intelligence.
mih	Miles in the hour (speed).
min(s)	Minute(s).
Mk *or* MK	Mark.
ML	Motor launch.
MLC	Motor (vehicle) landing craft.
MLO	Military Landing Officer *or* Military Liaison officer.
MM	Military Medal.
MMG	Medium machine gun.
MMP	Military Mounted Police.
MNBDO	Mobile Naval Base Defence Organisation.
MO	Medical Officer *or* military operation(s).
Mob	Mobile *or* mobilization.
MobVet Sec	Mobile Veterinary Section.
M of S	Ministry of Supply.
Mot CO	Motor Contact Officer (*who should be known as* Motor Contact Liaison Officer—*see* MCLO).
MP	Meeting point *or* Miltary Police *or* Member of Parliament.
MPB	Mean point of burst.
mpg	Miles per gallon.
mph	Miles per hour.
MPI	Mean point of impact.
MPSC	Military Provost Staff Corps.
MPU	Message picking up.
MRAF	Marshal of the Royal Air Force.
MRS	Medical Receiving Station.
m/s	Meters per second.
MS	Military Secretary *or* minesweeper.

MSL	Mean sea level.
MSM	Meritorious Service Medal.
MT	Motor transport *or* mechanical transport.
MTB	Motor torpedo boat.
mtd	Mounted.
mtg	Mounting.
mtn	Mountain.
MTSD	Mechanical Transport Stores Depot.
MU	Maintenance Unit.
mv *or* MV	Muzzle velocity.
MVO	Member of the 4th or 5th Class of the Royal Victorian Order.
MWSS	Minor War Signal Station.
Mx	The Middlesex Regiment (Duke of Cambridge's Own).
N	Nursing.
(N)	Navigation Instructor Officer.
NAAFI	Navy, Army and Air Force Institutes.
NAD	Naval Air Division.
Nav	Navigation.
NCO	Non-commissioned officer.
NED	Naval Equipment Depot.
NF	The Royal Northumberland Fusiliers.
NFP	Night-fighter plotting.
NG	Nitroglycerin.
NK	Not known.
NO	Not observed.
NP	Non-persistent (gas).
No	Number.
NR	Not recorded.
NS	Naval Service.
NSO	Naval Staff Officer.
NTO	Naval Transport Officer.
O	Operations Section *or* operation(s) *or* officer *or* officer (in combination) (*see also* Offr).
"O"	Operations (*see also* Ops).
(O)	Observer Officer.
OBE	Order of the British Empire.
Ob Ph	Oblique photographs.
OC	Officer Commanding *or* Officer in Command.
OC Div Sigs	Officer Commanding, Divisional Signals.
OCRASC	Officer Commanding, Royal Army Service Corps.
OCTU	Officer Cadet Training Unit.
OD	Ordnance Depot.
Offr	Officer (*see also* O).
OFP	Ordnance Field Park.
OG	Officer of the Guard.
OHMS	On His Majesty's Service.
O i/c	Officer-in-charge.
OL	Overseas Liaison (officer).
OM	Member of the Order of Merit.
OME	Ordnance Mechanical Engineer.
OO	Ordnance Officer *or* operation order(s) *or* Observer Officer.
OP	Observation Post.
Ops	Operations.
OR *or* ORs	Other ranks (enlisted men).
Ord	Ordnance.
ORS	Operational Research Section.
ORTU	Other Ranks Training Unit.
OS	Ordnance Services.
OTC	Officers' Training Corps.
OU	Official use.
P	Postal *or* persistent (gas).
PA	Personal assistant (an administrative aide-de-camp) *or* put away.
PAD	Passive air defence (trench).
par(a)	Paragraph.
PAS(G)	Principal Assistant Secretary (General).
PAS(P)	Principal Assistant Secretary (Personnel).
PAS(S & O)	Principal Assistant Secretary (Supply and Organisation).
PAT	Pathology.
PBM	Principal Beachmaster.
PC	Principal Chaplain *or* Paymaster-Captain *or* Privy Councillor.
P Corps	Pioneer Corps (*formerly* Auxiliary Military Pioneer Corps (AMPC)).

PDD of S	Principal Deputy Director of Signals.
P Det	Port Detachment.
Pdr *or* PR	Pounder.
PEO	Principal Establishment Officer.
Pet	Petrol (gasoline).
Ph	Photograph *or* photographic *or* photography.
(Ph)	Photographic Officer.
PHOS	Phosphorus.
Ph R	Photographic reconnaissance.
Pk	Park.
Pl *or* Plat	Platoon.
PL	Plain language.
PM	Provost-Marshal *or* afternoon.
(PM)	Provost-Marshal Duties Officer.
PMC	President of the Mess Committee.
PMNS	Princess Mary's (Royal Air Force) Nursing Service.
PMO	Principal Medical Officer.
Pmr	Paymaster.
Pmr-in-C	Paymaster-in-Chief.
Pnr	Pioneer.
P/N	Phonogram.
PO	Post office *or* Pilot Officer.
POL	Petrol, oil, and lubricants.
posn	Position.
PP	Petrol Point.
PPI	Plan Position Indicator.
PPO	Press and Publicity Officer.
PR *or* Pdr	Pounder.
PRH	Petrol Railhead.
PRI	President, Regimental Institutes.
Pro	Provost.
PRO	Photographic Reconnaissance Officer.
PRP	Petrol Refilling Point.
PRU	Photographic Reconnaissance Unit.
PS	Printing and Stationery.
P/S	Postogram.
PSS	Printing and Stationery Service.
PSTO	Principal Sea Transport Officer.
Pt	Point.
PT	Physical training.
(PT)	Physical Training Officer.
Pte	Private.
PTO	Please turn (page) over.
PUS	Permanent Under-Secretary of State.
PV	Paravane.
PW	Prisoner(s) of war.
PWV	The South Lancashire Regiment (The Prince of Wales's Volunteers).
PY	Pay.
Q *or* "Q"	Quarter-Master.
QAIMNS	Queen Alexandra's Imperial Military Nursing Service.
QE	Quadrant elevation.
QF	Quick firing.
QM	Quarter-Master (*see also* Qr Mr)
QMG	Quarter-Master-General.
QMS	Quarter-Master Sergeant.
Qr Mr	Quarter-Master (*see also* QM).
R *or* "R"	Reconnaissance (*see also* Recce).
RA	Royal Artillery *or* Rear-Admiral.
R & A	Range and accuracy.
RAAF	Royal Australian Air Force.
RAC	Royal Armoured Corps *or* Royal Automobile Club.
RACD *or* RAChD	Royal Army Chaplains' Department.
RA(E)E	Royal Aircraft (Experimental) Establishment.
RAF	Royal Air Force.
RAFO	Reserve of Air Force Officers.
RAFVR	Royal Air Force Volunteer Reserve.
Rail	Railway(s) (*see also* Ry).
RAMC	Royal Army Medical Corps.
RAOC	Royal Army Ordnance Corps.
RAP	Regimental Aid Post.
RAPC	Royal Army Pay Corps.
RASC	Royal Army Service Corps.
RAVC	Royal Army Veterinary Corps.

RB	The Rifle Brigade (Prince Consort's Own).
RC	Racecourse *or* Report Centre.
RCAF	Royal Canadian Air Force.
RD	Royal (Naval Reserve Officers') Decoration.
rd(s) *or* Rd(s)	Road(s) *or* round(s) (of ammunition).
RDF	Radio direction finder.
Rd Junc	Road junction.
RDL	Radio detection and location (by radio pulses).
RDX/BX	Research Department X beeswax (a type of HE filling).
RE	Royal Engineers.
Rec	Recovery.
Recce	Reconnaissance (*see also* R) *or* reconnoitre.
RED	Reduced charge.
Ref	Reference.
Regt	Regiment *or* regimental.
Rein *or* Reinf	Reinforced *or* reinforcements.
REME	Royal Electrical and Mechanical Engineers.
Rep	Representative.
Res	Reserve.
Ret	Retired.
RF	The Royal Fusiliers (City of London Regiment) *or* representative fraction *or* range finder.
Rfn	Riflemen.
Rg	Range.
RGA	Royal Garrison Artillery.
RGPF	Royal Gunpowder Factory.
RH	Relative humidity *or* Railhead *or* right hand.
RHA	Royal Horse Artillery.
RHG	Royal Horse Guards (The Blues).
RHQ	Regimental Headquarters.
RIASC	Royal Indian Army Service Corps.
RIN	Royal Indian Navy.
R Ir F	The Royal Irish Fusiliers (Princess Victoria's).
Rly	Railway.
RM	Remount *or* Royal Marines.
RMA	Royal Military Academy *or* Royal Malta Artillery *or* Royal Marine Artillery.
RMC	Royal Military College.
RN	Royal Navy.
RNC	Royal Naval College.
RNR	Royal Naval Reserve.
RNVR	Royal Naval Volunteer Reserve.
RNZAF	Royal New Zealand Air Force.
RO	Routine order.
ROC	Royal Observer Corps.
ROCK GRN	Rockets (signal), green.
ROF	Royal Ordnance Factory.
R of O	Reserve of Officers.
ROO	Railhead Ordnance Officer.
RP	Refilling point *or* rules of procedure.
rpg	Rounds per gun.
rpgpm	Rounds per gun per minute.
rpm	Rounds per minute *or* revolutions per minute.
Rptd	Repeated.
RQMS	Regimental Quarter-Master Sergeant.
RRC	(Member of the) Royal Red Cross.
RSF	The Royal Scots Fusiliers.
R Sigs	Royal Corps of Signals.
RSM	Regimental Sergeant-Major.
RSO	Regimental Survey Officer.
RSP	Regimental Starting Point.
R Sup O	Railhead Supply Officer.
RT	Range table.
R/T	Radio-telephony.
R Tanks	Royal Tank Regiment (*formerly* RTR).
Rt Hon	Right Honourable.
RTO	Railway Transport Officer *or* Railway Traffic Officer.
RTR	(*See* R Tanks.)
RUR	The Royal Ulster Rifles.
RV	Rendezvous.
RW	Royal Warrant (for pay and promotion).
RWF	The Royal Welch Fusiliers.

RWK	The Queen's Own Royal West Kent Regiment.
RX	Right section.
Ry(s)	Railway(s) (*see also* Rail).
Ry Tel	Railway telegraph.
s	Shilling (monetary unit).
S	Supply.
SA(A)	Small arms (ammunition) *or* semi-automatic.
SAAD	School for Anti-Aircraft Defence.
SAAF	South African Air Force.
SAD	Single-axle drive.
SAE	Society of Automotive Engineers.
SAEC	South African Engineer Corps.
SAIR	South African Irish Rifles.
SAO	Squadron Artillery Officer.
SAP	Semi-armour-piercing (projectile).
SAQC	Sub-Area Quartering Commandant.
SARG	Small arms rifle grenade.
SAS	Small Arms School.
SASO	Senior Air Staff Officer *or* Senior Administrative Staff Officer.
SAT	Small Arms Training *or* Scientific Adviser for Telecommunication.
SBG	Small box-girder (bridge).
SC	Staff Captain *or* sub-calibre sector control.
SCF	Senior Chaplain to the Forces.
SCO	Sector Control Officer (RAF).
SCMA	Signals, Corps Medium Artillery.
SCRA	Staff Captain, Royal Artillery (S–1 and S–4 of Divisional Artillery).
SD	Staff Duties *or* short delay (detonator).
S Dpo	Stores depot.
SDR	Special despatch rider.
SD & T	Staff Duties and Training Section, Chief of the General Staff in the Field.
Sec(s)	Section(s) (*see also* X).
SEE	Signals Experimental Establishment.
SESO	Senior Equipment Staff Officer.
SG	Scots Guards (3rd Regiment of Foot Guards).
Shrapl	Shrapnel.
Sig	Signal.
Sigmn	Signalman.
Sigs	Signals *or* Communications Officer, Signals.
SIP	Self-igniting phosphorus (grenade).
Sitreps	Situation reports.
Sjt	(*See* Sgt.)
SL	Searchlight *or* Squadron Leader *or* Start(ing) Line.
SLC	Searchlight control *or* support landing craft.
SL Comdr	Searchlight Commander.
SLDS	Searchlight Directing Station.
SLE	Searchlight Emplacement.
SLER	Searchlight Engine Room.
SLL	Searchlight laying.
S & M	Sappers and miners.
SM	Sergeant-Major.
SMC	Staff Message Control.
SME	School of Military Engineering.
SMLE	Short magazine Lee-Enfield (rifle).
SMO	Senior Medical Officer.
SMTO	Senior Mechanical Transport Officer.
SNO	Senior Naval Officer (GHQ).
SNOIS	Senior Naval Officer in Charge.
SO	Staff Officer *or* Section Officer *or* Signal Officer.
S of A	School of Artillery.
S of S	Secretary of State.
S of SHRA	School of Super-Heavy Railway Artillery.
SO-in-C	(*See* Chief Sigs.)
S(O & M)	Secretary, Organisation and Methods Division.

SOME	Senior Ordnance Mechanical Engineer.
Som LI	The Somerset Light Infantry (Prince Albert's).
SOR	Sector Operations Room.
SORE	Staff Officer, Royal Engineers.
SOS	Senior Officers' School.
Sp	Support.
(Sp)	Special Duties Officer.
SP	Self-propelled or Starting Point *or* Supply Point *or* sign post *or* Service Police.
S/P	Signalling projector.
Spr	Sapper (engineer).
SPSO	Senior Personnel Staff Officer.
SQMS	Staff Quarter-Master Sergeant.
Sqn	Squadron.
Sqn O	Squadron Officer.
Sqn QMS	Squadron Quarter-Master Sergeant.
Sqn SM	Squadron Sergeant-Major.
SR	Sound ranging *or* spotter reconnaissance *or* supplementary reserve *or* send replies.
SRDE	Signals Research and Development Establishment.
S Rg	Sound ranging.
SRH	Supply Railhead.
SRP	Supply Refilling Point.
SS	Self-sealing (gasoline tanks) *or* single shot.
SSC	Sector Searchlight Commander.
SSCO	Searchlight Sector Control Officer.
SSF	Single-seater fighter.
SSgt *or* S/Sgt	Staff Sergeant.
SSM	Staff Sergeant-Major.
SSO	Special Service Officer.
SSTO	Superintending Sea Transport Officer.
S Sup O	Senior Supply Officer.
ST	Sticky type (grenade).
S/T	Sonic telegraphy.
Sta	Station.
STC	Senior Training Corps *or* Signal Training Centre *or* Special Training Centre.
Stereo	Stereoscope *or* stereoscopic.
Str	Seater.
Strat R	Strategical reconnaissance.
Sup (Dpo) (O) (P)	Supply (Depot) (Officer) (Point).
SV	Survey *or* striking velocity *or* single valve.
Svy	Survey.
SW	Short wave.
SWB	The South Wales Borderers.
SWG	Standard wire gauge.
T	Transport.
TA	Territorial Army.
(T) (a)	Armament Officer.
Tac R *or* Tac/R	Tactical reconnaissance.
T Admn	Administrative training.
TB	Torpedo bomber.
TC	Troop Commander *or* Training Corps *or* traffic control.
TCP	Traffic Control Post.
TD	Tractor-drawn *or* Territorial Decoration.
TDS	Tank Delivery Squadron.
TDU	Torpedo Development Unit.
(T) (e)	Engineer Officer.
TE	Training Establishment *or* tangent elevation.
Tel	Telephone.
T Ex	Telephone exchange.
THI	Time handed in.
Tk	Tank.
TLC	Tank landing craft.
TLS	Temperate land scheme.
TMO	Technical Maintenance Officer.
TMT	Technician of Motor Transport.
TN	Transportation.
TNHP	TNH Praha (a Czechoslovakian tank).
TNT	Trinitrotoluene.
TNT/BX	TNT beeswax.
TO	Transport Officer.

T of F *or* TOF	Time of flight.
TO-in-C	Tank Officer in Charge.
TOO	Time of origin.
TOR	Time of receipt.
TP	Training progress *or* traffic patrol.
Tp	Troop.
Tpr	Trooper.
Tps	Troops.
Tpt	Transport *or* Transportation.
Tptr	Trumpeter.
TRE	Technical Research Establishment.
Trg	Training.
TRH	Their Royal Highnesses.
(T) (s)	Signal Officer.
TS	Transvaal Scottish.
TSM	Troop Sergeant-Major.
TSR	Torpedo scout reconnaissance (plane).
TSS	Temperate sea scheme.
TT	Tonic train (a type of modulation for transmission of Morse code).
UC	Universal call (switchboard).
UDF	Union Defence Force.
UET	Unit equipment table.
UK	United Kingdom.
UM	Unit mobilization.
UP	Unrotating projectile (rocket propelled).
US	United States.
U/S	Unserviceable.
US of S	(Parliamentary) Under-Secretary of State.
UV	Universal (carrier).
V	Veterinary (*see also* Vet).
VA	Vice-Admiral *or* Order of Victoria and Albert *or* Vickers-Armstrong.
VAD	Voluntary Aid Division (Army nurses, a part of QAIMNS).
VC	Victoria Cross.
VCAS	Vice-Chief of the Air Staff.
VCIGS	Vice-Chief of the Imperial General Staff.
VE	Verbal (message).
VEB	Variable elevation beam.
Veh	Vehicle.
VES	Veterinary Evacuating Station.
Vet	Veterinary (*see also* V).
VHF *or* VH/F	Very high frequency.
VI	Vertical interval.
VIE	Visual indicating equipment.
VIR	Vulcanized in rubber.
VLF *or* VL/F	Very low frequency.
VMG	Vickers machine gun.
VO	Veterinary Officer.
VP	Vulnerable point.
VRD	Vehicle Reception Depot.
V/S	Visual signalling.
V/T	Visual telegraphy.
vtm *or* VTM	Vehicles to the mile (road density).
W	Works.
Wa/T	Warning telephone.
WAAF	Women's Auxiliary Air Force.
WD	War Department.
WE	War Establishment(s).
WECIS	War Establishment Committee Investigation Section.
WG	Welsh Guards (5th Regiment of Foot Guards).
Wg Cr	Wing Commander.
Wg O	Wing Officer.
Wkshop	Workshop.
WL	Wagon line.
WLO	Wagon Line Officer.
WO	War Office *or* Warrant Officer.
WO 1 (2)	Warrant Officer, Class 1 (2).
WRNS	Women's Royal Naval Service.
WT	Weapon training.
W/T *or* WT	Wireless telegraphy.
W/TO *or* WTO	W/T officer.
WWCP	Walking Wounded Collecting Post.

x	Yard(s) (*or* used for any word repeated often in a a text *or* used to separate Arabic numerals for clarity).	X rd(s) *or* Rd(s)	Crossroad(s).
		Y & L	The York and Lancaster Regiment.
		YS	Young Soldiers (Battalions).
X	Section(s).	Zed	Anti-aircraft unit assigned unrotating projectile (UP) equipment.
XPM	Expanded metal.		

Chapter 11

GLOSSARIES

171. U. S. military terms and definitions with British equivalent terms.—The following glossary contains terms generally employed in pertinent War Department texts, followed by their approximate British equivalents. "No equivalent" does not necessarily imply that the function is not performed in the British armed forces, but rather that the British method is different enough to preclude giving a single term as even an approximate equivalent.

United States	*British*
Accompanying artillery.—Single batteries, platoons, or pieces attached to assault infantry regiments or battalions for their close support.	Artillery "in support of" or attached artillery ("under command").
Action.—An engagement or battle, usually one on a small scale.	Same.
Addressee.—The person or office to which a message is to be delivered.	Same.
Administration.—When unqualified, administration includes all phases of military operations not involved in the terms "tactics" and "strategy." It comprises: supply, evacuation, sanitation, construction, maintenance, replacements, transportation, traffic control, salvage, graves registration, burials, computations pertaining to movements, personnel management, quartering, military government, martial law, censorship, and other allied subjects.	Same.
Administrative map.—A map on which is recorded graphically information pertaining to administrative matters, such as supply and evacuation installations, train bivouacs, rear echelon, straggler line, collecting points for stragglers and prisoners of war,. main supply road(s), and the line forward of which no lights will be shown; necessary tactical details also shown.	Same.

United States	*British*
Administrative order.—An order covering administrative details, such as traffic, supply, and evacuation, when the instructions are too voluminous to be included in paragraph 4 of the field order, and at other times when necessary to publish administrative instructions to the command; usually issued by divisions and higher units. (See also *Combat orders.*)	Administration order (often issued as an appendix to the divisional operation order).
Advance.—The progress of a command toward the enemy. To move forward. To make progress in the direction of the enemy.	Same (terminates upon contact with the enemy).
Advance by bounds.—An advance controlled by the assignment of successive movement objectives usually from one terrain line to the next.	Same.
Advance by echelon.—An advance of a unit by successive movements of its component elements.	No equivalent.
Advance command post.—The location of the commander or a small staff party, or both, other than at the command post or rear echelon of the unit.	Command post.
Advance guard.—A security detachment which precedes the main body on the march.	Same. (See fig. 109.)
Advance message center.—A communication center for the reception and relay of messages to facilitate communications with advanced units or units operating on a flank.	Advanced signal centre or report centre.
Advance on.—Advance toward.	Same.
Advance party.—A detachment that is sent out by, and moves ahead of, the support of the advance guard and forms the reconnoitering element of the support.	Van guard. (See fig. 109.)
Advance section.—The forward or most advanced subdivision of the communications zone.	No equivalent.
Aerial (or air) observation.—Observation from balloons, airplanes, or airships.	Same.
Aerial (or air) photograph.—A picture taken from any kind of aircraft.	Same.
Aerial (or air) photograph, oblique (vertical).—(See *Oblique (Vertical) aerial (or air) photograph.*)	
Aeronautical charts.—Maps upon which information pertaining to air navigation has been added; intended primarily for use in air navigation. They are classified as "sectional" (scale 1:500,000) and "regional" (scale 1:1,000,000).	Aeronautical maps.
Agency of signal communication.—A term embracing the personnel and equipment necessary to operate message centers, signal intelligence, signal supply, and messenger, pigeon, radio, visual, sound, and wire communication.	Signal unit.

United States	*British*
Aid station.—An establishment of the Medical Department provided for the emergency treatment, sorting, and further disposition of casualties in combat. The first station on the route of evacuation to which the wounded are brought. An aid station is usually established for the battalion in combat by the battalion section of the regimental medical detachment.	Regimental aid post (RAP) (in the case of a battalion or similar unit). (See fig. 38.)
Air area.—An area assigned as a means of coordinating the air reconnaissance activities of various units having organic or attached observation aviation.	Air reconnaissance area.
Air base.—A command which is equipped and organized for sustaining the operations of a specific air force.	Same.
Air-borne troops.—A general term used to include parachute troops and other troops transported and landed by air.	Same.
Aircraft warning service.—A warning system consisting of observers, information centers, and signal communication established by territorial commanders for the primary purpose of determining courses of hostile aircraft and of distributing information to industrial centers and to military and naval commands.	Air raid warning system.
Air defense command.—An organization for the coordination of all measures of defense against enemy air operations, including aircraft warning services, pursuit aviation, antiaircraft artillery, balloon barrages, and passive antiaircraft defense measures.	Fighter command.
Airdrome.—A landing field, with the necessary additional installations for servicing, arming, operating, and maintaining military aviation units.	Aerodrome.
Air-landing troops.—Troops moved by aircraft who disembark after the aircraft reaches the ground.	Same.
Air superiority.—Superiority over enemy aviation sufficient to permit air or ground operations in any specific locality without effective hostile air opposition.	Same.
Alert.—A state of readiness for movement or action. An alarm warning. Vigilant.	Same.
Alinement.—A straight line upon which several elements are formed or are to be formed, or the dressing of several elements upon a straight line.	Alignment.
Alternate emplacement.—An emplacement prepared for occupation in case the principal emplacement becomes untenable or unsuitable.	Alternative site.
Alternate firing position.—A firing position from which the same fire missions can be executed as from the primary firing position.	Alternative position.
Ambulance loading post.—A point where casualties are loaded into ambulances.	Car post (CP). (See fig. 38.)

United States	*British*
Ambulance station.—A point established for the administration and control of ambulance units and the regulation of movement of ambulances from front to rear and vice versa.	No equivalent (performed at the advanced dressing station). (See fig. 38.)
Ambush.—A concealed place or station where troops lie hidden for the purpose of attacking by surprise. Troops posted in such a position. To attack from such a position.	Same.
Annexes.—Orders, maps, overlays, sketches, forms, charts, tables, graphs, etc., employed to amplify orders and reports.	Appendices and traces or annexures.
Antiaircraft artillery intelligence service.—A system of observers and communication facilities established by antiaircraft artillery units for the purpose of gathering and transmitting information of enemy air activities necessary for the proper employment of the antiaircraft artillery.	Royal Observer Corps, RAF (searchlight units and spotters within the unit carry out these duties).
Antiaircraft defense.—That class of defense provided by the coordinated employment of air and ground forces against attack from the air. It includes passive means of defense.	Same (including passive air defence (PAD)).
Antimechanized defense.—The measures employed to protect troops, installations, and establishments against mechanized, motorized, or armored units.	Anti-tank defence.
Antitank ditch.—A ditch designed to stop the passage of track-laying vehicles.	Same.
Antitank mine.—A device consisting of a metal box containing a quantity of high explosive which detonates when pressure is exerted on it; also, any device similarly operated.	Same.
Antitank mine field.—A grouping of antitank mines placed in concealed positions so spaced as to stop or impede the progress of track-laying vehicles.	Same.
Antitank weapons.—Those weapons whose primary mission is employment against armored vehicles.	Same.
Approach.—A route by which a place or position can be approached by an attacking force. The route leading to anything, as a bridge.	Same.
Approach march.—The advance, usually in extended dispositions, from the point where hostile medium artillery fire is expected, or air attack is encountered, to the point of effective small-arms fire.	Same.
Approach trench.—A trench serving to connect fire trenches from front to rear.	Communication trench.
Armored car.—An armed and armored motor vehicle designed primarily for reconnaissance.	Same.

United States	*British*
Armored force.—A combined force comprising reconnaissance, assault, and supporting troops of more than one arm or service, transported in wheeled or track-laying-type motor vehicles, the bulk of which are provided either with partial or complete armor.	Armoured troops.
Army Regulations.—The officially printed announcements of current War Department policies and rules.	King's Regulations.
Arrive.—To reach a designated point or line. Refers to the head of a unit.	Same.
Artificial obstacles.—Obstacles prepared by human agency; they may be fixed or portable.	Same.
Artillery position.—A position selected for and occupied by an artillery fire unit for the delivery of fire.	Same (usually spoken of as battery position or troop position).
Artillery preparation.—Intensive artillery fire delivered on hostile forward elements (short preparation) and other objectives (longer preparation) during the period immediately prior to the advance of the infantry from its line of departure to attack.	Same.
Artillery with the corps.—A term used to indicate all the artillery in a corps; includes corps, division, and attached artillery.	Artillery assigned to corps.
Assault.—To close with the enemy in order to employ weapons and shock action. When delivered by mounted troops, it is called the "charge." To deliver a concentrated attack from a short distance. To close with the enemy in hand-to-hand combat.	Same.
Assault, general.—An assault delivered on an extended front under coordination of a higher commander.	General attack.
Assault, local.—An assault initiated and executed by a small unit (squad, section, platoon, company, battalion) in order to take immediate advantage of local conditions.	Local attack.
Assembly.—*a.* The regular grouping, in close order, of the elements of a command. *b.* The grouping of units in areas, prior to or following combat, for the purpose of coordination or reorganization preceding further effort or movement.	Forming up or parade (*a*); forming up or concentration (*b*).
Assembly area.—The area in which elements of a command are organized preparatory to further action.	Assembly position. (See fig. 110.)
Attached unit.—A unit placed temporarily under the direct orders of the commander of another unit to which it does not organically belong.	Unit "under command."
Attack.—An advance upon the enemy to drive him from his position.	Same.

United States	*British*
Attack, continuing.—An aggressive action continued after an objective has been reached in order to prevent the enemy from reconstituting his defense on a rearward position. (See also *Exploitation.*)	Exploitation. (See fig. 110.)
Attacking echelon.—The leading echelon in attack.	Leading troops in attack.
Automatic supply.—A process of supply under which deliveries of specific kinds and quantities of supplies are moved in accordance with a predetermined schedule. *Daily automatic supply* means that supplies are dispatched daily to an organization or installation.	Normal supply.
Auxiliary arm.—Any arm that assists the principal arm assigned the mission of gaining or holding ground.	Supporting arm.
Axial road.—(Obsolete.) (See *Main supply road.*)	
Axis of signal communication.—The initial and probable successive locations of the command post of a unit, named in the direction of contemplated movement.	Signal communication along the centre line (armoured) or the main axis of advance (infantry).
Balanced stocks.—Accumulation of supplies of all classes and in the quantities determined as necessary to meet requirements for a fixed period of time.	No equivalent.
Ballistics.—The science of the motion of projectiles.	Same.
Balloon barrage.—A barrier of captive balloons, with or or without connecting cables or supported nets, against which airplanes may be expected to run.	Same.
Balloon bed.—A mooring place on the ground for captive balloons.	Same.
Barrage.—Prearranged fire on a line or lines, either stationary or moving.	Same.
Barricade.—To fortify or close with a barrier, usually applied to roads.	Same.
Barrier.—A group of obstacles, either natural or artificial, or both, that block or restrict entrance into an area.	Same.
Barrier tactics.—A term used to describe the use of obstacles defended by fire.	No equivalent.
Base reserves.—Supplies accumulated and stored in depots for the purpose of establishing a general reserve, under the control of the commander of the theater, for the theater of operations as a whole.	Same.
Base section.—The rear area or subdivision of the communications zone.	Base area.
Base unit (or base of movement).—The unit on which a movement is regulated.	No equivalent.

United States	*British*
Battle map.—A map, prepared normally by photogrammetric means and at a scale of 1:20,000, for the tactical and technical needs of all arms.	No equivalent.
Battle position.—The position of principal resistance in defense, consisting of a system of mutually supporting defensive sectors (areas) disposed in breadth and depth.	Defensive position or point of maneuvre (on a small scale).
Beach defense.—That part of the ground organization for defense against landing attacks which is located at or near the beach for resistance at the water's edge.	Same.
Beachhead.—Position occupied by advance troops landing on a hostile shore to protect landing areas for other friendly troops and for supplies on the beach or at a port.	Same.
Beach reserves.—An accumulation of supplies of all classes established in dumps on the beach.	Same.
Beaten zone.—The pattern formed by the cone of fire when it strikes the ground.	Same.
Billets.—Shelter consisting of private or public buildings.	Same.
Bivouac.—An area in which troops rest on the ground with no overhead cover or under natural cover, shelter tents, or improvised shelter.	Same or harbour (for armoured formations or units) or leaguer (in desert warfare).
Bombardment aviation.—That type of aviation whose primary mission is the attack of surface objectives; classified as "light," "medium," and "heavy."	Bombers or bomber aircraft.
Bomb-release line.—An imaginary line drawn around a defended area over which a bomber, traveling toward it at a constant speed and altitude, should release its first bomb to have it strike the nearest edge of the defended area.	Same.
Bound.—The distance covered by a unit when advancing in one of several successive moves.	Same.
Boundary.—A line designating the lateral limit of a zone of action or of an area or sector of defense.	Same.
Box barrage.—A system of standing barrages enclosing an area.	Same.
Break-through.—A penetration of the entire depth of a defensive system into unorganized areas in rear.	Same.
Bridgehead.—Position occupied by advance troops to protect the passage of a river or defile by the remainder of the command.	Same.
Call sign.—A signal, usually a group of letters, or of letters and numerals, used for radio station identification.	Code sign.

United States	*British*
Camouflage.—Work done for the purpose of deceiving the enemy as to the existence, nature, or location of material, troops, or military works.	Same.
Camp.—Shelter consisting mainly of heavy tentage. A temporary location or station for troops. To put into camp. To establish a camp.	Same.
Cantonment.—A group of temporary buildings especially erected for the shelter of troops.	Hutment.
Casualties.—Losses in numerical strength by death, wounds, sickness, discharge, capture, or desertion.	Same.
Casualty agent (chemical).—A material of such physical and chemical characteristics that a dangerous or killing concentration can be set up under conditions encountered in the field.	Poisonous gas.
Censorship.—Measures taken to prevent the leakage of information; they are applied to private communications, photography, press dispatches, radio broadcasts, publications, and all communications.	Same.
Center.—The middle point or element of a command. If the number of elements considered is even, the right center element is considered the center element.	No equivalent.
Check concentrations.—Registration of fire on easily identified points throughout the zone of fire, from which transfers can be made to targets of opportunity. (See also *Fire for adjustment* and *Registration.*)	Registration.
Chemical agent.—A substance useful in war which, after release and acting directly through its chemical properties, is capable of producing a toxic effect, a powerful irritant effect, a screening smoke, or an incendiary action.	Same.
Chemical cylinder.—A cylindrical tank from which chemical agents are released through a valve by means of internal gas pressure.	Cylinder.
Chemical land mine.—A container of persistent gas employed with a detonator to contaminate surrounding ground and vegetation.	Same.
Chief of staff.—The senior General Staff officer, detailed as such, on duty with the staff of a division or higher unit. (See *General Staff.*)	No exact equivalent.
Chlorination.—The process of sterilizing water for drinking purposes by treatment with calcium hypochlorite.	Same.
Cipher.—A method of secret writing that substitutes other characters for the letters intended or transposes the plain text letters or employs both these processes.	Same.
Circuit diagram.—A schematic representation of the technical arrangements and connections of the circuits and terminal installations of the wire system.	Same.
Circulation map.—A map showing the measures for traffic regulation.	Traffic map.

United States	*British*
Class I.—A class of supplies consisting of 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, such as rations and forage.	Rations (procured and issued by RASC)—consists only of food.
Class II.—A class of supplies consisting of those authorized articles for which allowances are established by the Tables of Basic Allowances, such as clothing, gas masks, arms, trucks, radio sets, tools, and instruments.	Clothing (procured and issued by RAOC).
Class III.—A class of supplies consisting of engine fuels and lubricants, including gasoline for all vehicles and aircraft, Diesel oil, fuel oil, and coal.	Petrol (gasoline), oil, and lubricants (POL) (procured and issued by RASC).
Class IV.—A class of supplies consisting of those articles which are not covered in Tables of Basic Allowances and the demands for which are directly related to the operations contemplated or in progress (except for articles in classes III and V), such as fortification materials, construction materials, and machinery.	Ammunition (procured by RAOC and issued by RASC).
Class V.—A class of supplies consisting of ammunition, pyrotechnics, antitank mines, and chemicals.	Equipment and matériel (procured and issued by RAOC; purely military items repaired by RAOC; civilian items adapted for military use repaired by REME).
	Vehicles (procured and issued by RAOC; repaired by REME).
	(See figs. 36, 37, and 39; par. 68; and p. 80, note 23.)
Clear (verb).—To pass a designated point or line. Refers to the tail of a unit.	Same.
Clear (in the).—The sending of messages, orders, or instructions in plain (uncoded) language.	Same.
Clearing station.—The corps or division medical installation where sick and wounded are assembled from the collecting stations and aid stations, sorted, treated if necessary, and turned over to the army for further evacuation. (Formerly called "hospital station.")	Casualty clearing station (CCS). (See fig. 38.)
Close order.—Any formation in which units are arranged in line or column with normal or close intervals and distances.	Same.
Coastal force.—A naval force which may be organized to operate within the coastal zone to meet a special situation in which naval local defense forces are inadequate to carry out the Navy's functions in coastal frontier defense.	Same.
Coastal frontier.—A geographic division of friendly coastal area established for organization and command purposes in order to insure effective coordination between Army and Navy forces engaged in coastal frontier defense.	No equivalent.
Coastal frontier defense.—The organization of the Army and Navy forces and their installations assigned to the defense of coastal frontiers.	Coast defence force.

United States	*British*
Coastal zone.—The whole area of the navigable waters adjacent to the seacoast. It extends seaward to cover the coastwise sea lanes and focal points of shipping approaching the coast.	Same.
Coast artillery district.—A peacetime tactical command which includes all harbor defenses located within a specified area and such mobile coast artillery units as may be assigned thereto.	Fortress command.
Coastwise sea lane.—The water area adjacent to the seacoast. It includes all the usually traveled routes of coastwise shipping.	Coast route.
Code.—A method of secret writing that substitutes arbitrary groups of symbols given in a code book as equivalents of whole sentences, phrases, words, letters, or numbers.	Same.
Collecting point.—A point designated for the collection of prisoners of war or stragglers.	Collecting post (for prisoners of war only).
Collecting station.—An establishment located in the forward combat zone for the purpose of collecting and receiving casualties from aid stations and units, and preparing them for further evacuation by ambulance.	Advanced dressing station (ADS). (See fig. 38.)
Column.—A formation in which the elements are placed one behind another. A *march column* comprises all elements of a command marching on one route under the control of one commander, including such forward, flank, and rear security forces as may be employed.	Same or line ahead.
Combat echelon.—The principal element of offensive or defensive power.	Fighting group.
Combat intelligence.—Military intelligence produced in the field, after the outbreak of hostilities, by the military intelligence section of GHQ and military intelligence sections of all subordinate units.	No equivalent (but falls in the category of intelligence). (See ch. 7.)
Combat orders.—Oral, dictated, or written orders issued by a commander to his subordinate leaders, covering any phase of operations in the field. Combat orders include field orders, letters of instruction, and administrative orders.	Operation orders (OO's), operation instructions, and (for division and higher levels) administration orders (Adm Orders).
Combat outpost.—The outpost or security detachments established by subordinate commanders (company or battalion) when the distance of a security echelon from the main line of resistance is so reduced that the security troops can be more effectively coordinated with, and supported by, the combat echelon than can a separate outpost under the control of higher commanders.	Outpost.

United States	*British*
Combat team.—A nonorganic grouping of two or more units of different arms, such as an infantry regiment, a field artillery battalion, and a combat engineer company.	Group (with the basic organization designated before it: e. g., brigade group).
Combat unit loading.—(See *Unit loading.*)	
Combat zone.—The forward area of the theater of operations required for the active operations of the combatant forces. It is divided into army, corps, and division areas.	Forward area.
Combined operations.—The tactics of the combined or associated arms, as the Infantry, Cavalry, Field Artillery, Corps of Engineers, Air Corps, or any two or more of them. Joint operations, as by two or more allies, by the Army and Navy, etc.	Same (but applied only to operations carried out by sea and land forces or by sea, land, and air forces).
Command.—The authority which an individual exercises over his subordinates by virtue of rank and assignment. The direction of a commander expressed orally and in the prescribed phraseology. A body of troops or a locality under the command of one individual. One of the essential elements of military organization, the other two being combat and supply elements. The vertical height of the fire crest of the parapet above the original natural surface of the ground. The vertical height of any ground over other ground in its vicinity. To order or exercise command.	Same.
Command car.—A motor vehicle, usually armed and armored, equipped with facilities to assist in the exercise of command therefrom.	Armoured command vehicle (ACV).
Commanding ground.—A rising ground which overlooks a post or position.	Same.
Command post.—The staff agencies and command facilities immediately required by the commander for assistance in tactical operations.	Advanced or forward HQ.
Commercial loading.—Method of loading in which ship (airplane) space is utilized to the maximum and the tactical employment of the troops on landing is not contemplated until their equipment, other than personal equipment, has been issued to them.	No equivalent.
Communicable disease.—A disease caused by germs, which can be communicated from one person to another.	Contagious disease.
Communications zone.—That part of the theater of operations between its rear boundary and the rear boundary of the combat zone, containing the lines of communication, the establishments of supply and evacuation, and other agencies required for the immediate support and maintenance of the field forces in the theater of operations.	Line of communications (L of C) area. (See fig. 36.)

United States	*British*
Communication trench.—Trench designed primarily to provide cover for personnel moving from one part of an entrenched position to another.	Same.
Company train.—Formerly, the train allotted by Tables of Organization to a company for the service of that unit. (See *Train.*)	Company transport.
Compartment of terrain.—An area of terrain inclosed on at least two opposite sides by terrain features such as ridges, woods, cities, or bodies of water, which prevent ground observation and direct fire into the area.	No equivalent.
Composite photograph.—The picture that results from the joining together of the vertical and the transformed oblique photographs made by a multiple-lens camera.	Same.
Concealment.—The state or condition of being hidden from the enemy's view. Any object affording protection from the view of the enemy.	Same.
Concentration.—*a.* An assembly of troops in a particular locality, on mobilization, for training, attack, or defense. *b.* The amount of toxic chemical vapor in a given volume of air at any particular time and place. *c.* A volume of fire placed on an area within a limited time.	Same (*a* and *b*); massed fire (*c*).
Conference call.—A telephone call in which one individual desires to obtain telephone connection with two or more other individuals at the same time in order to transmit instructions or information to all parties simultaneously.	Multiple call.
Connecting group (or file.)—Any group (or file) of individuals used to maintain contact between separated forces or elements.	Connecting file.
Consolidation of position.—The act of organizing and strengthening a position recently captured.	Same.
Contain.—To hold in place. To enclose. To restrain.	Same.
Containing action.—An attack designed to hold the enemy to his position or to prevent him from withdrawing any part or all of his forces for use elsewhere.	Same.
Containing force.—A body of troops whose mission is to hold an enemy force in check or position.	Same.
Contingent zone.—An area within the field of fire, other than the normal zone, within which a unit may be called upon to fire.	No equivalent.
Contour interval.—The difference in elevation of two adjacent contours. Vertical interval.	Vertical interval.
Controlled mosaic.—An assembly of two or more overlapping vertical photographs oriented with respect to each other and to a framework of points appearing on the photographs whose locations on the ground have been definitely determined.	Same.

United States	*British*
Control point.—A convenient point established by a unit on the route of its trains at which information and instructions are given and received in order to facilitate and regulate supply or traffic.	Meeting point (for supply) or traffic control post.
Convoy.—Any group of transportation temporarily organized to operate as a unit during movement. To escort. To accompany for the purpose of protecting.	Same.
Convoy unit loading.—(See *Unit loading.*)	
Cooperation.—The act of working together for the accomplishment of a common end.	Same.
Coordination.—The act of supervising, regulating, and combining, to gain the best results.	Same.
Corridor.—A compartment of terrain of which the longer dimension lies generally in the direction of movement of a force, or leads toward an objective.	Same.
Cossack post.—An outguard consisting of four men posted as an observation group, with a single sentinel in observation, the remaining men resting nearby and furnishing the reliefs for the sentinel.	Observation post by day, listening post by night (no definite number of soldiers).
Counterattack.—An attack by a part or all of the defending force against a hostile attacking force for the purpose of regaining lost ground or destroying hostile elements.	Immediate counter-attack (launched before consolidation of positions) or deliberate counter-attack (launched after consolidation of positions).
Counterbattery fire.—Artillery fire delivered for the neutralization or destruction of enemy batteries in position.	Same (usually carried out by corps artillery).
Counterespionage.—Measures taken to prevent espionage by the enemy.	Same.
Counterintelligence.—Measures taken to destroy the effectiveness of the enemy's intelligence system.	Same.
Counteroffensive.—An offensive operation launched by an entire defending force for the purpose of defeating the enemy.	Same.
Counterpreparation.—Prearranged fire delivered in a defensive action just prior to the enemy attack for the purpose of breaking up the attack or reducing its effectiveness.	Defensive fire (term "counter-preparation" abolished).
Counterreconnaissance.—Those measures taken to screen a command from hostile ground and air observation and reconnaissance.	Same.
Cover.—Natural or artificial shelter or protection from fire or observation, or any object affording such protection. The vertical relief of a trench measured from the bottom, or from the trench board, to the top of the parapet. To protect, or provide security for, another force or a locality.	Same.

United States	*British*
Coverage.—The area covered in any one exposure by an aerial (or air) photograph.	No equivalent.
Covering force (or detachment).—Any body or detachment of troops which provides security for a larger force by observation, reconnaissance, attack, or defense, or by any combination of these methods.	Same.
Credit.—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. (See also *Reserve requirements.*)	Reserve supplies.
Crest.—The summit or highest line of a ridge. The actual or topographical crest.	Same.
Critical points.—Selected terrain features along a route of march with respect to which instructions are given to serials for the purpose of controlling the movement.	Locations for sector controls or traffic control posts.
Cryptographic security.—That form of signal-communication security which deals with the provision of technically sound cryptographic systems, their proper use, and their careful protection.	Same.
Cryptography.—The science which embraces the methods and devices used to convert a written message into code or cipher.	Same.
Daily telegram.—A telegram or other messsage dispatched daily by divisions and larger units giving the unit's situation as regards supplies. A strength report is included.	Daily ration strength state.
Daily train.—The train arriving daily at a railhead with supplies for troops which the railhead serves.	Daily supply train.
Danger space.—That portion of the range within which a target of given dimensions would be hit by a projectile with a given angle of fall.	Danger area.
Day of fire.—(See *Unit of fire.*)	
Day of supply.—The estimated average expenditure of various items of supply per day in campaign expressed in quantities of specific items or in pounds per man per day.	Daily wastage rate.
Dead space.—Ground which cannot be covered by fire from a position, because of intervening obstacles.	Dead ground.
Debouch.—To march from a defile, wood, or other close country into open country.	Same.
Decision.—*a.* The general plan of a commander expressed definitely and briefly. *b.* A decisive outcome of a battle, one side being decisively defeated.	Intention (*a*); same (*b*).
Decode.—To translate a code message into ordinary language.	Same.
Defend.—To maintain against force. To secure against attack. To conduct a defensive battle.	Same.
Defense.—The means adopted for resisting attack. The act of defending, or state of being defended.	Defence.

United States	*British*
Defense area.—That part of the battle position assigned to a unit as its area of responsibility in the all-around defense of the area of a higher unit (ordinarily used when referring to units smaller than a regiment). (See *Sector.*)	Defended locality.
Defensive coastal area.—A part of a coastal zone and of the land and water adjacent to, and inshore of, the coast line within which defense operations will involve both Army and Navy forces.	Coast defence area.
Defensive-offensive.—The act of assuming the defensive with a view to permitting the enemy to exhaust his strength, and later to initiating an offensive in order to gain an objective.	Same.
Defensive patrol method.—An antiaircraft defensive measure in which pursuit aviation is employed in the systematic search for and subsequent attack of enemy aircraft.	Fighter patrol.
Defensive position.—Any area occupied and more or less organized for defense. A battle position. A system of mutually supporting defensive areas or tactical localities of varying size.	Same.
Defensive sea area.—A portion of the coastal zone, usually including the approach to an important port, harbor, bay, or sound, within which, if such area be publicly proclaimed and neutrals notified, international practice tacitly permits the belligerent to extend his jurisdiction with a view to the protection of neutral shipping from mine fields, obstructions, or the danger of being considered hostile.	No equivalent.
Defensive zone.—A belt of terrain, generally parallel to the front, which includes two or more organized or partially organized battle positions.	Defended locality.
Deferred message.—A message whose delivery to the addressee may be delayed until the beginning of office hours of the morning following the day on which it is filed.	Same.
Defilade.—Protection from hostile ground observation and fire provided by a mask. Vertical distance by which a position is concealed from enemy observation.	Same.
Defile.—A terrain feature or a structure which can be traversed only on a narrow front, or which restricts lateral movements, such as a mountain pass or a bridge.	Same.
Delaying action.—A form of defensive action employed to slow up the enemy's advance and gain time without becoming decisively engaged.	Same.

United States	*British*
Delaying position.—A position taken up for the purpose of slowing up or interfering with the advance of the enemy without becoming decisively engaged.	Intermediate position.
Demonstration.—An attack delivered or a show of force made on a front where a decision is not sought and for the purpose of deceiving the enemy.	Same.
Deployment.—An extension of the front of a command.	Same.
Depot.—An organized locality for the reception, classification, storage, issue, or salvage of supplies, or for the reception, classification, and forwarding of replacements. *Arm or service depots* pertain to a single arm or service and *general depots* pertain to two or more supply arms or services.	Same.
Depth.—The space from front to rear of any formation or of a position, including the front and rear elements.	Same.
Detached post.—A post established outside the limits of the outpost proper for a special mission, as to observe or guard some locality of special importance.	Same.
Detachment.—A part of a unit separated from the main organization.	Same.
Development.—The distribution of a command from mass or route column disposition into smaller columns or groups, in preparation for action.	Deployment.
Dictated order.—An order delivered orally, of which a verbatim record is made by the receiver.	No equivalent.
Direction of march.—The direction in which the base of the command, whether actually in march or halted, is facing at the instant considered.	Same.
Direct laying.—Laying in which the sights of the weapon are alined directly on the target.	Same.
Direct pursuit.—Pursuit conducted against the rear of retreating columns, and including the envelopment thereof.	Pursuit.
Direct support.—Support provided by that artillery which has the primary mission of supporting a designated subdivision of the combined force of which it is a part.	"In support."
Discipline.—That mental attitude and state of training which render obedience and proper conduct habitual under all conditions.	Same.
Displacement.—The movement of supporting weapons from one firing position to another.	Movement to new position.
Disposition.—The distribution and the formation of the elements of a command and the duties assigned to each for the accomplishment of a common purpose.	Same.
Distance.—Space between elements in the direction of depth.	Same.

United States	*British*
Distributing point.—A place, other than a depot or railhead, where supplies are issued to regiments and smaller units. Distributing points are designated by the class of supplies therein, and by the identity of the unit establishing them, such as "Class I Distributing Point, 1st Division," or "Ammunition Distributing Point, 1st Infantry."	Ammunition point (AP). Supply point (Sup P or SP). Petrol (gasoline) point (PP). (See figs. 36 and 37.)
Distribution.—The manner in which troops are disposed for any particular purpose, as battle, march, or maneuver. Dispersion of projectiles. An intentional dispersion of fire for the purpose of covering a desired frontage or depth, accomplished in various ways. A delivery of supplies, specifically by the supply officer of a higher unit, to subordinate units or to individuals.	Same.
Distribution, dump (railhead) (unit).—(See *Dump (Railhead) (Unit) distribution.*)	
Dock.—A slip or waterway, as between two piers, for the reception of ships.	Same.
Dump.—A temporary stockage of supplies established by a corps, division, or smaller unit. When supplies are ordered issued from dumps, the latter become distributing points. Dumps are designated by the identity of the unit establishing them and by the class of supplies therein, such as "1st Infantry Ammunition Dump" or "1st Division Class I Supply Dump."	Same.
Dump distribution.—Issue of class I supplies to regimental or (similar unit) transportation at a dump established by higher authority.	Same.
Echelon.—A formation in which the subdivisions are placed one behind another extending beyond and unmasking one another wholly or in part. In battle formations, the different fractions of a command in the direction of depth, to each of which a principal combat mission is assigned, such as the attacking echelon, support echelon, and reserve echelon. The various subdivisions of a headquarters, such as forward echelon and rear echelon.	No equivalent (refers only to transport).
Effective range.—The range at which, for a particular gun, effective results may be expected.	Same.
Element.—One of the subdivisions of a command. The term "elements" is used in an inclusive sense to refer to all those various smaller units or parts of units, generally different in character, as *service elements*, meaning quartermaster, ordnance, engineer, and medical units, etc.	Same.
Emergency barrage.—A barrage which may be ordered fired to cover gaps in the normal barrage line or to reinforce the normal barrage of another part of the line.	Superimposed fire.

United States	*British*
Emergency counterpreparation.—Fire planned by the artillery of one division to reinforce the local counterpreparations of other divisions.	Defensive fire (though normally applied only to own front).
Emplacement.—A prepared position from which a unit or a weapon executes its fire missions. (See *Firing position.*)	Same.
Encircling force.—A pursuing force which moves around the hostile flanks or through a breach to reach the heads of retreating enemy columns and bring them to a halt.	Enveloping force.
Encode.—To translate ordinary language into code. To prepare a message in code.	Same.
Enfilade.—To fire at a target so that the line of fire coincides with the long axis of the target.	Same.
Entrucking group.—Troops, matériel, or supplies properly disposed for loading at an entrucking point.	No equivalent.
Entrucking (detrucking) point.—The point at which the head of a truck column halts for the entrucking (detrucking) of troops or supplies.	Embussing (debussing) point.
Envelopment.—An offensive maneuver in which the main attack is directed from an area wholly or partially outside and to the flank(s) of the initial disposition of the enemy's main forces and toward an objective in his rear; usually assisted by a secondary attack directed against the enemy's front.	Same.
Escort.—A body of armed men to guard a person, persons, or goods on a journey, or to accompany as a mark of respect or honor.	Same.
Escort force.—A part of the naval local defense forces charged with the duty of protecting convoys within naval district waters.	Same.
Espionage.—The process of obtaining information of the enemy by means of spies.	Same.
Essential elements of information.—That information of the enemy, of the terrain not under friendly control, or of meteorological conditions in territory held by the enemy, which a commander needs in order to make a sound decision, conduct a maneuver, avoid surprise, or formulate the details of a plan. They include questions relating to enemy capabilities, other intelligence specifically desired by the commander, and information requested by other units.	Same.
Estimate of the situation.—A logical process of reasoning by which a commander considers all available data affecting the military situation and arrives at a decision as to a course of action, including the expression of his decision. (See also *Situation.*)	Appreciation of the situation.

United States	*British*
Evacuation.—The withdrawal of troops or civilians from a given area; also, the act of clearing personnel (such as stragglers, prisoners of war, sick, and wounded), animals, or matériel (such as salvage and surplus baggage) from a given locality.	Same.
Evaluation of information.—An analysis of information to determine its probable intelligence value; that is, its accuracy, its credibility, and its application to the situation.	Assessment of value of intelligence report.
Executive.—An officer charged with the responsibility of supervising the work of the staff in a command not provided with a General Staff; generally, the second-in-command.	No exact equivalent (the Adjutant, and not the second-in-command, performs these duties in the battalion or equivalent unit).
Exploitation.—The act of taking full advantage of a success. (See also *Attack, continuing.*)	Same.
Extended order.—Formations in which the individuals or elements are separated by intervals or distances, or both, greater than in close order.	Same.
Extreme range.—The maximum range of any weapon.	Same.
Feint.—An attack or demonstration intended to deceive the enemy. A pretense. A stratagem. To make a feint.	Same.
Field fortification.—The act of increasing the natural strength of a defensive position by works designed to permit the fullest possible fire and movement of the defender, and to restrict to the greatest possible extent the movement and the effects of the fire of the attacker. Defensive works of a temporary nature used in the field in both the attack and defense.	Same.
Field order.—An order conveying the directions of the commander to the subordinate commanders charged with the execution of tactical operations. (See also *Combat orders.*)	Operation order (OO).
Field train.—Formerly, the train of a regiment or similar unit carrying unit reserves of rations, forage, fuel, and organization equipment and baggage not needed initially in combat. (See *Train.*)	"B" echelon transport.
Filler replacement.—One of the number of officers and enlisted men assigned to an organization to bring it to mobilization strength.	First-line reinforcement.
Final protective line.—For machine-gun fire, a predetermined line along which, in order to stop assaults, is placed grazing fire, often fixed as to direction and elevation, and capable of delivery under any condition of visibility.	Fixed line.
Fire, assault.—Fire delivered by the unit while advancing at a walk.	Fire on the move.

United States	*British*
Fire, collective.—The combined fire of a group of individuals.	Same.
Fire, combined traversing and searching.—Fire distributed both in width and depth by changes in direction and elevation of the gun.	Searching and sweeping fire.
Fire, conduct of.—Employment of technical means to place accurate fire on a target.	Fire control.
Fire, cone of.—The resultant group of trajectories obtained when a series of projectiles are fired from the same gun whose data and position have remained the same.	Same.
Fire control.—Fire control includes all operations connected with the preparation and actual application of fire to a target.	Same.
Fire, converging.—Fire from different directions brought to bear upon a single point or area.	Same.
Fire, destruction.—Artillery fire delivered for the express purpose of destruction and when it is reasonable to expect that relatively complete destruction can be attained.	Destructive fire.
Fire, direct.—Fire in which the sights of the weapon are alined directly on the target.	Same.
Fire direction.—Exercise of the tactical command of one or more units in the selection of objectives and, at appropriate times, in the concentration or distribution of fire thereon.	Same.
Fire discipline.—That condition resulting from training and practice which insures an orderly and efficient conduct of the personnel in the delivery of fire.	Same.
Fire, distributed.—Fire distributed in width for the purpose of keeping all parts of the target under effective fire.	Same.
Fire, field of.—The area in the direction of the enemy which can be effectively covered by the fire of a firing unit from a given position. That portion of the terrain or water area covered by the fire of a gun, battery, or other unit.	Same.
Fire, fixed (concentrated) (point).—Fire directed at a single point, without traversing or searching.	Fire on fixed line.
Fire, flanking.—Fire directed against a unit or objective from an area on its flank. Flanking fire may be enfilade or oblique.	Same.
Fire for adjustment.—Fire delivered primarily for the purpose of correcting, by observation, inaccuracies in the firing data. (See also *Check concentrations* and *Registration.*)	Registration or trial shoot.
Fire for effect.—Fire delivered for the purpose of neutralizing or destroying a target, or the accomplishment of the tactical effect sought. Any fire against a hostile target, other than for registration.	Same.

United States	*British*
Fire, frontal.—Fire delivered approximately at right angles to the front of the enemy's line, or other linear target.	Same.
Fire, grazing.—Fire which is approximately parallel to the surface of the ground and does not rise higher above it than the height of a man standing. Fire with a long or continuous danger space.	Same.
Fire, high-angle.—Fire delivered at elevations greater than the elevation corresponding to the maximum range.	Same.
Fire, indirect.—Fire in which the weapon is aimed by indirect laying.	Same.
Fire, leading.—Fire delivered to strike a moving target.	Aiming off.
Fire, low-angle.—Fire delivered at angles of elevation below that required for maximum range.	Same.
Fire, oblique.—Fire delivered from a direction oblique to the long axis of the target.	Same.
Fire, observed.—Fire which is adjusted by observation.	Same.
Fire on targets of opportunity.—Fire on targets appearing suddenly or unexpectedly during the course of an engagement.	Fire on opportunity or gun fire (GF) targets.
Fire, overhead.—Fire that is delivered over the heads of friendly troops.	Same.
Fire, plunging.—Fire in which the angle of fall of the bullets with reference to the slope of the ground is such that the danger space is practically confined to the beaten zone, and the length of the beaten zone is materially lessened.	Same.
Fire, searching.—Fire distributed in the direction of depth by successive changes in the elevation of the gun.	Same.
Fire superiority.—A condition of fire the effect of which is greater than that of the enemy.	Same.
Fire, traversing.—Fire distributed in the direction of width by successive changes in the direction of the gun.	Sweeping or traversing fire.
Fire trench.—Trench designed primarily to provide cover for personnel when delivering rifle fire.	Same.
Fire unit.—A unit whose fire in battle is under the immediate and effective control of its leader.	Same.
Firing position.—A locality or emplacement from which a unit or a weapon executes fire missions; classified as primary, alternate, or supplementary.	Same.
Fixed armament.—Seacoast artillery weapons that are emplaced in permanent firing positions.	Same.
Fixed obstacles.—Obstacles which are securely placed or fastened.	Same.

United States	*British*
Flank.—The side of a command, from the leading to the rearmost element, inclusive. *Right* flank is the right side, when facing the enemy, and does not change when the command is moving to the rear.	Same.
Flank guard (or patrol).—A security detachment which protects the flank of a marching force.	Same. (See fig. 109.)
Flanking attack.—An attack directed against the flank of a hostile force.	Same.
Flight.—The basic tactical unit of Air Corps organization.	Same.
Follow.—To regulate movement on the element in front.	Same.
Follow up.—The act of exerting close, direct pressure on a withdrawing force.	Same.
Footbindings (ski).—A harness designed to fasten the ski to the foot.	Same.
Forage.—Food for animals. To collect supplies for men and animals.	Same.
Foragers.—Mounted troopers abreast of each other with intervals greater than those prescribed for close order.	No equivalent.
Forced march.—Any march in which the march capacity of foot and mounted troops is increased by increasing the number of marching hours per day rather than by increasing the hourly rate of march.	Same.
Formation.—The arrangement of the subdivisions of a command so that all elements are placed in order in line, in column, in echelon, or in any other designated disposition.	Same or forming up (also used to refer specifically to an organization having the strength of a brigade or more).
Fort.—A land area within a harbor defense wherein are located harbor defense elements. A strong and fortified place. A permanent post.	Same.
Foxhole.—Small, individual shelter or rifle pit. (See *Shelter trenches.*)	Slit trench (that permits firing from a standing position) or weapon pit. (See par. 130*b*.)
Fragmentary orders.—Combat orders issued in fragmentary form, and consisting of separate instructions to one or more subordinate units prescribing the part each is to play in the operation or in the separate phases thereof. (See also *Letters of instruction.*)	Operation instructions.
Fragmentation.—The breaking up and scattering of the fragments of a shell, bomb, or grenade.	Same.
Fragmentation bomb.—A bomb intended primarily for use against personnel on the ground.	Anti-personnel bomb.

United States	*British*
Front.—The direction of the enemy. The line of contact of two opposing forces. The space occupied by an element, measured from one flank to the opposite flank.	Same.
Frontage.—The space, in width, occupied or covered by a unit in any formation.	Same.
Front line.—The line formed by the most advanced units, exclusive of local security, in any given situation.	Same.
G–1, G–2, G–3, G–4.—(See *General Staff.*)	
Gait.—Manner of forward movement of the horse, that is, the walk, trot, or gallop.	Same.
Gait of march.—The gait at which the base of a mounted unit is moving at the instant considered.	No equivalent.
General counterpreparation. — A counterpreparation planned to meet a general attack and involving all the weapons capable of firing on the threatened front.	Defensive fire.
General Staff.—A body of officers detailed to the performance of staff duty in the War Department or with divisions and higher units. The General Staff is headed by a Chief of Staff who may be assisted by one or more deputy chiefs. Each section is headed by an Assistant Chief of Staff. The sections of the General Staff are as follows: G–1, Personnel; G–2, Intelligence; G–3, Operations and training; G–4, Supply; and with the War Department, a fifth section, War Plans (which in wartime has become the Operations Division of the War Department, and is not to be confused with G–3). In units smaller than the division, including the battalion (or equivalent unit), duties corresponding to those of the General Staff are assigned to officers designated as Executive, S–1, S–2, S–3, S–4.	The Staff (including the General Staff (or the "GS" or the "G") branch, The Adjutant-General's (or the "A") branch, and the Quarter-Master-General's (or the "Q") branch). (See pars. 165*b* and 166, and notes.)
General support.—Support provided by that artillery which supports the entire force of which it is a part.	No equivalent.
GHQ aviation.—All combat, reconnaissance, and transport aviation, within the continental United States, not assigned to armies or smaller units.	No equivalent.
Groupment (Coast Artillery Corps).—A tactical command containing two or more groups or separate batteries whose fields of fire cover a certain water area, together with personnel and matériel required for its employment as a unit.	Group.
Groupment (field artillery).—A temporary grouping of two or more battalions or larger units which have the same tactical mission.	Grouping.
Guerrilla (or partisan) warfare.—Irregular war carried on by independent bands.	Same.

United States	*British*
Guide.—An individual who leads or guides a unit or vehicle over a predetermined route or into a selected area.	Same.
Hand sled.—A general term to include all sleds drawn by hand. Specifically, it applies to a small sled on runners.	Sledge.
Harass.—To annoy and disturb the enemy by fire, raids, frequent small attacks, etc.	Same.
Harassing agent.—A chemical agent used to force masking and thus slow up enemy operations.	Same.
Harassing fire.—Fire delivered to interfere with and annoy the enemy, to keep his troops alerted unnecessarily, and to lower his efficiency and morale. (See also *Interdiction fire.*)	Same.
Harbor.—A sheltered body of water of sufficient depth to enable a ship to find shelter in it from the storms of the high seas.	Harbour (also indicates lying-up area for armoured formations or units).
Harbor defense.—A highly organized administrative and tactical Army command established to defend a limited portion of a coastal area primarily against attacks from the sea.	Harbour defence (the command may be made up of naval, military, and air forces, and commanded by an officer specially appointed).
Hatch.—An opening in the deck of a vessel; more closely, an opening into the main cargo part of a vessel. Also a wooden shutter which covers the opening.	Same.
Head of column.—First element of a column in order of march.	Same.
Heavier-than-air.—A term generally applied to aircraft which are not supported by a gas lighter than air.	Same.
High oblique.—An oblique photograph that includes the image of the horizon.	Same.
Hold (verb).—To retain physical possession.	Same.
Holding and reconsignment point.—A rail or a motor center with considerable capacity to which cars or trucks may be sent and at which they may be held until their destination becomes known or until the proper time for them to be moved farther toward their destination.	Railway siding or motor park.
Holding attack (or secondary attack).—That part of the attack designed to hold the enemy in position and prevent the redistribution of his reserves.	Same.
Horse length.—A term of measurement. For convenience in estimating space, a horse length is considered 3 yards. Actually, it is about 8 feet.	No equivalent.
Hospital station.—(See *Clearing station.*)	

United States	*British*
Identification panels.—Panels of cloth or other easily handled material which are displayed by ground troops to indicate to friendly aircraft the position of a unit.	Ground strips.
Identifications.—Any distinctive marks or other means by which personnel, organizations, or equipment are identified.	Same or marks or markings.
Immobilize.—To tie down. To deprive of mobility.	Same.
Incendiary agent.—An agent used primarily for setting fire to matériel.	Same.
Indirect laying.—Laying in which the line of sighting is directed upon a fixed object other than the target.	Same.
Individual equipment.—Those supplies necessary to enable the individual to function as a soldier.	Personal clothing and equipment.
Infiltrate.—To pass troops in relatively small numbers through gaps in the enemy's position or in his field of fire.	Same.
Initial point.—A point at which a moving column is formed by the successive arrival of the various subdivisions of the column.	Starting point (SP).
Initial requirements.—Those supplies required to meet the original demands incident to field operations.	Same.
Inner harbor area.—The entire water area of a fortified harbor inside the inner entrance of all the entrance channels to the harbor.	Same.
In position.—A term which indicates that the weapons of a unit are in position and ready to fire and that necessary systems of observation and communication have been established.	Same.
In readiness.—A term which indicates that an artillery unit is held near one or more possible positions, prepared to move quickly into position when ordered. This term may be applied to other units to indicate a state or condition of preparedness.	Same.
Inshore patrol.—A part of the naval local defense forces operating generally within a defensive coastal area and controlling shipping within a defensive sea area.	Same.
Integrity of tactical units.—The maintenance of complete tactical units.	No equivalent.
Intercept station.—A station that intercepts enemy radio traffic for the purpose of obtaining information, or friendly traffic for the purpose of supervision.	Same (friendly interception performed by a policing set).
Interdict.—To prevent or hinder the use of an area or route by the application of chemicals or fire, or both.	No equivalent.
Interdiction fire.—Fire delivered on certain areas or routes to prevent or hinder their use. (See also *Harassing fire.*)	Harassing fire or destructive shoot.
Intermediate objective.—The objective whose attainment precedes, and is usually essential to, the attainment of the final objective.	Same.

United States	*British*
Intermediate-scale maps.—Maps normally of a scale from 1:200,000 to 1:500,000, intended for planning strategic operations, including the movement, concentration, and supply of troops.	Small-scale maps.
Intermediate section.—That portion of the communications zone lying between the advance and base sections.	No equivalent.
Interpretation of information.—An analysis of information to determine its probable significance in the existing situation.	Same.
Interval.—Space between individuals or elements of the same line. (See also *Time interval.*)	Same.
Irritant smoke.—A chemical agent which causes sneezing, coughing, lacrimation, or headache followed by nausea and temporary physical disability.	Toxic smoke.
Issue.—A delivery of supplies. Specifically, the delivery of supplies of any kind by a supply department to responsible persons authorized to receive them on behalf of their organizations. The supplies so delivered. To send out officially or publicly, as orders or communiques. To emerge or sally forth, as from a defile or fortress.	Same.
Joint operations.—(See *Combined operations.*)	
Joint plan.—A war plan whose purpose is to establish the basis and prepare the necessary plans for joint action by the Army and Navy in a given situation.	Same.
Journal.—A chronological record of events affecting a unit or staff section.	War diary.
Key point.—A tactical locality, affording observation and communication, the possession of which may be vital to the success of an engagement.	Same or vital point.
Lacrimator.—A chemical agent which causes a copious flow of tears and intense, though temporary, eye pains.	Lachrymator.
Landing field.—A field or system of runways suitable for the landing and take-off of airplanes.	Same.
Large-scale maps.—Maps normally of a scale not greater than 1:20,000 intended for the technical and tactical needs of the combat arms.	Same.
Leapfrog.—To advance the elements of a command in the attack by passing them successively through or by the other elements.	Same.
Lethal.—Deadly.	Same.
Letter(s) of instruction.—A means by which the plans of superior commanders are communicated and which regulate movements and operations over large areas and for considerable periods of time. (See also *Combat orders* and *Fragmentary orders.*)	Operation instruction (s).
Liaison.—The connection established between units or elements by a representative—usually an officer—of one unit who visits or remains with another unit.	Same.

United States	*British*
Lighter-than-air.—A term generally applied to aircraft which are supported by means of a gas lighter than air.	Same.
Limiting point.—The designated point where the several lines in a defensive position or outpost shall cross the unit sector boundaries; used to insure coordination between adjacent units.	Junction point.
Line.—A formation in which the next lower subdivisions of a command are abreast of one another.	Same.
Line of departure.—A line designated to coordinate the departure of attack elements.	Start(ing) line. (See fig. 110.)
Line of observation.—The line occupied by the observation elements of the outpost position. The line from a position finder to a target at the instant of a recorded observation.	Same.
Line route map.—A map or map substitute on which are shown the actual routes of wire circuits.	Same.
Lines of action.—The possible plans open to a commander in a particular situation.	Courses of action or courses open.
Lines of communication.—The network of railways, waterways, and roads which lead into the combat zone from administrative establishments located in the communications zone or in the zone of the interior. (See also *Communications zone.*)	Supply lines.
Listening post.—A concealed or sheltered position established in advance of a defensive line for early detection of the enemy's movements.	Same.
Litter relay point.—A point where litter-bearer squads change the mode of transport, such as from hand litter to wheeled litter, or where a new litter-bearer squad takes over further movement of the patient.	No equivalent.
Livens projector.—A mortar installed in the ground to project chemical agents.	Same.
Local counterpreparation.—A counterpreparation covering only that portion of the front threatened by a local attack and normally employing only the division artillery supporting the threatened front.	Defensive fire.
Logistics.—That branch of military art that comprises everything relating to movement, supply, and evacuation.	Transport, supply, and quartering of troops.
Long ton.—The weight of 2,240 pounds avoirdupois.	Ton.
Loss replacement.—A replacement to fill a vacancy which has been created by the loss to the organization of the original occupant.	Reinforcement.
Low oblique.—An oblique photograph that does not include the image of the horizon.	Same.
Lung irritant.—A chemical agent which causes irritation and inflammation of the bronchial tubes and lungs.	Same.

United States	*British*
Main attack.—That part of the attack in which the commander concentrates the greatest possible offensive power.	Same.
Main body.—The principal part of a command. A command less all detachments.	Same.
Main effort.—In each tactical grouping, the employment of the mass of the available means in a decisive direction.	Same.
Main line of resistance.—A line at the forward boundary of the battle position designated to coordinate the defensive fires of all units and supporting weapons.	(Line of) forward (foremost) defended localities (FDL's). (See fig. 111.)
Main supply road.—The principal inbound road over which supplies are carried to troops in the forward area. (Formerly called "axial road.")	Main artery of supply.
Maintenance, first echelon.—Driver's maintenance, covering the simple operations that can be trusted to the skill of the average driver using tools and supplies available on the vehicle.	First-line repairs (i. e., daily maintenance by driver).
Maintenance, fourth echelon.—That maintenance normally performed in the rear areas by quartermaster and ordnance personnel.	Base repairs (i. e., maintenance carried out by base workshops).
Maintenance requirements.—Those supplies required to replace expenditures.	Supplies (classified as RASC, ordnance, R E, etc.).
Maintenance, second echelon.—That maintenance, other than first echelon maintenance, performed by the using arms and services.	Second-line repairs (i. e., maintenance carried out by light aid detachments (LAD's) and divisional work-shops).
Maintenance, third echelon.—That maintenance normally performed in the field by quartermaster and ordnance personnel.	Third-line repairs (i. e., maintenance carried out by army workshops).
Maneuver.—Movement so designed as to place troops, matériel, or fire in favorable strategic or tactical locations with respect to the enemy. Also a tactical exercise executed on the ground or map, in simulation of war and involving two opposing sides, though one side may be outlined, represented, or imaginary. The plural of the term applies to a series of such exercises, generally involving large bodies of troops in the field in simulation of war.	Manœuvre.
Manifest (ship's).—A detailed and accurate list of a vessel's entire cargo.	Same.

United States	*British*
Map.—A representation (usually on a flat surface) of the surface of the earth, or some part of it, showing the relative size and position, according to some given scale or projection, of the parts represented.	Same.
Maps, intermediate scale (large scale) (medium scale) (small scale).—(See *Intermediate-scale (Large-scale) (Medium-scale) (Small-scale) maps.*)	
March discipline.—The observance and enforcement of the rules of good marching, especially as relates to the position of units in the column and the position and conduct of individuals and vehicles.	Same.
March graph.—A graphical presentation of a march, used in planning and controlling marches and in preparing and checking march tables.	Movement graph.
March on.—March toward.	Same.
March outpost.—A temporary outpost established for the protection of the command during a brief halt, or while regular outposts are being established. (See also *Security detachment.*)	Covering detachment.
March table.—A combined location and movement schedule for a march.	Same or movement table. (See fig. 116.)
March unit.—A subdivision of a marching column which moves and halts at the command or signal of its commander.	Group.
Martial law.—Military authority substituted for civil government in the home country or any district thereof, either by proclamation or as a military necessity, when the civil government is temporarily unable to exercise control.	Same.
Mask (obstruction).—Any natural or artificial obstruction which interferes with view or fire; usually an intervening hill, woods, etc. Friendly troops located between a gun and its target may constitute a mask.	No equivalent.
Means of signal communication.—An agency of signal communication capable of transmitting messages, such as messenger, pigeon, radio, visual, sound, and wire communication.	Same.
Mechanization.—A term originally used to denote the process of equipping a military force with armed and armored motor-propelled vehicles. (Recently this term has been so loosely used that it has lost much of its original meaning, and its further use, therefore, is undesirable.)	Same.
Mechanized cavalry.—Cavalry, equipped with armored and self-propelled motor vehicles designed for combat purposes and in which weapons are mounted.	Same.
Mechanized unit.—A unit which moves and fights in motor vehicles the bulk of which are armed, and armored vehicles self-contained as to crew and weapons.	Same.

United States	*British*
Medium-scale maps.— Maps normally of a scale from 1:50,000 to 1:125,000, intended for strategical, tactical, and administrative studies by units ranging in size from the corps to the regiment.	No equivalent.
Meeting engagement.— A collision between two opposing forces each of which is more or less unprepared for battle.	Encounter or contact battle.
Message.— A term which includes all instructions, reports, orders, documents, photographs, maps, etc., in plain language or code, transmitted by a means of signal communication.	Same or signal or despatch.
Message center.— The agency of the commander at each headquarters or command post charged with the receipt, transmission, and delivery of all messages except those transmitted directly by the writer to the addressee by telephone or personal agency, those handled by the military or civil postal service, local messages, and those arriving by special messengers.	Signal office.
Message, deferred (priority) (routine) (urgent).—(See *Deferred (Priority) (Routine) (Urgent) message.*)	
Military crest.— The line nearest the crest of a ridge or hill from which all or nearly all of the ground toward the enemy and within range may be seen and reached by fire.	Crest.
Military government.—A government established by the land or naval forces in enemy territory or in domestic territory recovered from rebels treated as belligerents.	Same.
Military information.—Information, gathered from any source, which may serve to throw light on the enemy or the theater of operations.	Same.
Military intelligence.—Evaluated and interpreted information concerning a possible or actual enemy, or theater of operations, together with the conclusions drawn therefrom.	Same.
Military Police.—A class of troops charged with the enforcement of all police regulations in the theater of operations and in other places occupied by troops.	Corps of Military Police (CMP) (commonly known as "Red Caps").
Mine planter.—A specially constructed seagoing craft, used primarily for the transportation and laying of submarine mines.	Mine layer.
Minimum range.—The least range setting at which the projectile will clear the mask when the gun is fired from a given position.	Minimum crest clearance.
Mission.—A specific task or duty assigned to an individual or unit, or deduced from a knowledge of the plans of the immediate superior. For the Air Corps: each separate flight operation of a single airplane or of a formation.	Same or task.

United States	*British*
Mobile armament.—Seacoast artillery weapons that may be moved to and emplaced in temporary firing positions. This class consists of railway, tractor-drawn, and truck-drawn artillery.	Same.
Mobile reserves.—Reserve supplies held on trucks or on railroad cars for prompt movement forward.	Same.
Mopping up.—The act of searching an area or position that has been passed over by friendly troops in the attack and of killing or capturing any enemy found.	Same.
Morale.—The psychological condition or mental state of an individual or a body of troops.	Same.
Mosaic.—An assembly of two or more overlapping vertical aerial photographs; classified as "controlled," "uncontrolled," or "strip."	Same.
Motorization.—The process of equipping a military force exclusively with motor-propelled vehicles.	Same.
Motorized unit.—A unit equipped either organically or temporarily with sufficient motor vehicles to carry all its matériel and personnel at the same time.	Same or motor unit.
Multiple-lens camera.—An aerial camera in which two or more lenses are fastened in permanent relationship to each other.	Same.
Mutual support.—The support involving fire or movement or both, rendered one another by adjacent elements.	Same.
Natural obstacles.—Any terrain features which hamper military maneuvers or operations, such as deserts, mountains, streams, swamps, forests, etc.	Same.
Neutralization fire.—Fire delivered for the purpose of causing severe losses, hampering or interrupting movement or action, and, in general, destroying the combat efficiency of enemy personnel.	Neutralising fire.
Neutralize.—To destroy or reduce the effectiveness of personnel or materiél by the application of gun fire or chemicals.	Neutralise.
Nonpersistent agent.—A chemical agent whose effectiveness in the air at point of release is dissipated within 10 minutes.	Same (but with no definite time limit).
Nontoxic.—Not poisonous.	Same.
Normal barrage.—A standing barrage laid in immediate defense of the sector which it supports. The barrage which is fired on prearranged signal from the supported unit.	Barrage.
Normal zone.—That portion of the zone of fire of a unit within which its fire is ordinarily delivered.	Zone of fire.
Objective.—A locality which a command has been ordered to reach and occupy or a hostile force which a command has been ordered to overcome. For the Air Corps: that locality or thing which must be destroyed in order to accomplish an assigned mission.	Same.

United States	*British*
Objective folder.—A folder or envelope containing descriptive and statistical data, photographs, maps, charts, overlays, or drawings to show location, approaches, defenses, and other important data concerning the objective.	No equivalent.
Oblique aerial (or air) photograph.—A picture made with a camera whose optical axis is tilted away from the vertical.	Same.
Observation aviation.—Units whose primary functions are reconnaissance and observation of near objectives, observation of artillery fire; and command, courier, and liaison duty for ground units.	Reconnaissance aircraft (used to carry out both strategical and tactical reconnaissance).
Observation post.—A point selected for the observation and conduct of fire, for the observation of an area or sector, for the study of objectives, or for the purpose of securing information of the enemy and his activities. A position from which friendly and enemy troops can be seen and from which fire is controlled and corrected.	Same.
Obstacle.—Any device or feature, either natural or artificial, used in field fortifications for the purpose of delaying the hostile advance. A natural terrain feature or artificial work which impedes the movements of the troops. Obstacles are classified as natural or artificial, tactical or protective, fixed or portable, etc.	Same.
Offshore patrol.—A part of the naval local defense forces operating in and patrolling the coastal zone outside those areas assigned to the inshore patrol.	No equivalent.
Operation map.—A graphic presentation of all or parts of a field order, using conventional signs, military symbols, abbreviations, and writing or printing.	Operation or sketch map.
Oral order.—An order delivered by word of mouth.	Verbal order.
Order of march.—The disposition of troops for a march, or their order in the march column.	Same.
Organizational requirements.—Those supplies necessary for the organization to function as a unit.	Requirements.
Organizational unit loading.—(See *Unit loading.*)	
Organization for combat.—The measures taken by a commander to insure that the troops of his command are so grouped that they can most efficiently carry out the mission assigned.	No equivalent.
Orient.—To determine one's position on the ground with respect to a map or to the four cardinal points of the compass. To identify directions on the terrain. To place a map so that its meridian will be parallel to the imaginary meridian on the ground, and all points on the map in the same relative positions as the points on the ground which they represent. To inform or explain, to make another conversant with.	Same.

United States	*British*
Outflank.—To pass around or turn the flank or flanks of an enemy. To extend beyond the flanks of the enemy's line.	Same.
Outguard.—The most forward security unit posted by an outpost.	Forward standing patrol.
Outpost.—A detachment detailed to protect a resting or defending force against surprise and observation by hostile ground forces. (See *Combat outpost.*)	Same.
Outpost area.—A belt of terrain lying in front of a battle position, occupied by the observation or outpost elements.	Line of outposts.
Outpost line of resistance.—A line designated to coordinate the fires of the elements of the outpost and its supporting artillery.	No equivalent.
Overlay.—A sheet of translucent paper or cloth, for laying over a map, on which various locations, as of artillery, targets, field works, enemy positions, etc., are shown.	Trace.
Overseas expedition (or expeditionary force).—A joint Army and Navy undertaking for the purpose of conducting military operations on shore at the end of a voyage which is under naval control.	Expeditionary force.
Overseas operations.—Operations conducted with a view to the establishment of a base for military operations. Operations conducted on land after the landing of an overseas expedition.	Same.
Pace.—A step of 30 inches; the length of the full step in quick time. Rate of movement.	Same.
Pack board.—A form of individual pack, common in northern countries, in which the load is fastened to a canvas cover on a wooden frame and carried on a man's back.	No equivalent.
Parachute troops.—Troops moved by air transport and landed by means of parachutes.	Same.
Park.—An area used for the purpose of servicing, maintaining, and parking vehicles.	Same.
Party.—A detachment of individuals employed on any kind of duty or special service. For the artillery: certain key officers and men who usually accompany the commander on the march and assist him in reconnaissance, in issuing his initial orders, in initiating the movement forward to position, and in the occupation and organization of the position.	Same.
Passage of lines.—A relief of a front-line unit in the attack in which the rear unit moves forward through the already established line; the unit passed through may remain in position or move to the rear.	Leapfrogging.
Patrol.—A moving group or detachment sent out from a larger body on an independent or limited mission of reconnaissance or security, or both. The act of patrolling.	Same.

United States	*British*
Penetration.—A form of attack in which the main attack seeks to break the continuity of the enemy's front and to envelop the flanks thus created.	Same.
Persistent agent.—A chemical agent which will maintain an effective vapor concentration in the air at point of release for more than 10 minutes.	Same.
Personnel carrier.—A motor vehicle, sometimes armored, designed primarily for the transportation of personnel and their weapons to, and on, the battlefield.	Same.
Phase line.—A line or terrain feature which troops are directed to reach by a specified time, and which is utilized by a commander for control or coordination.	Report line.
Photogrammetry.—The science of preparing graphic maps from aerial (or air) photographs.	Same.
Photographic mapping.—Aerial (or air) photographs accomplished for the purpose of constructing a map or map substitute.	Same.
Photographic reconnaissance.—All military aerial (or air) photography accomplished for other than mapping purposes.	Same.
Photomap.—An aerial (or air) photograph upon which information commonly found on maps has been placed, including, at least, a scale and a directional arrow.	No equivalent.
Picket.—A detachment of an outpost sent out to perform the duties of an outguard at a critical point, the detachment being stronger than an ordinary outguard and establishing sentinel posts of its own.	Piquet or standing patrol.
Pin point.—A vertical aerial (or air) photograph in which the object of interest is centered.	Same.
Plain text (or clear text or plain language).—The text of a message which, on its face, conveys an intelligible meaning in a spoken language.	Same.
Plan.—A scheme or design, specifically for any military operation. A course of action or method of procedure decided upon and adopted by a commander, as the basis for his orders to his command.	Same.
Point.—The patrol or reconnaissance element which precedes the advance party of an advance guard, or follows the rear party of a rear guard.	(Point section of the) van guard. (See fig. 109.)
Portable obstacles.—Obstacles capable of being moved.	Movable obstacles.
Position, assembly.—(See *Assembly area.*)	
Position in readiness.—A position assumed as a temporary expedient in a situation so clouded with uncertainty that positive action is considered unwarranted.	Position of readiness.
Prearranged fire (or schedule fire).—Supporting fire for which the data are prepared in advance and which is delivered according to a time schedule or on call from the supported troops.	Predicted fire.

United States	*British*
Precede.—To regulate movement on the element in rear.	Same.
Preparation, artillery.—(See *Artillery preparation.*)	
Primary armament (Coast Artillery Corps).—Seacoast artillery weapons of 12-inch or greater caliber.	Super-heavy coast defence guns (approximately).
Primary firing position.—The firing position from which a unit or a weapon executes its primary fire mission.	Same.
Priorities.—Definite rulings which establish, in order of time, the precedence of shipment, the movements of rail, road, water, or other transport, or the performance of several tasks.	Same.
Priority message.—A message of less urgency than those entitled to urgent classification but which warrants precedence over routine messages in order to reach the addressee in time for effective action.	Important message.
Prisoners of war.—Persons captured and held in captivity or interned by a belligerent power.	Same.
Protective obstacles.—Obstacles whose chief purpose is to prevent a sudden incursion of attacking forces.	Defensive obstacles.
Provisional map.—A map produced by compiling existing map detail or by tracing data from aerial photographs. It may contain form lines or contours.	No equivalent.
Pursuit.—An offensive operation against a defeated enemy for the purpose of accomplishing his annihilation.	Same.
Pursuit aviation.—That type of aviation whose primary function is air fighting; classified as interceptor and fighter.	Fighter aircraft.
Quarantine, working.—The segregation of individuals or contact groups, under quarantine, in such a manner that the performance of certain duties (such as fatigue, drill, or instruction) is not interrupted.	No equivalent.
Quartering party.—A detail sent out to reconnoiter for billets or quarters. A billeting party.	Harbouring party.
Radiotelegraphy (or radio (key)).—Radio communication by means of the International Morse Code.	Wireless-telegraphy (W/T).
Radiotelephony (or radio (voice)).—Radio communication by means of the voice.	Radio-telephony (R/T).
Raid.—A sudden and rapid incursion. An offensive movement, usually by small forces, directed against an enemy.	Same.
Railhead (truckhead) (navigation head).—A supply point where loads are transferred from the particular type of transportation being employed, such as "Class I Railhead, 1st Division," "Ammunition Railhead, 1st and 2d Divisions."	Same.
Railhead distribution.—Issue of class I supplies to regimental (or similar unit) transportation at the railhead.	No equivalent.

United States	*British*
Rallying point.—A point, designated by a unit commander, where he assembles his unit for further operations after the attack of an objective.	Same.
Range, effective (extreme) (minimum).—(See *Effective (Extreme) (Minimum)* range.)	
Rate of march.—The average speed over a period of time including short periodic halts.	Same or speed.
Ration.—The prescribed allowance of the different articles of food for the subsistence of one person or one animal for 1 day.	Same.
Ration cycle.—The period of time within which the three meals of a ration are consumed.	No equivalent.
Rear.—That part of a force which comes last or is stationed behind the rest. The direction away from the enemy.	Same.
Rear guard.—A security detachment which follows the main body and protects it on the march.	Same.
Rear party.—The detachment from the support of a rear guard which follows and protects it on the march.	Same or rear patrol. (See fig. 109.)
Reconnaissance.—The operation of searching for information in the field.	Same.
Reconnaissance patrol.—A patrol whose primary mission is to obtain information, to maintain contact with the enemy, or to observe terrain.	Same or mission sortie or area search sortie.
Reconnaissance strip.—A series of overlapping vertical photographs made from an airplane flying a selected course.	Line overlap (vertical and oblique). Mosaics (vertical only).
Refilling point.—Formerly, a supply point or establishment at which the trains of the supply services of divisions or larger units drew supplies. (See *Supply point.*)	Same.
Regimental reserve area.—An area in which the regimental reserve is usually disposed for defense along and behind the regimental reserve line.	Brigade reserve area. (See fig. 111.)
Regimental reserve line.—A line designated to coordinate the locations and actions of the regimental reserves in the battle position.	Brigade reserve position. (See fig. 111.)
Registration.—An adjustment on a selected point to determine data for use in preparation of fire. (See also *Check concentrations* and *Fire for adjustment.*)	Same or trial shoot.
Regulating officer.—The officer in charge of a regulating station.	Same.
Regulating point.—An easily recognizable point where an incoming motor transport column is separated into detachments for entrucking or detrucking purposes.	Same.
Regulating station.—A traffic control agency established on lines of communication and through which movements are directed and controlled by the commander of the theater of operations.	Sector control.
Reinforcements.—Troops used to augment the strength of another body of troops, especially for combat purposes.	Same.

United States	*British*
Repatriate.—An individual who is restored or returned to his own country or citizenship.	Same.
Replacement.—An individual available for assignment.	Reinforcement.
Replacement, filler (loss).—(See *Filler (Loss) replacement.*)	
Requirements.—The computed needs for a military force embracing all supplies necessary for its equipment, maintenance, and operation for a given period. They are classified as individual, organizational, initial, maintenance, and reserve.	Same.
Requirements, individual (initial) (maintenance) (organizational) (reserve).—(See *Individual (Initial) (Maintenance) (Organizational) (Reserve) requirements.*)	
Requisition.—*a.* A request for supplies, usually on a form furnished for the purpose. *b.* Also used to signify the purchase by demand of supplies in occupied territory.	Indent (*a*); same (*b*).
Reserve (tactical).—A fraction of a command held initially under the control of the commander to influence future action.	Same.
Reserve requirements.—Those supplies necessary to meet emergency situations incident to campaign. (See also *Credit.*)	Reserve supplies.
Reserves (supply).—Supplies accumulated in excess of immediate needs for the purpose of insuring continuity of an adequate supply; also designated as "reserve supplies." Battle reserves are supplies.	Same.
Battle reserves.—Supplies accumulated by the army, detached corps, or detached division in the vicinity of the battlefield in addition to individual and unit reserves.	
Individual reserves.—Those carried on the soldier, animal, or vehicle for his or its individual use in an emergency.	
Unit reserves.—Prescribed quantities of supplies carried as a reserve by a unit.	
Reserves, beach.—(See *Beach reserves.*)	
Retirement.—A retrograde movement of the main forces which, while contact with the enemy is not an essential condition, is generally made for the purpose of regaining initiative and freedom of action by a complete disengagement. A movement made to forestall a decisive engagement, to attract the enemy in a desired direction, or to gain time for the reorganization of the forces preparatory to renewed efforts against the enemy.	Withdrawal.
Retreat.—An involuntary retrograde movement forced on a command as a result of an unsuccessful operation or combat. The act of retreating. To retire from any position or place. To withdraw.	Withdrawal.
Retrograde movement.—A movement to the rear.	Same.

United States	*British*
Reverse slope.—A slope which descends away from the enemy and forms the masked or sheltered side of a covering ridge. The rear slope of a position on elevated terrain.	Same.
Right (left) bank of stream.—The bank which is on the right (left) of the observer when facing downstream.	Same.
Road block.—A barrier to block or limit the movement of hostile vehicles along a road.	Same.
Road crater.—A hole blown in the road at points which cannot be easily detoured.	Same.
Road space.—The distance from head to tail of a column when it is in a prescribed formation on a road.	Same.
Rolling barrage.—Artillery fire on successive lines, advancing according to a time schedule and closely followed by assaulting infantry elements.	Moving barrage.
Routes of communication.—The routes available for tactical maneuver or supply; the presence of rail facilities, navigable waters, and airplane landing facilities.	Same.
Routine message.—A message requiring no special precedence.	Same.
Roving gun (Field Artillery).—An artillery piece withdrawn from its regular position and posted in a temporary position for the execution of a specific mission, upon the conclusion of which it rejoins its battery.	Same.
Runner.—A foot messenger.	Same.
S–1, S–2, S–3, S–4.—(See *General Staff.*)	
Salient.—A portion of a battle line or fortification which extends sharply to the front of the general line.	Same.
Salvage.—The collection of abandoned, captured, or unserviceable property with a view to its utilization or repair. Property so collected. To recover or save.	Same.
Sanitation.—The use or application of sanitary measures.	Same.
Schedule fires.—(See *Prearranged fires.*)	
Scheme of maneuver.—The commander's plan for employing subordinate units to accomplish a mission.	Plan of attack. (See fig. 110.)
Scout.—A man specially trained in shooting, in using ground and cover, in observing, and in reporting the results of observation. A man who gathers information in the field. To reconnoiter a region or country to obtain information of the enemy or to accomplish any other military purpose. To act as a scout.	Same.
Scout car.—An armed and armored motor vehicle used primarily for reconnaissance.	Same (but without a cover).
Screen.—To prevent hostile ground reconnaissance or observation. The body of troops used to screen a command.	Same.
Screening smoke.—A chemical agent used to blind hostile observation.	Same.

United States	*British*
Seacoast artillery (Coast Artillery Corps).—All artillery weapons used primarily for fire upon hostile naval vessels. It includes both fixed and mobile armament.	Coast defence artillery.
Secondary armament (Coast Artillery Corps).—Seacoast artillery weapons of less than 12-inch caliber.	Heavy coast defence guns (approximately).
Secondary attack.—(See *Holding attack.*)	
Secret text (or secret language).—The text of a message which, on its face, conveys no intelligible meaning in any spoken language. (The secret text of a message constitutes a cryptogram.)	Message in cipher or code.
Sector.—One of the subdivisions of a coastal frontier. A defense area designated by boundaries within which a unit operates and for which it is responsible. (See *Defense area.*)	Same.
Sector of fire.—A section of terrain, designated by boundaries, assigned to a unit or weapon to cover by fire.	Arc of fire.
Secure.—(See *Seize.*)	
Security.—All measures taken by a command to protect itself from observation, annoyance, or surprise attack by the enemy; and to obtain for itself the necessary freedom of action. The protection resulting from such measures. The safeguarding of military documents and matériel.	Same (also a classification of protected papers, equivalent to U. S. "Restricted").
Security detachment.—Any unit disposed to protect another unit against surprise or interference by the enemy. (See also *March outpost.*)	Covering detachment.
Seize (or secure).—To gain physical possession of, with or without force.	Same.
Sensing.—The process of the observer in determining from observation of the burst of a projectile whether the point of strike is right or left, over or short of the target.	Judging.
Sentry squad.—A squad posted for security and information with a single or double sentinel in observation, the remaining men resting nearby and furnishing the relief for the sentinels. An outguard of one squad.	Sentry post.
Serial.—One or more march units, preferably with the same march characteristics, placed under one commander for march purposes.	Same.
Service train.—Formerly, the train of any unit serving the division as a whole rather than any particular unit. (See *Train.*)	Supply units.
Service units (or elements).—Those organizations provided for by Tables of Organization within larger units whose functions are to provide for the supply, transportation, communication, evacuation, maintenance, construction, and police of the larger unit as a whole.	Supply units — "The Services" (provided for by War Establishments).

United States	*British*
Shelter.—Any form of concealment from view, or protection against the elements or the fire of weapons. That which covers or defends. A screen. Protection. To afford or provide shelter. To screen or cover from notice.	Same or cover.
Shelter, heavy shellproof.—A shelter which protects against continuous bombardment by at least 8-inch shells.	No equivalent.
Shelter, light.—A shelter which protects against direct hits, and in some cases against a continued bombardment, by 3-inch shells.	No equivalent.
Shelter, light shellproof.—A shelter which protects against continuous bombardment by all shells up to and including the 6-inch.	No equivalent.
Shelter, splinter-proof.—A shelter which protects against rifle and machine-gun fire, against splinters of high-explosive shell, and grenades, but not against direct hits by 3-inch shells.	Same.
Shelter trenches.—Hasty trenches constructed to provide shelter from fire and to permit riflemen to fire in the prone position. (See *Foxhole.*)	Slit trenches.
Short ton.—The weight of 2,000 pounds avoirdupois.	Same.
Signal communication.—All methods and means employed to transmit messages from one friendly unit to another, except mail or direct personal agency.	Same.
Signal communication security.—(See *Signal security.*)	
Signal intelligence.—Intercepted information of the enemy obtained by radio or other electrical means, by detection of secret inks, or by the solution of codes, ciphers, and messages.	Same.
Signal operation instructions.—A type of combat orders issued for the technical control and coordination of signal agencies throughout the command.	Same (for formations below the division, but contained in the formation operation order).
Signal security.—The security of friendly signal communication message traffic against the availability and intelligibility of that traffic to enemy or other intelligence agencies.	Same.
Single-lens camera.—A camera in which only one lens assembly is mounted at one time.	Same.
Situation.—All the conditions and circumstances, taken as a whole, which affect a command at any given time, and on which its plans must be based. They include such items as the positions, strength, armament, etc., of the opposing forces and any supporting troops; considerations of time and space, the weather, terrain, etc.; and the mission to be accomplished. (A consideration of these conditions, and the possible lines of action, followed by a decision, constitutes the estimate of the situation.)	Same (a consideration of these conditions, and the possible courses of action, followed by an intention, constitutes the appreciation of the situation).

United States	*British*
Situation map.—A map showing the tactical or administrative situation at a particular time, usually for use as a graphic aid in carrying on the work of a staff section or as an annex to staff reports.	Situation or battle map.
Skirmishers.—Soldiers, dismounted, deployed in line and in extended order in drill or attack.	No equivalent.
Ski troops.—Troops, usually Infantry, equipped with and trained to maneuver on skis.	Same.
Sledges.—Same as sleds. Usually applied to cargo vehicles on runners drawn by animals or tractors.	Same.
Small-scale maps.—Maps of a scale varying from 1:1,000,000 to 1:7,000,000, intended for the general planning and strategical studies of the commanders of large units.	Same.
Smoke screen.—Curtain of smoke employed for masking either friendly or hostile activities or installations.	Same.
Sniper.—A soldier, usually an expert shot, detailed to fire at and pick off individuals of the enemy.	Same.
Snow glasses.—Special glasses designed to prevent or limit the effect of bright sunlight on snow.	Same.
Snowshoe harness.—A harness, part of a snowshoe, designed to fasten the snowshoe to the foot.	Same.
Special staff.—A staff group, subordinate to the general staff of a unit, whose duty it is to assist the commander in the exercise of his tactical, administrative, technical, and supply functions. It includes the heads of the administrative, technical, and supply services, and certain technical specialists. In divisions and higher units the general and special staffs are separate, but in lower units they partly merge into each other. A special staff officer may also exercise command in his own branch.	No equivalent.
Speed.—The rapidity of movement at any particular instant expressed in miles per hour.	Same.
Squadron (Air Corps).—The basic administrative and tactical unit of the Air Corps, consisting of two or more flights.	Same.
Staff authority.—The authority exercised by a staff officer. (A staff officer, as such, has no authority to command. All responsibility rests with the commander, in whose name all orders are given.)	No equivalent.
Staging area.—One of a series of areas on the route of march occupied by troops for a long halt.	Same.
Standing barrage.—A stationary artillery or machine-gun barrage laid for defensive purposes in front of an occupied line or position. Fire on a line, usually placed across a probable avenue of enemy approach, or an exposed sector of the front, in order to prevent passage of enemy troops.	Same.

United States	*British*
Standing operating procedure.—Routine procedure prescribed to be carried out in the absence of orders to the contrary.	Standing orders.
Stereo-pair.—Two vertical aerial (or air) photographs taken preferably with an overlap of not less than 60 percent nor more than 75 percent.	Same.
Stereoscope.—An instrument used to obtain stereoscopy while viewing photographs.	Same.
Stereoscopy.—The ability to obtain an effect of relief by simultaneously viewing with a stereoscope two photographs of an object made from different points of view.	Same.
Stereo-triplet.—Three vertical aerial (or air) photographs taken so that the entire area of the center picture is overlapped by the other two.	Same.
Straggler.—A soldier who has become separated, without authority, from his organization.	Same.
Straggler line.—A line, usually designated by means of well-defined terrain features such as roads, railroads, or streams, along or in rear of which the military police patrol in order to apprehend stragglers moving to the rear.	Stragglers' posts.
Strip mosaic.—A mosaic compiled by assembling one strip of vertical aerial (or air) photographs taken on a single flight.	Same.
Strong point.—Formerly, the defensive area of an infantry company. (See *Defense area.*)	No equivalent.
Subsector.—Usually, one of the subdivisions of a sector.	Same.
Supplementary firing position.—A firing position assigned to a unit or weapon to accomplish secondary fire missions, other than those to be accomplished from primary or alternate positions.	No equivalent.
Supplies.—A general term covering all things necessary for the equipment, maintenance, and operation of a military command, including food, clothing, equipment, arms, ammunition, fuel, forage, and materials and machinery of all kinds.	Same (also used technically to indicate supplies other than petrol, oil, and lubricants, ammunition, and warlike stores).
Supply point.—A general term used to include depots, railheads, dumps, and distributing points.	Supply installation.
Support (noun).—The second echelon (reserve) of a rifle company (troop) or platoon in attack or defense.	Reserve.
Supporting distance.—Generally, that distance between two units which can be traveled in the time available in order for one to come to the aid of the other. For small infantry units: that distance between two elements which can be effectively covered by their fire.	No equivalent.
Supporting fire.—Fire delivered by auxiliary weapons for the immediate assistance of a unit during an offensive or defensive action.	Same.

United States	*British*
Supporting unit.—A unit acting with, but not under the direct orders of, another unit to which it does not organically belong.	Unit in support.
Support of the advance guard.—That part of the advance guard which marches in front of the reserve and protects it by observation and combat.	(Rear section of the) van guard. (See fig. 109.)
Support of the outpost.—The principal echelon of resistance of an outpost.	No equivalent.
Support of the rear guard.—That part of the rear guard which marches behind the reserve and protects it by observation and combat.	No equivalent.
Support trench.—A fire trench constructed a short distance in rear of the front-line trenches to shelter the supports.	Second-line trench.
Switch position.—A defensive position oblique to, and connecting, successive defensive positions paralleling the front.	Same.
Tables of Basic Allowances (*T/BA*).—Tables revised and published to show for each typical administrative unit of the field forces its current authorization of amounts and kinds of basic equipment and supplies, including allotments of armament and ammunition.	G 1098.
Tables of Organization (*T/O*).—Tables published and revised as necessary to show the authorized details of the organization of each typical administrative unit of the field forces.	War Establishments.
Tactical groupings.—The balanced grouping of combat units and means within a command to accomplish a tactical mission. It may be accomplished by Tables or Organization, or by standard operating procedure within a command, or it may be improvised for a particular operation.	Same.
Tactical obstacles.—Obstacles whose chief purpose is to hold the attacking forces under the effective fire of the defense.	Same.
Tail of column.—Last element of a column in order of march.	Same.
Tank traps.—Concealed ditches placed in roads, level stretches of ground, or other similar practicable routes of approach, and so designed that vehicles will fall into them and not be able to escape.	Same.
Target.—The specific thing at which fire is to be directed.	Same.
Task force.—A temporary tactical unit, composed of elements of one or more arms and services, formed for the execution of a specific mission.	Special force.
Telegram, daily.—(See *Daily telegram.*)	
Telegraph printer (or teletype).—A machine with a typewriter keyboard or tape transmitter which automatically transmits messages to, or receives them from, an identical machine.	Teleprinter.

United States	*British*
Terrain compartment.—(See *Compartment of terrain.*)	
Theater of operations.—The area of the theater of war in which operations are or may be conducted. It is divided normally into a combat zone and a communications zone.	Same.
Theater of war.—The entire area of land, sea, and air which is or may become directly involved in the operations of war.	Same.
Time distance.—The distance to a point measured in time. It is found by dividing the ground distance to the point by the rate of march.	Time and distance.
Time interval.—The interval of time between march units, or serials, measured from the tail of the one in front to the head of the one in rear.	Time allowance.
Time length.—The time required for a column to pass a given point.	Time past a point.
Time of attack (or "H" hour).—The hour at which the attack is to be launched. The hour designated for the forward movement from the line of departure to begin.	Zero hour.
Topographic troops.—Troops whose primary function is the production or reproduction of maps or map substitutes.	Same.
Toxic.—Poisonous.	Same.
Train.—That portion of a unit's transportation, including personnel, operating under the immediate orders of the unit commander primarily for supply, evacuation, and maintenance. It is designated by the name of the unit, such as "1st Infantry Train."	Unit transport, "B" echelon.
Transfer point.—The point at which control over railway trains, motor convoys, or reinforcements passes from one commander to another.	No equivalent.
Troop leading.—The art of leading troops in maneuver and battle.	Same.
Troop movement by air.—A movement in which troops are moved by means of air transport.	Same.
Troop movement by marching.—A movement in which foot troops move as such and other units move by their organic transport.	Movement by march route.
Troop movement by motor.—A movement in which the foot troops and all other elements move simultaneously by motor vehicles.	Embussed movement.
Troop movement by shuttling.—A movement by motor in which all or a portion of the trucks make successive trips in moving both cargoes and troops.	Same.
Truckhead.—(See *Railhead.*)	
Turning movement.—An enveloping maneuver which passes around the enemy's main force, and strikes at some vital point deep in the hostile rear.	Same.

United States	*British*
Uncontrolled mosaic.—An assembly of two or more overlapping vertical photographs accomplished by the matching of photographic detail only, without the benefit of a framework of control points.	Same.
Unit.—A military force having a prescribed organization.	Unit or formation (a unit being an organization of a single arm or service operating both tactically and administratively under a single commander and a formation being a combination of units of different arms and services to the strength of a brigade or more).
Unit distribution.—The delivery of class I supplies to the regimental (or similar unit) kitchen areas by the quartermaster.	Same.
Unit load.—A term used to indicate method of loading vehicles, supplies required for a particular unit being loaded as required on one or more vehicles.	No equivalents.
Unit loading.—Method of loading which gives primary consideration to the availability of the troops for combat purposes on landing, rather than utilization of ship space.	
Combat unit loading.—Method of loading in which certain units are completely loaded on one ship with at least their essential combat equipment and supplies immediately available for debarkation with the troops, together with the animals and motors for the organization when this is practicable.	
Convoy unit loading.—Method of loading in which the troops with their equipment and supplies are loaded on transports of the same convoy, but not necessarily on the same transport.	
Organizational unit loading.—Method of loading in which organizations, with their equipment and supplies, are loaded on the same transport, but not so loaded as to allow debarkation of troops and their equipment simultaneously.	
Unit mile of gasoline.—The amount of gasoline in gallons required to move every vehicle of the unit 1 mile.	
Unit of fire.—The quantity in rounds or tons of ammunition, bombs, grenades, and pyrotechnics which a designated organization or weapon may be expected to expend on the average in 1 day of combat.	

United States	*British*
Unit replacement.—The system of repair by which an unserviceable unit assembly is replaced by a like, serviceable unit assembly.	Replacement of assemblies.
Urgent call.—A telephone call believed by the calling party to be more important than any call which might be in progress. (This classification of calls should be used cautiously.)	Priority call.
Urgent message.—A message requiring the greatest speed in handling.	Immediate or most immediate message.
Vertical aerial (or air) photograph.—An aerial photograph made with a camera whose optical axis is at or near the vertical.	Same.
Vertical interval.—(See *Contour interval.*)	
Vesicant.—A chemical agent which is readily absorbed or dissolved in both the exterior and interior parts of the human body, causing inflammation, burns, and destruction of tissue.	Same.
Visual signals.—Signals conveyed through the eye; they include signals transmitted by flags, lamps, panels, heliograph, pyrotechnics, etc.	Same.
"Walkie talkie."—Colloquial. A voice radio set which may be carried and operated for both receiving and sending by one man.	Same.
War Department intelligence.—The military intelligence produced under the direction of the War Department General Staff in peace and in war.	War Office intelligence.
Warning order.—An order issued as a preliminary to another order, especially for a movement, which is to follow; it may be a message or a field order, and may be written, dictated, or oral. The purpose is to give advance information so that commanders may make necessary arrangements to facilitate the execution of the subsequent field order.	Same.
Wave.—One of a series of lines of foragers, mechanized vehicles, skirmishers, or small columns into which an attack unit is deployed in depth.	Same.
Wide-angle photograph.—An aerial (or air) photograph taken with a camera which has a cone angle of approximately 90°.	Same.
Wire circuit.—An electrical circuit consisting of one or more conductors.	Line route.
Wire entanglement.—An obstacle of barbed wire, erected in place on pickets, or constructed in rear of the site and brought up and placed in position.	Same.
Wire line.—One or more wire circuits.	Cable route.
Withdrawal from action.—The operation of breaking off combat with a hostile force.	Same.
Writer.—The originator of a message.	Same.

United States	*British*
Zone defense (or defense in depth).—A form of defense which includes several successive battle positions more or less completely organized.	Defence in depth.
Zone of action.—A zone designated by boundaries in an advance or a retrograde movement within which the unit operates and for which it is responsible.	Front (i. e., company, battalion, etc.).
Zone of fire.—The area within which a unit is to be prepared to deliver fire.	Same.
Zone of the interior.—The area of the national territory not included in theaters of operations.	No equivalent.

172. British military terms with U. S. equivalents.—The following glossary is an incomplete but typical list of terms generally employed in British military publications, together with definitions or U. S. equivalents.

British	*United States*
Action from pack	Unpacking gun and putting it in position
Administration order	Administrative order
Advanced dressing station (ADS)	Collecting station
Advanced or forward HQ	Command post
Advanced signal centre	Advance message center
Aerodrome	Airdrome
Aeronautical maps	Aeronautical charts
Aeroplane	Airplane
Aiming off	Leading fire
Air reconnaissance area	Air area
Alignment	Alinement
Alternative position	Alternate firing position
Alternative site	Alternate emplacement
Ammunition point (AP)	Ammunition distributing point
Angle of arrival	Angle of impact
Angle of descent	Angle of fall
Anti-personnel bomb	Fragmentation bomb
Appendices and traces or annexures	Annexes
Appreciation of the situation	Estimate of the situation
Arc of fire	Sector of fire
Area search sortie	Reconnaissance patrol
Armlet	Arm band, brassard
Armoured command vehicle (ACV)	Command car
Armoured troops	Armored force

British	*United States*
Artillery "in support of" or attached artillery ("under command")	Accompanying artillery
Assembly position	Assembly area
Assessment of value of intelligence report	Evaluation of information
Attack, general	General assault
Attack, local	Local assault
"B" echelon transport	Train
Base area	Base section
Battle or situation map	Situation map
Belts of machine-gun fire	Bands of machine-gun fire
Bivouac area	Bivouac
Block programme	Average program
Bomb carrier	Bomb rack
Break-down lorry	Wrecker
Breaking and degrading (protected papers)	Cancelling and changing (classification) (classified documents)
Cable route	Wire line
Car post (CP)	Ambulance loading post
Casualty clearing station (CCS)	Clearing station
Charger-loaded	Clip-loaded
Chemical Warfare, Royal Engineers	Chemical Warfare Service
Clock-ray method	Clock face method for locating targets
Coast defence area	Defensive coastal area
Coast defence artillery	Seacoast artillery
Coast defence force	Coastal frontier defense
Coast route	Coastwise sea lane
Code sign	Call sign
Coiled gun	Wire-wound gun
Collecting post (for prisoners of war only)	Collecting point
Combined operations	Operations carried out by land, sea, and air forces
Communication trench	Approach trench
Concentration	Same or assembly
Concentration fire	Interdiction fire (complete)
Connecting file	Connecting group or file
Contact battle	Meeting engagement

British	*United States*
Contagious disease	Communicable disease
Cookhouse fatigue	Kitchen police
Courses of action or courses open	Lines of action
Covering detachment	Security detachment or march outpost
Covering fire	Protective fire
Creeping barrage. (*See* Moving barrage)	
Crest	Military crest
Cruising speed ("miles per hour")	Speed
Cylinder	Chemical cylinder
Daily ration strength state	Daily telegram
Daily supply train	Daily train
Daily wastage rate	Day of supply
Danger area	Danger space
Dead ground	Dead space
Debussing point	Detrucking point
Defence in depth	Zone defense or defense in depth
Defended locality	Defensive zone or defense area
Defensive fire	Counterpreparation, or emergency or general counterpreparation
Defensive obstacles	Protective obstacles
Defensive position	Battle position
Deliberate counter-attack	Counterattack launched after consolidation of positions
Delivery point. (*See* Ammunition point; Supply point; Petrol point)	Distributing point
Deployment	Development or deployment
Despatch	Dispatch or message
Despatch rider (DR)	Messenger
Dispersal point	Release point
Driving band (projectile)	Rotating band
Duty room	Orderly room
Embussed movement	Troop movement by motor
Embussing point	Entrucking point
Encounter or contact battle	Meeting engagement
Enveloping force	Encircling force
Exploitation	Same or continuing attack

British	*United States*
Fighter aircraft	Pursuit aviation
Fighter Command	Air Defense Command
Fighting group	Combat echelon
Fire bay	Firing post in trench
Fire control	Conduct of fire
Fire, destructive	Destruction fire
Fire on fixed line	Fixed fire
Fire on opportunity or gun fire (GF) targets	Fire on targets of opportunity
Fire on the move	Assault fire
First-line reinforcement	Filler replacement
Fixed line	Final protective line
Flying training	Flight training
Formal parade	Parade or review
Formation (organization)	Unit
Forming up	Assembly or formation
Fortress command	Coast artillery district
Forward area	Combat zone
Forward (foremost) defended localities (FDL's), (line of)	Main line of resistance
Forward observing officer	Forward observer
Forward standing patrol	Outguard
G 1098	Tables of Basic Allowances
General officer commanding	Commanding general
Ground strips	Identification panels
Group	Same or groupment (Coast Artillery Corps) or combat team
Group (of vehicles moving as a unit)	March unit
Grouping	Groupment (Field Artillery)
Gun park	(Gun) park
Gun position officer	Executive or battery executive
Gun rod	Ramrod
Harassing fire	Same or interdiction fire
Harbour	Same or bivouac for armored formations or units
Harbouring party	Quartering party
Hutment	Cantonment
Immediate counter-attack	Counterattack launched before consolidation of positions

British	*United States*
Immediate or most immediate message	Urgent message
Important message	Priority message
Indent	Requisition
"In support"	Direct support
Intention (orders)	Decision
Intermediate position	Delaying position
Junction point	Limiting point
King's Regulations	Army Regulations
Leading troops in attack	Attacking echelon
Leapfrogging	Passage of lines
Leaguer	Bivouac in open terrain, with all-around defense
Line ahead	Column
Line/angle of sight	Angle of site
Line of communications (L of C) area	Communications zone
Line of outposts	Outpost area
Line overlap	Reconnaissance strip using vertical and oblique photographs
Line route	Wire circuit
Line-telephony (L/T)	Telephone
Load-carrying lorry	Cargo truck
Locations for sector controls	Critical points
Main artery of supply	Main supply road
Marshalling yard or shunting yard	Switchyard
Marks or markings	Identifications
Massed fire	Concentration fire
Meeting point (for supply)	Control point
Message form	Message blank
Meteor report or telegram	Meteorological ("metro") message
Mine layer	Mine planter
Minimum crest clearance	Minimum range
Mission sortie	Reconnaissance patrol
Mosaics	Reconnaissance strip using vertical photographs only
Motor park	Holding and reconsignment point
Motor unit	Motorized unit
Movable obstacles	Portable obstacles
Movement by march route	Troop movement by marching

British	*United States*
Movement graph	March graph
Movement table	March table
Movement to new position	Displacement
Moving barrage	Rolling barrage
Multiple call	Conference call
Neutralising fire	Neutralization fire
Normal organisation	Type organization
Normal supply	Automatic supply
Officer commanding	Commanding officer
Operation instruction	Fragmentary order or letter(s) of instruction
Operation order (00)	Field order or combat order
Operation or sketch map	Operation map
Order pro forma	Check list
Outpost	Combat outpost
Parade	Assembly or formation
Personal clothing and equipment	Individual equipment
Petrol point	Distributing point (for gasoline)
Piquet	Picket
Plan of attack	Scheme of maneuver
Point section (of the van guard)	Point
Poisonous gas	Casualty agent (chemical)
Pontoon	Ponton
Position of readiness	Position in readiness
Predicted fire or shoot	Prearranged or schedule fire
Priority call	Urgent call
Protected papers	Classified documents
Protection	Security
Pursuit	Direct pursuit
Radio-telephony (R/T)	Radiotelephony or radio (voice)
Rear patrol	Rear party
(Rear section of the) van guard	Support of the advance guard
Reconnaissance aircraft	Observation aviation
Recovery vehicle	Wrecker
"Red Caps" (Corps of Military Police)	Military Police
Regimental aid post (RAP) (in the case of a battalion or similar unit)	Aid station

British	*United States*
Registration	Same or check concentrations
Reinforcement	Replacement or loss replacement
Repairs, base	Maintenance, fourth echelon
Repairs, first-line	Maintenance, first echelon
Repairs, second-line	Maintenance, second echelon
Repairs, third-line	Maintenance, third echelon
Replacement of assemblies	Unit replacement
Report centre	Advance message center
Report line	Phase line
Requirements	Organizational requirements
Reserve supplies	Credit or reserve requirements
Second-line trench	Support trench
Sector control	Regulating station
Sentry post	Sentry squad
Shoot, destructive	Interdiction fire
Shoot, trial	Fire for adjustment
Sick flag	Quarantine flag
Signal	Same or message
Signal box	Switch tower
Signal communication along the center line (armoured) or the main axis of advance (infantry)	Axis of signal communication
Signal office	Message center
Signal officer	Communication officer
Situation or battle map	Situation map
Sketch or operation map	Operation map
Slit trench	Shelter trench or foxhole
Special force	Task force
Speed ("miles in the hour")	Rate
Standing orders	Standing operating procedure
Standing patrol	Picket
Start(ing) line	Line of departure
Starting point (SP)	Initial point
Stragglers' posts	Straggler line
Submounting	Lower carriage
Superimposed fire	Emergency barrage
Supply installation	Supply point
Supply point	Distributing point
Supply units	Service train
Supporting arm	Auxiliary arm

British	*United States*
Sweeping or traversing fire	Traversing fire
Teleprinter	Teletype or telegraph printer
Time allowance	Time interval
Time and distance	Time distance
Time past a point	Time length
Tipping lorry	Dump truck
Ton	Long ton
Toxic smoke	Irritant smoke
Trace	Overlay
Track plan	Circulation plan
Training or holding depot	Replacement center
Traffic control post	(Traffic) control point or critical point
Traffic map	Circulation map
Trial shoot	Registration
Unit in support	Supporting unit
Unit "under command"	Attached unit
Unit transport, "B" echelon	Train
Van guard	Advance party
Verbal order	Oral order
Vital point	Key point
Wagon-line area	Truck or motor park
War diary	Journal
War Establishments	Tables of Organization
War Office intelligence	War Department intelligence
Water bottle	Canteen
Weapon pit	Foxhole
Wireless-telegraphy (W/T)	Radiotelegraphy or radio (key)
Withdrawal	Retirement or retreat
Zero hour	Time of attack or "H" hour
Zone of fire	Normal zone

173. RAF terms.

Expression	*Meaning*
Ack-Ack	Anti-aircraft
Airframe	Fuselage
Airscrew	Propeller
Balbo	A large formation of aircraft
Bale out, to	To take to one's parachute
Blitz, a solid lump of	Large formation of enemy aircraft

Expression	*Meaning*
Bomphleteers	Airmen engaged on the early pamphlet raids
Boost	Manifold pressure
Brolly	Parachute
Bumps and circuits	Circuits and landings
Bus driver	A bomber pilot
Cheeseye kite	A worn-out plane
Crabbing along	Flying near the ground or water
Deck, to crack down on	To "pancake" an aircraft
Dispersal pens	Protected field parking
Dog fight	Aerial scrap
Drink, in the	To come down into the sea
Drogue	Sea anchor
Dud	Applied to weather when unfit to fly
Duff gen	Inaccurate information
Dust bin	Rear gunner's lower position in the aircraft
Fan	The propeller
Flak	Anti-aircraft fire
Flat out	Maximum speed
Flip	Flight
Gardening	Mine laying
Gedawng	Explosion
Gen	Information, low-down
George	The automatic pilot
Get cracking, to	To get going
Gong, to collect a	To get a medal
Greenhouse	Cockpit cover
Hedge-hopping	Flying so low that the aircraft appears to hop over the hedges
Hurryback	A Hurricane fighter
Jinking	Sharp maneuver; sudden evasive action of aircraft
Kipper kite	Coastal Command aircraft which convoy fishing fleets in the North and Irish Seas
Kite	An airplane
Main plane	Wings
Mickey Mouse	Bomb-dropping mechanism
Office	Cockpit of aircraft
Organize, to	To "win" a wanted article
Pack up, to	To cease to function

Expression	*Meaning*
Peel off, to	To break formation
Perimeter track	Taxiway around field
Play pussy, to	To hide in the clouds
Pleep	A squeak, rather like a high-note klaxon
Plug away, to	To continue to fire; to keep after the target
Prang, to	To crash
Pukka gen	Accurate information
Pulpit	Cockpit of aircraft
Put up a black, to	To make a mistake
Queen Bee	WAAF Commander or a radio-directed airplane
Quick squirt or quickie	Short, sharp burst of machine-gun fire
Rang the bell	Got good results
Rhubarb	Strafing operation
Rigger	Member of crew who tends fuselage and wings, etc.
Rings	Rank designation on officer's cuffs
Ropey	Uncomplimentary adjective ("a ropey landing," "a ropey type," "a ropey evening," etc.)
Screamed downhill	Executed a power dive
Shagbat	Homely
Shooting a line	Exaggerated talk, generally about one's own prowess
Shot down in flames	Crossed in love; severe reprimand
Slipway	Ramp
Snake about	Operational aerobatics
Sortie	Performance of one task by one aircraft
Sprog	New pilot officer
Spun in	A bad mistake (analogy from an aircraft spinning out of control into the ground)
Stationmaster	Commanding officer of station
Stick (of bombs)	One series (U. S. air pilots use "stick" to refer to the wooden handle by which the airplane is controlled.)
Stooge	Deputy, that is, second pilot or any assistant
Stooging about	Delayed landing; flying slowly over an area; patrolling

Expression	*Meaning*
Strike, a	Channel patrol
Swinging	Ground looping
Synthetic	Not the real thing; also applied to ground training
Tear off a strip, to	To reprimand; to take down a peg
Tee up, to	To prepare a job; to get ready
Touch bottom, to	To crash
Toys	A great deal of training equipment
Tail End Charlie	Rear gunner in large bombing aircraft or rear aircraft of a formation
Train, driving the	Leading more than one squadron into battle
Undercart, carriage	Landing gear
U/S	Unserviceable; under maintenance or overhaul
View	RAF personnel always take a "view" of things: good view, poor view, dim view, long-distance view, lean view, outside view, "ropey" view, etc.
Wavy Navy	Naval reserve officers (because of the wavy stripes) (see par. 83*a* (5))
Wofficer	WAAF officer
Write off, to	To wash out

174. Some differences between British English and American English.—*a. Spelling.*—There are few differences between British spelling and American spelling. The only ones shown consistently are the British "ll" beside the American "l" before suffixes on words with the second (unaccented) syllable ending in "l"; the "re" (final) beside "er"; and the "our" (final) beside "or." In these and other differences the British variations often reflect merely a retention of an older spelling which American usage has discarded.

(1) Duplication of the consonant "l" in certain instances upon the addition of a suffix: counsellor, levelling, signaller, travelling.

(2) British "re" beside American "er": calibre, centre, fibre, litre, metre, theatre.

(3) British "our" beside American "or": armour, behaviour, colour, harbour, honour, labour.

(4) Retention of older spelling: aesthetic, anaemia, barque (boat), catalogue, cheque, draught, encyclopaedia, epaulette, gramme, mediaeval, plough, prologue, programme.

(5) Occasional "e" for "i," and "y" for "i": enclose, endorse, enquire; cyder, syphon, syren, (automobile) tyre.

(6) Occasional "s" for "z" (though not consistently): organise, organising, organisation, neutralise, neutralising, neutralisation.

(7) Miscellaneous: alarum, axe, briar, gaol (pronounced "jail"), good-bye, grey, storey (house), tsar, pyjama.

b. Pronunciation.—There is in general an audible difference between British and American intonation, but there are few actual differences in pronunciation. Chief of these are the British slurring of polysyllables and predilection for the broad "a."

(1) *Differences in accentuation.*—In general, the British pronunciation of polysyllables tends to place a heavy stress upon the accented syllable and consequently to level out unstressed vowels, which are thus reduced to obscure sounds or elided altogether. In American pronunciation the unstressed syllables are heard more clearly, and words of four syllables generally show a secondary as well as a principal accent.

American	*British*
áddress	addréss
ádvertísement	advért:zment
állegóry	állegry
arístocrát	áristocrat
eczéma	éczema
exquísite	éxquisite
éxtraórdinary	:xtrór:dnry
frontiér	fróntier
interésting	íntr:sting
kílométer	kilómetre
láboratóry	labór:try
medicine	med:sn
remúnerátive	remún:ritiv
sánitáry	sánitry
témporárily	témp:r:r:ly
vácátion	v:cátion

(2) *Differences in speech sounds.*—(*a*) British broad "a" (as in "father") beside American short "a": bath, class, dance, France, glance, grass, half, past, path, wrath, and many others.

(*b*) British long "i" beside American short "i": agile, civilisation, futile, organisation, reptile.

(*c*) Miscellaneous: been (British pronunciation "bean"), clerk (British pronunciation "clark"), depot (British pronunciation "dĕpot"), dynasty (British pronunciation "dĭnasty"), figure (British pronunciation

"figger"), schedule (British pronunciation "shĕdule"), "z" (the letter, British pronunciation "zed").

(3) *Proper names.*—Proper names the spelling of which long ago became fixed in charters and other documents have often undergone sound changes not shown in the spelling. These changes include shortening and slurring, and the loss, in pronunciation, of consonants retained in spelling: Cholmondeley (pronounced "Chumley"), Gloucester (pronounced "Gloster"), Greenwich (pronounced "Grennich"), Leicester (pronounced "Lester"), Norwich (pronounced "Norrich"), Warwick (pronounced "Warrick"), Worcester (pronounced "Wooster").

c. Vocabulary.—Of the several hundred thousand words in the English language, all except a very few have the same meanings in British usage and American usage. Occasionally, however, such differences as British "trunk" call for American "long distance" call, "chemist" for "druggist," and "stalls" for "orchestra seats" are troublesome. The following lists show some of the most frequently observed differences in usage. There is, of course, constant interchange of thought between Americans and Britishers, in speech, writing, and print, and some of the terms here listed as British are used in the same sense by many Americans and vice versa.

(1) *Business:*

American	*British*
Bill (currency)	Bank-note, note
Billfold, pocketbook	Notecase
Bond	Debenture
Check	Cheque
Clipping bureau	Press-cutting agency
Corporation [1] law	Company law
Editorial	Leader, leading article
Elevator	Lift
Executive position	Administrative post
Freight elevator	Hoist
Industrial or manufacturing plant	Works
Installment plan	Hire-purchase or hire system
Newspaper clipping	Newspaper cutting
Notebook, memorandum book	Pocketbook
Pay day	Wage day
Pay roll	Salary sheet, wage sheet
Pen point	Nib

[1] "Corporation" in Great Britain is the governing body of a municipality.

(1) *Business*—Continued.

American	*British*
Preferred stock	Preference stock
Silent partner	Sleeping partner
Stub (of check)	Counterfoil
White-collar worker	Black-coat worker

(2) *Clothing:*

American	*British*
Boots	High boots, Wellingtons
Cheesecloth	Butter muslin
Cloak	Mantle, robe
Derby (hat)	Bowler
Overcoat	Greatcoat
Overshoes	Overboots
Shoes	Boots
Shoestrings, shoelaces	Bootlaces
Suspenders	Braces
Undershirt	Vest, singlet
Vest	Waistcoat

(3) *Food:*

American	*British*
Bowl of milk	Basin (or bason) of milk
Beets	Beetroot
Biscuits	Hot breads, scones
Broiled	Grilled
Can of fruit	Tin of fruit
Candy [2]	Sweets
Canned goods	Tinned goods
Corn	Maize, Indian corn
Cornmeal	Indian meal
Cracker,[3] cookie	Biscuit
Dessert	Sweet
English walnuts	Walnuts, French nuts
French fried potatoes	Chips
Gelatine	Jelly
Grain (cereals)	Corn
Ice water	Iced-water
Lima or butter beans	Broad beans
Molasses	(Black) treacle
Napkin	Serviette
Oatmeal	Porridge

[2] Only crystallized sugar is called "candy" in Great Britain.
[3] In Great Britain a "cracker" is a firecracker.

(3) *Food*—Continued.

American	*British*
Peanuts	Monkey-nuts
Pie	Tart, Canadian pie
Pitcher	Jug
Potato chips	Crisps
Potpie, meat pie	Pie
Rare	Underdone
Roast of meat	Joint
Scrambled eggs	Buttered eggs
Soft drinks	Minerals
Squash	Vegetable marrow
String beans	French beans
Syrup	Treacle

(4) *House:*

American	*British*
Apartment [4]	Flat
Apartment house ("Apartments for Rent")	Block of flats ("Flats to Let")
Blind	Window shade
Coal	Coals
Faucet, spigot	Tap
Second floor	First floor
Suite (of furniture)	Group, suite
Water heater	Geyser

(5) *Law and public affairs:*

American	*British*
Admitted to the bar	Called to the bar
Chief of police	Chief constable
(American) citizen	(British) subject
City hall	Town hall
Inheritance tax	Death duty
District attorney	Public prosecutor
(Congressional) district	(Parliamentary) constituency or division
Internal Revenue	Inland Revenue, Excise
Navy Department	The Admiralty
Government clerk, officeholder	Civil servant
Parole	Ticket-of-leave

[4] An "apartment" in Great Britain is always a single room.

(5) *Law and public affairs*—Continued.

American	*British*
Policeman, patrolman	Constable, bobby
Special election	By-election
State Department	Foreign Office
Taxes (municipal)	Rates
Taxpayer	Ratepayer
To run for (Congress)	To stand for (Parliament)
To turn State's evidence	To turn King's evidence

(6) *Motoring:*

American	*British*
Battery	Accumulator
Bumper	Fender, buffer
Car, automobile	Motorcar, car
Coal oil, kerosene	Paraffin
Crank	Starting handle
Emergency brake	Hand brake
Fender	Wing, mud-wing, mud-guard
Gas, gasoline	Petrol, motor spirit
Gear shift	Change-speed lever
Hood	Bonnet
Low gear	Bottom gear, first speed
Monkey wrench	(Screw) spanner
Muffler	Silencer
Roadster	Two-seater
Rumble seat	Dickey
Running board	Footboard
Sedan	Saloon car
Spark plug	Sparking-plug
Tire	Tyre, outer cover
Transmission	Gear-box
Truck	Lorry
Windshield	Wind screen

(7) *Occupations:*

American	*British*
Construction crew	Gang of navvies
Druggist	Chemist, apothecary
Drugstore clerk	Chemist's assistant
Fish dealer	Fishmonger
Fruit-cart man	Costermonger, coster
Fruit seller or dealer	Fruiterer

(7) *Occupations*—Continued.

American	*British*
Garbage man	Dustman
Hardware dealer	Ironmonger
Janitor	Caretaker, porter
Mechanic	Fitter
Public appraiser	Licensed valuer
Saloon or tavern keeper	Publican, innkeeper
Tinner, or mender of pots and pans	Tinker
Traveling salesman	Commercial traveller, bagman
Vegetable man	Green grocer

(8) *Recreations:*

American	*British*
Deck of cards	Pack of cards
Duck hunting [5]	Duck-shooting
Face cards	Court cards
Football game	Football match
Game of checkers	Game of draughts
Jack	Knave
Movie	Cinema, flick
Movies	Pictures, flicks, films
Movie theater	Picture palace, cinema
Orchestra seats	Stalls
Phonograph	Gramophone
Radio	Wireless
Radio tube	Valve
Vaudeville act	Variety turn
Vaudeville theater	Music hall

(9) *Post office and telephone:*

American	*British*
Dead letter	Blind letter
Cash on delivery	Carriage forward
"Go ahead, here's your party."	"You are through."
Information	Enquiry
"Line's busy!"	"Number's engaged!"
Long-distance call	Trunk call
Mail	Post, letters

[5] "Hunting" in Great Britain is applied only to fox-hunting.

(9) *Post office and telephone*—Continued.

American	*British*
Mail a letter	Post a letter
Mail box	Post box, pillar box
Party line	Group service
Postpaid	Post-free
Prepaid	Carriage-paid
Special delivery	Express delivery

(10) *School and college:*

American	*British*
Alumni	Old boys (of a school) Members (of a college) Graduates (of a university)
College student	Undergraduate
Public school	Council school Government school National school
Preparatory or private school	Public school

(11) *Shopping:*

American	*British*
Absorbent cotton	Cotton wool
Chain store	Multiple shop
Charge account	Running account
Charge customers	Credit customers
Cigar store	Tobacconist's (shop)
Drugstore	Chemist's (shop)
Dry goods store	Draper's (shop)
Notions	Small wares
Pack or package of cigarettes	Packet of cigarettes
Roll of film	Spool of film
Salespeople, clerks	Shop-assistants
Spool of thread	Reel of cotton
Store	Shop
Store fixtures	Shop fittings
Storekeeper	Shopkeeper

(12) *Street:*

American	*British*
Billboard	Hoarding
Curb	Kerb

(12) *Street*—Continued.

American	*British*
Intersection, street corner	Crossing
Paved	Metalled
Sidewalk	Pavement, footpath
Street railway, street car, electric car, trolley car	Tramway, tramcar, tram
Subway	The Underground, the Tube
Taxi stand	Cab rank
Underpass	Subway

(13) *Time:*

American	*British*
Daylight saving time	Summer time

(In writing dates the British practice is usually to place the day first, then the month, as 21 June, 1942. When numerals alone are used to denote months, confusion may result: 4/7/42 in the United States usually means April 7, 1942; in Great Britain it would usually mean July 4, 1942.)

(14) *Travel:*

American	*British*
Baggage	Luggage
Baggage by express	Advance luggage
Baggage car	Van, luggage van
Baggage room, checkroom	Cloak room, left-luggage office
Bell hop	Page boy
Checked baggage	Registered baggage
Conductor	Guard
Cowcatcher, pilot	Pilot
Cross ties	Sleepers
Diner	Restaurant-car
Engineer	Engine-driver
Freight car (flat car or gondola car)	Goods truck
Freight car (boxcar)	Goods van, box wagon
Freight train	Goods train
Legal holiday	Bank holiday
Local or accommodation (train)	Slow train
Passenger car or coach	Carriage, passenger coach

(14) *Travel*—Continued.

American	*British*
Red caps [6]	Porters
Round-trip ticket	Return ticket
Terminal	Terminus
Ticket agent	Booking-clerk
Ticket office	Booking office
To make a reservation	To book
Track 1	Platform 1
Vacation [7]	Holiday
Vestibule, platform	Entrance lobby

[6] In Great Britain "Red Caps" are Military Police.
[7] In Great Britain "vacation" is a term confined almost entirely to the universities and the law courts.

Supplement No. 1

ROYAL AIR FORCE

SECTION I

GENERAL

175. Historical.—*a.* During the First World War, Great Britain created a separate air force. The Royal Flying Corps and the Royal Naval Air Service were merged on April 1, 1918, into one service known as the Royal Air Force, which by November 1918—the end of the First World War—was probably the strongest air force of any nation. In 1919 its strength was reduced considerably, and it remained in a more or less dormant stage until 1935, when the first expansion took place. This expansion proceeded at a moderate rate until 1938. Then it was advanced at a faster pace, although hindered by continual revisions. Immediately after the war scare of that year, one single plan was followed, and extensive strides were made toward the development of the RAF into the force which it is at present. (For RAF ranks, uniforms, and insignia, see pars. 79, 81, and 85; for RAF conventional signs and symbols, see par. 153.)

b. Up to the outbreak of the Second World War, the majority of pilots entering the RAF were commissioned for a limited period of either 4 or 6 years of active service, followed by either 6 or 4 years, respectively, in the Reserve of Air Force Officers, during which they carried out 2 weeks' training each year. This system of short-service commissions was introduced shortly after the First World War and was intended to create a reserve of pilots from a small permanent force.

The dominions have their own air forces (par. 85*e*) organized on lines closely resembling the RAF, and there are in addition many personnel from the dominions and colonies serving in the RAF. Thus not only is the RAF in some measure an empire service, but since the fall of the western European countries, it has grown into an international one also, for its uniform is now being worn by nationals of other countries, including Poles, Norwegians, Belgians, Dutch, French, and Czechoslovakians.

176. Air Ministry.—The Air Ministry is composed of the following departments, each headed by a member of the Air Council:

a. Department of the Secretary of State for Air.—Makes decisions on important questions of policy and on all matters requiring reference to the Cabinet or Committee of Imperial Defence, or which are likely to raise discussion in Parliament.

b. Department of (Parliamentary) Under-Secretary of State for Air.—Carries out special assignments from the Secretary of State for Air.

c. Department of Permanent Under-Secretary of State for Air.—Coordinates the business of the Air Ministry, directs civilian aviation, deals with public relations, and is responsible for all expenditures of the RAF and civilian aviation.

d. Department of the Chief of the Air Staff.—Advises the Secretary of State for Air on the operations of the RAF. This department includes operational, planning, and intelligence staffs.

e. Department of the Air Member for Personnel.—Administers personnel and discipline.

f. Department of the Air Member for Supply and Organization.—Oversees such business as relates to organization, works services, supply (with the exception of airplanes and parts and rations, which come under the supervision of the Ministry of Aircraft Production, par. 177), and transportation.

g. Department of the Air Member for Training.—Administers flying and technical training for the RAF.

177. Ministry of Aircraft Production.—Prior to 1940 the Directorate of Aeronautical Production was a division of the Department for Development and Production, Air Ministry. As a temporary wartime measure, the Ministry of Aircraft Production was created directly under the Prime Minister and independent of the Air Ministry and Air Council. It is charged with the production of aircraft and accessories in accordance with specifications approved by the Air Council for operational requirements. The relationship between the Ministry of Aircraft Production and the Air Council is necessarily close in order to avoid loss of production and to produce airplanes of maximum operational efficiency.

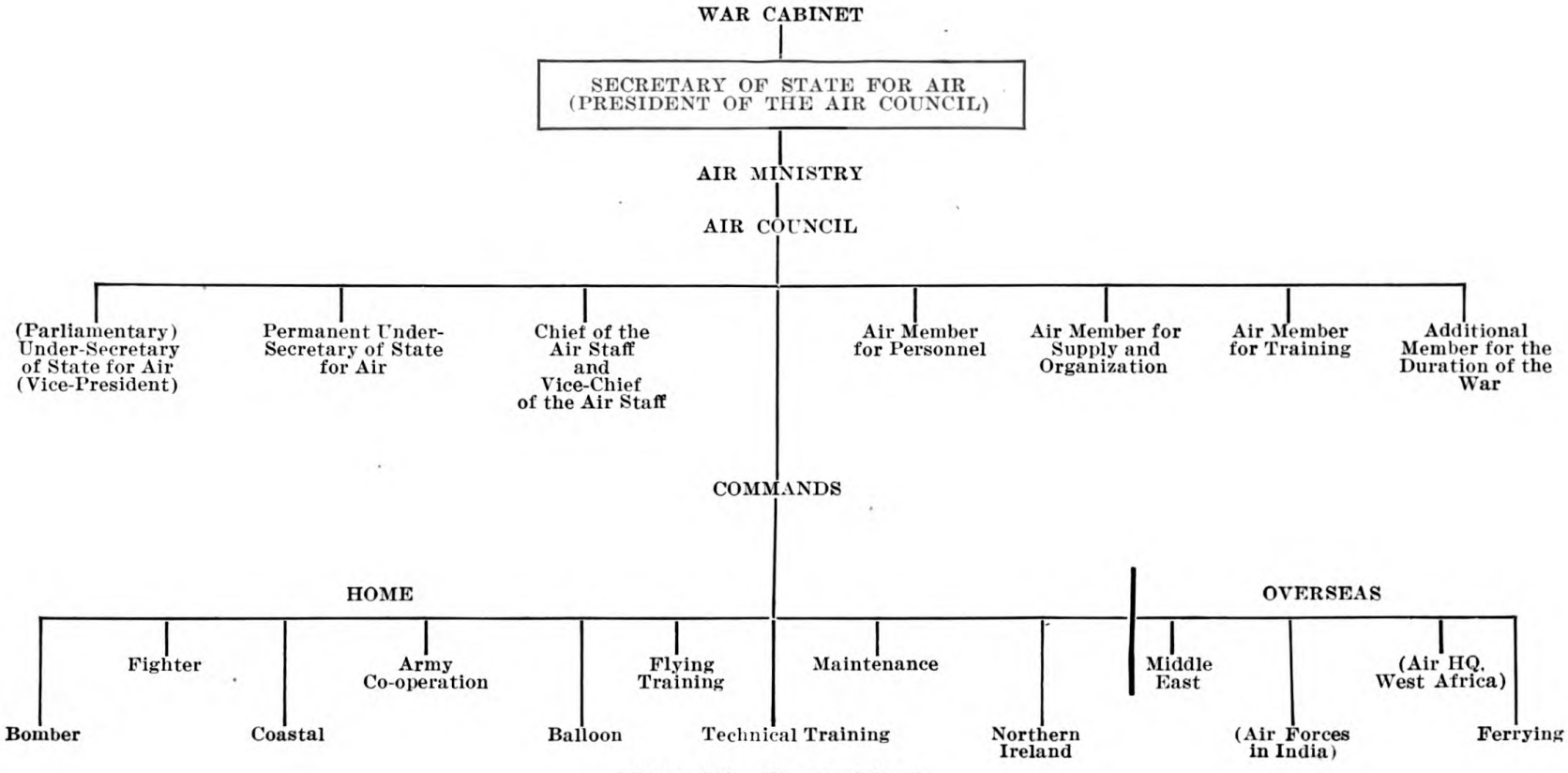

FIGURE 126.—The Air Council.

178. Air Council.—The Air Council (see fig. 126) is charged by Parliament with the administration of all matters relating to the RAF, and with the aerial defence of the United Kingdom. The King appoints the president, who in turn appoints the other members of the council, which consists of the following:

a. Secretary of State for Air (president of the Air Council).

b. (Parliamentary) Under-Secretary of State for Air (vice-president of the Air Council).

c. Permanent Under-Secretary of State for Air.

d. Chief of the Air Staff.

e. Vice-Chief of the Air Staff.

f. Air Member for Personnel.

g. Air Member for Supply and Organization.

h. Air Member for Training.

i. Additional Member for the Duration of the War.

SECTION II

ORGANIZATION

179. General.—The RAF is controlled by the Air Council and is organized into commands.

a. At home.—Each command is under an Air Chief Marshal and is organized into groups, wings, and squadrons.

(1) *Bomber Command.*—Composed of all bomber squadrons, except those in the Coastal Command, United Kingdom. These squadrons are organized into a number of sections and are charged with carrying out offensive bombing directives established by the Chief of the Air Staff.

(2) *Fighter Command.*—Responsible for the air defence of the United Kingdom. It consists of a headquarters and fighter groups, and, in addition, takes operational control over the Anti-Aircraft Command (see page 10, note 1, and figs. 2 and 17), which, in turn, controls the aircraft warning system and the searchlight and sound locator units. The fighter groups are distributed throughout the United Kingdom in the following four sectors:

(*a*) Southeastern England.
(*b*) Northern England, Scotland.
(*c*) Western England.
(*d*) Southwestern England.

(3) *Coastal Command.*—Specifically charged with general reconnaissance over the sea by shore-based aircraft. It also includes the comparatively small striking force of shore-based bomber and torpedo-bomber aircraft, and an appropriate proportion of long-range fighter aircraft to provide cover against attacks on shipping in the focal areas outside the range of short-range Fighter Command aircraft. The sea area surrounding the United Kingdom is divided into three operational sectors: the west and northwest; the north and east; and the south and southeast. At present, orders as to missions and operational disposition of personnel and as to plans are issued only by the Admiralty. Personnel are supplied by the RAF, and equipment is furnished by the Ministry of Aircraft Production. (RAF units at Gibraltar come under the operational control of the Coastal Command.)

(4) *Army Co-operation Command.*—Consists of wings which are allotted to Army units in the United Kingdom, and one group for training and miscellaneous units. At present the functions of the command are the organization, experimentation, and training in all forms of cooperation between air and ground services. Operational employment rests with the commanders of the Army units to which the wings are assigned. The command is under an Air Officer Commanding-in-Chief, with a senior army officer as head of his Air Staff. The Air Staff and its subordinate organizations consist of Army and RAF officers in approximately equal proportions. (See par. 185.)

(5) *Balloon Command.*—Is divided into groups and is charged with the organization, administration, training, and supply of the balloon defence system of Great Britain. Operational control is vested in the Air Officer Commanding-in-Chief of the Air Defence of Great Britain (see par. 180).

(6) *Flying Training Command.*—Is divided into groups and is charged with the flying training (flight training) of individuals. Operational training is accomplished in the Bomber, Fighter, and Coastal Commands, each command having necessary operational training units.

(7) *Technical Training Command.*—Is divided into groups and is charged with the technical training of RAF personnel.

(8) *Maintenance Command.*—(*a*) Is divided into groups and is responsible to all units for the supply and equipment of airplanes (through the Ministry of Aircraft Production) and of ammunition, gasoline, oil, etc., with the exception of rations. It is further charged with the repair and salvage of equipment, with the storing, packing, and crating of airplanes, engines, etc., used by operational units, and with the ferrying of airplanes.

(*b*) The Air Transport Auxiliary, which ferries airplanes from factories to main airplane storage units and to training schools, is under

the operational control of the Maintenance Command. This Auxiliary is comprised of commercial pilots—men and women—enrolled, paid, and clothed by the British Overseas Airways Corporation.

(9) *Northern Ireland.*—Consists of all units in Northern Ireland with the exception of those specifically assigned to the Coastal or Fighter Commands.

b. Abroad.—(1) *Middle East Command.*—The Commander-in-Chief, Mediterranean Force, Royal Navy; the (Army) Commander-in-Chief, Middle East; and the Air Officer Commanding-in-Chief, RAF, Middle East, are jointly responsible for the coordination and conduct of operations throughout the Middle East. Each is directly responsible for its own service to the appropriate Ministry in the United Kingdom. The Middle East Command includes RAF forces in Malta, Cyprus, Palestine, Trans-Jordan, Iran, Iraq, Egypt, Aden, the Sudan, and East Africa, and consists of the following headquarters: Air HQ, Iraq; Air HQ, Malta; HQ, British Forces in Aden; Air HQ, Egypt; Air HQ, Levant; and Air HQ, Western Desert.

(2) *Air Forces in India.*—The Air Officer Commanding-in-Chief, Air Forces in India, is directly responsible to the Air Ministry for the command and administration of all air forces in this area.

(3) *Air HQ, West Africa.*—The Air Officer Commanding, RAF, West Africa, is directly responsible to the Air Ministry for the command and administration of all RAF units in this area.

(4) *Ferrying Command.*—The Air Officer Commanding-in-Chief, RAF, Ferrying Command, is responsible for the ferrying of aircraft and equipment from North America to the theaters of war.

180. Air Defence of Great Britain.—The Military Air Defence Forces of Great Britain are collectively known as the Air Defence of Great Britain (ADGB). They consist of certain units of the RAF and the Army, with the Royal Navy and certain civilian organizations contributing limited services, such as air raid warning nets. To this the RAF contributes the Fighter Command, the Balloon Command, and the Royal Observer Corps. Operational control is vested in the Air Officer Commanding-in-Chief, Air Defence of Great Britain, who functions in a dual capacity in that he is also the Air Officer Commanding-in-Chief of the Fighter Command.

181. Squadrons.—British squadrons have the following organization:

a. Fighters.—The fighter squadron has 16 airplanes assigned to it, plus 2 as immediate reserve.[1]

[1] The complement of officers and airmen varies considerably according to the actual type of aircraft, and not merely the class of aircraft, and also according to maintenance and other facilities available at the particular station.

b. Medium bombers.—The medium bomber squadron has 16 airplanes assigned to it.

c. Heavy bombers.—Each heavy bomber squadron has 16 airplanes assigned to it.

d. Coastal Command squadrons.—(1) The composition of landplane squadrons in the Coastal Command varies according to function. The average is 16 planes.

(2) A flying boat squadron has six or nine airplanes assigned to it, depending on the type of aircraft.

e. Army Co-operation squadrons.—Army Co-operation squadrons are not of consistent strength. The number of aircraft assigned varies from 12 to 18.

SECTION III

SERVICES

182. Meteorological services.—The meteorological office is a branch of the Air Ministry under the administration of the Permanent Under-Secretary of State for Air and at the present time consists of a central weather-forecasting unit and 21 group forecasting stations. The groups are divided into 250 weather stations which report hourly.

183. Medical and dental services.—Each command has a principal medical officer in direct charge of all medical matters pertaining to that command. Each group has its senior medical officer, and each squadron has assigned to it a medical officer who stays with his squadron wherever it is stationed. One of the notable features of the RAF medical service is that many of the squadron medical officers are qualified pilots and are permitted to fly operational equipment. The Director of Hygiene is concerned with research on problems of the selection and health maintenance of flying personnel, as well as the coordination of the research done by the RAF and various civil laboratories and agencies. The nursing services for the RAF are conducted by Princess Mary's (Royal Air Force) Nursing Service (PMNS).

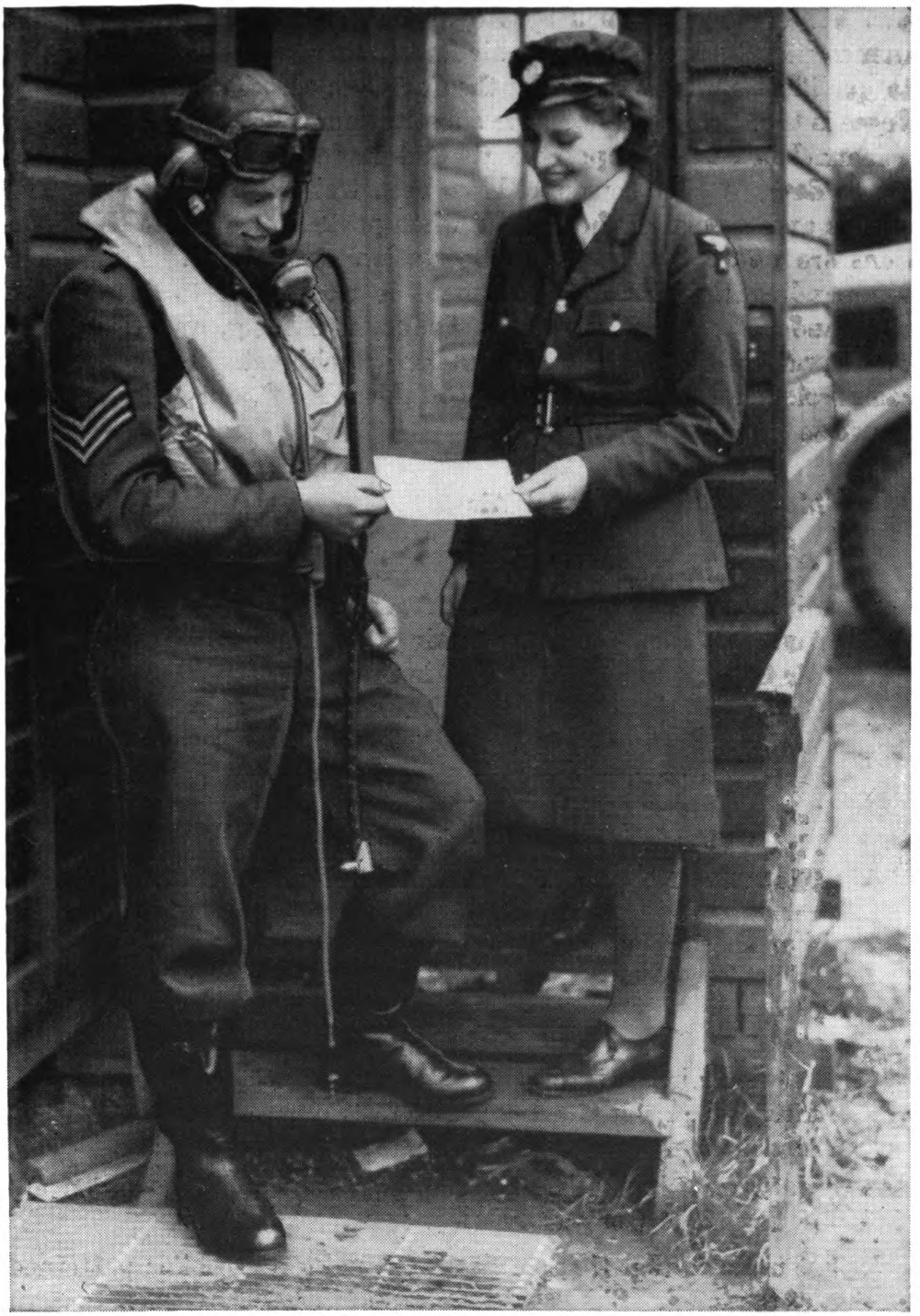

FIGURE 127.—Member of the Women's Auxiliary Air Force (WAAF), with sergeant pilot or sergeant gunner of the RAF.

184. Women's Auxiliary Air Force (WAAF)—*a.* The WAAF was formed in June 1939 by Royal Warrant, which provided that women may be enrolled in the air force under conditions and subject to qualifications laid down by the Air Council. The object of this Force is to effect, if possible, the substitution of its members for RAF personnel in certain appointments and trades throughout the RAF. Up to date, WAAF personnel have been trained in 55 trades. The officers and women of the WAAF when posted for duty at RAF stations are under the orders of the station commander. The officer commanding the WAAF detachment is responsible to the station commander for the efficiency, discipline, well-being, and training—where practicable—of the women in her detachment. The equivalent commissioned and enlisted ranks of the WAAF and the RAF are shown in the following list:

RAF	*WAAF*
Marshal of the Royal Air Force	------
Air Chief Marshal	------
Air Marshal	------
Air Vice-Marshal	Air Chief Commandant
Air Commodore	Air Commandant
Group Captain	Group Officer
Wing Commander	Wing Officer
Squadron Leader	Squadron Officer
Flight Lieutenant	Flight Officer
Flying Officer	Section Officer
Pilot Officer	Assistant Section Officer
Warrant Officer	Warrant Officer
Flight Sergeant	Flight Sergeant
Sergeant	Sergeant
Corporal	Corporal
Leading Aircraftman	Leading Aircraftwoman
Aircraftman, 1st Class	Aircraftwoman, 1st Class
Aircraftman, 2nd Class	Aircraftwoman, 2nd Class

The term "aircrafthand" is applied to a WAAF enlisted woman unskilled in any trade (see par. 81*b*(1)).

b. The uniform (fig. 127; see also fig. 40) of the WAAF is patterned on that of the RAF. Skirts are standard uniform, but slacks are worn on duty in certain trades.

185. Glider Wing.—The Glider Wing, a unit of the Army Co-operation Command (par. 179*a*(4)) completes the training of glider pilots for assignment to the glider regiment of the air-borne division (see par. 27), which is under Army operational control.

186. Engineers.—Special work units in the RAF Volunteer Reserve (RAFVR) do the emergency repair of airdromes in England, in order to relieve army engineer units of that work. These units are designed to cooperate closely with the existing civil repair organization. The work units are organized by flights of approximately 60 men, including a number of tradesmen of various building trades and a number of unskilled laborers. The flight is divided into four sections, each under a noncommissioned officer. One section contains the building tradesmen; one, the landing-ground repair staff. The other two are composed of unskilled laborers who provide assistance as required. Flights are located at RAF stations and are normally not transferred from their stations. For purposes of discipline, pay, messing, and accommodations, engineer flights are under the control of the station headquarters. Technical control of the flights is exercised by the squadron commander in order to assist the superintending engineer of the works area in maintaining the stations in that area, with special reference to the repair of enemy damage to landing fields.

SECTION IV

SIGNAL COMMUNICATIONS

187. Ground installations.—*a.* Telephone circuits are employed within each RAF unit. In Great Britain for point-to-point communication between RAF units, and from RAF to Army and Navy shore establishments and active civil defence agencies, a common teletype and telephone network is employed, using carrier equipment of 6-, 12-, or 18-channel voice-frequency. Separate circuits are used for operational traffic, and duplicate and even triplicate circuits are installed between important points to provide spare circuits for increased loading or in case of failure owing to enemy action. Arrangements have been made so that if the common teletype and telephone network should be destroyed, direct lines may be connected through the local public telephone switchboards. In addition to the wire circuits, fixed radio installations are kept open at important points for employment in case of a complete breakdown of wire circuits.

b. The RAF operates and maintains radio communication between the Air Ministry and all oversea RAF commands and air forces in the dominions.

188. Air-ground.—*a.* Fighter aircraft in Great Britain use from 100 to 124 megacycles in the very-high-frequency (VHF) band for communication to ground stations and between planes. Bombers, general reconnaissance, and Army Co-operation aircraft use 200 to 500 kilocycles in the medium-frequency (MF) band and from 3 to 10 megacycles in the high-frequency (HF) band. The MF frequency is used mainly for communication to direction-finding (DF) stations.

b. Radio aids to navigation are provided in the following form:

(1) Ground direction-finding stations for fixing or homing.

(2) Beacons to enable aircraft to fix themselves when enemy conditions permit use.

(3) Zed Zed, or "talk down," system combined with a homing direction-finding station, as in (1) above.

(4) Lorenz-beam approach and instrument landing system.

189. Identification and recognition.—*a.* Aircraft are identified by ground direction-finding stations fixing the position of the calling aircraft, which uses verification signals. Other radio methods are also used.

b. Recognition signals are made by lamp flashing or by two-star pyrotechnic signals.

190. Plane equipment.—*a.* Fighters carry a four-channel radio set and use voice. Frequency changing is by push-button selection.

b. Bombers, general reconnaissance, and transport planes carry a command set, using voice, a liaison set with no external coils, a radio compass, and beam-approach and landing equipment. An interphone set is carried and linked to the command set to enable a fire controller to direct the fire of a squadron or of a single aircraft.

SECTION V

CAMOUFLAGE AND MARKINGS

191. General.—The camouflage and markings applied to the principal types of British aircraft (according to the latest available reports) are tabulated in figure 128. (For some of the types of British aircraft, see FM 30–31, and "British Aircraft," Aircraft Intelligence Report (August 1942), U. S. Army Air Forces, Washington, D. C.)

Type	Coloring		Markings				
	Geometrical pattern	Color pattern	Marking on upper surface of wings	Marking on fuselage	Marking on under surface of wings	Marking on fins	Additional markings
Night fighters and night interceptors	Uniform coloring over all external surfaces.	Special night	Red and blue roundels.	Red, white, blue and yellow roundels, and registration number.	No marking	Red, white, and blue vertical stripes, red leading.	Code letters, approximately 48 inches high, are applied near the fuselage roundels; usually gray in color.
Army Co-operation close-support bombers, Blenheim bombers, troop carriers, bomber transport.	No. 1	Upper surfaces: TLS; under surfaces: sky.	do	do	do	do	Do.
Day bombers	do	do	do	do	do	do	Do.
Night bombers	No. 2	Upper surfaces: TLS; under surfaces: special night.	do	do	do	do	Do.
General reconnaissance planes, torpedo bombers, flying boats, floatplanes, amphibians, and Fleet Air Arm (Navy) types.	No. 1	Upper surfaces: TSS; under surfaces: sky.	do	do	do	do	Do.
Ab Initio (basic) and advanced trainers	No. 3	Upper surfaces: TLS; under surfaces: yellow.	do	do	Red, white, and blue roundels, and registration number.	do	Nil.
Day fighters	No. 1	Upper surfaces: dark green and sea gray; under surfaces: seagray, medium.	do	do	Red, white, and blue roundels.	do	Code letters.
High-altitude aircraft	No. 2	Upper surfaces: TLS; under surfaces: deep sky.	do	do	No marking	do	Do.

FIGURE 128.—Camouflage and markings of British aircraft.

192. Geometric patterns.—The geometric patterns referred to in figure 128 are as follows:

a. No. 1.—The sides of the fins and rudders are regarded as upper surfaces visible from the side and are treated as upper or under surfaces according to whether they fall above or below the line which generally runs along the fuselage, forming an angle of 60° with the ground.

b. No. 2.—The fins and rudders and the lower three-quarters of the fuselage are regarded as under surfaces.

c. No. 3.—No. 3 follows the lines of pattern No. 1 and is applied to aircraft having yellow under surfaces.

193. Colors.—The color abbreviations referred to in figure 128 are as follows:

a. TLS.—Temperate land scheme, which uses two colors, dark earth and dark green.

b. TSS.—Temperate sea scheme, which uses two colors, dark slate gray and extra-dark sea gray.

Supplement No. 2

CIVILIAN DEFENCE ORGANIZATIONS

194. Air-Raid Precaution System (ARP)—*a. General.*—The ARP functions under the civilian government—city, county, or borough, which are closely interlocked with each other in order to give reinforcement or support where such may be needed. The civilians employed in this effort are of unquestioned patriotism, and a large portion of them are unpaid and serve entirely on a voluntary basis.

b. Scope of activity.—The ARP has jurisdiction over war damage to civilian personnel and property, whether this damage is caused by air bombardment, raid operations, or gassing attack. It includes public utilities, hospitals, ambulances, fire departments, police rescue facilities, reconstruction or repair of damage, evacuation of personnel from damaged areas, and the housing and feeding of evacuees. Air-raid shelters are provided by municipalities or other local government subdivisions, but ARP supervises in general as to adequacy, character of construction, location, and other necessary features.

c. Air-raid warning system.—The detection of enemy aircraft is organized and controlled by the RAF, which uses both RAF personnel and part-time civilian spotters. When enemy aircraft are detected, a first, or "yellow," warning is given secretly to the official organizations concerned with air raids. When the enemy aircraft are very near an area, a "red" warning is given, at which signal the air-raid sirens are sounded. Since one or two planes can cause a red warning to be maintained for a long period of time, however, work does not usually stop automatically when sirens sound. Busses and trolley cars usually continue in operation and most workers remain at their jobs until the bombs begin to fall, although they are allowed to go to the air-raid shelters if they wish. In the theaters the show continues, although the warning is announced, and patrons may remain or leave as they see fit. Large buildings usually maintain roof spotters who give notice when planes actually approach near that

area. These roof spotters also give an informal "all clear" when immediate danger to those inside seems to have passed, although the "red" warning may still be in force. The RAF decides when the general "red" warning is to be cancelled. The radio plays no part in air-raid warning systems and programs continue without reference to warning signals or even to actual raids in progress.

195. Air-Raid Warden's Service (ARWS).—*a. General.*—An air-raid warden is a responsible member of the public chosen to be a leader and an adviser of his neighbors in a small area or "sector" in which he is known and respected. Normally, wardens are not used outside their immediate neighborhood or place of business. In addition to aiding and advising their neighbors and providing them with gas masks, they supplement, in various ways, the resources of the police, the fire brigade, and other local air-raid precautions services. The warden is not a policeman or a special constable; nor does he have police powers.

b. Organization.—The warden organization is designed primarily for towns. At the head of the town organization is the "Chief Warden." Towns are divided into "wardens' sectors," each containing about 500 people. In each sector there is a "wardens' post," manned during an air raid by three wardens, one of whom is the "Senior Warden." He is responsible for the manning of the post and for supervising the other wardens. The posts in each part of the town are organized in "groups" of 12 to 20 posts, each in charge of a "Head Warden."

196. Auxiliary Fire Service (AFS).—*a. General.*—The AFS was formed and trained to augment the regular fire brigade. Men between the ages of 25 and 50 who enroll as auxiliary firemen undergo a course of practical training for the dual purpose of testing their suitability for such service and for fitting themselves to perform their duties. Those who complete the course are placed on a "nominal roll" of auxiliary firemen (fig. 129) and are used in emergencies.

b. Duties.—The duties of trained auxiliary firemen include the following:

(1) To augment the fire brigade in an emergency, particularly by completing the crews for the additional main fire-fighting appliances.

(2) To provide reliefs for the regular firemen.

(3) To provide the crews for the patrol units, which are equipped with light trailer pumps or hand appliances.

(4) To assist in manning the fire posts.

197. Evacuation Division, Ministry of Health.—*a. General.*—The headquarters of the Evacuation Division is located in the Ministry

FIGURE 129.—Members of the Auxiliary Fire Service (AFS).

of Health, London. This organization functions independently and for the express purpose of evacuating civilians from the London area to safer areas. The following groups are handled by the Evacuation Division:

(1) Children unaccompanied by parent.
(2) Mother and child or children.
(3) Expectant mothers.
(4) Munitions workers.

b. Method of operation.—The London area has been roughly divided into 12 regions for purposes of evacuation, and the whole of the

FIGURE 130.—Members of the Home Guard simulating defence.

British Isles has been made into areas for the reception of evacuees. Each region in the London area and in the British Isles is controlled by a regional administrative office. The regional officer's primary function is to disseminate information to the general public through a staff of voluntary workers by house-to-house canvas, by placards in shelters and street posts, and by newspapers and radio.

198. Home Guard.—*a. General.*—The membership of the Home Guard includes patriotic men between the ages of 17 and 65 who have volunteered their services for the defence of their country. The Home Guard is a part of the Crown Forces in Great Britain. Its members are uniformed (fig. 130), carry arms openly, and are properly

officered. When in uniform, they have the same standing and rights as any full-time soldier of the regular field forces.

b. Functions.—The duties of the Home Guard make it necessary that its members serve as observation and combat patrols, which are designed to stalk the enemy and hold a defensive position as long as possible, thus forcing the enemy to check his advance. Their task is to delay and weary such forces, thus aiding their own regulars in their counterattack. Also, part of the Home Guard's function is to carry on the struggle, if necessary, in areas temporarily overrun by the enemy. The tactical functions of the Home Guard can for general purposes be grouped into three large categories:

(1) Warning.
(2) Delaying the enemy.
(3) Harassing the enemy.

199. Women's Voluntary Service (WVS).—*a. General.*—The WVS was organized prior to the war in order to prepare civilian defence in the event of war. It is the largest women's organization in Great Britain and has played an important part in air-raid precautions.

b. Duties.—The WVS does any work related to civilian defence. Its members help evacuate children, run nurseries and canteens, extricate bomb victims, etc.

c. Uniform.—The majority of its members do not wear uniforms. Some on certain duties wear a gray-green suit (fig. 40) with rust-colored blouse and soft felt hat.

200. Other women's services.—Other women's services include the Women's Land Army; St. John's Ambulance Brigade; the Red Cross; the Civil Nursing Reserve, etc. (See fig. 40.)

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[A. G. 062.11 (4–3–42).]

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