

THE WINNIPEG LIGHT INFANTRY - (M.G.)

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Chap 3
Pag 26

26/G.S. Pubns./187

THE WINNIPEG LIGHT INFANTRY - (M.G.)

**NOT TO BE TAKEN INTO
FRONT LINE TRENCHES**

OPERATIONS

MILITARY TRAINING PAMPHLET

No. 23

PART III.—APPRECIATIONS, ORDERS, INTERCOMMUNICATION AND MOVEMENTS

Comdt. No. 1

1939

(Reprinted in Canada (February, 1941), by permission of the Controller.
His Majesty's Stationery Office)

*Prepared under the direction of
The Chief of the Imperial General Staff.*

THE WAR OFFICE,

October, 1939

15M-2-41 (9367)

H.Q. 70-44-61

Read Chapter 3

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CONTENTS

DEFINITION

CHAPTER I.—APPROPRIATIONS

Sec.	Page
1. Appropriations	1

CHAPTER II.—ORDERS

2. Types of orders	2
3. Orders for the conduct of operations	3
4. The issuing of orders	3
5. The execution of orders	3

Military Training Pamphlet No. 23—Operations, is the main title of a series of pamphlets which will contain the latest ideas on subjects dealt with in Field Service Regulations, Volume II, 1935.

Pamphlets already issued are :—

Part I.—General principles, fighting troops and their characteristics (with Supplement).

II.—Defence.

IV.—Protection.

12. Reconnaissance	24
13. Means of information and their characteristics	26
14. Organization of R. S. M. G.	27
15. Organization of anti-aircraft defence	27
16. Control of information	29
17. Organization of reserve communication	30
18. Communication with the rear	31

CHAPTER V.—SECURITY

19. Wireless security	32
20. Security of the telephone and telegraph	34
21. Security of detachable stores	34
22. Code names	34

CONTENTS

DISTRIBUTION	Page iv
----------------------	------------

CHAPTER I.—APPRECIATIONS

Sec.	Page
1 Appreciations	1

CHAPTER II.—ORDERS

2 Types of orders	5
3 Orders for operations. General principles	6
4 The issue of operation orders	8
5 Form of orders, instructions, etc.	10
6 Orders for moves by road	14

CHAPTER III.—RULES FOR DRAFTING ORDERS AND MESSAGES

7 General	16
8 Date	16
9 Time	17
10 Place	18
11 Messages	19

CHAPTER IV.—SIGNALS. RESPONSIBILITY AND CONTROL

12 Responsibility	24
13 Means of intercommunication and their characteristics	26
14 Organization of R. Signals	27
15 Organization of intercommunication	27
16 Control by formation commanders	29
17 Organization of wireless communication	30
18 Communication with Royal Air Force	31

CHAPTER V.—SIGNALS SECURITY

19 Wireless security	32
20 Security of line telegraphy and telephony	34
21 Security of despatch riders	34
22 Code names	34

CHAPTER VI.—MOVEMENTS

<i>Sec.</i>	<i>Page</i>
23 Movement by road—General	35
24 The responsibility of the staff	36
25 March discipline	37
26 Rules for the passage of bridges and defiles	38
27 Movement of troops by M.T.	38

APPENDICES*Appendix*

I Administrative matters which may require consideration in the preparation of orders	41
II Specimen march or movement table	43
III Specimen bus table	44
IV Abbreviated titles, addresses, distinguishing letters and other abbreviations	45
V Specimen signal messages	66
VI Instructions for allotment of code names	69
VII Technical factors affecting the movement of mechanized columns	77
VIII Traffic control	82
IX March discipline	85

DISTRIBUTION

The scale of distribution is the same as for Pamphlet No. 23,
Part 1

MILITARY TRAINING PAMPHLET**No. 23****PART III—1939****APPRECIATIONS, ORDERS, INTERCOMMUNICATION
AND MOVEMENTS****CHAPTER I****APPRECIATIONS****1. Appreciations**

1. An appreciation is a review of a military problem or situation based on all available information and culminating in a plan of the action to be taken to meet the situation. The following sections deal primarily with tactical appreciations; strategical appreciations, which are likely to require special treatment, are not fully considered.

2. Appreciations will vary from those when adequate time is available to consider and record on paper every known or surmised factor that may bear on the situation to those when time is of the greatest importance and a rapid mental survey is all that is possible.

Whenever time is available the appreciation should be committed to paper. Even if this can be done only in the form of brief notes it should ensure a more balanced review of all factors than is possible from a mental summary.

3. In war, where there is an unending succession of disturbing influences, a methodical consideration of the problem will be possible only if the mind is trained to work to an accepted sequence of thought.

Constant practice is essential, until, as a matter of habit, a rapid review of all the facts leads logically to the formulation of a sound plan.

4. All appreciations whether written or mental, will be in the following accepted logical sequence :—

- i. The object to be attained.
- ii. Factors which affect the attainment of the object.
- iii. Courses of action open to the writer and to the enemy.
- iv. The plan.

5. The heading of the appreciation, if it is committed to writing, will be in the following form :—

Appreciation of the Situation

by

(Name or designation of officer from whose point of view the appreciation is written)

at.....(place) at.....hrs. (time) on.....(date).

6. *The object*

The bed rock of an appreciation is a correct definition of the "object" to be attained. This must be clearly and accurately stated since if this definition is inaccurate or ambiguous the whole appreciation will be founded on a wrong basis and will almost inevitably lead to a faulty plan.

The "objective", e.g. a locality the capture of which will most rapidly and economically result in the attainment of the object, will emerge as a result of the appreciation. It is important that there should be no premature confusion of the two terms "object" and "objective."

The object of a junior commander will often be defined for him in the orders of his superior. He must take full account of any qualifying instructions such as a limit of time by which the object must be attained.

7. *Factors*

An appreciation will not be complete unless full weight is given to every factor which may have an influence on the attainment of the object.

It is important to treat each one on its own merits. The influence which it is likely to exert on the attainment of the object must be recorded in the form of a definite deduction. If no deduction can be made, it is probable that the influence of that particular factor is negligible and it should be omitted from the (written) appreciation. The review will begin naturally with those factors which appear likely to have the greatest influence on the situation. If no one factor appears to be of outstanding importance it will generally be found advisable to consider initially the position, strength (including probable reinforcements), armaments and moral of the enemy in relation to one's own forces. Subsequently each factor should be taken in logical sequence. In a well arranged appreciation each deduction leads naturally to the next, so that the whole becomes a logical and reasoned argument leading up to the plan.

It is important not to give undue weight to the effect of any

one factor or to allow it to influence the appreciation towards a definite course of action until all the others have been considered and their combined influence summarized.

A distinction must be drawn between established facts and assumptions since on the accuracy of the latter will depend the soundness of the inferences drawn.

8. Other factors which may influence the attainment of the object in an appreciation may be :—

- i. *Ground*—which invariably has a preponderating influence on all tactical operations and can never be neglected.
- ii. *Time and space*—an essential consideration in practically every military operation.
- iii. *Weather*—The importance of this factor will vary considerably, though its influence on fire plans which include the use of smoke can seldom be ignored.
- iv. *Time of the year*—The hours of daylight or, conversely, darkness will influence considerations of surprise and security in all operations, especially those in which large movements of troops are concerned.
- v. *Phases of the moon*—It will often be of importance to consider whether any hours of complete darkness occur after sunset, or before sunrise.
- vi. *Security*—The need to provide a reasonable security cannot be neglected.
- vii. *Communications*—Supply and transport, or the lack of them, will influence every plan.
- viii. *Water supply*—Often of great importance in tropical countries.

The above list is by no means exhaustive and no factor bearing on the problem can be neglected with impunity.

9. *Courses open to both forces*

In considering the courses of action open to the two opponents it will generally be desirable to take first the courses open to that force which has the initiative.

If the courses open to the writer are taken first, the final decision as to which is to be adopted must be left until due

consideration has been given to the possibility of counter-measures open to the enemy.

The arguments for and against each course should be summarised. As regards the courses open to the enemy it is essential to assume that he will do the sensible thing, and to be prepared for such action on his part as will be best designed to counter one's own plan.

This section of the appreciation should end with a statement as to which of the courses under review is to be adopted as the plan.

10. The plan should be definite and clear.

It should be stated as concisely as is compatible with the inclusion of sufficient detail for a staff officer to be able to draft the orders required to put it into effect.

An appreciation may often be illustrated by maps or diagrams with advantage as its salient points may thereby be grasped more quickly.

CHAPTER II

ORDERS

2. Types of orders

1. *Standing orders*

The object of standing orders is to adapt existing regulations to local conditions, and to avoid repetition in routine and operation orders.

Standing orders are of a more permanent nature than routine orders, and must be confined to essentials which are not liable to alteration. They should contain nothing which contradicts existing regulations, nor should repetition of such regulations be included.

2. *Routine orders*

The object of routine orders is to ensure wide publicity for matters of general administrative interest, thereby reducing correspondence and the duplication of returns.

Routine orders are prepared by all branches of the staff and issued by the A.G.'s branch. They should be issued on a fixed distribution list and on a wide scale, in order to reduce to a minimum the necessity for repetitions in the orders of subordinate formations.

Routine orders are designated by the title of the formation from which they emanate, those issued by G.H.Q. being entitled "General routine orders," and those by an army headquarters "Army routine orders." In each formation routine orders will be numbered consecutively, each subsequent issue continuing the serial numbers.

Although subordinate commanders should normally refrain from repeating extracts of orders received from higher formations in their own orders, an exception may be made in the case of important routine orders, which, to ensure a fuller distribution, may be published in the routine orders of subordinate formations and units. Where it is essential in the opinion of a superior that a routine order should be republished in this manner, he will so order it in the text of the routine order concerned.

Routine orders will be issued in place of circular letters wherever applicable.

3. Operation orders

The object of operation orders is to bring about a course of action in accordance with the intentions of the commander and with full co-operation between all arms and services. Further rules for their issue are given in Secs. 3, 4 and 5.

4. Operation instructions

Operation instructions are used instead of, or to supplement, operation orders when it is necessary to place a subordinate commander in a position in which he must act on his own judgment. These instructions will give the subordinate commander all available information likely to affect the performance of his task, and will state clearly the object to be attained, but will leave the methods to his discretion. They should include a brief statement of the courses open to the enemy, and of his probable action, as well as a forecast of the action of the commander issuing the instruction.

Operation instructions should be sparingly used. They will usually be couched in less formal terms than orders. When special considerations of secrecy demand it, such instructions may be addressed to a commander personally. If it is essential that a commander should be informed of the scope of an operation instruction issued to another commander, a copy of the instruction may be issued to him for information.

5. Administrative orders

The matters on which administrative orders may be necessary are given in Appendix I. The staff is responsible that heads of services and their representatives are kept informed of so much of the intentions of the commander as it may be necessary for them to know in order that they may carry out their work efficiently.

3. Orders for operations. General principles

1. An order must contain only what the recipient requires to know in order to carry out his task. An attempt to prescribe to a subordinate commander at a distance anything that he, with a fuller knowledge of local conditions, should be able to decide on the spot will be avoided.

2. In framing orders for operations, the general principle is that the object to be attained, with such information as affects its attainment, will be briefly but clearly stated: the actual method of attaining the object will be given in sufficient detail to ensure co-ordination of effort, but so as not to interfere

with the initiative of subordinate commanders, who should be left freedom of action in all matters which they can or should arrange for themselves.

3. So that all parts of a force may understand clearly the task allotted to each part and thus be able to co-operate fully, the whole of the orders for any particular operation by the force should, wherever possible, be embodied in one operation order and not in a series of separate orders to different parts of the force.

4. When a detachment is made, its commander will be specified in the order. If the detachment is composed of different units, a rendezvous must be arranged at which representatives of units will meet the appointed commander or his representative.

5. Notwithstanding the greatest skill and care in framing orders, unexpected circumstances may render the precise execution of an order unsuitable or impracticable. In such circumstances the following principles will guide the recipient of an order in deciding his course of action.

- i. A formal order will never be departed from either in letter or spirit so long as the officer who issued it is present, or there is time to report to him and await a reply without losing an opportunity or endangering the force concerned.
- ii. If the above conditions cannot be fulfilled, a departure from either the spirit or the letter of an order is justified if the subordinate who assumes the responsibility bases his decision on some fact which could not be known to the officer who issued the order, and if he is satisfied that he is acting as his superior would order him to act were he present.
- iii. If a subordinate neglects to depart from the letter of his orders when such departure, in the circumstances of sub-para. ii, above, is clearly demanded, he will be held responsible for any failure that may ensue.
- iv. Should a subordinate find it necessary to depart from an order, he will immediately inform the issuer of it, and the commanders of any neighbouring units likely to be affected.

6. In emergency, an order may be given to a subordinate commander without being passed through the usual official channels. The commander who issues such an order will

inform the intermediate authorities concerned and neighbouring formations likely to be affected. The recipient of the order will inform his immediate superior of its receipt and of the action taken on it.

7. Occasions may arise when orders are lacking, but when it is evident that some action is essential. Success will then depend on the initiative and powers of decision of subordinate commanders, who must always be ready to accept responsibility.

4. The issue of operation orders

1. The success of an operation will depend largely on the speedy preparation, issue and execution of orders.

In order to minimize delay in the preparation and execution of orders the following points require attention :—

- i. All those required to assist the commander in the preparation of his plan, with advice, or by reconnaissance, must be immediately available when wanted.
- ii. Since the preparation of orders in all formations and units is to some extent dependent on the receipt of orders from above, every commander must endeavour to keep his subordinates supplied with sufficient information to ensure that the work of preparation proceeds simultaneously throughout the chain of command.
- iii. Where troops have to move a considerable distance to their battle positions they must, consistent with the need for secrecy, be given early warning in order that the move, particularly of commanders, may begin in advance of final orders allotting the actual tasks in battle. This principle applies equally to preliminary moves of ammunition and other stores.

Time will nearly always be saved by the issue of a short warning order. Such an order can often direct troops to move to rendezvous preparatory to deployment. It should generally give a brief warning of the operation to be undertaken, orders as to any preparatory action necessary and a statement as to whom operation orders will be issued. It will usually be telegraphic in form and should start with the words "Warning Order."

2. A commander can save time, and can impress his will and inspire confidence in the success of an operation far more

easily through verbal orders, if well issued, than by pages of written orders. He will, therefore, often find it desirable to assemble his subordinate commanders before an operation to explain his plan and issue his orders. If all subordinate commanders cannot be assembled at the same time, he must issue his verbal orders more than once.

Conferences at which orders are issued must not be allowed to develop into discussions. Any consultation with subordinates that may be required should be held before the orders are issued.

When issuing verbal orders, commanders will employ the same sequence as written orders (*see* Sec. 5). Indefinite or badly delivered verbal orders may do much to destroy confidence in success.

When there is adequate time, verbal orders will be confirmed in writing. It is, however, a waste of time to confirm in writing orders on which action has already been completed. Verbal orders should be checked before the recipients depart from the conference whenever possible. This can be done by checking marked maps and notes and especially in the case of units and sub-units by making recipients in turn repeat portions of the order.

3. The method of issuing orders will vary in accordance with the nature of the situation. Commanders and staff will adopt the quickest and surest method applicable to the circumstances. The following are some of the methods which may be employed :—

- i. Orders may be sent by liaison officers, due care being taken to ensure that marked maps do not fall into enemy hands. Orders to armoured formations and units may often be issued by R/T.
- ii. Orders may be issued in more than one stage, an outline plan being issued first to allow subordinate commanders to begin their preliminary arrangements, followed later by either verbal or written orders.
- iii. Outline orders can sometimes be issued in writing immediately before verbal orders are given out. Ample space should be left between paragraphs in which details can be filled in.
- iv. Orders given out verbally can be taken down by a staff officer and, if suitable arrangements for

reproduction have been made, it may be possible to issue copies for subordinate commanders to take away with them when the conference is over.

- v. A staff officer can make notes while the verbal orders are being given and confirm the orders subsequently in writing. These confirming orders will be studied for any modifications to the verbal orders, though the issuer of the order should indicate whether any modifications have been made. When it is impossible to issue a complete confirming order in time, such an order should be confined to essential points, such as objectives, starting lines, boundaries, routes and times. It must not be so short, however, that those not present when the verbal orders were issued will be unable to co-operate.
 - vi. Tracings may be used to shorten the length of a written order.
 - vii. Parts of an order which take some time to prepare, e.g. barrage maps, may be sent out after the main order.
4. Orders must be checked and it is advisable to detail an officer to check all map references as orders are issued.
 5. If orders are sent by telephone they will be written down by the recipient and repeated back to the sender. When sent by radio-telephony they will not be repeated back.
 6. Alternative methods of communication should be employed whenever it is necessary to send an important message by liaison officer or despatch rider and when the circumstances are such that an immediate acknowledgment of the receipt of the message cannot be expected.

5. Form of orders, instructions, reports and messages

1. Written orders, instructions and reports must be precise, and as brief as is consistent with clearness. They must be easily legible, must be timed, and must be signed by the sender, who will give his rank, appointment, and formation or unit. Paragraphs should be numbered to facilitate reference.
2. The need for clarity combined with brevity is even greater in the writing of messages, and superfluous words, headings and numbering of paragraphs must be avoided. In

messages the appointment and formation will not be given after the signature. Detailed instructions for drafting orders and messages are given in Chapter III.

3. No matter how complete, how appropriate and how correctly drawn up a written order may be, it fails of its purpose if it does not arrive in time. The commander who issues an order is responsible that it reaches his subordinates in time to enable them to make all the necessary preparations, including reconnaissances and the framing and issue of their own orders, before troops are committed to action in execution of the order. When detailed operation orders cannot be issued in sufficient time to enable the troops to make these necessary preparations, a "warning order" should be issued, which should give sufficient information to enable preparations to begin.

4. In deciding upon the form of orders the recipient must be considered; and also the possibly adverse conditions under which he will have to read orders. Matter affecting only some of the addressees should be shown in an appendix with a correspondingly limited distribution.

5. A recognized form and sequence should always be followed as closely as practicable, since this makes important omissions less likely, and assists subordinates, who can more easily grasp the meaning of an order issued in a form with which they are familiar.

The form is as follows, though headings which are not relevant should be omitted, particularly when orders are sent by telegraph or wireless.

SECRET.

.....	Operation Order No.....
(Formation or Unit)	Copy No.....
Ref. Map.....	Date

INFORMATION

Regarding the enemy.—A summary of the information on which the plan is based, so far as the recipients require to know it, and any reasonable deductions from the information so given.

Regarding our own troops.—A summary of the situation and intentions of any neighbouring troops, whose action may affect

the action of the recipient of the order. A higher commander's intention will be repeated in the orders of subordinates only when, and so far as, it is essential to do so.

In the interests of secrecy, it will often be advisable to include it in the order in outline only; the intention may then be amplified separately, either verbally or in writing.

INTENTION

A clear, concise and decisive statement of what the commander intends to achieve. The intention stated should not exceed what is to be effected by the plan embodied in the order, and should normally be drafted by the commander himself; it should be expressed in the future imperative tense, i.e. "will." Alternative intentions depending on developments should not be given in operation orders.

METHOD

A statement of the tasks allotted to formations or units, in sufficient detail to ensure co-operation.

ADMINISTRATIVE ARRANGEMENTS

A statement of the general administrative arrangements so far as all recipients of the order require to know them.

It may be convenient to issue details of administrative arrangements separately, either as an appendix or in administrative orders.

INTERCOMMUNICATION

Such paragraphs as are necessary regarding intercommunication, e.g. :—

Location of headquarters.

Routes to be followed by headquarters of subordinate formations.

Liaison duties.

Orders for wireless silence or other restrictions on the use of wireless.

Allotment of R.A.F. wireless tenders.

Any pre-arranged light signals.

ACKNOWLEDGE

(Signature, rank, and appointment
of officer signing order).....

METHOD OF ISSUE

TIME OF SIGNATURE

DISTRIBUTION

The list of addressees to whom copies of the orders are issued will be included in all copies. The number of copies should be kept as low as possible, both in the interests of secrecy and because of the difficulties of reproduction in the field.

The distribution list should be in the order :—

Own subordinate formations or units.

Attached troops.

Formations and units co-operating.

Own commander.

Own staff.

Own services.

File and war diary.

Operation orders, operation instructions and administrative orders must be immediately acknowledged by all recipients as a matter of routine.

5. In principle, a commander's orders are issued only to those who are required to take action on them. Copies to flank formations or units will usually be issued for information to ensure effective co-operation. A copy will not be sent to the next higher formation, unless ordered or as the most convenient means of keeping a superior in touch with the situation.

The issue of a sufficient number of copies of a commander's operation orders to his immediately subordinate commanders for distribution to the formations or units under their command should be very exceptional; but it may on occasion be convenient to distribute appendices (see para. 6, below) containing long or complicated arrangements which would otherwise have to be repeated in the orders of lower formations.

A subordinate commander who issues copies of his superior's orders without receiving permission to do so will be responsible for having made known any information contained in them.

6. The body of the order should contain only the essential outline of the plan and it will usually be advisable to place in appendices such matter as details of the fire plan, or orders to the air force or reconnoitring troops.

6. Orders for moves by road

1. Whenever possible, marching and mechanized columns should be allotted separate roads. When this is not possible, arrangements should be made for mechanized columns to move forward after the marching columns have reached their destination, or to move through the latter while they are halted clear of the road.

2. A warning order giving the approximate earliest time of start should be issued as early as possible. Orders for the move of reconnaissance or advance parties, or for the establishment of control posts for M.T. moves, which will usually have to be issued in advance of operation orders, may be combined with the warning order.

3. In an operation order for a move by road, troops will normally be detailed in their order of movement. If, however, a separate commander is appointed for a body of troops, e.g. an advanced guard, he will be specified and the troops placed under his command will be detailed in order of seniority of arms and units, their order of march being left to the commander to arrange.

The detail of troops will be shown either in the body of the order or on a separate march or movement table attached to the order as an appendix. A specimen march table is given at Appendix II. Separate tables should be prepared for mechanized and for marching columns. If both types of column are using the same road a cross reference must be made showing the total time and space taken up by the other column. A specimen table for use when troops are moved by M.T. is given in Appendix III.

The preparation of orders for the move of mechanized columns requires a knowledge of certain technical considerations which are discussed in Appendix VII.

To keep operation orders for a move as simple as possible, matter that applies generally to all moves of a formation or unit should be included in its standing orders. Many points, however, are adequately dealt with in Field Service Pocket Book, Pamphlet No. 6, Mechanized Movement by Road.

4. When a formation is to move, a starting point, which the head of the main body is to pass at a certain time, is laid down in the operation order. If troops are not all quartered together it may be necessary for the commander to fix more

than one starting point, so as to enable subordinate commands to take their place in the column punctually without unnecessary fatigue to the troops and without crossing the line of approach of other commands. Each subordinate commander must fix his own local starting point and the time the head of his command must pass it so as to be able to pass the higher formation starting point at the hour specified. When commands are broken up for administration and discipline in quarters, the responsibility for the arrangements for the resumption of the march by the troops quartered in an area rests with the area commander as far as the starting point fixed by the superior command.

In fixing a starting point for marching troops, care must be taken that each unit reaches it by moving forward in the direction of the march.

Should the move begin in the dark, special arrangements for marking the starting point must be made and notified in the operation order.

5. A dispersal point is necessary on each route used. At this point the column is split up into subordinate formations and units, and the responsibility of the higher formation for movement ends. To avoid congestion at the dispersal point it is essential that arrangements for dispersal should be made beforehand, and for mechanized columns these will include the organization by subordinate formations and units of a complete system of traffic control from dispersal point to destinations.

6. Staff officers must have, ready for reference, the strengths of units, showing the road space occupied by them in column of route, including the recognized distances between sub-units, and the time taken to pass a given point. They must know the number of vehicles in mechanized columns and the speed and density ordered for the move.

They must also know the billeting accommodation and parking space required, and must be able to estimate the amount of cover required for the concealment of bivouacs and vehicles.

CHAPTER III

RULES FOR DRAFTING ORDERS, INSTRUCTIONS, REPORTS AND MESSAGES

7. General

1. Except when code names are used (*see* Sec. 22), units and formations will be described by the authorized abbreviations given in Appendix IV which contains also instructions for their use. Ordinal numbers written as words will be used to denote armies, e.g. First (Second, etc.) Army. Cardinal numbers (written as figures) will be used to denote particular formations or units (e.g. 1 Div (1st Division), 2 R.W.K. (2nd Battalion, The Royal West Kent Regt.)). Otherwise numbers will be written as words, e.g.: "Two med btys are placed under comd 3 div."

When it is desired to refer to a unit or formation from which a portion is excluded, the unit or formation will be named and the words "less . . ." used, e.g.:

"2 div less two inf bdes."

"1 RF less two coys."

2. Place, personal, code and regimental names, and the word "NOT" should always be written in block capitals.

3. Indefinite terms such as "dawn," "dusk," should never be used; conditional terms such as "as soon as possible," "should," "may" are dangerous, and will be used only when it is not possible to be more definite.

4. Unless otherwise stated, the time and place of arrival of a body of troops refer to the head of the main body.

8. Date

1. All orders, instructions, reports and messages must be dated. Dates will be written in the form "3 Sep 39." The names of months will be abbreviated by the use of the first three letters.

2. A night will be described by both dates over which the night extends, e.g.:

"night 29/30 Sep."

"night 30 Sep/1 Oct."

9. Time

1. Time will be described by reference to the 24-hour clock. Groups of four figures followed by "hrs" will be used. The first two figures represent the hour and the last two the minutes past the hour.

Examples (Date—3 Sep):

"0001 hrs": one minute past midnight, night 2/3 Sep.

"0900 hrs": nine o'clock in the morning.

"1200 hrs": noon.

"1635 hrs": twenty-five minutes to five in the afternoon.

"2400 hrs": midnight 3/4 Sep.

2. When plans are being drawn up which are to be carried out in accordance with a time-table, it will be usual to base the timings on a time known as "zero hour"; this enables arrangements to be made in detail without the necessity of fixing or disclosing, until it is convenient to do so, the actual moment when the operation will begin. It will be the responsibility of the commander who issues the orders for an operation to define what constitutes zero hour for that particular operation: in attack, it will normally be the hour at which the leading troops of the attack cross their starting line. Action to be taken *before* or *after* zero hour will normally be timed from zero in minutes, and all figures will be read as minutes unless otherwise stated, e.g. Z⁻10, or Z + 4 hrs.

3. i. In communication between units (including inter-service communication) in the same time-keeping area, the local time of the area will be used both for "times of origin" and times occurring in the subject-matter of a message. Times will not be followed by the group LT.

ii. In communicating with any authority that is in a different time-keeping area, or whose whereabouts are not known, G.M.T. will be used for all purposes, and all times in the subject-matter and "time of origin" will be followed by the group GMT. This method will be used in all cases when any possible doubt may arise as to the recipient understanding references to local time, and is applicable in peace and war except for a specially planned combined operation for which special instructions are issued.

iii. In any case the same standard time must be used both in the body of the message and for "time of origin."

10. Place

1. The name of a place at which a headquarters is situated or from or to which a message is despatched will never be given unless it is essential to ensure correct transmission or delivery, or to make the sense plain.

2. Names of places will be written in block capitals, thus—LONDON, exactly as spelt on the maps in use. If more than one place of the same name exists, misunderstanding must be avoided by the use of a map reference.

3. If a map is referred to, the one used must be specified unless, in the knowledge of the sender, no confusion can arise by the omission of the information. When a map is specified, its description will be given under the heading of an order, instruction or report, and at the beginning of a message, e.g. "Ref. Map 1 inch to 1 mile Sheet 114 WINDSOR."

4. Points will be described either by co-ordinates (if a squared or gridded map is available); or by giving the distance and direction from some easily found reference point, e.g. :—

"X rds. $\frac{1}{2}$ mile SW of HASELEY."

"X rds. 225° from HASELEY CHURCH."

"X rds. $\frac{1}{2}$ mile SW of second E in (NOT 'of') HASELEY" (the letter referred to being underlined except in messages to be transmitted by signal in which the underlining of individual letters of a word cannot be transmitted).

5. The four cardinal points of the compass will be written in full, abbreviations with the letters "N," "S," "E" and "W" being used to denote intermediate points, e.g. :—

"South of HASELEY" not "S of HASELEY."

"SW of HASELEY" not "South-West of HASELEY."

6. Roads will be indicated by place names on them, care being taken to name sufficient places to ensure that the road intended is followed. The word "road" will precede, not follow, the place names, e.g. "rd BAGSHOT-CAMBERLEY" not "BAGSHOT-CAMBERLEY rd". Railways may be similarly described.

7. An area will be described by taking the northernmost point first, and giving the remaining points in clockwise order. Positions will be described from right to left looking towards the enemy.

8. Boundaries, if generally parallel to the line of advance or withdrawal, will be described from rear to front in advance, or attack, and from front to rear in defence and withdrawal. If generally parallel to the front line, they will be described from right to left.

In detailing boundaries between units and formations, the words "inclusive" or "exclusive," abbreviated to "incl" or "excl," will be used. These words should be written before the place to which they refer. A locality will be described as inclusive or exclusive to the unit or formation to which the writer belongs, rather than as exclusive or inclusive to another.

In an operation order, it is usually convenient to place all details of boundaries, including—so far as necessary—those laid down by a higher formation, in the "Method" paragraphs (see Sec. 5, 4).

9. River banks may be described as "right" or "left," it being assumed that the writer is facing downstream.

10. The terms "right" and "left" applied to our own forces in retirement will be taken to refer to the original right and left flanks, as they were when facing the enemy.

11. Generally, such terms as "right," "left," "before," "behind," "beyond," "front," "rear," "on the side of" should not be used to define a locality, unless it is clear to what they refer.

12. Bearings will be given as true bearings, except when a gridded map is used, when grid bearings will be used.

11. Rules for drafting messages on Army Form C.2128

1. Owing to the large volume of signal traffic in modern armies, and to the necessity of enciphering W/T messages, brevity, clearness and the strict observance of rules are essential in writing messages.

Any officer may originate a message for transmission by signals. It will be accepted by a signal office provided that it is legible and signed by the originator, who is responsible that it is sufficiently urgent to justify its despatch by signals and not by post.

2. Copies of all messages will be kept by the originator.

3. A.F. C.2128 should be used for all messages. Those for D.R.L.S. (see Sec. 13) will be placed in envelopes marked D.R.L.S., signed by an officer and handed to the signal office. To enable signals to trace the receipt and acknowledgment of the message, the originator should put a reference number on the envelope.

4. Nothing must be written above the space provided for the address "To."

5. Address "TO" and "FROM" :—

Addressees and originators of messages will be designated by their code names (see Sec. 22) or, when these are not used, by their abbreviated titles, as indicated in Appendix IV.

Officers' names and appointments will never appear in the address spaces "TO" or "FROM" unless it is essential for some special reason.

6. Multiple address messages.—The following rules will apply to multiple address messages :—

- i. If a message is to be delivered by signals to more than one addressee, one copy of the message will normally be handed in to the signal office for each addressee.*

The address will be written on each copy in a straight line or lines, without punctuation, thus :—

LUDO SAGO NOPA FIDO BONO

It will be signalled as written to all addressees.

- ii. "Repeated"—In order to distinguish between those to whom the message is addressed for action and those to whom it is repeated for information only, the originator will write the word "rptd" before the first address of the latter category, e.g. :—

LUDO SAGO NOPA rptd FIDO BONO.

Each recipient will then see to whom the message has been addressed and repeated.

- iii. "All informed."—In certain routine messages when it is of no importance for an addressee to know to what others the message has been sent, the expression "all informed" may be used at the end of the text. The use of this phrase will give signals the authority to omit irrelevant addressees when signalling the address "TO," thus reducing the time taken in transmitting the message.

* When this is not necessary the signal officer will inform the originator concerned

7. The text.—This will begin with the originator's distinguishing letter and number in the appropriate space. Distinguishing letters are given in Appendix IV.

Originators for whom no distinguishing letters are allotted may employ any combination of letters up to three in number, provided they have not already been allotted and do not give any indication of the identity of the sender, his unit or formation.

8. The distinguishing letters will be followed by a number which will be the serial number of outgoing messages from the office or appointment held by the originator. A series will be repeated on reaching the figure 9999.

In the date space the day of the month only will be given. The month and year will not be shown.

9. In the text each of the following will be written in one space :—

- i. A word, letter or figure.
- ii. An abbreviated word.
- iii. A combination of letters or figures meaning one thing.
- iv. A cipher group (up to five letters or figures).
- v. The sign indicating the full stop (see para. 12, below).

10. Roman numerals and mathematical signs (e.g. those for yards, feet, inches, degrees, percentages, plus and minus) cannot be telegraphed and must be replaced by words or recognized abbreviations (e.g. yds., ft.).

11. Letters, letter-ciphers and important words will be written in block letters; otherwise capitals will not be used. Underlining and the use of dashes and oblique strokes should be resorted to only when absolutely necessary, e.g. "W/T" "night 2/3 sep." The use of parentheses is forbidden, i.e. "Area HARTLEY ROW 2076—PHOENIX GREEN 2075" and not "Area HARTLEY ROW (2076)—PHOENIX GREEN (2075)".

12. Punctuation.—A full stop will be indicated by © but when the message is typed the ordinary full stop "." may be used. In neither case must anything else be written or typed in the space. No stop is required at the end of the text. Other punctuation signs are not transmitted in signal messages; care must be taken that their omission does not alter the sense of the message.

13. Acknowledgments.—If an acknowledgment is required from those who have to take action on the message the expression "ack" will be written at the end of the message.

If an acknowledgment is also required from those to whom it has been repeated, "all ack" will be used. To reduce signal traffic, however, acknowledgments should be asked for only when the sender must know at once that a particular message has been delivered.

14. *Signature*.—All messages will be signed by the originator with his name and rank only.

15. *Originator's instructions*.—The originator is responsible for informing signals of any precaution necessary in the method of transmission. This he does by signing in the appropriate space at the foot of A.F.C.2128; he need not delete the space not signed. He will write any other instructions in the space marked "Originator's Instructions. Degree of priority."

16. *Degree of priority*.—If a special degree of priority (see para. 17, below) is required, the indication (e.g. "immediate") will be written in full in the space marked "Originator's instructions. Degree of priority." In multiple address messages the copies for some only of the addressees may require a degree of priority. Originators will ensure that this is given only to those copies which require it.

17. *Priority*.—Messages are sent in the order in which they are handed in unless a special degree of priority is indicated by the originator.

They will be classified in accordance with their relative urgency as follows:—

- i. (a) Most immediate;
- (b) Emergency operations.
- ii. Immediate.
- iii. Important.
- iv. Other official messages.
- v. Private messages, if they are to be accepted.

Precedence of despatch for messages franked in the same way will be according to the time of their receipt by signals.

18. "*Most immediate*."—Only a commander-in-chief or his chief general staff officer will frank a message in this way. It will be reserved for occasions of vital urgency; it not only gives absolute priority of despatch on army signals system but on those of the Royal Navy and Royal Air Force, and on those controlled by the civil administration.

19. "*Emergency operations*."—This indication will be used only for messages of the utmost importance having a direct bearing on operations.

20. "*Immediate*."—The use of this indication will be limited to messages the speed of which is of special importance, as otherwise its purpose will be defeated. In urgent cases any officer may frank a message as "immediate," but, if unauthorized to do so, he will be held responsible that the urgency is sufficient to justify his action.

21. "*Important*."—This indication will be used for those messages which require priority above ordinary official messages, such as signal messages dealing with the working of the signal system. Signal officers are authorized to frank messages in this way.

22. "*Priority lists*."—Lists of officers authorized to frank "emergency operations," "immediate" and "important" messages will be prepared by the general staff and published in routine orders.

Officers on these lists entitled to send "immediate" messages may demand a special despatch rider and may also make priority telephone calls. Such calls take precedence over all other waiting calls, but a conversation in progress will not be interrupted for them.

For authority, in connection with priority lists, to use R/T behind divisional headquarters, see Sec. 19, 4, ii, (a).

23. *Private messages*.—When private messages are to be accepted, special instructions for their disposal will be issued in routine orders. Such messages will always take precedence after ordinary official traffic.

24. *Acknowledgment*.—The staff at a headquarters will make their own arrangements for checking the acknowledgment of any message which the addressees have been ordered to acknowledge.

25. *Time of origin*.—This is the time at which the originator signs the message and is filled in by him. The 24-hour clock will be used. The abbreviation "hrs" will not be used.

26. The remainder of the message form is for the use of signals.

27. Examples of messages are given at Appendix V.

ii. Wireless sets for communication between their own formations and units are provided by the Air Force. Details are contained in The Employment of Air Forces with the Army in the Field.

13. Means of intercommunication and their characteristics

1. Means of intercommunication in the field are:—

- i. Line telegraphy and telephony (L/T).
- ii. Wireless, either wireless telegraphy (W/T) or radio telephony (R/T).
- iii. Visual signalling (V/S).
- iv. Message carrying by any suitable agency, ranging from a dismounted orderly to an aeroplane.
- v. Liaison personnel.
- vi. The army postal service.

2. The characteristics governing the use of items i to iv, above, are given in full in Signal Training (All Arms), 1938, Chapters XXI and XXII.

3. It is important that staff officers should realize the limitations, and the need for economy in the use of the motor cycle despatch riders of the R. Signals.

When possible, a despatch rider letter service (D.R.L.S.) is organized, running periodically between headquarters on a pre-arranged time table. The D.R.L.S. should be used as much as possible, in order to reserve the other means of communication for more urgent messages.

When a D.R.L.S. is in operation certain officers specified in standing orders are authorized to send by special despatch rider urgent messages which can neither be sent by telegraph nor wait for the next D.R.L.S. run.

4. *Liaison personnel*.—Officers and N.C.Os. acting as liaison personnel, are one of the most useful means of intercommunication, especially in the forward area. They are not merely bearers of messages; they should be acquainted with the plans and intentions of the commander whom they serve and thus be able to amplify and explain any orders they bring to subordinate commanders. It is also their duty on their return from subordinate units, to be able to give the superior commander a clear picture of the situation there. Thus they must be specially trained men, on whose judgment and knowledge a commander can rely.

5. *The army postal service*.—Less urgent messages should be sent by this means and full use made of it to relieve the D.R.L.S., which is apt to become overloaded. Details of its working will be found in Field Service Regulations, Volume I.

14. Organization of R. Signals

1. R. Signals provide means of intercommunication, other than postal, for an army in the field down to the headquarters of cavalry regiments, batteries and battalions. Within these units intercommunication is carried out by unit signallers and orderlies; but where wireless communication is employed by the unit, the sets are maintained, and in some units operated, by R. Signals personnel.

2. Signal personnel should be given priority on the roads by other arms, since their work is usually urgent. They should not be employed on other duties, except in an emergency or after reference to a responsible signal officer.

3. Signals are responsible for the correct official time; watches will be synchronized through signals before all operations.

4. *Signal units*.—The establishment of each formation includes a unit of R. Signals to provide the intercommunication required by the formation commander.

Army field, medium and heavy regiments, Royal Artillery, have signal sections which, though generally attached to a corps or divisional signals, are independent units.

The general organization of units of R. Signals and their employment are discussed in Signal Training, Vol. I.

5. In addition to the above R. Signals organization, cavalry regiments, batteries, battalions of infantry and units of the Royal Tank Regiment have signallers or driver operators on their establishment. The detail of these and their tactical employment are described in Signal Training (All Arms), 1938, Chapter XXIV.

15. Organization of intercommunication

1. The essence of signal organization is co-operation and progressive development. In forward areas, highly mobile signal units are capable of providing communication rapidly to meet the changing tactical requirements; but the system is necessarily fragile and limited in its traffic capacity.

Behind these forward signal units are others less mobile but capable of providing the more solid communication required by the higher command and of dealing with the amount of

signal traffic. As the tactical situation develops, these units strengthen and elaborate the communication established by those in front of them, thereby relieving the latter and freeing them for work further forward.

2. *Signal offices.*—In order to co-ordinate the various means of communication, other than the army postal service, and to ensure that messages are dealt with systematically, a signal office is established at the headquarters of every formation and at the headquarters of such units as carry signallers on their establishment or are provided with a signal section. The duties of the personnel of the signal offices are to receive, record, despatch and deliver messages. It is the duty of the originator, not of the signal personnel, to keep any copies required of messages sent.

3. *Signal centres.*—It is sometimes convenient temporarily to establish a special signal office at a point which is not a headquarters, but at which means of communication with two or more headquarters may be concentrated. Such an office, which may be established by a higher formation in the vicinity of the headquarters of lower formations or units, is called a signal centre. After deployment, communication with the headquarters of subordinate formations and units can often most conveniently be arranged by means of signal centres. When a headquarters halts beside a signal centre, the signal office of the headquarters will continue to act as such but will, if it is convenient and economical, use the means provided by the signal centre to dispose of its messages. Signal centres, if properly used, should effect economy in signal personnel and material. A formation may establish a signal centre at a site to which its headquarters will move later. When the move takes place, the signal centre becomes the signal office of that headquarters.

4. *Main arteries.*—Within a formation the communications from rear to front are normally centred in one, or possibly more, main arteries on which are established the signal offices or signal centres.

The system is further developed and strengthened by lateral connections between signal offices and centres. The means of communication available are allotted to the main arteries and laterals in the way best calculated to meet requirements.

5. By the general method described above the varying requirements are satisfied. The theatre of war becomes covered with a network, which puts all parts of a force in ultimate touch with one another, while it gives the most

direct communication where it is most needed. Dissipation of effort, by providing special direct links of communication outside this general framework, must be avoided unless justified by the importance of the link required.

6. During an advance the higher formations push forward their main arteries into the area of their subordinate formations, set up their new signal offices or signal centres ready for work, establish their new laterals and, in short, do everything to ensure that their headquarters find communications ready when they move forward. To this end it is essential that signal officers obtain from the general staff the earliest possible information of any move that is contemplated.

In the withdrawal, headquarters of lower formations should fall back along existing arteries and establish themselves near existing signal centres: two or more headquarters may be grouped on the same artery.

7. The main artery system is unsuitable in any formation covering a very wide front with its headquarters well forward: nor is any advantage secured by concentrating wireless and direct visual communication on a main artery. The system is therefore not generally applicable to mobile forces, which depend on wireless as their principal means of communication.

A formation making use of direct wireless and visual communication may yet follow the main artery system in the employment of lines.

16. Control by formation commanders

1. The line of advance of a formation headquarters using a main artery will normally be along that artery to ensure intercommunication at the end of a bound. The routes chosen for main arteries are not therefore a purely technical question but must be settled by commanders in conjunction with their signal advisers.

2. In the intercommunication paragraph of operation orders the routes, which subordinate headquarters will follow, are laid down. In this way arrangements for intercommunication can be planned in advance.

3. In rear of divisional headquarters main arteries and laterals may include semi-permanent and permanent line routes. Once constructed, these cannot be readily altered. For that reason, and to ensure economy and concentration of effort, the system will as a rule be co-ordinated by G.H.Q., who may lay down the routes which main arteries and laterals of the larger formations are to follow.

In protracted operations, where buried cables are installed within divisional areas, this general co-ordination may extend to the front line.

17. Organization of wireless communication

1. *Allotment of wave frequencies.*—Subject to any general directions as to policy or any special requirements laid down by the general staff, the allotment of frequencies for use by the Army and by the R.A.F. component is controlled by the signal officer-in-chief. He will allot blocks of frequencies to all formations which come directly under G.H.Q., to line of communication and G.H.Q. signals, as well as those required by the air officer commanding for communication with army co-operation wings and air formations directly under air force headquarters.

Similarly signal officers of lower formations, on receipt of a block of frequencies, will make their own sub-allotments. Detailed instructions are given in Signal Training, Vol. I, 1937, Chapter XX.

2. *Allotment of call signs.*—The allotment of call signs requires the same co-ordination as frequencies and is therefore made under the instructions of the signal officer-in-chief. As it is bound up, however, with other security questions, it is subject to the control of the general staff.

Call signs for use by the R.A.F. component of an army in the field are allotted by the army. For wireless call signs to be used in communication with army co-operation aircraft see The Employment of Air Forces with the Army in the Field, 1938, Sec. 17, 10.

3. *Grouping of wireless stations.*—A number of wireless stations working together on one frequency is called a group. A group of two stations resembles, in traffic capacity, two L/T terminals at the end of a line, subject to the delay imposed by cipher.

If there are more than two stations in a group, only one can transmit at a time, and messages from any one of the group are received simultaneously by all the others. Such an arrangement is often useful for transmitting multiple addressed messages. The traffic capacity, however, diminishes as the number of stations in the group increases. A group of three stations, one at a formation's headquarters and one at each of two subordinate headquarters, should work satisfactorily. Such a group should have a fair traffic capacity, and at the same time provides lateral communication between the subordinate formations.

In mobile formations and units, large groups are often necessary. This requires a very high degree of training among operators and among officers using R/T. In such formations and units the sending of orders and information by officers by R/T will be the normal practice, and it is therefore essential that these officers should have a thorough knowledge of the procedure for using R/T in a group of stations. (See Signal Training, All Arms, 1938, Sec. 93.)

18. Communication with the Royal Air Force

1. The division of responsibility for providing communication for the different parts of the R.A.F. component, and details regarding communication between aircraft and the ground, are fully described in The Employment of Air Forces with the Army in the Field.

CHAPTER V

SIGNALS SECURITY

19. Wireless security

1. All messages sent by wireless (W/T and R/T) are liable to interception by an enemy. The approximate position of a wireless station can also be determined by an enemy using direction-finding apparatus.

The following precautions may therefore be necessary to obtain wireless security.

i. Wireless silence.

ii. Wireless restriction, including use of cipher for W/T and restriction in the use of R/T.

iii. The periodical changing of wireless frequencies and call signs.

2. *Wireless silence.*—A commander who is anxious to conceal the dispositions and movements of his troops will risk the loss of surprise unless he is prepared to impose complete or partial wireless silence. No fixed rules can be given since the importance of secrecy must be weighed against the need for control and information, but as a general guide wireless silence should be observed by all except the following :—

i. Reconnaissance troops and aircraft when no other effective means of communication are available. The unit or formation headquarters receiving such wireless messages will acknowledge them by wireless and may ask for any necessary corrections, but this does not permit the full use of its wireless.

ii. A unit or formation headquarters, when its forward elements are in contact with enemy troops and it is, itself, exercising tactical control of operations.

iii. A unit or formation in cases of extreme urgency, when no other effective means of communication are available.

The wishes of a commander in the matter of wireless silence are often better conveyed in the form of an operation instruction than in an operation order.

3. *Wireless restriction.*—Although messages may be intercepted, an interval must always elapse before the enemy can act on the information received. The sending of W/T messages in clear and the free use of R/T are therefore justified

when the message is urgent and it is considered that the information is likely to be of little value by the time the enemy can act upon it. The possibility of a message containing valuable information for the future use of the enemy must always be considered. Apparently harmless administrative messages sent in clear may enable the enemy to deduce the presence of fresh troops in an area or the nature of future plans.

4. The following rules are given for guidance in the use of wireless :—

i. *Wireless telegraphy*

(a) Messages by W/T will normally be sent in cipher. All headquarters in the field which may require to use cipher are provided with the means of enciphering and deciphering messages. The use of any unauthorized cipher is forbidden.

(b) In rear of and between brigade headquarters, messages may be franked to be sent AS WRITTEN by officers authorized to frank "emergency operations" messages, when speed is vital and it is considered that the enemy cannot take effective action on the message if intercepted.

(c) In front of brigade headquarters, messages dealing with operations in progress, when contact with the enemy has been made, may be franked by any officer to be sent AS WRITTEN. Code names will however be used (see para. 4, below) and precautions taken to prevent the enemy obtaining information.

ii. *Radio telephony*

(a) In rear of and between divisional headquarters, R/T may be used only by officers authorized to frank "emergency operations" messages.

(b) In front of divisional headquarters, all officers may use R/T, provided that they observe the precautions described below.

(c) The use of R/T requires considerable attention and practice to avoid giving away valuable information by the careless mention of times, places and names of units. The danger can be largely overcome by thinking out the wording of the message, and making notes of it, before starting a conversation. References to the paragraphs of

orders and instructions give nothing away and should be used where possible. Pre-arranged code words and phrases may be employed to describe positions and actions. Conversations should be kept as short as possible.

5. *Wireless frequencies and call signs*

Frequencies and call signs must be changed periodically and always when code names are changed.

20. Security of line telegraphy and telephony

1. In certain circumstances, mainly in those of position warfare, it may be assumed that the enemy will be equipped with means for overhearing telegraph and telephone traffic on lines in front of divisional headquarters. The general staff will then notify that a danger zone exists in a divisional area.

In a danger zone line communications will be limited to those which can by technical means be rendered immune from overhearing, and instructions will be issued limiting the use of the telephone.

21. Security of despatch riders

If messages by despatch rider are liable to fall into the enemy's hand, the general staff will give the necessary warning to signals. Escorts may have to be arranged.

22. Code names

Formations and units are allotted code names by the general staff, in accordance with the instructions contained in Appendix VI. Within divisions, armoured divisions and corps medium artillery, code names will be used in the addresses and texts of written messages for despatch by telegraph or despatch rider, except in the following cases:—

- i. Messages originated at headquarters of divisions and armoured divisions, and corps medium artillery, and addressed only to units and formations in rear, or to the headquarters of other divisions or corps medium artillery.
- ii. Operations orders and instructions marked for despatch by D.R. only.

In these cases, and at the headquarters of corps and higher formations the authorized abbreviations will be used.

In radio telephony, code names will always be used.

In line telephony, when a danger zone has been notified, code names will be used when either speaker is in front of divisional headquarters.

CHAPTER VI

MOVEMENTS

23. Movement by road—General

1. The strategical or tactical considerations which govern the movement of armies in a theatre of war, e.g. the front on which a force may move, the order of march and the extent to which use can be made of mechanization, are discussed in Field Service Regulations, Volume III. The protection of columns on the march will be dealt with in pamphlets on "Approach" and "Withdrawal."

2. The length of moves will be governed mainly by the strategical and tactical situation, but the daily distance that can be covered will depend upon the physical and moral state of the troops, the condition of vehicles, the standard of march discipline, the state of the weather and of the roads, and the efficiency of the arrangements made by commanders and staffs for traffic control and for the comfort of the troops.

Account must be taken of the demands which have been made on troops and vehicles immediately before a move. Tired drivers, particularly if subjected to the strain of night movement with reduced lighting, will inevitably cause accidents.

Forced marches by infantry, owing to the risk of casualties and loss of efficiency involved, should be undertaken only in the case of extreme tactical necessity. Troops will respond better to the demand for a special effort if the reasons can be made known to them. Infantry should rarely be called upon to exceed the regulation rate of marching; a forced march is made by increasing the number of hours the troops are on the road rather than by increasing the rate of marching.

Sufficient time must be allowed at the end of a march for the maintenance of vehicles, otherwise their condition will rapidly deteriorate. Whenever possible the heavier categories of tracked vehicles should be moved by rail.

3. As a general guide, the daily range of mechanical vehicles, in miles, can be taken to be:—

	<i>Normal</i>	<i>Emergency</i>
Wheeled vehicles	150	300
Light tracked vehicles	100	150
Medium and heavy tracked vehicles	50	75

4. The average daily march of infantry columns is 15 miles with one day's rest at least once a week. Small columns of seasoned troops can maintain a higher average; and any body

of well disciplined troops can be expected to cover greater distances should the necessity for a forced march arise.

Large bodies of horsemen, such as a cavalry division, will average 25 to 30 miles a day, and can cover 40 miles a day as a special effort.

24. The responsibility of the staff

1. Staff arrangements which affect the comfort of the troops are the hour of starting, the selection and marking of the route, traffic control, the provision of halts, good quartering dispositions and the regulation of the movement of maintenance echelons, so that the troops receive their food, baggage and blankets with the least possible delay.

2. In fixing the hour of starting, time should be allowed, if the situation permits, for the men to have a meal without hurry. It must be remembered that, with a marching force, troops will have to begin preparations some two hours before the time laid down for passing a starting point. Where a force has to take up tactical dispositions on completion of a march it will be necessary to arrange the hour of start so that sufficient daylight is left at the other end; where, on the other hand, a force is required to move into a staging or concentration area at the end of a march, it is often advisable to arrange the hour of start so that troops arrive at their destination just after dark and thus escape air observation.

The danger of air attack will often make it necessary for some or all of a move to be carried out by night.

3. March formations

<i>Normal march formations on a road</i>	<i>Road space when threatened by air attack</i>
i. For all vehicles, column of route, i.e. single file.	Density of 10 to 20 v.t.m.
ii. For cavalry, column of half sections, i.e. two horses abreast opened out on either side of the road.	Two yards per horse in the ranks. Distances of 10 yards between troops.
iii. For infantry, column of route, i.e. threes, opened out on either side of the road.	Two yards for three men. Distances of 10 yards between platoons.
iv. For cyclists, half sections i.e. two men abreast, rule of the road side of the road.	Three yards for two men. Distance of 10 yards between platoons.

The normal distances between units and formations will be 50 yards. Whenever troops are moving in areas in which they are liable to air attack without warning every endeavour should be made to move them on a broad front across country. It is not, however, worth while to change one march formation for another, unless the latter can be maintained for a considerable distance.

Owing to the discomfort caused by dust and petrol fumes, mechanized vehicles should as far as possible pass marching columns while the latter are halted.

4. Arrangements must be made for the regulation of civilian traffic. Usually if heavy troop movement is in progress all civilian traffic will need to be diverted to side roads. If no side roads are available, civilian traffic must be parked well clear of the road until the weight of military traffic is sufficiently low to allow them to proceed. Civilians must be warned to disperse in their parks and to dig slit trenches for their protection while waiting.

5. Traffic control is dealt with in Appendix VIII.

25. March discipline

1. A unit will retain its mobility under the exacting conditions of field service only if a high standard of march discipline is maintained. A great deal therefore depends on the efforts of regimental officers. March discipline includes everything that affects the efficiency of the man, vehicle or horse during the move, e.g. the arrangements for food, the filling of water bottles, the maintenance of mechanized vehicles, the strict observance of the correct formations, distances and densities and many similar details.

2. Slackness in march discipline not only causes discomfort in the unit itself, but may expose it to heavy casualties from air attack and may lead to disaster through troops arriving late or too exhausted to take an effective part in battle. The importance of march discipline and the necessity of maintaining a high standard in all conditions must be realized by all ranks. March discipline which breaks down at a time of crisis is of little value; the longer and more trying the march and the worse the conditions, the more strictly must it be enforced.

3. Details are given in Appendix IX.

26. Rules for the passage of bridges and defiles

1. A staff officer will usually be detailed to supervise the passage by a column of an important bridge, defile or obstacle. This officer will regulate the flow of traffic and will make any arrangements necessary for the further action of units on the far side of the obstacle. An officer of each unit will remain on the near side of the bridge, defile or obstacle to control the movement of the unit until the whole of it has passed. Troops and transport awaiting passage must not close up and if forced to halt for any length of time must clear the road. If the locality is particularly favourable to air attack slit trenches should be prepared in the neighbourhood of the road. To facilitate traffic control, control posts placed at a suitable distance on either side should be in telephonic communication with the bridge or defile.

2. Where engineer work on the passage is necessary, the staff officer will issue his orders in co-operation with the engineer officer in charge of the work. The responsibility of the engineer officer for the crossing arrangements extends only between the extreme limits of the bridge, or between the banks of the river when the crossing is by raft or ferry.

The maintenance of a bridge remains the responsibility of the engineer unit which constructed it, until further orders are issued.

3. The classification of military bridges is given in the supplement to Part I. Since each type of bridge is designed to carry a specified load, careful arrangements are necessary to prevent the passage on to the bridge of any load greater than that which it is designed to bear. Unit commanders are responsible that the normal loads of vehicles are not exceeded. To facilitate the allotment of vehicles to suitable routes all bridges and vehicles are classified in similar weight groups. The figure indicating the group is marked on the front of every vehicle and on the approach to every bridge.

4. The passage of military bridges involves single line traffic and a speed not exceeding 10 m.p.h. There is likely also to be a limitation on the number of vehicles that can be on the bridge at one time. This may affect the density of traffic.

27. Movement of troops by M.T.

1. Reserve transport may be allotted to formations for the carriage of marching personnel. Used tactically there are very great advantages to be gained. Compared with a train, however, movement by M.T. is less economical, congests the

roads, and provides less comfort. It has, however, the great advantage of flexibility, as it can go wherever a suitable road exists. The advantages and disadvantages are in fact similar to those of the railway and motor transport in civil life.

2. Owing to danger from air attack it is essential to reduce to a minimum the time spent in embussing and debussing. Thus when sufficient transport to carry all personnel of a division cannot be made available it will be better to lift portions of the division forward on successive days to the maximum daily distance rather than lift the whole division forward a lesser distance by a series of short moves on each successive day. Besides entailing much embussing and debussing this latter method will also be more difficult to conceal, owing to the increased activity over comparatively short stretches of road; there may, however, be occasions when the strategical or tactical situation will force the commander to adopt it.

To achieve the greatest possible daily distance, a combination of marching and carriage by mechanized transport may be arranged. This will be carried out, however, at a further sacrifice of freedom from air observation and attack.

3. It is essential that points for embussing and debussing should be carefully reconnoitred. Such points should be protected from the air and concealed wherever possible. Debussing points must be near a turning circuit. Arrangements must be made for embussing and debussing to be carried out expeditiously. The operation when effected in daylight should never be allowed to exceed one minute. Every man should jump clear holding the stores for which he is responsible; in daylight there should be no further unloading of stores. Immediately the troops are clear the vehicles move on to a locality which must be clearly stated in orders. Vehicles must never be allowed to close up during embussing or debussing.

When embussing the exact halting places for vehicles must be clearly marked, and troops should be detailed and waiting ready to jump into their vehicles as soon as they arrive. A suitable table for use is given at Appendix III.

4. The command of a mechanized column of personnel travelling in reserve transport will rest with the commander of the unit or formation being transported.

He will consult the R.A.S.C. officer commanding the vehicles on all matters affecting the proper working of the transport. He should avoid interference in technical matters which must

be given every consideration so long as this does not endanger the safety of the column. The R.A.S.C. officer will therefore be responsible for general march discipline, for regulating the cruising speed, for technical control and for dealing with break-downs. The column commander will give the order for embussing and debussing. He and his officers will be responsible for taking action on meeting an obstruction and for action in the event of a tactical emergency. A sufficient number of officers must be detailed to travel in the column to carry out these duties.

The column commander and the R.A.S.C. officer in command of the transport should travel in the same car or in cars following each other, as should also unit commanders with their respective mechanized transport section commanders. For other points in march discipline see Appendix IX.

After the personnel have debussed and the vehicles have moved clear of the debussing point, the R.A.S.C. officer in command of the transport if still under command of the formation or unit will remain with the headquarters concerned ready to receive his orders.

5. Mechanized transport which already has a definite purpose should be employed for the carriage of marching personnel only in circumstances of extreme urgency. The normal functioning of the administrative services may be upset, great discomfort caused, and troops may even become divorced from their weapons.

For this latter reason it is essential that men carried in improvised transport should be accompanied by sufficient arms and ammunition to enable them to fight at once in an emergency.

APPENDIX I

ADMINISTRATIVE MATTERS WHICH MAY REQUIRE CONSIDERATION IN THE PREPARATION OF OPERATION ORDERS OR ADMINISTRATIVE ORDERS

The matters in the following table may have to be considered in the preparation of the administrative paragraphs of operation orders, or in separate administrative orders when such are issued. Several of them concern the orders of higher formations only (Armies, Corps or Divisions). Administrative, like other, orders should be as concise as possible, and should include only such matter as is essential for the purpose in view.

Matters of routine which are normally dealt with in *standing orders* are not included in the table.

Accommodation Administrative areas; billeting arrangements; enclosures for prisoners of war.

Ammunition .. Railheads; refilling points; ammunition points; special arrangements for advance or withdrawal; location and stocks of temporary depots; responsibility and labour for working depots; accountancy instructions.

NOTE.—If an allotment of rounds for each gun is made or a limit set to expenditure, instructions for this are issued by the general staff after consultation with the administrative branches of the staff.

Anti-gas .. Cleansing and decontamination; issue of special stores or reserves of clothing.

Blankets .. Meeting points; arrangements for distribution and collection.

Captured areas Administration of area; control of civilians; examination of water supplies; sanitary precautions; disposal of captured documents.

Engineer services. Provision of water facilities; special allotment of tools and engineer materials; location and stocks of reserves of engineer stores; provision and erection of sign-boards.

Medical services.

Location of regimental aid posts, advanced and main dressing stations, casualty clearing stations and ambulance railhead; location of collecting posts and car posts; arrangements for walking wounded; provision of additional stretchers; special sanitary precautions.

Ordnance services.

Railheads; location of ordnance field parks and workshops; light aid detachments and L. of C. Recovery Sections; allotment of reserve vehicles; arrangements regarding army and corps ammunition reserves.

Provost and traffic.

Traffic control; restrictions as to use of lights at night; collection and disposal of battle stragglers and prisoners of war; arrangements for dealing with refugees.

Supplies and Petrol.

Location and times for railheads; refilling points; supply or meeting points; petrol points; special issues; reserves; location of depots or temporary dumps.

APPENDIX II

SPECIMEN MARCH OR MOVEMENT TABLE

APPENDIX TO OPERATION ORDER NO.

COPY NO.

Serial No.	Date	Formation or Unit	Number of Vehicles	Place :		S.P.	Time past S.P.	Route	Speed to S.P.	Speed and Density during march		Dispersal Point	Remarks
				From	To					v.t.m.	m.i.h.		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(l)	(m)	(n)	(o)

NOTES

- The form given is comprehensive : only the columns applicable to a particular move will be used, e.g. :—
 - Columns (d), (k), (l), (m) do not apply to marching cols.
 - (e) and (f) may be omitted for security reasons.
 - Col. (d) is for the staff and road movement control posts. It should be omitted if road movement control system is not organized.
 - Cols. (g), (j), (k), (l), (m), (n) if they do not vary, can be placed as data at the head of the table.
- Remarks column may include such points as :—
 - Detail of personnel in vehicles of another unit.
 - Details of any special route to S.P. and responsibility for traffic control between billets and S.P.
 - Change of speed and density.
 - Any necessary instructions for the march, not included in the operation order.
- In the case of a table for a single route with few control points, the time past control points may be included in the table as for S.P. Otherwise a more convenient method of showing these times is in the form of the table below.

TABLE OF APPROXIMATE DISTANCES FROM S.Ps. TO CONTROL POINTS AT 20 M.I.H.

Route A			Route B			Route C		
S.P. to :—	Distance	Time Hrs. Mins.	S.P. to :—	Distance	Time Hrs. Mins.	S.P. to :—	Distance	Time Hrs. Mins.

APPENDIX III

SPECIMEN BUS TABLE

Secret.

Copy No.

Appendix.....to.....Operation Order No.....

Serial No.	Unit Group commander (See Note 1)	Unit (b)	Bus (or lorry) numbers. (See Note 2)	Bus (or lorry) loads		Total of unit	Em-bussing point	Time troops due at em-bussing point	Route to em-bussing point	Time of start	Remarks
				Personnel	Stores						
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)

NOTES

1. Troops embussing are organized into unit groups. When the troops are required to debuss in proximity to the enemy, the composition of transport columns should be arranged so as to preserve the tactical organization of the troops moved, otherwise the composition of unit groups should be designed to avoid breaking up the organization of transport units. A unit group may therefore consist of a unit or portion of a unit, or may comprise portions of two or more units. Each unit group is allotted a serial number in the Table, and its commander detailed in column (a).
2. The buses or lorries in the transport column are numbered consecutively throughout, and the numbers allotted to each unit group are shown in column (b); spare buses or lorries are unnumbered.
3. The exact detail of stores to be embussed must be shown in column (c).

APPENDIX IV

ABBREVIATED TITLES, ADDRESSES, DISTINGUISHING LETTERS AND OTHER ABBREVIATIONS

NOTES :—

1. Officers are not expected to memorize all the abbreviations given in this appendix. Many of them will be used only by special or technical services or units.

2. Abbreviations in general, and in particular those not included in these lists, will be used only when the writer is satisfied that there can be no possibility of the reader misunderstanding their meaning.

3. Abbreviations for the titles of units will not be used when code names are in use.

4. Units converted from one arm of the service to another will use the abbreviations appropriate to the new arm, e.g. 9th Battalion The Middlesex Regiment would be addressed as "60 S.L. Regt."

5. Names and individual designations of officers will *not* appear in messages unless they are intended for delivery to individuals.

6. In addressing a headquarters :—

i. Branches of the staff will *not* be included—e.g. "1 Div" is right and "Q 1 Div" is wrong.

ii. Except when code names are in use abbreviations denoting subordinate commanders or Services will be included—e.g. "RA 1 Div" "Medical 2 Corps" are correct. "Medical BOLO" is wrong.

7. The staff of M.G.R.A., C.C.R.A., C.C.M.A., and C.R.A., will use the originator's letters R.A.O., R.A.I., and R.A.Q.

8. Units (regiments, battalions, etc.), will use distinguishing letters "O" "I" and "Q" only.

1. Headquarters, formations, staff, appointments and services

Full Title	(1)	Abbreviation for general use and for addressing messages or correspondence to	(2)	Distinguishing letter to be used with originator's number	(3)
General Headquarters	..	G.H.Q.			—
First (Second etc.) Army	..	First (Second etc.) Army			—
1st (2nd, etc.) Corps	..	1 (2, etc.) Corps			—
1st (2nd, etc.) Armoured Division	..	1 (2, etc.) Armd. Div.			—
1st (2nd, etc.) Division	..	1 (2, etc.) Div.			—
1st (2nd, etc.) Cavalry Brigade	..	1 (2, etc.) Cav. Bde.			—
1st (2nd, etc.) Infantry Brigade	..	1 (2, etc.) Inf. Bde.			—
Royal Artillery				R.A. (See note 7 above)	
1st (2nd, etc.) Corps Artillery	..	R.A.1 (2, etc.) Corps		R.A.	
1st (2nd, etc.) Corps Medium Artillery	..	M.A.1 (2, etc.) Corps		M.A.	
1st (2nd, etc.) Divisional Artillery	..	R.A.1 (2, etc.) Div.		R.A.	
Royal Engineers				R.E.	
1st (2nd, etc.) Divisional Engineers	..	R.E.1 (2, etc.) Div.		R.E.	

Full Title	Abbreviation for general use and for addressing messages or correspondence to	Distinguishing letter to be used with originator's number
(1)	(2)	(3)
Royal Corps of Signals		
General Headquarters Signals	Sigs. G.H.Q.	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.
Anti-Aircraft Defence		
1st (2nd, etc.) Anti-Aircraft Brigade	1 (2, etc.) A.A. Bde.	—
Royal Army Service Corps		
1st (2nd, etc.) Divisional Royal Army Service Corps	R.A.S.C. 1 (2, etc.) Div.	S.T.
Royal Air Force		
Royal Air Force Component with the Army in the Field	Air G.H.Q.	—

Staff

General Staff Branch		
Operations Section	—	O.
Intelligence Section and Intelligence Officers	—	I.
Staff Duties and Training Section	—	S.D.
Brigade Majors	—	O.
Signal Officer in Chief, Chief Signal Officers and their Staffs	Chiefsigs.	X
Adjutant-General's Branch	—	A.
Officer-in Charge 2nd Echelon	O.2.E.	ECH.
Staff Captain	—	A.
Quarter-Master-General's Branch	—	Q.
Staff Captain	—	Q.
Movement Control	—	Q.M.
Appointments		
Military Secretary	M.S.	M.S.
Camp Commandant	Camp	CP

Full Title	(2)	Abbreviation for addressing messages or correspondence to	(3)	Distinguishing letter to be used with originator's number
Appointments—continued.				
Aides-de-Camp	A.D.C.		A.D.C.
Personal Assistant	P.A.		—
Services				
Chaplains	Chaplains		CH
Canteen	Canteens		CAN
Engineer Stores	Restores		ES
Graves	Graves		GR
Hirings	Hirings		HGS
Judge Advocate-General	D.J.A.G.		J.A.G.
Labour	Labour		LB
Medical	Medical		M
i. Medical and Surgical	Medical		M
ii. Hygiene	Hygiene		M
iii. Pathology	Pathology		M
iv. Dental	Dental		M

v. Nursing	.. .. .	Nursing		M
Ordnance .. .. .	.. .. .	Ord		OS
Pay .. .. .	.. .. .	Pay		PAY
Army Postal .. .. .	.. .. .	Postal		P
Printing and Stationery .. .. .	.. .. .	Print		PS
Provost .. .. .	.. .. .	Pro		PRO
Remounts .. .. .	.. .. .	Remounts		RM
Supply .. .. .	.. .. .	Sup		S
Survey .. .. .	.. .. .	Survey		CV
Transport .. .. .	.. .. .	Tpt.		T
Transportation .. .. .	.. .. .	Transit		TN
i. Docks .. .. .	.. .. .	Docks		D
ii. Inland Water Transport .. .. .	.. .. .	I.W.T.		IW
iii. Railways .. .. .	.. .. .	Rail		RY
iv. Light Railways .. .. .	.. .. .	Lightrail		LR
Veterinary .. .. .	.. .. .	Vet		VET
Works .. .. .	.. .. .	Works		WKS

II. Commanders and Staffs

Full Title ()	Abbreviation (b)
Chief of the Imperial General Staff at the War Office	C.I.G.S.
Commander in Chief	C. in C.
Major-General, Royal Artillery	M.G.R.A.
Commander, Corps Royal Artillery ..	C.C.R.A.
Commander, Corps Medium Artillery ..	C.C.M.A.
Commander, Royal Artillery	C.R.A.
Engineer-in-Chief	E. in C.
Chief Engineer	C.E.
Commander, Royal Engineers	C.R.E.
Signal Officer-in-Chief	S.O. in C.
Chief Signal Officer	C.S.O.
Commander, Royal Army Service Corps	C.R.A.S.C.
Naval Staff Officer	N.S.O.
Principal Sea Transport Officer	P.S.T.O.
Air Officer Commanding	A.O.C.
Chief of the General Staff in the Field ..	C.G.S.
Deputy Chief of the General Staff ..	D.C.G.S.
Major-General, General Staff	M.G.G.S.
Brigadier, General Staff	B.G.S.
General Staff Officer	G.S.O.
Brigade Major	B.M.
Deputy-Adjutant-General	D.A.G.
(Deputy) Assistant-Adjutant-General ..	(D.) A.A.G.
Staff Captain	S.C.
Deputy Quarter-Master-General	D.Q.M.G.
(Deputy) Assistant - Quarter - Master-General	(D.) A.Q.M.G.
(Deputy) Assistant Director Transportation	(D.) A.D.Tn.
(Deputy) Assistant - Adjutant and Quarter-Master-General	(D.) A.A. and Q.M.G.

III. Regiments and Corps

Full Title (1)	Abbreviation (2)
The Life Guards (1st and 2nd)	L.G.
Royal Horse Guards (The Blues) ..	R.H.G.
1st The Royal Dragoons	Royals
The Royal Scots Greys (2nd Dragoons)	Greys
Royal Wiltshire Yeomanry	R. Wilts. Yeo.
Warwickshire Yeomanry	Warwick Yeo.
Yorkshire Hussars	Yorks H.
Nottinghamshire Yeomanry	Notts. Yeo.
Staffordshire Yeomanry	Staffs. Yeo.
Shropshire Yeomanry	Shrops. Yeo.
Ayrshire Yeomanry	Ayr Yeo.
Cheshire Yeomanry	Cheshire Yeo.
Yorkshire Dragoons	Yorks D.
Leicestershire Yeomanry	Leicester Yeo.
North Somerset Yeomanry	N. Som. Yeo.
Duke of Lancaster's Own Yeomanry ..	D.L.O. Yeo.
Lanarkshire Yeomanry	Lanark Yeo.
Northumberland Hussars	N.H.
Lovat Scouts	Lovat
Scottish Horse	Scot. Horse
Royal Armoured Corps	R.A.C.
1st King's Dragoon Guards	K.D.G.
The Queen's Bays (2nd Dragoon Guards)	Bays
3rd Carabiniers (Prince of Wales's Dragoon Guards)	3 D.G.
4th/7th Royal Dragoon Guards	4/7 D.G.
5th Royal Inniskilling Dragoon Guards	5 Innisk. D.G.
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.

Full Title (1)	Abbreviation (2)
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
Derbyshire Yeomanry	Derby Yeo.
Gloucestershire Hussars	Gloster H.
Lothians and Border Horse	L.B. Horse
Fife and Forfar Yeomanry	F.F. Yeo.
Northamptonshire Yeomanry	Northampton Yeo.
Sharpshooters	Sharpshooters
East Riding of York Yeomanry	E. Yorks Yeo.
Royal Regiment of Artillery	R.A.
Corps of Royal Engineers	R.E.
Royal Corps of Signals	R. Sigs.
Grenadier Guards	Gren. Gds.
Coldstream Guards	Coldm. Gds.
Scots Guards	S.G.
Irish Guards	I.G.
Welsh Guards	W.G.
The Royal Scots (The Royal Regiment)	R.S.
The Queen's Royal Regiment (West Surrey)	Queen's Bufs
The Buffs (Royal East Kent Regiment)	
The King's Own Royal Regiment (Lancaster)	King's Own N.F.
The Royal Northumberland Fusiliers ..	Warwick
The Royal Warwickshire Regiment ..	
The Royal Fusiliers (City of London Regiment)	R.F.
The King's Regiment (Liverpool) ..	Kings
The Royal Norfolk Regiment	Norfolk
The Lincolnshire Regiment	Lincolns
The Devonshire Regiment	Devon
The Suffolk Regiment	Suffolk
The Somerset Light Infantry (Prince Albert's)	Som. L.I.
The West Yorkshire Regiment (The Prince of Wales's Own)	W. Yorks.
The East Yorkshire Regiment (The Duke of York's Own)	E. Yorks.

Full Title (1)	Abbreviation (2)
The Bedfordshire and Hertfordshire Regiment	Bedfs. Herts.
The Leicestershire Regiment	Leicesters.
The Green Howards (Alexandra, Princess of Wales's Own Yorkshire Regiment)	Green Howards
The Lancashire Fusiliers	L.F.
The Royal Scots Fusiliers	R.S.F.
The Cheshire Regiment	Cheshire
The Royal Welch Fusiliers	R.W.F.
The South Wales Borderers	S.W.B.
The King's Own Scottish Borderers ..	K.O.S.B.
The Cameronians (Scottish Rifles) ..	Cameronians
The Royal Inniskilling Fusiliers	Innisk.
The Gloucestershire Regiment	Glosters.
The Worcestershire Regiment	Worc. R.
The East Lancashire Regiment	E. Lan. R.
The East Surrey Regiment	Surreys
The Duke of Cornwall's Light Infantry	D.C.L.I.
The Duke of Wellington's Regiment (West Riding)	D.W.R.
The Border Regiment	Border
The Royal Sussex Regiment	R. Sussex
The Hampshire Regiment	Hamps.
The South Staffordshire Regiment	S. Staffords.
The Dorsetshire Regiment	Dorset
The Prince of Wales's Volunteers (South Lancashire)	P.W.V.
The Welch Regiment	Welch
The Black Watch (Royal Highlanders)	Black Watch
The Oxfordshire and Buckinghamshire Light Infantry	Oxf. Bucks.
The Essex Regiment	Essex
The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment)	Foresters
The Loyal Regiment (North Lancashire)	Loyals
The Northamptonshire Regiment	Northamptons.
The Royal Berkshire Regiment (Princess Charlotte of Wales's)	R. Berks.
The Queen's Own Royal West Kent Regiment	R.W.K.
The King's Own Yorkshire Light Infantry	K.O.Y.L.I.
The King's Shropshire Light Infantry ..	K.S.L.I.

Full Title (1)	Abbreviation (2)
The Middlesex Regiment (Duke of Cambridge's Own)	Mx.
The King's Royal Rifle Corps	K.R.R.C.
The Wiltshire Regiment (Duke of Edinburgh)	Wilts.
The Manchester Regiment	Manch.
The North Staffordshire Regiment (The Prince of Wales's)	N. Staffs.
The York and Lancaster Regiment	Y. & L.
The Durham Light Infantry	D.L.I.
The Highland Light Infantry (City of Glasgow Regiment)	H.L.I.
The Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's)	Seaforth
The Gordon Highlanders	Gordons
The Queen's Own Cameron Highlanders	Camerons
The Royal Ulster Rifles	R.U.R.
The Royal Irish Fusiliers (Princess Victoria's)	R. Ir. F.
The Argyll and Sutherland Highlanders (Princess Louise's)	A. & S.H.
The Rifle Brigade (Prince Consort's Own)	R.B.
Liverpool Scottish	Livpl. Scot.
Buckinghamshire Battalion	
Oxfordshire and Buckinghamshire Light Infantry	Bucks.
Hallamshire Battalion	Hallams.
York and Lancaster Regiment	
Monmouthshire Regiment	Mon.
Cambridgeshire Regiment	Camb.
London Rifle Brigade	L.R.B.
Queen Victoria's Rifles	Q.V.R.
Rangers	Rangers
Kensington Regiment	Kensingtons
London Scottish	Lond. Scot.
Queen's Westminsters	Q.W.
Tower Hamlets Rifles	T.H.R.
London Irish Rifles	L.I.R.
Hertfordshire Regiment	Herts.
Herefordshire Regiment	Hereford
Royal Army Chaplain's Department	R.A.Ch.D.
Royal Army Service Corps	R.A.S.C.

Full Title (1)	Abbreviation (2)
Royal Army Medical Corps	R.A.M.C.
Royal Army Ordnance Corps	R.A.O.C.
Royal Army Pay Corps	R.A.P.C.
Royal Army Veterinary Corps	R.A.V.C.
Army Educational Corps	A.E.C.
The Army Dental Corps	A.D. Corps
Corps of Military Police	C.M.P.
Military Provost Staff Corps	M.P.S.C.
Queen Alexandra's Imperial Military Nursing Service	Q.A.I.M.N.S.

IV. Examples of abbreviated titles of units other than cavalry and infantry

Full Title (1)	Abbreviation (2)
R.A.	
1st (2nd, etc.) Field (Medium, etc.) Regiment	1 (2, etc.) Fd. (Med. etc.) Regt.
A/E Battery, Royal Horse Artillery	A. Bty. R.H.A.
42nd/53rd Field Battery, R.A. ..	42 Fd. Bty.
1st Anti-tank Battery	1 A. Tk. Bty.
4th Heavy Battery	4 Hy. Bty.
4th (Light) Anti-aircraft Battery ..	4 (Lt.) A.A. Bty.
1st Survey Battery	1 Svy. Bty.
R.E.	
12th (Field) Company	12 Fd. Coy.
6th (Field Park) Company	6 Fd. Park Coy.
3rd (Fortress) Company	3 Frt. Coy.
19th (Field Survey)	19 Fd. Svy. Coy. R.E.
103rd (Glasgow) Army Troops Company	103 A. Tps. Coy.
100th Army Field Company	100 A. Fd. Coy.
109th Workshop and Park Company	109 Wkshop and Pk. Coy.
R. Signals	
No. 1 (No. 2, etc.) Field (Medium) Artillery Signal Section	1 (2, etc.) Fd. (Med.) Arty. Sig. Sec.
No. 1 (No. 2, etc.) Squadron, Armoured Divisional Signals	1 (2, etc.) Sqn. Arm'd. Div. Sigs.
1st Anti-Aircraft Brigade Signals ..	1 A.A. Bde. Sigs.
R.A.S.C.	
G.H.Q. Troops Company	G.H.Q. Tps. Coy.
Armoured Division Troops Company	Arm'd. Div. Tps. Coy.
Corps Troops Ammunition Company	C.T. Amn. Coy.

Full Title (1)	Abbreviation (2)
R.A.S.C.—continued.	
Corps Petrol Park	Corps Pet. Pk.
Corps Troops Supply Column	C.T. Sup. Col.
Divisional Ammunition Company ..	Div. Amn. Coy.
Reserve M.T. Company	Res. M.T. Coy.
Line of Communication M.T. Company	L. of C.M.T. Coy.
Motor Ambulance Convoy	M.A.C.
Ambulance Car Company	Amb. C. Coy.
Bridge Company	Bridge Coy.
R.A.M.C.	
No. 1 (No. 2, etc.) Cavalry Field Ambulance	1 (2, etc.) Cav. Fd. Amb.
Field Hygiene Section	Fd. Hyg. Sec.
No. 1 (No. 2, etc.) Casualty Clearing Station	1 (2, etc.) C.C.S.
No. 1 (No. 2, etc.) General Hospital ..	1 (2, etc.) Gen. Hosp.
R.A.O.C.	
G.H.Q. Troops Workshop	G.H.Q. Tps. Wkshop.
Army Field Workshop	A. Fd. Wkshop.
Anti-Aircraft Brigade Workshop ..	A.A. Bde. Wkshop.
Light Aid Detachment	L.A.D.
Recovery Station	Rec. Sec.
Ordnance Ammunition Company ..	Ord. Amn. Coy.
Ordnance Field Park	Ord. Fd. Park.
Veterinary	
No. 1 (No. 2, etc.) Mobile Veterinary Section	1 (2, etc.) Mob. Vet. Sec.
No. 1 (No. 2, etc.) Veterinary Evacuating Station	1 (2, etc.) V.E.S.
Provost	
No. 1 (No. 2, etc.) Provost Company (Squadron)	1 (2, etc.) Pro. Coy. (Sqn.)

V. Other abbreviations

Full Title (1)	Abbreviation (2)
Acknowledge	Ack.
Addressed	Addsd.
Adjutant	Adjt.
Administration or Administrative	Adm.
Advance or Advanced	Adv.
Advanced Dressing Station	A.D.S.
Advanced Landing Ground	A.L.G.
Air Defence	A.D.
Air Intelligence Liaison Officer	A.I.L.O.
Ambulance	Amb.
Ammunition	Amn.
Ammunition Point or Armour Piercing	A.P.
Ammunition railhead	A.R.H.
Ammunition refilling point	A.R.P.
Anti-Aircraft or Army Act	A.A.
Anti-tank	A. Tk.
Appendix	Appx.
Armoured	Armd.
Armoured car	Armd. C.
Armoured fighting vehicle	A.F.V.
Army book	A.B.
Army co-operation squadron	A.C. Sqn.
Army Council Instruction	A.C.I.
Army form	A.F.
Army order	A.O.
Army routine order	A.R.O.
Army troops	A. Tps.
Artillery	Arty.
Artillery reconnaissance	Arty. R.
Attached	Att.
Battalion	Bn.
Battery	Bty.
Battery commander	B.C.
Battery quarter-master serjeant	B.Q.M.S.
Battery serjeant-major	B.S.M.
Bombardier	Bdr.
Bomber (aeroplane)	B.
Branch field post office	B.F.P.O.
Bridge	Br.
Brigade	Bde.

Full Title (1)	Abbreviation (2)
Brigadier	Brig.
Captain	Capt.
Car Post	C.P.
Casualty clearing station	C.C.S.
Cavalry	Cav.
Cavalry Armoured Car Regiment (Squadron)	Cav. Armd. C. Regt. (Sqn.)
Chaplain to the Forces	C.F.
Chief Ordnance Mechanical Engineer	C.O.M.E.
Chief Ordnance Officer	C.O.O.
Colonel	Col.
Column	Coln.
Command, Commander or Commanding	Comd.
Commanding officer	C.O.
Communication	Comm.
Company	Coy.
Company quarter-master serjeant	C.Q.M.S.
Company serjeant major	C.S.M.
Corporal	Cpl.
Corps routine order	C.R.O.
Corps troops	C. Tps.
Counter - battery or Confinement to barracks	C.B.
Counter-battery officer	C.B.O.
Counter preparation	C.R. Prep.
Cross roads	X. ds.
Decontamination	Decn.
Defence Electric Light	D.E.L.
Delivery point	D.P.
Despatch rider	D.R.
Despatch rider letter service	D.R.L.S.
Detachment	Det.
Direction finding	D.F.
Director of Engineer Stores Service	D.E.S.
Director-General of Medical Services	D.G.M.S.
Director-General of Transportation Services	D. G. Tn.
Director of Docks Service	D. Docks
Director of Works	D. of W.
Director of Graves Registration	D.G.R.
Director of Hirings Service	D.Hgs.

Full Title (1)	Abbreviation (2)
Director of Hygiene	D.H.
Director of Inland Water Transport Service	D.I.W.T.
Director of Labour Service	D. Lab.
Director of Light Railways	D. L. Ry.
Director of Medical Services	D.M.S.
Director of Ordnance Services	D.O.S.
Director of Army Postal Services ..	D.A.P.S.
Director of Printing and Stationery Services	D.P.S.S.
Director of Railways	D. Ry.
Director of Remounts	D. Remounts
Director of Supplies and Transport ..	D.S.T.
Director of Survey	D. Svy.
Director of Veterinary Services	D.V.S.
District	Dist.
District court-martial	D.C.M.
Divisional or Division	Div.
Divisional routine orders	D.R.O.
Dragoon	Dgn.
Driver or drummer	Dr.
Echelon	Ech.
Embarkation medical officer	E.M.O.
Embarkation staff officer	E.S.O.
Establishment	Est.
Exclusive	Excl.
Field	Fd.
Field general court-martial	F.C.G.M.
Field Hygiene Section	Fd. Hyg. Sec.
Field marshal	F.M.
Field service	F.S.
Field Service Regulations	F.S.R.
Fighter (aeroplane)	F.
Flash-spotting	F. Sp.
Flight	Flt.
Foremost defended localities	F.D.L.
Forward	Fwd.
Forward observation officer	F.O.O.
Fusilier	Fus.
General	Gen.
General court-martial	G.C.M.
General Officer Commanding (-in-Chief)	C.O.C. (-in-C.)

Full Title (1)	Abbreviation (2)
General routine order	G.R.O.
General service or General Staff ..	G.S.
Group	Gp.
Guard	Gd.
Guardsmen	Gdsm.
Gunner	Gnr.
Headquarters	H.Q.
Heavy	Hy.
High Explosive or Horizontal Equivalent	H.E.
Horse drawn	H.D.
Horsed transport	H.T.
Hospital	Hosp.
Hour	Hr.
Howitzer	How.
in charge of	i/c.
Inclusive	Incl.
Indian Army	I.A.
Infantry	Inf.
Inspecting Ordnance Officer	I.O.O.
Intelligence Officer	I.O.
Intercommunication	Intercomn.
Junction	Junc.
Lance-Bombardier	L/Bdr.
Lance-Corporal	L/Cpl.
Lance-Serjeant	L/Sjt.
Liaison officer	L.O.
Lieutenant	Lieut.
Lieutenant-Colonel	Lt.-Col.
Lieutenant-General	Lt.-Gen.
Light	Lt.
Light Aid Detachment	L.A.D.
Light machine gun	L.M.G.
Line or lines of communication ..	L. of C.
Line telegraphy	L/T.
Machine gun	M.G.
Main dressing station	M.D.S.
Major	Maj.
Major-general	Maj.-Gen.
Mechanical transport or motor transport	M.T.
Mechanized	Mech.
Medical officer	M.O.
Medium	Med.

Full Title (1)	Abbreviation (2)
Meeting point or Military Police ..	M.P.
Miles in the hour	m.i.h.
Miles per hour	m.p.h.
Military foreman of works ..	M.F.W.
Military forwarding officer ..	M.F.O.
Military landing officer ..	M.L.O.
Mobile veterinary section ..	Mob. Vet. Sec.
Mobilization or mobile ..	Mob.
Motor ambulance convoy ..	M.A.C.
Motor cycle or Movement control ..	M.C.
Movement control officer ..	M.C.O.
Mounted	Mtd.
Muzzle velocity	m.v.
Non-commissioned officer ..	N.C.O.
Observation post	O.P.
Officer	Offr.
Officer commanding	O.C.
Officer-in-charge	O. i/c.
Officers' Training Corps ..	O.T.C.
Operation order	O.O.
Ordnance mechanical engineer ..	O.M.E.
Ordnance	Ord.
Other ranks	O.R.
Paragraph	Para.
Park	Pk.
Paymaster	Pmr.
Paymaster-in-Chief	Pmr.-in-C.
Petrol	Pet.
Petrol point	P.P.
Petrol rail head	P.R.H.
Petrol refilling point	P.R.P.
Photographic reconnaissance ..	Ph. R.
Pioneer	Pnr.
Platoon	Pl.
Point	Pt.
Position	Posn.
Post office	P.O.
Pounder	Pr.
Principal chaplain	P.C.
Printing and Stationery Service ..	P.S.S.
Prisoners of war	P.W.
Private	Pte.

Full Title (1)	Abbreviation (2)
Provost	Pro.
Provost marshal	P.M.
Quarter-master	Q.M.
Quarter-master-serjeant	Q.M.S.
Radio-telephony	R/T.
Railhead ordnance officer	R.O.O.
Railhead supply officer	R. Sup. O.
Railway	Ry.
Railway telegraph	Ry. Tel.
Railway traffic officer	R.T.O.
Reconnaissance or Reconnoitre ..	Recce.
Recovery	Rec.
Reserve	Res.
Reference	Ref.
Regiment	Regt.
Regimental aid post	R.A.P.
Regimental serjeant-major	R.S.M.
Regimental quarter-master-serjeant ..	R.Q.M.S.
Rendezvous	R.V.
Repeated	Rptd.
Representative	Rep.
Representative fraction or Range finder	R.F.
Rifleman	Rfn.
Road	Rd.
Rounds per gun per minute	r.p.g.p.m.
Routine order	R.O.
Royal Warrant for pay and promotion ..	R.W.
Refilling point or Rules of procedure ..	R.P.
Sapper	Spr.
Searchlight	S.L.
Seater	Str.
Section	Sec.
Senior Chaplain to the Forces	S.C.F.
Senior supply officer	S. Sup. O.
Serjeant	Sjt.
Serjeant-major	S.M.
Signal	Sig.
Signalman	Sigmn.
Signals	Sigs.
Small arm ammunition	S.A.A.
Sound ranging	S. Rg.
Squadron	Sqn.

Example I.—Specimen message with an “immediate” degree of priority for transmission by signals in front of divisional headquarters.

ARMY FORM C 2128				MESSAGE FORM				Serial No.	
CALL AND INSTRUCTIONS		IN		OUT		No. of Groups		OFFICE DATE STAMP	
TO		SALO		GAMO		GR.			
(ABOVE THIS LINE IS FOR SIGNALS ONLY)				Date 10		In Reply to Number DE 27			
FROM		Originator's Number 03		Date 10		In Reply to Number DE 27			
moving meet south		how you of		copse rd copse		903161 junc 1030		② quarter hrs	
This message may be sent AS WRITTEN by any means		If liable to be intercepted or fall into enemy hands, this message must be sent IN CIPHER		Originator's Instructions Degree of priority. Immediate		Time of Origin 0945		T.H.I.	
Signed		Signed J. Jones, Capt.		(BELOW THIS LINE IS FOR SIGNALS USE ONLY)		T.O.R.			
System in		Time in		System out		Time out		Sender	

APPENDIX V—continued.

Example 2.—Specimen multiple address message for transmission by signals in front of divisional headquarters.

ARMY FORM C.2128		MESSAGE FORM		Serial No.
CALL AND INSTRUCTIONS	IN	No. of Groups	GR.	OFFICE DATE STAMP
	OUT			

TO SALO GAMO rptd BONO LOPU KILU BOLO NEPA Q

(ABOVE THIS LINE IS FOR SIGNALS USE ONLY)			
FROM	Originator's Number	Date	In Reply to Number
NILA	O 43	10	

ref	map	ALDERSHOT	command	one	inch
⊙	hrs	over	river	BLACKWATER	between
incl	BLACKWATER	EVERSLEY	will	be	prepared
for	demolition	forthwith	by	GAMO	assisted
by	working	party	SALO	ack	

This message may be sent AS WRITTEN by any means		If liable to be intercepted or fall into enemy hands, this message must be sent IN CIPHER Signed A. Smith, Major		Originator's Instruction Degree of Priority		Time of Origin	
				IMPORTANT		1630	

Signed

System in	Time in	Reader	Sender	System out	Time out	Reader	Sender	Time of Origin
								T.H.I.
								T.O.R.

Note 1.—In the above example seven copies of the message would be passed to signals, the copy for Q, being for the use of another branch of the same staff, would be delivered direct, and "Q" would be struck out in the space "To", in the copies handed to signals.

Note 2.—In this specimen message code names are considered to have been allotted as follows—
BONO 4 inf bde
SALO 5 inf bde
LOPU 6 inf bde
KILU RA 2 div

GAMO RE 2 div
BOLO 1 div
NILA 2 div
NEPA 3 div

APPENDIX V—continued.

Example 3.—Specimen routine multiple address message for transmission by signals in front of divisional headquarters.

ARMY FORM C.2128		MESSAGE FORM		Serial No.
CALL AND INSTRUCTIONS	IN	No. of Groups	GR.	OFFICE DATE STAMP
	OUT			

TO BOLO KALA SOLO ZUZU VIVA Q

(ABOVE THIS LINE IS FOR SIGNALS USE ONLY)			
FROM	Originator's Number	Date	In Reply to Number
MUNA	42	2	

ref	021	send	rep	conference	MUNA
1800	hrs	all	informed		

This message may be sent AS WRITTEN by any means		If liable to be intercepted or fall into enemy hands, this message must be sent IN CIPHER Signed		Originator's Instruction Degree of Priority		Time of Origin	
						0915	

Signed C. Brown, Major

System in	Time in	Reader	Sender	System out	Time out	Reader	Sender	Time of Origin
								T.H.I.
								T.O.R.

Note 1.—In the above example signals have authority to omit all irrelevant names when signalling the address "TO".

Note 2.—Code names are considered to have been allotted as follows:—

BOLO 1 inf bde
KALA 2 inf bde
SOLO 3 inf bde

ZUZU RA 1 div
VIVA RE 1 div
MUNA 1 div

APPENDIX VI

INSTRUCTIONS FOR THE ALLOTMENT OF CODE NAMES IN THE FIELD

Responsibility for allotment

1. The general staff (Intelligence Branch) is responsible for the allotment of code names for the use of formations and units in the field force, including units of the R.A.F. component.

2. Since the general use of code names is chiefly confined to divisional areas (*see* Sec. 22), it follows that there will be many non-divisional units in back areas to which the allotment of code names will be unnecessary. Should any such unit be moved into a divisional area, the formation ordering the move will ensure that the unit is allotted a code name from spares unallotted in the corps troops or divisional list concerned.

3. Code names will be allotted to the headquarters, rear headquarters and signal centres of corps, divisions, cavalry and tank brigades; to infantry brigade H.Q. and to their signal centres if necessary. Code names may be allotted to the headquarters R.A., R.E., and R.A.S.C., and services when the volume of traffic justifies it. Clear and code names will however **NEVER** be used together.

In the case of the following units they will be allotted as under:—

Cavalry and Royal Armoured Corps down to Squadrons and

Royal Artillery	" "	Companies.
Royal Engineers	" "	Batteries.
Infantry Battalions	" "	Companies.
	" "	Companies
	" "	(Armoured
	" "	Division
	" "	only).
Machine Gun Battalions	" "	Machine
	" "	Gun
	" "	Companies.
Royal Army Service Corps	" "	Companies
	" "	and
	" "	Columns.
Royal Army Medical Corps	" "	Field
	" "	Ambulances.

In all other units code names will be allotted to the headquarters only. If considered essential code names may in exceptional circumstances be allotted to individual officers from the spare names available.

4. In order to reduce the possibility and extent of a compromise of the order of battle, which would result from the loss or capture of such lists, divisional headquarters and formations forward of these headquarters will not be issued with the complete lists of the whole force. They will receive lists containing only those code names of their own formation and units and the necessary names of flanking and co-operating formations and units.

5. Principles of allotment

Block lists of code names will be issued in two lists, one prepared in haphazard order and the other in alphabetical order. Each block list will contain 100 code names, which should be sufficient to meet the requirements of a division including the necessary spares.

As one of the main reasons for the use of code names is to conceal the identity and composition of formations and units, it is essential that code names should not be allotted on any methodical system. For this reason and to assist encoding, code names will therefore invariably be allotted using the haphazard order list and the formation's order of battle. The last 10 spare names on the list in haphazard order for each division will be reserved for use by that division. Any allotments from these spares which may be made by division will be notified to all concerned. To assist in decoding a corresponding list showing code names in alphabetical order will also be prepared.

6. Relief of formations and units

In order to assist in concealing reliefs, the relieving formation or unit will normally be ordered to take over the existing code name of the outgoing troops.

7. Changes of code names

Changes of code names will be ordered by the general staff, as frequently as is found necessary and will be made at irregular intervals. As changes of code names must be accompanied by a change of wireless frequencies and wireless call signs, the general staff will co-ordinate these changes in consultation with the signal officer in chief or the senior signal officer of the formation concerned.

8. To enable changes to be made with the minimum delay, and to allow a change to be effected within formations where necessary, an alternative allotment of code names will be prepared in advance. At least one such alternative will be issued down to divisional headquarters where the lists will

be retained ready for issue. To effect a complete change of code names within a corps a period of 15 hours should be allowed.

9. Distribution of lists

At the headquarters of corps and higher formations, where the use of code names is restricted, the issue of code name lists will be confined to the intelligence branch of the general staff, to officers authorized to frank "emergency operation" messages and to the signal and cipher offices.

10. In calculating the distribution care must be taken to include the requirements of staffs, signal offices, and cipher personnel. A sufficient supply of spare copies should also be issued.

11. A guide as to the scale of issue to signal offices is given as under :—

- i. Each signal office down to (inclusive) corps headquarters, should receive from its formation headquarters three complete lists of the force.
- ii. Each headquarters of divisional signals should receive from its formation headquarters sixteen copies of its own corps and divisional lists.
- iii. Each brigade signal office should receive from its formation headquarters two divisional lists and extracts from the corps list to include all Royal Artillery (including Survey) and machine gun units in the divisional area, whether under command or in support of the division.
- iv. Each unit signal office (or sub-unit with R/T.) should receive from unit headquarters one divisional list.
- v. Each R/T. terminal should receive from its signal office the code names of certain other R/T. terminals. The number necessary for each terminal varies. In Royal Artillery it will necessarily be generous and must include the code names of the infantry brigade (and battalions) with which the regiment is working, together with the code names of other Royal Artillery units in or working with, the divisional artillery.

12. Method of allotment and issue.

Code names will be allotted and issued as in the following Table A.

TABLE A

Serial No.	Formation	Detail of Responsibility	Remarks
1	War Office	i. Prepare block lists of code names in hazard and alphabetical order in peace for issue to G.H.Q. on mobilization.	See para. 2 of instructions.
2	G.H.Q.	<p>i. From block lists issued by War Office, G.H.Q. will allot code names to :—</p> <p>(a) Independent divisions and formations and units employed directly under G.H.Q. (less armoured divisions).</p> <p>(b) Units of L. of C. as necessary.</p> <p>ii. Issue the above lists to their respective H.Qs. and inform independent units their individual code names.</p> <p>iii. Forward copies of the above lists to each corps H.Q. and to H.Q. armoured divisions for information.</p>	

Serial No.	Formation	Detail of Responsibility	Remarks
2 (contd.)	G.H.Q. (contd.)	<p>iv. Issue block lists of code names only to :—</p> <p>(a) Each corps H.Q. for sub-allotment to corps troops and divisions.</p> <p>(b) H.Q. armoured divisions</p> <p>v. On receipt of corps and armoured division lists forward copies to H.Q. L. of C. and to formations directly under G.H.Q. for information.</p>	
3	Corps H.Q.	<p>i. From G.H.Q. block lists corps H.Q. will allot code names to :—</p> <p>(a) Corps troops.</p> <p>(b) Each division in the corps down to individual units.</p> <p>ii. Inform units and formations of corps troops of their individual code names.</p>	Compiled in separate lists by divisions to simplify distribution to lower formations.

3 (contd.)	Corps H.Q. (contd.)	<p>iii. Issue to each division a full allotment of its divisional list and a limited number of copies of the corps troops lists and of the lists of the other divisions in the corps.</p> <p>iv. Forward copies of the above lists to G.H.Q. and to other corps H.Q. for information.</p> <p>v. Issue as necessary extracts from G.H.Q. and armoured division lists and those of flanking formations.</p>	<p>Sufficient copies of the divisional lists will be issued to divisions to allow of requisite distribution to formations and units in the division with additional spares, but copies of corps troops lists and other divisional lists will NOT be issued to lower formations and units.</p>
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Serial No.	Formation	Detail of Responsibility	Remarks
4	Armoured divisional H.Q.	<p>i. From block lists issued by G.H.Q., allot and issue code names to :—</p> <p>(a) All formations and units within the division.</p> <p>ii. Forward copies of the above list to G.H.Q., and to each corps H.Q. for information.</p> <p>iii. Issue as necessary extracts from list of flanking formations, etc.</p>	
5	Divisional H.Q.	<p>i. Issue the divisional list to :—</p> <p>(a) Divisional troops.</p> <p>(b) H.Q. Infantry brigades.</p> <p>ii. Issue as necessary on a separate sheet any extracts from corps list and those of flanking and co-operating formations.</p>	Sufficient copies will be issued to allow for distribution down to units with additional spares.

6	Infantry brigade H.Q.	<p>i. Issue to units the divisional list.</p> <p>ii. Issue to units on a separate sheet any necessary code names of flanking and co-operating units.</p>	
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APPENDIX VII

TECHNICAL FACTORS AFFECTING MOVEMENT OF
MECHANIZED COLUMNS

1. *Definitions.*—(i) *Speed.*—Speed means the average speed over a route including the time spent on halts. It is expressed in terms of "miles in the hour" (m.i.h.).

(ii) *Cruising Speed.*—The speedometer speed at which a vehicle must travel over open sections of road to maintain a given average speed (i.e. m.i.h.) is known as "cruising speed." It is expressed in "miles per hour" (m.p.h.). The maximum cruising speeds of service vehicles under good average conditions are:—

Wheeled vehicles

Car .. .. .	..	..	..	..	..	}	50 m.p.h.
Light armoured reconnaissance ..	..	..	..	..	..
8-cwt. truck .. .. .	..	..	..	..	..	}	35 "
15-cwt. truck .. .. .	..	..	..	..	..
12-cwt. van .. .. .	..	..	..	..	..
Motor ambulance .. .. .	..	..	..	..	..
30-cwt. lorry (4- and 6-wheeled) ..	..	..	..	..	..		30 "
Field artillery tractor and guns only ..	..	..	..	..	..		30 "
3-ton lorry (6-wheeled) .. .. .	..	..	..	..	..	}	25 "
Field artillery tractor, gun and trailer	..	..	..	..	..
*Medium artillery tractor, Scammell ..	..	..	..	..	..		20 "
*Heavy artillery tractor, Scammell ..	..	..	..	..	..		15 "

Tracked vehicles

Cruiser tank, Mk. II .. .. .	..	..	..	..	..	}	25 "
Light tank, Mk. VII .. .. .	..	..	..	..	..
Light tank, Mk. II .. .. .	..	..	..	..	..	}	20 "
Bren carrier .. .. .	..	..	..	..	..
Infantry carrier .. .. .	..	..	..	..	..
Scout .. .. .	..	..	..	..	..
Anti-tank carrier .. .. .	..	..	..	..	..	}	15 "
*Light dragon, Mk. III .. .. .	..	..	..	..	..
Cruiser tank, Mk. I .. .. .	..	..	..	..	..		10 "
Infantry tank, Mk. II .. .. .	..	..	..	..	..		5 "
" " Mk. I .. .. .	..	..	..	..	..

* Depends on load being towed.

Density v.t.m.

100

90

80

70

60

50

40

30

20

10

0

5

10

15

20

25

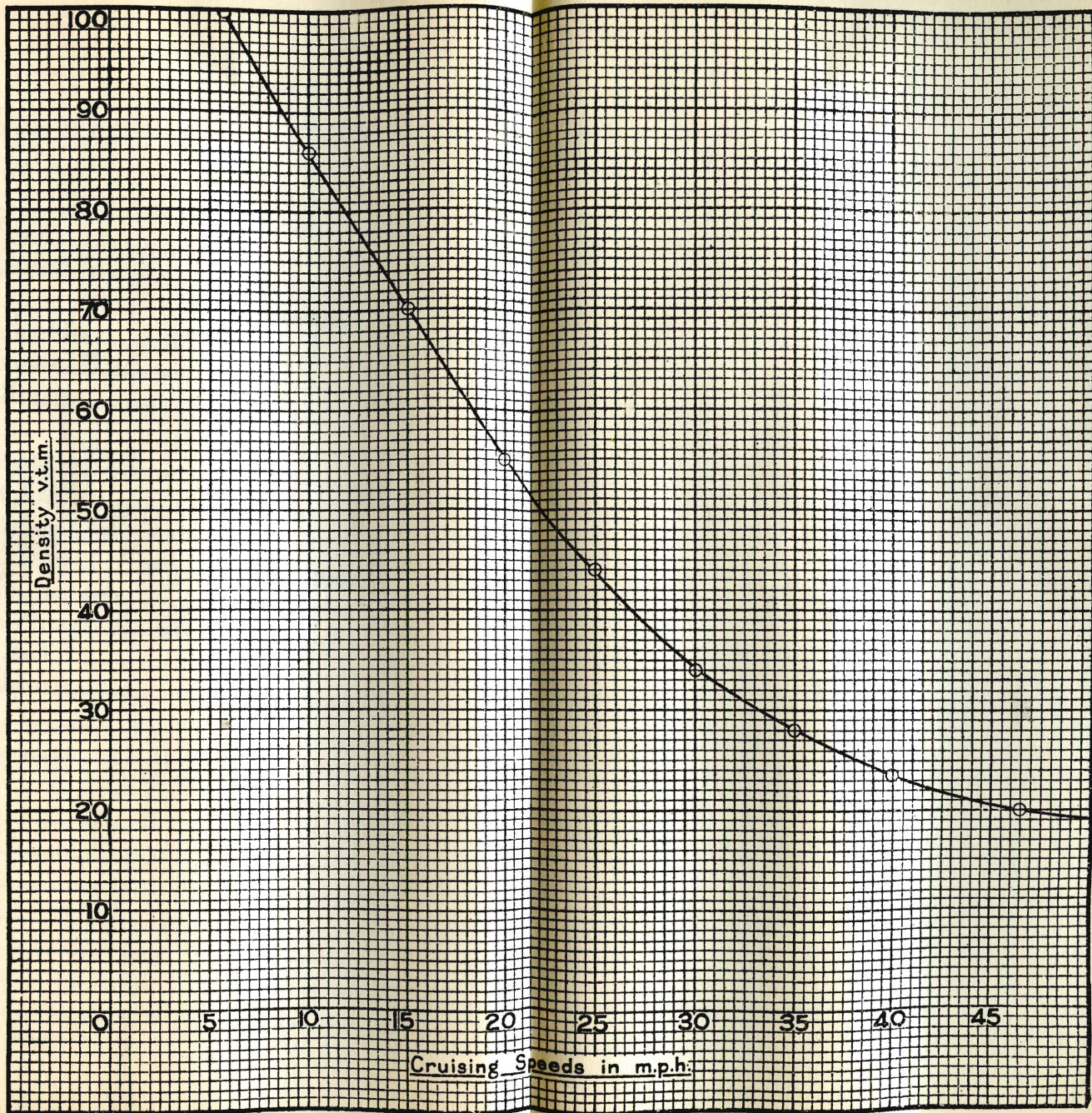
30

35

40

45

Cruising Speeds in m.p.h.



(iii) *Density*.—The general spacing of vehicles on a route is known as "density" and is expressed in terms "vehicles" to the mile" (v.t.m.).

(iv) *Group*.—A group is a small number of vehicles moving as a formed group.

(v) *Sector*.—For purposes of road movement control a route may be divided up into "sectors," each sector being about 10 miles to 15 miles long.

2. Density and speed are inter-related since the higher the speed the lower must be the density, to allow the individual vehicle to be driven without interference or danger from those in front. The maximum safe density for a given cruising speed can be found from the graph facing this page.

3. As vehicles enter a *restricted section* of road there is a general reduction in speed through the column and there will be a corresponding increase in density. As vehicles accelerate on clearing the restriction this increase serves to prevent an undue opening out of the column. Unless, therefore, the increase in density is proportionate to the decrease in speed, restricted sections will reduce the volume of traffic using the road over and above the delay imposed on individual vehicles. The increase in density must be considered also from the tactical aspect discussed in Part IV—Protection.

4. To ascertain whether a given volume of traffic can pass over a road or roads in the time available the graph on page 81 shows the number of vehicles that will pass a point with columns moving at various densities and speeds.

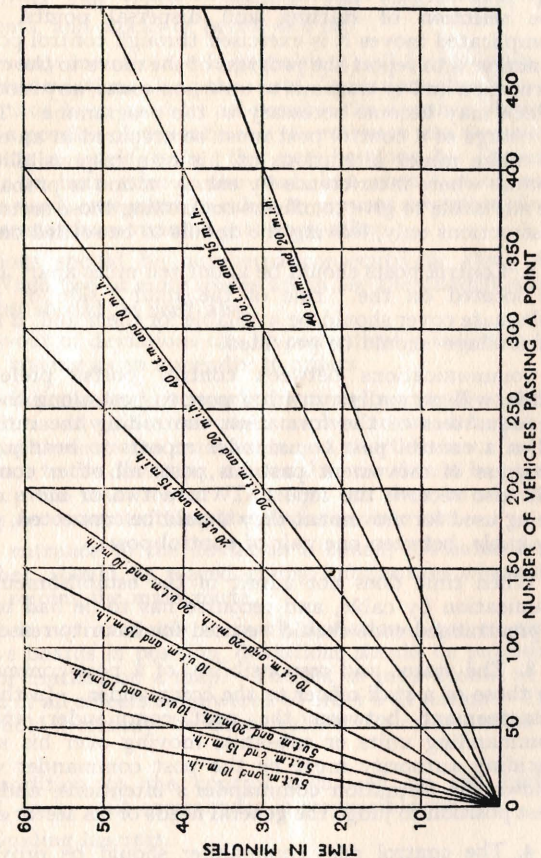
In employing the higher densities, in order to make the maximum use of the roads available, it will be necessary to exert an increasing degree of control over traffic. Detailed time tables must be issued by the highest formation controlling the roads and measures taken to ensure that timings are adhered to, or that at any rate any disorganization is at once reported to the controlling authorities so that suitable adjustments can be made.

5. The cruising speeds of the various vehicles in a formation (see para. 1, above) may vary to such an extent that, subject to tactical considerations, it may be advisable, both for the comfort of the troops, the efficient running of transport and in order to make the fullest use of the roads, to group vehicles by

speeds. It may be possible to allot different routes to fast and slow groups but with only one road available a choice must be made between :—

- i. Moving the fast groups first and the slow last, with the disadvantage that the latter may be very late at their destination.
 - ii. Moving the slow groups ahead and the fast later with the danger of congestion on arrival.
 - iii. Moving the slow groups ahead and passing the fast groups through them en route.
6. General considerations affecting traffic control of columns while moves are in progress are discussed in Appendix VIII.

TIME AND SPACE GRAPH FOR MECHANISED MOVEMENT



APPENDIX VIII

TRAFFIC CONTROL

1. Control of a road move is effected in its simplest form by the selection of starting and dispersal points. In more complicated moves it is exercised through control posts whose function is to report the progress of the move to the controlling formation and to transmit to units, en route, any modifications which may become necessary to the programme. The officer in charge of a control post must be prepared in an emergency to make minor alterations on his own responsibility, and in sectors where interference by enemy action is probable it will be advisable to give to officers controlling those sectors general instructions only, leaving the details to be settled on the spot.

2. Control posts should be about ten miles apart and should be located on the "rule of the road" side of the road. Adequate cover should be available for them and, if necessary, camouflage should be provided.

Communications between control posts, preferably by cable, will normally run from post to post along the route to headquarters of the formation controlling the move. Thus when a control post commander reports to headquarters the progress of movement past his post, all other control posts will also receive the report. Where two or more routes are being used for movement they should be connected, preferably by cable, between one pair of control posts.

When time does not admit of the establishment of communication by cable, and recourse has to be had to wireless, a prearranged code should be used for security reasons.

3. The status and responsibility of a post commander will be those of a staff officer to the commander. In the event of disagreement between the post commander and officers commanding units or sub-units moving over his sector, the deciding authority must be the post commander who alone knows the formation commander's intentions, and is in the best position to judge the general needs of his sector as a whole.

4. The control post commander should be provided with transport and assisted, if possible, by traffic personnel of the provost service, who will patrol the sector, check the traffic sign posts and carry out general traffic control duties.

5. The standard equipment required by posts should be laid down in standing orders and will include such signs,

torches, etc., as are necessary for controlling traffic both by day and night.

During large moves it may be necessary to locate at selected control posts reserves of engineer troops for decontamination, road clearing and repair; medical and vehicle light aid detachments, and stocks of petrol and oil.

6. If enemy interference is probable it will be advisable to reconnoitre deviations along the route. Deviations should overlap, and thus keep as short as possible the distance between the site of a possible obstruction and the entrance to a deviation. When using a single route, this can be done by choosing deviations on both sides of the road, but when two or more routes are used, care must be taken to prevent deviations from different routes from running into each other.

Deviations should be numbered consecutively along the route. When two or more routes are in use the distinguishing route letter should be used also.

The lay-out of deviations can be conveniently issued in the form of a tracing as an appendix to orders.

7. Deviations should be marked with arrows at all doubtful points. It is advisable for these arrows to be different in colour from those on the main route. A short distance before the entrance to the deviation, a normal arrow should be placed pointing up the main route. This sign can then be adjusted when it is necessary to bring the deviation into use.

At the entrance to the deviation a board, protected from the weather, should be placed giving information where the deviation rejoins the main route.

If time is not available to mark deviations, nor to place descriptive boards in position, deviations should be published in a list or marked on a map. The list or map should be in possession of all officers empowered to order a deviation. This power should normally be decentralized to commanders of sub-units.

8. In addition to the control organized by the higher command, every unit commander is responsible for :—

- i. Guiding his unit.
- ii. Ordering deviations (normally delegated to officers commanding companies, etc.).
- iii. Regulating cruising speed to maintain the speed (m.i.h.) ordered.
- iv. Dealing with break-downs.

Motor-cycle orderlies will be sent on ahead to act as point-duty men. They will report to the head of the unit when the tail has passed them.

9. *Action on meeting obstructions*

On meeting an obstruction or damage to the road every effort must be made to find a way forward. A passive attitude of waiting for it to be cleared must never be adopted.

The nearest officer or senior N.C.O. will :—

- i. Reconnoitre for a local deviation, which may be along tracks, through fields or across country, and, when found, order vehicles to take it.
- ii. Order another officer or N.C.O. to collect men and proceed to clear the obstruction.
- iii. Organize anti-aircraft defence.

10. If no local deviation is possible and the obstruction will take some time to clear away, sub-unit commanders and above will order vehicles to take the first suitable deviation selected either from a deviation list, board or map. They will take steps to inform all concerned in the column and the control post next in rear of the situation with a message giving :—

The site and nature of the damage or obstruction.

The rough estimated time to repair or remove it.

The action taken to get the column forward.

11. Movements by night call for a very high standard of training and discipline. Owing to the extreme difficulty of rectifying mistakes if columns once get on to the wrong road, the route must be marked with the greatest care.

12. In the case of all moves by night orders will define what lights may be used.

13. Adequate arrangements must be made for dealing with break-downs. Light aid detachments should move at suitable intervals throughout the column, and in defiles where the danger from air attack is high extra resources must be available under the officer controlling that sector of the road.

The primary consideration in all cases is to clear the damaged vehicle from the road to allow the free passage of other traffic.

APPENDIX IX

MARCH DISCIPLINE

I. Mechanized columns

1. *Unit control*

i. Duties of officers.—Officers will be evenly distributed throughout the column and must know the destination and route. Whenever possible an officer, who may be a commander, will move at the head, and another officer at the tail, of all units and sub-units (coy., etc.). A proportion of the remaining officers, mounted on motor cycles, should patrol the column.

ii. Duties of N.C.Os. if groups are formed.—A group commander will travel in the leading vehicle of his group. A N.C.O. on a motor cycle should move in rear of each group, or in rear of an equivalent number of vehicles when running evenly dispersed. One N.C.O. or man on each vehicle and all motor-cyclists should be in possession of a map, preferably marked.

2. *Driving*

i. Speed (m.i.h.) at which a move is ordered will usually be given to drivers as cruising speed. Leading drivers are responsible for maintaining a steady cruising speed and others for keeping the correct distances. Whenever possible a driver's assistant, if necessary a relief driver, will be detailed to keep a lookout to the rear and signal to the following vehicle. If another man is available he will sit beside the driver, watch the vehicle in front and assist in maintaining the correct distance. He will also watch for traffic direction signs along the route. Correct distances must be kept and on no account must vehicles at halts be closed to distances less than the minimum ordered.

ii. Minor errors in density or cruising speed will be adjusted gradually and not suddenly.

iii. Overtaking.—Except in independent running, the overtaking vehicle will always wait for a special permissive signal, i.e. "PASS," which must be at once displayed by any vehicle which has broken down or which cannot keep up its scheduled rate. In independent running a faster vehicle will never be held back longer than necessary. If, however, the density is so low (e.g. 10 v.t.m. or less) that the PASS signal

is not readily visible to the driver of the vehicle in rear, a man will at once be dismounted from the broken down vehicle. He will move towards the vehicle in rear and signal it to PASS. He will continue to carry out this duty until relieved by a patrol from a T.C.P.

- iv. Turning.—When tactical conditions allow, vehicles should not normally be turned about on a road less than 25-ft. wide. Suitable fields can sometimes be used with advantage for this purpose. It is generally preferable for vehicles to make a complete circuit.
- v. Concealment.—At all halts use must be made of available cover. If cover or camouflage is not possible, vehicles must be scattered in irregular formation.

3. Halts

- i. Frequency of halts.—For administrative convenience vehicles should halt for short periods at least every three hours, and for a longer period after seven hours. This allows maintenance to be carried out and the necessary rest and meal times for personnel. In practice, owing to the necessity of seeking cover from the air, long halts will have to be arranged in localities where cover can be found. Such localities must be reconnoitred beforehand; they must, if possible, be occupied without being observed, and must be so organized that movement can be restarted smoothly and without delay. When unforeseen halts have to be made, for tactical reasons or because the route is blocked, it is essential to avoid congesting and obstructing other traffic. Vehicles should be halted off the road when possible, or if that is not possible, well into the side.
- ii. Action of troops at halts.—All personnel may debus during any but emergency halts. No unnecessary movement will take place. Personnel will re-embus two minutes before the advance is due to begin. At all halts A.A., L.M.Gs. and A.Tk. weapons will be sited and manned.
- iii. Inspection at halts.—At short halts junior and non-commissioned officers and drivers will carry out inspections. If vehicles are closed up, the N.C.O. at the rear of each group will work forward and report correct or otherwise. In independent running each driver will inspect his own vehicle when he halts.

- iv. Lights at halts.—If lights are permitted they will all be switched off at halts except that shaded side lights of leading vehicles and tail lights of rear vehicles will be left on, if other traffic is using the road.

II. Marching infantry and mounted troops

4. The average rate of march of a large body of troops moving at foot pace should be maintained at two and a half miles an hour, and of a mounted column at five miles an hour.

5. In marching columns, halts will be from ten minutes before each clock hour until the clock hour, unless otherwise ordered. During long marches, of 15 miles or over, a halt of one hour or more is advisable if the situation permits.

6. Time must be allowed for animals to be watered and fed before starting a march. If an early start is necessary, it is also advisable to arrange for watering after one or two hours' marching, since animals will not usually drink in the early morning. Watering on the march may be from troughs, or if they are not available, by buckets or direct from a stream or pool. Arrangements for traffic control at a watering place are essential, and time tables prepared by the staff may be necessary. If animals are watered direct from a stream, steps must be taken to prevent general pollution of the supply. Long halts should last at least an hour if animals are to be off-saddled, watered and fed.

7. No trumpet or bugle calls are allowed on the line of march. Intercommunication throughout a column will normally be by D.R.

8. An officer, or non-commissioned officer, will march in rear of each troop or platoon to see that no man leaves the ranks without permission, and that the sections, vehicles and animals keep properly closed up.

9. Strict attention must be paid to water discipline; the less men drink during the actual march, the better; men should not be allowed to drink from their water bottles without permission. They must not be permitted to fall out for water; when necessary, halts will be made to enable men to fill their water bottles. Every opportunity will be taken to water animals on the march.

10. The rate of marching throughout a column should be uniform ; an irregular pace is most exhausting, especially to the troops in rear of the column.

If distances are lost, stepping out, doubling or trotting to regain them is forbidden, except by order of the unit commander. Infantry will only be ordered to quicken its pace if a defile is to be passed or some definite object is to be gained.

11. On a halt being ordered, all troops will at once halt and fall out clear of the road. Dismounted troops will remove their equipment (except respirators, or other protective equipment), and mounted troops will dismount and loosen girths ; riding horses' heads will be turned towards the space left clear for passing traffic. Cross-roads must be left clear.

12. No compliments will be paid during a march on service, unless specially ordered.

Root House \$25.00

450 bushels

30 - at time

Net Van Derbil

~~20.00~~
3463
10.35
54

07 9.51

9
00 8
221

Christine Navanagh
2072 Pambuna
Stuy.

N.S. 1320b
A.F.C. 2128
R.A.F. 96
Nat. Def. B. 305
17M Pads 100-3-39
H.Q. 1772-39-428

MESSAGE FORM

Serial No.

**CALL
AND
INSTRUC-
TIONS**

IN

OUT

No. of Groups

GR.

OFFICE DATE STAMP

TO

(ABOVE THIS LINE IS FOR SIGNALS USE ONLY)

FROM

Originator's Number

Date

In Reply to Number

B. Coy.

4 Platoon

051830

XBA L

Have

passed

through

SIMLI

along via

WINNIPEG

SELKIRIS

WINNIPEG

BEACH

rd.

710

enemy

in

sight

THIS MESSAGE MAY BE SENT **AS WRITTEN** BY ANY MEANS

IF LIABLE TO BE INTERCEPTED OR FALL INTO ENEMY HANDS, THIS MESSAGE MUST BE SENT **IN CIPHER**

ORIGINATOR'S INSTRUCTIONS
DEGREE OF PRIORITY

TIME OF ORIGIN

SIGNED

SIGNED

(BELOW THIS LINE IS FOR SIGNALS USE ONLY)

T.H.I.

SYSTEM
IN

TIME
IN

READER

SENDER

SYSTEM
OUT

TIME
OUT

READER

SENDER

SYSTEM
OUT

TIME
OUT

READER

SENDER

T.O.R.

NOT TO BE PUBLISHED

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MILITARY TRAINING PAMPHLET

No. 23, Part III, 1939

AMENDMENTS (No. 1)

Delete Pages 32 to 34 and substitute new chapter:—

CHAPTER V.—SIGNALS SECURITY

19. Wireless security

Amdt. 1
Feb. 1941

1. All messages sent by wireless (W/T and R/T) are liable to interception by an enemy. The approximate position of a wireless station can also be determined by an enemy using direction-finding apparatus.

The following precautions may therefore be necessary to obtain wireless security.

i. The use of cipher for W/T and restriction in the use of R/T.

ii. The periodical changing of wireless frequencies and call signs.

iii. Wireless silence.

2. *Cipher*.—Although messages may be intercepted, an interval must always elapse before the enemy can act on the information received. This interval will be the greater the more mobile and fluid operations become and will correspondingly diminish as operations tend to slow up and become static. Hence the sending of W/T messages in clear and the free use of R/T are justified in mobile operations. The rules given below should be given common sense application.

i. *Wireless telegraphy*

(a) Messages by W/T will normally be sent in cipher. All headquarters in the field which may require to use cipher are provided with the means of enciphering and deciphering messages. The use of any unauthorized cipher is forbidden.

(b) In rear of and between brigade headquarters, messages may be franked to be sent AS WRITTEN by officers authorized to frank "immediate" messages, when speed is vital and it is considered that the enemy cannot take effective action on the message if intercepted.

(c) In front of brigade headquarters, messages dealing with operations in progress, when contact with the enemy has been made, may be franked by any officer to be sent AS WRITTEN.

ii. Radio telephony

(a) In rear of and between divisional headquarters, R/T may be used only by officers authorized to frank "emergency operations" messages.

(b) In front of divisional headquarters, all officers may use R/T, provided that they observe the precautions observed below.

(c) The use of R/T requires considerable attention and practice to avoid giving away valuable information by the careless mention of times, places and names of units. The danger can be largely overcome by thinking out the wording of the message and making notes of it, before starting a conversation. References to the paragraphs of orders and instructions give nothing away and should be used where possible. Prearranged code words and phrases may be employed to describe positions and actions. Conversations should be kept as short as possible.

3. *Wireless silence.*—A commander who is anxious to conceal the dispositions and movements of his troops will risk the loss of surprise unless he is prepared to impose complete or partial wireless silence. No fixed rules can be given since the importance of secrecy must be weighed against the need for control and information, but as a general guide wireless silence should be observed by all except the following:—

i. Reconnaissance troops and aircraft when no other effective means of communication are available. The unit or formation headquarters receiving such wireless messages will acknowledge them by wireless and may ask for any necessary corrections, but this does not permit the full use of its wireless.

ii. A unit or formation headquarters, when its forward elements are in contact with enemy troops and it is, itself, exercising tactical control of operations.

iii. A unit or formation in extreme urgency, when no other effective means of communication are available.

iv. In static conditions when the location of our troops is already known to the enemy, although the use of wireless may not be required for communication purposes, it is necessary to exercise wireless to keep staffs and detachments in training. Periods of wireless activity should be co-ordinated by formations with periods of wireless silence, at irregular intervals, and the location of sets should be varied.

The orders of a commander in the matter of wireless silence are often better conveyed in the form of an operation instruction than in an operation order.

4. *Wireless frequencies and call signs.*—Frequencies and call signs must be changed periodically and always when code names are changed.

20. Security of line telegraphy and telephony

1. In certain circumstances, mainly in those of position warfare, it may be assumed that the enemy will be equipped with means for overhearing telegraph and telephone traffic on lines in front of divisional headquarters. The general staff will then notify that a danger zone exists in a divisional area.

In a danger zone line telegraph communications will be limited to those which can by technical means be rendered immune from overhearing, and instructions will be issued limiting the use of the telephone.

21. Security of despatch riders

If messages by despatch rider are liable to fall into the enemy's hands, the general staff will give the necessary warning to signals. Escorts may have to be arranged.

22. Code names

Formations and units are allotted code names by the general staff, in accordance with the instructions contained in Appendix VI. Within divisions, armoured divisions and corps medium artillery, code names will be used in the addresses and texts of all written messages except the following when the authorized abbreviations will be used:—

Messages originated at headquarters of divisions and armoured divisions, and corps medium artillery, and addressed only to

units and formations in rear, or to the headquarters of other divisions or corps medium artillery.

In radio telephony, code names will always be used.

In line telephony, when a danger zone has been notified, code names will be used when either speaker is in front of divisional headquarters.

*Prepared under the direction of
The Chief of the Imperial General Staff*

THE WAR OFFICE,
10th February, 1941.

Mecc Moss.

Op. Order

Object

Information re enemy

Ours troops

Intention Method.

Administration

Intracommunication

Appreciation

Object

Information Enemy or ours

troops. (1st side with opponents)

→ Courses open to both sides.

Factors affecting attainment of

Object

Plan.