

Administration in the field. Vol. 1, Administration within the division.

Contributors

Great Britain. War Office.

Publication/Creation

[London] : [War Office], 1951.

Persistent URL

<https://wellcomecollection.org/works/g2gy2cb7>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

196

WO
CODE No.

8690

ADMINISTRATION IN THE FIELD

Volume I

ADMINISTRATION WITHIN
THE DIVISION

1951

RESTRICTED

Information in this document
is restricted, either directly
or indirectly, to the Press or to any person
not authorized to receive it.

M

7448



ADMINISTRATION IN THE FIELD

Volume I

ADMINISTRATION WITHIN THE DIVISION

1951

Crown Copyright Reserved

By Command of the Army Council.

G. W. Funnell.

THE WAR OFFICE
20th November, 1951.

RESTRICTED

The information given in this document is not to be communicated, either directly or indirectly, to the Press or to any person not authorized to receive it.

26/GS Trg Publications/1956

CONTENTS

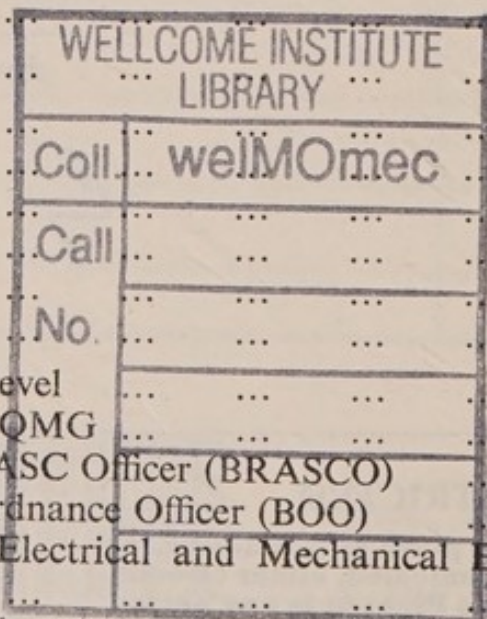
	PAGE
Introduction	1

CHAPTER I—BASIS OF ADMINISTRATION

SEC	PAGE
1. General	2
Definition	2
Aim... ..	2
2. Principles	2
Factors	2
Foresight	3
Economy	3
Flexibility	3
Simplicity	4
Co-operation	4
3. Summary	4

CHAPTER II—THE ADMINISTRATIVE ORGANIZATION OF A DIVISION

4. The Divisional Commander	5
5. Administrative responsibility	5
Division of responsibility	5
MS matters	6
6. The Assistant Adjutant and Quarter-master General	7
7. "A" Branch	7
8. "Q" Branch	9
9. The Services	10
Normal allotment	10
Command and control	11
Training	11
Affiliation	11
Brigade groups	12
10. Administration at brigade level	12
Duties of the DAA and QMG	13
Duties of the Brigade RASC Officer (BRASCO)	14
Duties of the Brigade Ordnance Officer (BOO)	14
Duties of the Brigade Electrical and Mechanical Engineer (BEME)	14
Duties of the Brigade Education Officer	14



SEC	PAGE
11. Administration within the unit	15
Definition	15
Aim... ..	15
Factors	15
Allotment of duties	16
12. Miscellaneous administrative appointments	17
Camp Commandant (Infantry and airborne divisions) ...	17
OC Headquarters Squadron (Armoured division)	17
Defence and Employment element (All divisions)	17
Camp Commandant (HQ Inf Bdes) or OC HQ Squadron (HQ Armoured Bdes)	17
Defence and Employment Platoon (Inf Bdes and Lorried Inf Bdes)	18
Chaplains	18
Education Officers	18
Catering Adviser	18

CHAPTER III—THE ADMINISTRATIVE CHANNEL

13. General	18
14. Lay-out of divisional headquarters... ..	19
General	19
Main divisional headquarters	19
Rear divisional headquarters	20
Siting of rear headquarters	20
Moves of rear headquarters	21
Signposting	21
15. Lay-out of a brigade headquarters	21
16. The divisional administrative area	22
Definition	22
Considerations	22
Siting	22
Allotment of harbour areas	23
Command and control	23
17. The divisional maintenance area	23
18. Administrative transport echelons	24
Categories of transport	24
First line transport	24
Second line transport	25
19. Administrative communications	25

CHAPTER IV--SUPPLIES AND TRANSPORT

SEC		PAGE
20.	General	16
	Organization	26
	Command and control	26
	Duties	27
	Co-operation	28
21.	Handling	28
	Basic considerations	28
	Methods of working	29
	The commodity system	29
	The composite system	29
	Location of ammunition petroleum and supply points	29
	An ammunition point (AP)	29
	A petroleum point (PP)	30
	A supply point (sup P)	30
22.	Ammunition	31
	Definition	31
	Principles of supply	31
	Authorized scales	31
	Allocation of responsibility	32
	Field artillery ammunition	32
	Anti-tank mines, etc	32
	Methods of collection and distribution... ..	33
23.	Petroleum oils and lubricants (POL)	34
	Definition	34
	Principles of supply	34
	Authorized scales	34
	Allocation of responsibility	34
	Methods of collection and distribution... ..	34
24.	Supplies	35
	Definition	35
	Principles of supply	35
	Types of ration	35
	Method of demand	36
	Allocation of responsibility	36
	Bulk breaking point (BPP)	36
	Method of collection and distribution	37
25.	Other RASC supplies and duties	38
	Miscellaneous supplies	38
	Returning transport	38

SEC		PAGE
26.	RASC wireless network'	38
	General	38
	Allocation of sets	39
	Priority of traffic	39
	Communications with higher formation	39
	Security	40

CHAPTER V—MEDICAL

27.	General	40
	Organization	40
	Command control and affiliation	40
	Responsibility of the Staff	41
	Duties	41
	Classification of casualties	42
	Wounded prisoners of war etc	42
	Communications	42
28.	Unit medical organization	42
	Resources	42
	Duties of the unit MO	42
	Medical responsibility of all officers	43
	First aid	43
29.	The field ambulance	43
	Organization	43
	Duties	43
	Medical capacity	44
	Handling	44
	Siting	44
30.	The field dressing station	44
	Organization	44
	Duties	44
	Siting	45
31.	The evacuation of casualties	45
	Principles	45
	The medical plan	45
	Evacuation within the unit	45
	Evacuation in an infantry division	46
	Evacuation in an armoured formation	47
32.	Gas casualties	47

CHAPTER VI—ORDNANCE

SEC		PAGE
33.	General	483
	Responsibilities	499
	Resources	488
	Command control and co-operation	488
	Stores definitions	499
34.	Divisional ordnance units	499
	Ordnance Field Park	499
	Mobile Laundry and Bath Company	499
35.	Supply of ordnance stores and vehicles	500
	Type of stores	500
	Clothing and necessities and general stores	500
	Warlike stores	511
	Vehicles	511
36.	Miscellaneous ordnance matters	522
	Returned stores	522
	Controlled stores	522

CHAPTER VII—ELECTRICAL AND MECHANICAL
ENGINEERING

37.	General	522
	Definitions	522
	Responsibilities	531
	Principles	533
	Responsibilities of the Staff	544
	Resources	555
	Command and control	555
38.	REME units in a division	555
	HQ CREME	555
	Light Aid Detachments REME	566
	Infantry or Armoured Workshops	566
	Airborne Workshops	588
39.	REME repair procedure	588
	General	588
	Method	588
	Communications	599

SEC	PAGE
40. Recovery organization and procedure	59
Aims of recovery and backloading	59
Information from the Staff	60
Duties of specific REME officers	60
Organization	61
Reporting of vehicle and equipment casualties—Responsibility	61
Method	62

CHAPTER VIII—PROVOST

41. General	63
Duties	63
Organization command and affiliation	63
Staff responsibility	63
The Assistant Provost Marshal	63
Employment	64
42. Discipline	64
43. Control of movement and traffic	64
General	64
Classification of traffic	65
Planning	65
Systems of control	65
Causes of road blocks	66
The staff problem of control	66
Control by provost	67
44. Prisoners of war	67
45. The refugee problem	68

CHAPTER IX—ENGINEERS

46. General	69
Duties	69
Organization	69
Responsibility	70

CHAPTER X—MISCELLANEOUS SERVICES

47. Chaplains	70
48. Pay	71
49. Postal	72
50. Education	73

SEC		PAGE
51.	Welfare and amenities	74
	The purpose of welfare	74
	Welfare in the unit	74
	The divisional staff	75
52.	Catering	75

CHAPTER XI—OTHER ADMINISTRATIVE CONSIDERATIONS

53.	Provision of reinforcements	76
	The Divisional Battle School and Reinforcement Unit	76
	RAC and RA reinforcements	77
	System of reinforcing	78
54.	Replacements of AFVs in armoured formations	78
	The Armoured Replacement Group RAC	78
	The Forward Delivery Squadron RAC	78
	Use of tank transporters	80
55.	Office organization in the field	80
	Layout of the office area	80
	Duty officers and clerks	80
	A/Q information centre	80
	General working	81
56.	Attached units and personnel	81
	General	81
	Royal Navy and Royal Air Force	81

CHAPTER XII—ADMINISTRATION IN BATTLE

57.	Planning for battle	81
	System of planning	81
	Responsibility for planning	82
58.	Orders	82
	General	82
	Divisional standing administrative orders (operations)	82
	Standing orders for divisional headquarters	83
	Administrative orders	83
	Administrative instructions	84
59.	The Advance	84
	Administrative preparations	84
	Grouping	85
	Control	85
	Factors governing a move	85

SEC		PAGE
	Order of march	85
	Ammunition	86
	POL	86
	Rations	86
	Provision of water points	86
	Disposal of dumps	86
	Replenishment during the advance	86
	Medical	86
	Ordnance	87
	Repair and recovery	87
	Provost and traffic control	87
	Roads tracks and diversions	87
	Conclusion... ..	87
60.	The Attack	88
	General	88
	Basic problems	88
	Basic principles	88
(a)	<i>The Preparatory Stage</i>	
	Accommodation	89
	Moves and grouping of administrative units	89
	Routing and signposting	89
	Dumping of ammunition	89
	Provision of POL	90
	Rations	90
	Medical	91
	Ordnance	91
	Repair and recovery	91
	Traffic control and prisoners of war	92
(b)	<i>During the Attack</i>	
	Replenishment	92
	Troop carrying transport	92
	Forward movement	92
	Recovery	92
	Abandoned and captured enemy supplies	93
	Conclusion... ..	93
61.	The Pursuit	93
	General	93
	The basic problems	93
	The administrative aim	93
	Control	94
	Additional transport	94
	Ammunition and POL	94
	Medical	94
	Repair and recovery	94
	Prisoners of war	95

SEC		PAGE
62.	Defence	95
	General	95
	Siting of rear divisional headquarters	95
	Control and siting of administrative units	95
	Local defence	96
	Provision of supplies and stores... ..	96
	Transport	97
	Medical	97
	Ordnance	97
	Repair and recovery	98
	Traffic control	98
	Prisoners of war and refugees	98
	Rest areas	98
63.	Withdrawal	99
	General	99
	Aim... ..	99
	Planning for a withdrawal	99
	Control	100
	Reconnaissance of rear positions	100
	Intermediate positions	100
	Dispersal of stocks	100
	Medical	100
	Repair and recovery	101
	Provost	101
	Morale	101

CHAPTER XIII—ADMINISTRATION IN UNDEVELOPED COUNTRIES

COUNTRIES								
64.	Introduction	...	...	...	...	...	...	102
	General	...	...	...	...	...	...	102
	Reserves and economy ...	...	...	...	...	...	...	102
	Training	...	...	...	...	...	...	102
	Morale, welfare and health	...	...	...	...	...	...	103
65.	Desert warfare	...	...	...	...	...	...	103
	General	...	...	...	...	...	...	103
	Shortage of water	...	...	...	...	...	...	103
	Lack of roads	...	...	...	...	...	...	104
	Scarcity of landmarks	...	...	...	...	...	...	105
	Lack of cover	...	...	...	...	...	...	105
	Space	...	...	...	...	...	...	106
	Lack of resources	...	...	...	...	...	...	107
66.	Jungle warfare	...	...	...	...	...	...	107
	General	...	...	...	...	...	...	107
	Climate and terrain	...	...	...	...	...	...	108

SEC							PAGE
	Defence requirements	...	...	..	...	...	108
	Welfare	...	...	...	...	...	109
	Transport and carrying agencies			...	...	...	109
	Ammunition	...	...	...	...	...	109
	POL	...	...	...	...	...	109
	Supplies	...	...		...	...	110
	System of supply	...	...	...	...	...	110
	Prevalence of diseases	...	...	...	...	...	110
	Evacuation of casualties	...	...	...	...	...	111
67.	Mountain warfare	...	...	...	...	...	111
	General	...	...	...	...	...	111
	System of supply	...	...	...	...	...	111
	Types of transport	...	...	...	...	...	112
	Dumping of supplies	...	...	...	...	...	114
	Rations	...	...	...	...	...	114
	Water	...	...	...	...	...	114
	Equipment	...	...	...	...	...	114
	Non-essential items	...	...	...	...	...	114
	Medical	...	...	...	...	...	114
	Traffic control	...	...	...	...	...	115
	Road capacity	...	...	...	...	...	116
68.	Arctic warfare	...	...	...	...	...	116
	General	...	...	...	...	...	116
	Living	...	...	...	...	...	116
	Moving	...	...	...	...	...	116
	Planning	...	...	...	...	...	117
	Morale	...	...	...	...	...	117
	Supply and transport	...	...	...	...	...	117
	Medical	...	...	...	...	...	118
	Ordnance	...	...	...	...	...	119
	Repair and recovery	...	...	...	...	...	119
	Traffic control	...	...	...	...	...	119

CHAPTER XIV—ADMINISTRATIVE ASPECT OF SPECIAL OPERATIONS

69.	Tactical air supply	...	...	...	...	...	119
	General	...	...	...	...	...	119
	Uses of tactical air supply	...	...	...	...	...	120
	Types of tactical air supply	...	...	...	...	...	120
	Methods of tactical air supply	...	...	...	...	...	120
	Flexibility	...	...	...	...	...	121
	Dropping zones	...	...	...	...	...	121
70.	Movement by air	...	...	...	...	...	122

SEC							PAGE
71.	Airborne operations ...	...	...	...	...	...	122
72.	Amphibious warfare	...	...	...	...	...	122
73.	Major river crossing	...	...	...	...	...	123
	General ...	...	...	...	...	...	123
	Command of crossing	...	...	...	...	...	123
	Ammunition	...	...	...	...	...	123
	POL	...	...	...	...	...	124
	Supplies	...	...	...	...	...	124
	Transport	...	...	...	...	...	124
	Medical	...	...	...	...	...	124
	Repair and recovery	...	...	...	...	...	124
	Provost and traffic control	...	...	...	...	...	125
74.	Built-up areas...	...	...	...	...	...	126
	General ...	...	...	...	...	...	126
	Ammunition	...	...	...	...	...	126
	Supplies	...	...	...	...	...	126
	Medical	...	...	...	...	...	126
	Civilians	...	...	...	...	...	126
	Prisoners of war	...	...	...	...	...	126
	Traffic control	...	...	...	...	...	126
	Looting	...	...	...	...	...	126

FIGURES

FIG							PAGE
1.	Ammunition supply ...	...	...	...	...	...	33
2.	Distribution of supplies (a daily process)	...	...	...	...	...	37
3.	Evacuation of casualties	...	...	...	...	...	46
4.	Ordnance supply system	...	...	...	...	...	51
5.	The ARG supply channel for an armoured division (applicable only to RAC, certain RA units and on occasions to RE armoured equipment)	...	...	...	...	...	79
6.	A diagrammatic layout of certain administrative installations and the chain of supply along a divisional axis in mountain warfare	...	...	...	...	...	113

APPENDICES

APPX		PAGE
A	Basic organization of an armoured division	127
B	Basic organization of an infantry division	128
C	Basic organization of an airborne division	129
D	Diagrammatic layout of the rear HQ of a division in the field ...	130
E	Specimen headings for administrative standing orders (operations) for an infantry division	131
F	Notes as a guide for the reconnaissance of an administrative area	137
G	Notes on jeep (or equivalent) transport	139
H	Notes on man pack methods of transportation	140
J	Notes on animal transport	143
K	Q Planning data	147
	Vehicle composition of RASC loading carrying units... ..	147
	POL consumption figures	149
	Load tables:—POL, Water, Supplies, Wire, Blankets, Sandbags, Anti-gas stores	150
	Load tables:—Ammunition	151

ADMINISTRATION IN THE FIELD

Volume I

ADMINISTRATION WITHIN THE DIVISION

INTRODUCTION

Administration is now recognized as one of the principles of war, and there is abundant testimony from commanders in the field to the soundness of this ruling. The following comment of the late Field Marshal Lord Wavell is typical:—

“The more I have seen of war the more I realize how it all depends upon administration and transportation (what our American allies call logistics). It takes little skill or imagination to see where you would like your army and when; it takes much knowledge and hard work to know where you can place your forces and whether you can maintain them there. A real knowledge of supply and movement factors must be the basis of every leader's plan; only then can he know how and when to take risks with those factors; and battles and wars are won only by taking risks.”

The reasons why administration has become of such importance may be summarized as follows:—

- (a) The increasing complexity and quantities of weapons. For example, an infantry division requires some 200,000 different items of ordnance supply to keep it in a state of fighting efficiency.
- (b) The intensity and speed of modern warfare, and the ubiquity of the air arm.
- (c) The great effect of administration on morale.

It must, however, never be forgotten that good administration is not an end in itself but merely a means, though a vital one, whereby a commander achieves his aim—victory in battle.

This manual deals with administration within the division. It covers the principles of administration, the resources available, and how to use them to the best effect. It is written mainly from the point of view of administration in a European theatre of war; in other areas and during specialized

operations the application of the principles may have to be modified, though the principles themselves will still apply. Similarly in peace, resources are reduced and the application of the principles is not only modified but frequently quite different. It will usually be found difficult to practise administration in the field during exercises with any degree of realism and the subject tends to dissolve into the background.

This manual is published therefore to keep alive the standard methods of administration in the field, and as a guide to all officers serving within a division and especially those whose main duties lie in the sphere of administration and who may be required to change their daily routine from peace to active service conditions at short notice. It should be read in conjunction with the other manuals of the Category II series of GS publications dealing with subjects at divisional level, and with "Administration in the Field"—Volume II, which covers administration in rear of the division.

CHAPTER I

BASIS OF ADMINISTRATION

SECTION 1—GENERAL

Definition

1. Administration is that function of command which deals with the organization, discipline and well-being of men, and the movement and maintenance of men and materials.

Aim

2. To carry out any operation the divisional commander has certain resources. These are:—

- (a) The number of men available for the operation.
- (b) The physical and mental ability of these men.
- (c) The material, arms, ammunition, vehicles, POL and supplies of all kinds with which these men will fight.

The aim of all administration must be to ensure that the greatest value is obtained from each of these resources, and that together they form a well balanced team adequate for the task in hand.

SECTION 2—PRINCIPLES

Factors

1. In modern warfare new factors have been introduced which make it ever more important for a commander to ensure that his administrative

arrangements are equal to the strain imposed in carrying out his tactical plan. The chief of these new factors are the speed of advance of a mechanized army, the increased vulnerability of the lines of communication to attack by air or by armoured columns, and the great complexity and quantity of modern equipment.

2. There are, therefore, certain principles which form the basis of sound administration. Those principles have been confirmed by experience. They can be briefly summarized under the following five headings:—

- (a) Foresight.
- (b) Economy.
- (c) Flexibility.
- (d) Simplicity.
- (e) Co-operation.

Neglect of these principles is always dangerous and often disastrous.

Foresight

3. The first preparations that have to be made for an operation are the administrative ones. They also take the longest time. The first essential of a good administrative officer, therefore, is the power to look ahead. He must be able to visualize the unfolding of the operational plan, and to foresee the probable requirements of men and material. His constant aim must be to ensure that his commander's plans are not limited or hindered by lack of some need that should have been foreseen.

Economy

4. In formulating the administrative plan and in advising the commander of the possible scope of operations which can be supported by the administrative resources there is usually a tendency towards over-insurance. The results of under-insurance inevitably become apparent to all, whereas the crime of over-insurance does not and may, indeed, lead to a feeling of satisfaction that supplies of all sorts are plentiful and that the administrative arrangements are excellent. The reverse is, of course, the truth, as any form of over-insurance must inevitably cramp the commander in his operations and prevent him from making full use of his opportunities.

It is therefore of prime importance that the risks of any course of action are nicely calculated in the light of the probable outcome of events.

Any tendency to over-insure on the part of the services, or the staff, must be checked.

Flexibility

5. It is important in modern warfare of movement that administrative arrangements maintain the utmost flexibility. The system by which stocks are held well forward is designed to give that necessary flexibility which

enables a commander to switch formations rapidly and to compete with the changing conditions of mobile warfare. Nevertheless, it is also important that a proper balance is maintained between the reserves which are held forward and those which are held further back so that a major change in plan is always possible.

Simplicity

6. A good administrative plan is almost invariably a simple plan. Complexity should be avoided. An administrative officer should see clearly what is required, and should meet such requirements by the most simple method.

Co-operation

7. Sound administration depends on the intimate co-operation of all branches of the staff and services. Personal visits should be made frequently by the staff to units and brigades. The latter must feel confident that their staff and services will never fail them in an emergency, and similarly the staff and services must feel confident that they will not be asked to satisfy unreasonable demands. Such confidence can only be built up by constant personal contacts. The divisional administrative staff must also have complete confidence in the administrative staff of their next higher formation and may on occasion visit them. It is, however, always the duty of the higher formation to visit the lower, and to see that the latter are getting what they need.

SECTION 3—SUMMARY

1. The foregoing principles are set out as a guide and basis to sound administration. Occasions may, however, sometimes arise when additional risks should be deliberately taken. On such occasions it will almost invariably be found that for a short period an extra effort can be made and the scope of the original plan exceeded, but this will inevitably lead to some temporary administrative dislocation and may necessitate a pause for re-organization. The divisional commander must realize this and must not allow the administrative machine to be over strained by too many special calls. If this is done, serious dislocation will ensue and a tendency to over-insurance and lack of confidence will be encouraged.

2. The principles have been stated in general terms. The resources available within the division and the organization and technique required to put these principles into practice are set out in the succeeding chapters.

CHAPTER II

THE ADMINISTRATIVE ORGANIZATION OF A DIVISION

SECTION 4—THE DIVISIONAL COMMANDER

1. Administration is a function of command, and the divisional commander is at all times completely responsible for the administration of his division; good administration is as important as good training and sound operational command in producing an efficient fighting formation. Administration does, however, require the careful co-ordination of detail and up-to-date knowledge on many subjects, and if the commander is to be able properly to conduct the battle he must not become immersed in such details. Administrative control is therefore exercised through the Assistant Adjutant and Quarter-master General (AA and QMG) whose responsibility it is to co-ordinate the activities of the administrative staff and services on the commander's behalf. The AA and QMG must have the complete confidence of his commander and must be kept fully informed of his thoughts and intentions.

2. The divisional commander must take a personal interest in all matters concerning the Military Secretary's branch. (Within the division these matters are dealt with by the "A" branch of the staff). MS matters are mainly confidential, should be made known to the divisional commander as soon as they arise and should receive his immediate attention. To minimize rumours and, often, to avoid disappointment, he must ensure that no MS matter is revealed outside divisional "A" channels without his prior approval.

3. When conditions permit the divisional commander should visit his administrative units, since the administrative staff and services take their inspiration from his personality and presence in exactly the same way as do the fighting units. It must be remembered, too, that the administrative units still have their work to do when the division is not in action, and the fighting units are resting and training. In a sense, therefore, the administrative units require particular attention during such periods if their training and morale is to be of the best.

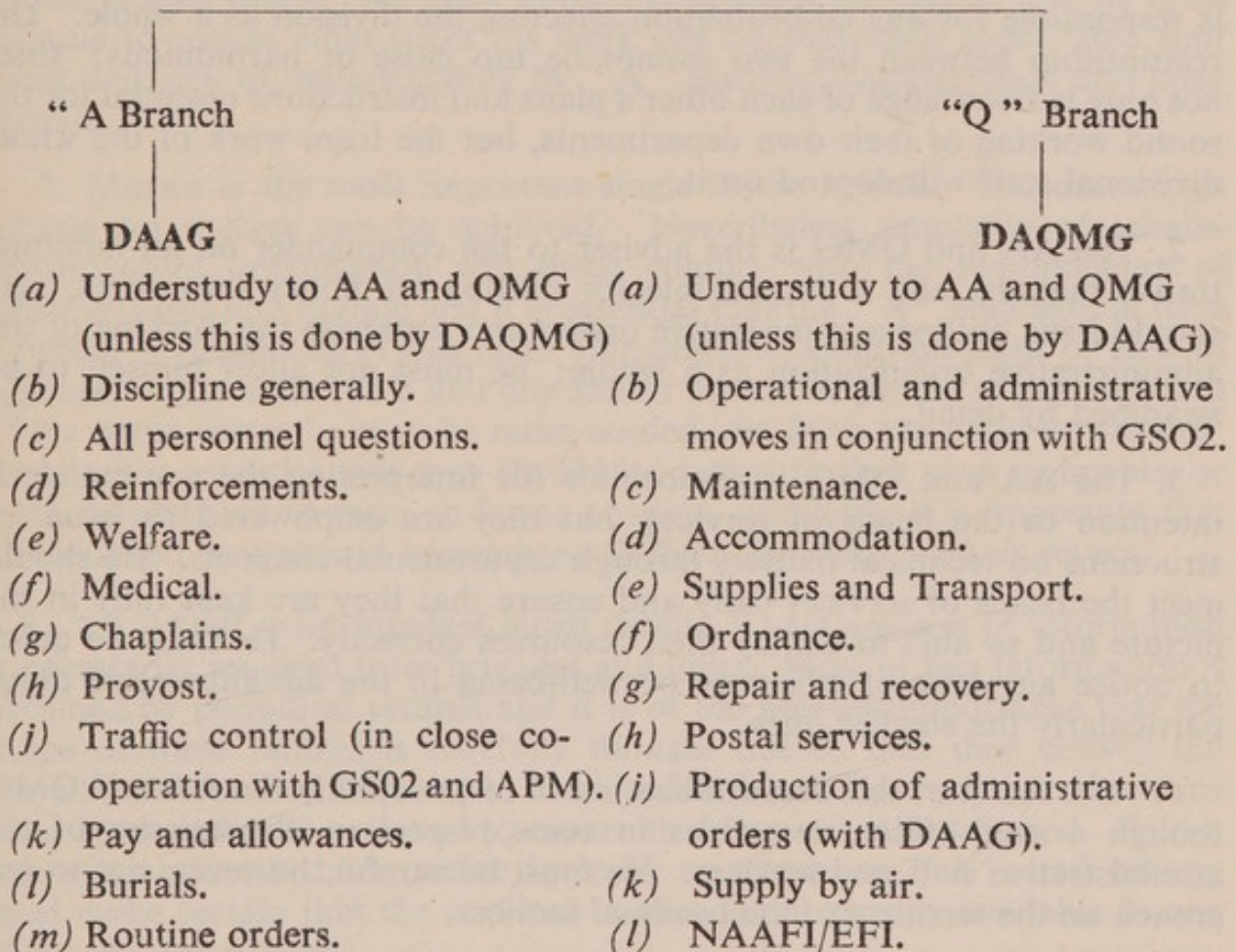
SECTION 5—ADMINISTRATIVE RESPONSIBILITY

Division of responsibility

1. The administrative staff at divisional headquarters is divided into "A" and "Q" branches. A typical distribution of duties between the staff officers is given on the following page:—

AA and QMG

- (a) Policy on all "A" and "Q" matters.
- (b) Co-ordination of work of administrative staff and services.
- (c) Confidential matters regarding officers.
- (d) Honours and Awards.



Staff Captain "A"

- (a) Understudy to DAAG.
- (b) Should be able to take over duties of SC(Q).

Staff Captain "Q"

- (a) Understudy to DAQMG.
- (b) Routine returns.
- (c) Upkeep of vehicle states.

MS matters

2. As already stated "A" branch is also responsible for all MS matters since no officer holds an appointment under the Military Secretary as such at divisional level; *see* Section 4, para 2.

3. In particularly unhealthy theatres of war (eg, South East Asia) a DAAG (Health discipline) will be added to divisional headquarters.

SECTION 6—THE ASSISTANT ADJUTANT AND QUARTER-MASTER-GENERAL

1. The AA and QMG is the head of the administrative staff and is responsible for the efficient functioning of his staff and the services. He must, therefore, in consultation with the GSO 1, ensure that their training is adequate and bring any imperfections to the notice of the commander. (see Section 9, para 8).

Although the AA and QMG is of equal rank to the GSO 1 the latter is responsible for any co-ordination affecting the division as a whole. The relationship between the two cannot be too close or harmonious; since not only is knowledge of each other's plans and instructions essential for the sound working of their own departments, but the team work of the whole divisional staff will depend on it.

2. The AA and QMG is the adviser to the commander on all administrative matters, and is responsible for putting his policy into effect. He should issue outline administrative orders and supervise the working of the administrative organization as a whole; he must not allow himself to be swamped by detail.

3. The AA and QMG is responsible for interpreting the commander's intention to the heads of services, but they are empowered to issue instructions on technical matters through departmental channels. He should meet the heads of services daily and ensure that they are kept fully in the picture and so able to deploy their resources correctly. He must be quick to notice any lack of efficiency or well-being in the administrative units, particularly the smaller ones.

4. As a result of this decentralization of responsibility the AA and QMG though a staff officer, resembles in some respects a commander of the administrative staff and services. He must be careful, however, not to encroach on the territory of the heads of services.

5. It is only by constantly visiting brigades, units and administrative installations that the AA and QMG can make certain that the division is being well administered. By so doing he can find out the needs of the commanders, and advise them on their problems. He can also make sure that his orders are properly and promptly implemented.

SECTION 7—"A" BRANCH

1. The "A" branch of the staff deals with all matters relating to the supply of men and their personal administration, and with all personal services, that is to say, discipline, spiritual, mental, and bodily welfare, etc. A rough analogy can be drawn between the duties of "A" in relation to men, and those of "Q" in relation to material, but this analogy cannot be pursued too far.

A modern army contains many different sorts of specialists and tradesmen, and the various agencies that minister to the personal needs of a soldier, such as the medical services, education, welfare, etc, have developed to a high degree of complexity. Whether or not the modern soldier is a more complex creature than his forbears, the responsibilities of the "A" staff are more elaborate than ever.

A good staff officer must have foresight, accuracy, and a capacity for detail. Above all, he must have imagination and sympathy, or what is known as the human touch. He must know the division intimately, and he must be able to realize what effect his work has on individual men. Bad staff work and lack of understanding by "A" leads to dissatisfaction and poor morale.

2. Morale is the most important single factor in war. Without a high morale no success can be achieved. Nevertheless simplicity of administration and organization will often conflict with the requirements of *esprit de corps* and morale and it is essential that the "A" staff should have a proper appreciation of this fact. For example, from the point of view of organization it is desirable that any soldier should be posted to any regiment of his corps where he may be most needed, yet from the point of view of morale it is essential that men should be posted to their own regiments, or to those affiliated to them so far as possible. Similarly it is important that all wounded men should be reposted to their old units on their return.

3. "A" staff work involves much detail; a vast amount of information is necessarily required from brigades and units. Most of this information is obtained by periodical returns and it is of the greatest importance that the shape of these returns is carefully thought out so that they convey the essential information required in the simplest form. Further, lists of returns must be periodically reviewed to ensure that they are still required. Before information is asked for, either by letter or telephone, "A" staff officers must make certain that the required answer is not already available in one of the routine returns.

4. "A" staff officers should always have a good notion of the mental and physical state of the soldiers of the division; they are, in effect, additional eyes and ears of the divisional commander. They must visit units constantly both to advise and help and to gauge at first hand the morale of the division. They must not become immersed in office work at the expense of visiting; an ounce of direct contact is worth a ton of paper.

5. The normal "A" staff of a division consists of the Deputy Assistant Adjutant General (DAAG, a major) and a Staff Captain "A". Most commanders prefer to deal direct with the DAAG on matters when knowledge of detail is required (eg, Courts Martial) and where policy is not involved. The AA and QMG must, however, be kept informed of what is happening.

In unhealthy theatres of operations there is also a DAAG (health discipline) included on the establishment of divisional headquarters.

6. During actual operations the main problems of the "A" Staff are reinforcements, prisoners of war, discipline, strength states and welfare.

SECTION 8—"Q" BRANCH

1. The "Q" staff is charged with the satisfaction of the material needs of the division, a task rendered more difficult by the enormous elaboration of modern equipment, and the great quantities of ammunition and gasoline required.

The main heads of this duty are given in Section 5. These may be further shortened as follows:—

- (a) To arrange for the provision of material of all kinds.
- (b) To direct the recovery and repair of damaged vehicles and equipment.
- (c) To control transport.
- (d) To provide accommodation or allot billeting areas.
- (e) To arrange and control all moves other than operational moves under the control of the "G" staff.

2. The "Q" staff are responsible for seeing that the commanders' intentions are translated into clear directions to the services. In this matter clear administrative standing orders can simplify much of the detail. The relation between the staff and the services are analogous to those between the staff and subordinate commanders.

3. The "Q" staff must always be in a position to know what is possible, and must therefore thoroughly understand the working of the services. "Q" must not, however, attempt to keep data that are within the province of a service.

4. The normal "Q" staff of a division consists of a Deputy Assistant Quarter-master General (DAQMG, a major) and a Staff Captain "Q." The former is the permanent link through whom all "Q" instructions are passed.

During operations he is responsible for issuing replenishment instructions, and for allotting harbour areas and giving movement instructions for transport echelons and administrative units.

Much of the work has to be done at night, especially in an armoured division. As the AA and QMG is usually out by day, a great strain falls on the DAQMG in prolonged operations. For this reason, the officers of the "A" Staff must be trained to act as reliefs for "Q" and must be available to do so on such occasions.

5. The "Q" staff officer must at all times consider how the impact of any "Q" decision will be felt by units. Much can be done by personal visits, when problems can be discussed more frankly and directly than by correspondence. The tendency to become office bound must be strenuously fought and "Q" staff officers must get out on the ground and see units as much as possible.

SECTION 9—THE SERVICES

Normal allotment

1. The division is the basic fighting formation of the Army. It contains a properly balanced proportion of units or representatives of the various administrative services necessary to make it capable of undertaking its own administration and ensuring that it is efficient for battle, provided, of course, that the necessary supplies can be got from organizations and installations in rear.

The organization of the normal armoured, infantry and airborne types of division is given in Appendices A to C.

2. The normal allotment of the major services to all types of division include:--

- | | | |
|---------------------------------|--------------------------------|-----------------------------|
| (a) Royal Army Medical Corps. | } Which are the responsibility | |
| Corps of Royal Military Police. | | of "A" branch of the staff |
| (b) Royal Army Service Corps. | } Which are the responsibility | |
| Royal Army Ordnance Corps. | | of "Q" branch of the staff. |
| Royal Electrical and Mechanical | | |
| Engineers. | | |

For details of these Services *see* Chapters IV to VIII.

3. The divisional Royal Engineers, although an arm, have numerous administrative functions to perform in the division. Details are given in Chapter IX.

4. In addition, the following smaller services have representatives on, or permanently attached to, the establishment of divisional headquarters, brigade headquarters and units, or attached thereto from higher formations.

- | | | |
|-----------------------------------|--------------------------------|-----------------------------|
| Royal Army Chaplains' Department. | } Which are the responsibility | |
| Royal Army Pay Corps. | | of "A" branch of the Staff. |
| Royal Army Education Corps. | | |
| Army Postal Service. | } Which are the responsibility | |
| Army Catering Corps. | | of "Q" branch of the staff. |

For details of these services *see* Chapter X.

Command and control

5. Each of the services detailed at para 2(b) above is commanded by a lieutenant-colonel with a small unit headquarters which includes an adjutant. In addition to commanding all the units of their respective corps within the division they act as technical advisers to the divisional commander. Similarly, although the Assistant Director of Medical Services (ADMS), a colonel, is included on the strength of the headquarters of the division he is also overall commander of the medical units of the division.

The Provost Company has its own commander who takes his executive orders from the Assistant Provost Marshal (APM), a major, on the strength of divisional headquarters and, as such, tantamount to a staff officer

6. Once the AA and QMG is given his task by the divisional commander he must thereafter work out the administrative plan in close liaison with the heads of the services. The latter will receive their orders from him as coming from the commander, but at all times retain the right of direct access to the commander regarding matters affecting their own corps. Further, as the head of a service has technical responsibilities, it must to some extent be left to him to decide what method is to be adopted to implement the plan.

In the case of smaller services, such as the postal service, the detachment commander may receive his orders through second or third grade staff officers.

7. The head of the service (or his representative at brigade headquarters) is empowered to issue instructions on technical matters concerning his service to brigades and units with the authority of the senior staff officer of the branch concerned. Similarly, heads of services (and their representatives at brigade level) are advisers to the staff on matters connected with their service; the staff should consult them before forming an opinion as to what can reasonably be undertaken.

Training

8. Heads of services are responsible for the technical training of troops of their own service attached to brigades and units.

Affiliation

9. The principles of employment of the administrative units and representatives detailed above are discussed more fully in subsequent chapters. The common threads which run throughout are affiliation and divisional control. In the same way that each brigade has normally an artillery regiment or field squadron RE affiliated to it, and expects to work with these units whenever possible, so does the principle apply to administrative units such as field ambulances, and workshops. Affiliation breeds a team spirit and a sense of confidence between the units concerned and this spirit is of inestimable value during operations. On the other hand it is very necessary

to concentrate administrative resources much as fire power is concentrated; to allow control to be divided is to dissipate force. A good administrative plan will ensure as far as possible that administrative units work with the brigade to which they are affiliated, or are likely to do so as the operation develops, and yet make the most of their capacity by concentrating their resources under one hand.

10. The closest affiliation is necessary between the companies of the RASC transport column and the infantry elements in both the armoured and infantry division if the maximum advantage and smooth working is to be achieved in troop carrying duties. Although in an armoured division the specially designated troop-carrying company of the RASC will normally be permanently attached to the lorried infantry brigade for this task, in the infantry division any of the transport companies may be required to do this. This task requires much practice and a simple and well understood embussing and de-bussing procedure such as affiliation will breed. (*See Section 20, para 6*).

Brigade groups

11. There may be occasions when a brigade will be operationally employed on a detached mission away from the division, for instance, wide to a flank, or during fluid operations when divisional control is impracticable. In these circumstances it may be necessary for the brigade to have under command certain additional supporting arms and services. A brigade so organized is known as an infantry or armoured brigade group.

12. These brigade groups are not standard formations. Their organization will depend on the nature of their role, the terrain over which they will be required to operate, and the men, material and equipment which will be available at the time of the operation.

13. It is not possible to lay down a hard and fast system of maintenance for such brigade groups. The principle is that centralized control of maintenance, which is more economical of the administrative resources, should be retained as long as possible. When administrative units have to be detached and placed under command of the brigade, normal affiliations should be observed as far as possible.

SECTION 10—ADMINISTRATION AT BRIGADE LEVEL

1. At any brigade headquarters the administrative staff consists normally of a deputy assistant adjutant and quarter-master general (DAA and QMG) and a staff captain. Although not always implemented in peace, representatives of the RASC, RAOC and RAEC are also included on active service, as will be the Chaplains Department. A REME officer representative will always be borne on the strength of brigade headquarters.

The duties of these officers are given below:—

Duties of the DAA and QMG

2. Duties include:—

- (a) Provision of ammunition, POL and supplies (with BRASCO).
- (b) Control and movement of transport (with the brigade transport officer at an infantry brigade headquarters).
- (c) Issue of blankets.
- (d) Issue and maintenance of clothing (with the BOO).
- (e) Medical arrangements (in conjunction with the commander of the affiliated field ambulance).
- (f) General supervision of demands and issue of ordnance stores (with the BOO).
- (g) Repair and recovery (with BEME).
- (h) Delivery of RE stores on " G " authority.
- (j) Traffic control, including traffic circuits, lighting restrictions etc. (with the brigade major).
- (k) Control of Provost when under command (with the brigade major).
- (l) Control of stragglers.
- (m) Disposal of prisoners.
- (n) Arrangements for collection and disposal of salvage.
- (o) Water supply.
- (p) Accommodation.
- (q) Clearing battlefields and burial of the dead.
- (r) Chaplains.
- (s) All staff work in connection with confidential reports on officers.
- (t) Discipline.
- (u) Honours and awards.
- (v) Production of routine and administrative orders.
- (w) Postal arrangements.
- (x) " A " and " Q " returns.
- (y) Control of tank delivery (*NOTE:—Allotment of AFVs to units is a " G " decision*).
- (z) Welfare.
- (aa) Staff work in connection with duties of brigade education officer.
- (bb) Supply by air.

3. The DAA and QMG is assisted in the above duties by the staff captain and often by a liaison officer as well. The division of duties between these officers varies between brigades.

The DAA and QMG is also assisted by representatives of the services at brigade headquarters as shown below. These officers, however, deal direct with their respective heads of services on technical matters.

Duties of the Brigade RASC Officer (BRASCO)

4. The BRASCO is not authorized in peace. During operations his duties include:—

- (a) Responsibility to DAA and QMG for supply and transport matters within the brigade.
- (b) Liaison with CRASC and affiliated RASC.
- (c) Ration indents and inspection of rations.
- (d) Reconnaissance of ammunition, petroleum and supply points.
- (e) Liaison with all units in the brigade.

Duties of the Brigade Ordnance Officer (BOO)

5. The BOO is not authorized in peace. During operations his duties include:—

- (a) Responsibility to DAA and QMG for all ordnance matters within the brigade.
- (b) Liaison with CRAOC and divisional ordnance field park.
- (c) Assistance to units with indents and the maintenance of clothing and ordnance equipment.

NOTE:—A Brigade Ordnance Warrant Officer (BOWO) is authorized within a division to carry out the duties of Ordnance representative with divisional troops.

Duties of the Brigade Electrical and Mechanical Engineer (BEME)

6. Duties include:—

- (a) Responsibility to DAA and QMG for recovery and repair.
- (b) Liaison with CREME and workshops.
- (c) Works in close touch with brigade and battalion transport officers and with EMEs.
- (d) Supervision of light aid detachments within the brigade. (See Section 38).
- (e) Assists units in technical work such as waterproofing or stripping for special stowage.

Duties of the Brigade Education Officer

7. Duties include:—

- (a) Responsibility to the commander for all educational work within the brigade.
- (b) Liaison with divisional education officer.
- (c) Liaison with unit education officers of all units in the brigade.
- (d) Assistance to units in the provision of educational equipment.
- (e) Allocation of duties to brigade RAEC staff.
- (f) Editing and publication of brigade news sheets, or brigade contribution to divisional or unit sheets.
- (g) Liaison with Intelligence Staff to obtain information to be included in divisional, brigade or unit news sheets.

SECTION 11—ADMINISTRATION WITHIN THE UNIT

Definition

1. Military administration at unit level can be defined as follows:—

“The provision and maintenance of, and accounting for, all those things which the soldier needs to carry out his task, the disposal of all damaged items or those no longer required by the soldier, and the provision for the soldiers’ spiritual, mental and bodily well-being.”

Aim

2. The aim of unit administration is to produce an efficient, well disciplined and contented unit with high morale and *esprit de corps*.

Factors

3. Good administration within the unit depends above all on good man management. Man management calls for a close interest on the part of every officer and NCO in each man in his charge, and a knowledge of his personal circumstances and individual characteristics. It demands human qualities of sympathy and imagination which, however, must always be directed by an awareness of the duty to be done, and made effective by foresight, which will ensure that each man’s needs are met as far as possible and that he makes the best use of what is provided for him. Man management is not the affair of specialists, but of every officer, warrant officer and NCO in the unit.

4. The elements of good man management may be summarized in this way.

The primary aim is that the individual is fit to fight. He must therefore be kept physically fit by training and recreation. He must be confident that he excels in battle-craft, and this entails good battle training, good information, and encouragement of the competitive spirit.

He must be kept as free as possible from worries which may affect his efficiency in battle. To this end he must be treated with justice and fairness; encouraged in self respect and pride in his unit by provision of proper equipment and the facilities for smart turnout and maintenance of health and cleanliness. This will entail good and proper arrangements for clothing, pay and accounting, medical services, rations and messing, laundry, spiritual welfare, entertainment and leave.

Family affairs occupy a big place in the thoughts of most men and it is essential that there is the best possible mail service and supply of news from and to home. Officers must know the means available for making quick individual enquiries when their men are anxious about the circumstances of their families.

All these arrangements properly made and executed help to establish mutual confidence which is the most important asset in the maintenance

of high morale and good discipline. Subsequent sections show in detail where staff responsibility lies in these arrangements.

5. Other factors in the build up of high morale and *esprit de corps* in a unit may be summarized as follows:—

(a) *Discipline* (“A”)

- (i) *Drill*:—Obedience; smart turn out; mutual confidence.
- (ii) *Good office work*:—justice; good documentation.

(b) “Q”

- (i) Clothing.
- (ii) MT.
- (iii) Accounting.
- (iv) Laundry.
- (v) Comforts and mail.
- (vi) Well maintained equipment.

(c) *Welfare*

- (i) *Personal*:—leave; regimental funds; pay; canteen.
- (ii) *Education*:—good arrangements in accordance with policy.
- (iii) *Well being*:—medical arrangements and health discipline; good food; entertainment; open mess meetings; spiritual welfare.

(d) *Fitness for war*

- (i) *Physical fitness*:—physical training; recreation.
- (ii) *Battle craft*:—good battle training; good information; the competitive spirit.

6. Certain of the above items can, of course, be implemented on active service only, when the unit is in reserve or resting, eg, open mess meetings.

Allotment of duties

7. The keystone to the build up of high morale and *esprit de corps* is good officers, warrant officers and non-commissioned officers.

8. Within a unit the overall responsibility for sound administration lies with the commanding officer. The quarter-master is the “Q” staff officer to his CO, and the adjutant handles “A” matters.

A CO may at times delegate some of his administrative responsibilities to his second-in-command.

9. In addition certain officers will normally be appointed to supervise subjects such as education, messing, and entertainment. Matters affecting vehicles of the unit are the responsibility of the technical adjutant in armoured units and the transport officer in infantry battalions, etc.

10. The unit quarter-master is not concerned with military pamphlets, stationery, the regimental library, the provision and maintenance of cash, or band instruments. In many RAC units the provision and maintenance of technical stores comes within the province of the technical adjutant.

SECTION 12—MISCELLANEOUS ADMINISTRATIVE APPOINTMENTS

1. Certain miscellaneous appointments held by officers at divisional and brigade levels are given below.

Camp Commandant (Infantry and airborne division)

2. A captain on the establishment of infantry and airborne divisions. He is the equivalent of the company commander of all ranks at divisional headquarters. He works principally on orders issued by the "A/Q" branch, but as he usually commands HQ Defence troops (*see* para 4 below) he also receives orders from "G" branch.

OC Headquarters Squadron (Armoured division)

3. A major on the establishment of an armoured division. He is responsible for the control of divisional headquarters transport, and for the administration of all ranks at the headquarters. He has a 2 IC (Capt), who is responsible for the HQ transport, a Camp Commandant (Capt or QM), and two subalterns to assist him. The squadron includes the command tanks, the protection troop and the intercommunication troop.

Defence and Employment element (All divisions)

4. In the infantry and airborne divisions, a defence and employment platoon is provided. It is commanded by a subaltern, but comes under divisional headquarters (the camp commandant) for general administration.

In the armoured division, the defence element is provided by the protection troop, and is part of HQ Squadron (*see* para 3 above).

Camp Commandant (HQ Inf Bdes) or OC HQ Squadron (HQ Armoured Bdes)

5. (a) Responsible for local administration.

(b) Commands brigade HQ defence and employment platoon (HQ, Inf Bdes).

(c) Responsible to BM for training of brigade HQ ground defence platoon (HQ Inf Bdes).

(d) Commands brigaded A2 echelons (HQ, Armd Bdes).

(e) Detailed defence plan under GSO3 (HQ, Inf Bde).

Defence and Employment Platoon (Inf Bdes and Lorried Inf Bdes)

6. Is composed of an employment section and three ground defence sections. Though on a separate establishment, it is an organic part of brigade HQ in practice, and is normally commanded by the camp commandant.

Chaplains

7. Although officers of the Royal Army Chaplain's Department are held as a pool on the permanently posted strength of each divisional and brigade headquarters, it will be normal for one chaplain to be allocated to each battalion headquarters, often with further duties with other units of the brigade or divisional troops.

Education officers

8. Up to four officers of the RAEC will normally be included in the establishment of divisional headquarters, while in addition one is allotted permanently to each type of division.

Catering adviser

9. One catering advisor (captain) will normally be attached to a divisional headquarters from the pool held by higher formations.

CHAPTER III

THE ADMINISTRATIVE CHANNEL

SECTION 13—GENERAL

1. In the previous chapter the administrative resources available within a division and the allotment of responsibility to the staff at divisional and brigade levels, to the services and within a unit have been given in outline.

This chapter covers the lay-out of the division from rear to front as it affects the flow of material, and the methods available to implement it.

2. The essence of any maintenance organization, as with all forms of administration, is flexibility based on proved principles. No hard and fast rule can, therefore, be laid down. For instance, a division may operate for considerable periods, without forming a divisional administrative area.

3. Although a division is organized and equipped for independent administration it can only carry this out smoothly if the organization and installations in rear are functioning correctly, and maintaining the necessary reserve of stocks of all kinds which may be required at short notice by the fighting troops.

The forward flow must be assured. The fighting soldier must never have to slow up for lack of his administrative requirements nor be "looking over his shoulder" to see if they are, in fact, immediately available.

4. The requirements of a division in a theatre of war vary considerably with the circumstances of its employment. It is necessary for stocks of all major items to be held within easy reach of formations, and it is important that there is close control and co-ordination by the divisional administrative staff of the maintenance arrangements.

SECTION 14—LAY-OUT OF DIVISIONAL HEADQUARTERS

General

1. The headquarters of a division is too unwieldy a formation to keep assembled as a whole during operations; that portion which is essential to fight the battle must be as far forward as possible whereas the remainder can carry out its duties better if held further to the rear. For this reason the headquarters is so designed that it can be divided into a main headquarters and a rear headquarters. It must never be forgotten, however, that the whole headquarters, main and rear, is one unit.

Main divisional headquarters

2. The main HQ will consist normally of the complete operational staff (including air support personnel), the staffs of the headquarters of supporting arms and of the divisional signal regiment, the traffic control organization, less a section working at rear HQ, and a representative of the administrative staff.

On occasions it will be advantageous to have certain heads of services also forward.

Although the AA and QMG must spend much of his time at rear HQ where his staff and the heads of service are located, he must, as already explained, maintain constant touch with his divisional commander and with the GSO 1. Provided the relationship between the AA and QMG and the GSO 1 is correct there is, however, no reason why the former need be based on main HQ nor why he should interfere with the working of his staff by dividing it between main and rear HQ. The location of the office of the AA and QMG is, however, a matter which lies with the individual commander and no hard and fast rule can be laid down. A "Q" representative at main HQ is, however, essential; his selection is a matter for the divisional commander and the AA and QMG. Though the composition of the commander's mess at main HQ is a personal matter many commanders find it an advantage to have this "Q" representative living in their mess so that "Q" are kept fully in the picture not only as regards actual plans but also as to possible future intentions.

8 Med
1

Rear divisional headquarters

3. Rear HQ handles the administration of the division; as such it contains the staff of the "A" and "Q" branches, the heads of services, and administrative personnel attached to the division.

4. Rear HQ must be organized as a complete entity with its own signal group, camp staff, messes and local protection. An organized reconnaissance party is also necessary to reconnoitre and lay out the new site when the headquarters moves. This is a somewhat specialized job and personnel so selected should be constant and detailed in standing orders.

Siting of rear HQ

5. The siting of rear HQ depends on a number of factors. It will be drawn towards main HQ whence it derives all the information and direction on which plans are made, and where it will get the best communications with brigades. On the other hand, rear HQ will want to be near the divisional administrative area where the majority of administrative units will be located and, therefore, where most of the heads of services have their work to do. In any case, the need of dispersion and finding suitable accommodation, will, however, usually prevent the two headquarters being adjacent. A further factor is that good contact with rear corps HQ is required.

The siting is, therefore, a compromise between the conflicting claims of operational and future planning, and the requirements of the services and rear corps HQ. Generally speaking, the nearer rear HQ is to main HQ the more will the officers at rear HQ be in the operational picture. At the same time it is essential that not only wireless communication but also personal contact should be maintained with service units and corps installations. As far as proximity to main HQ is concerned anything between four and seven miles is satisfactory; extension of this distance is only justified when the speed of advance has been such that service units and rear corps HQ have been left far behind.

A diagrammatic layout of Rear HQ in the field is given at Appendix D.

6. When siting rear HQ the communication requirements are of vital importance and must at all times be given priority consideration. The headquarters should never, therefore, be moved or sited except in consultation with a representative of the signal regiment. (See Section 19).

7. Occasionally it will be possible to site main and rear HQ together usually in static conditions. If this happens it is essential that the separate organization of the two headquarters be retained.

8. A landing strip, or ground suitable for use by light aircraft, in proximity to the site is a requirement to remember.

Moves of Rear HQ

9. To simplify communications it is convenient to step rear HQ forward into the location vacated by main HQ and it may often happen that the bounds made by the latter are within the distances at which it is suitable for the two headquarters to be situated.

10. The components of Rear HQ should be organized into groups, the composition of each group conforming to the natural sub-divisions of the headquarters. If moves are to proceed smoothly this grouping and the movement procedure for rear HQ must be laid down in standing orders, be well known to all concerned, and practised frequently during training.

11. When rear HQ moves to a new location the various groups pull out in the order of march previously laid down and, on arrival at the new area, take up position relative to each other in accordance with a standard pattern.

12. Sufficient warning of an impending move must be given to allow time for reconnaissance of the new area, for advance parties to move ahead, for the route to be marked and the area sign-posted.

13. While main HQ may frequently move during the late afternoon or evening, it is better for rear HQ to move during the morning so that their offices can be re-opened by mid-day and work continuously throughout the afternoon and evening, the latter being the period when the greatest load of work usually falls in connection with the receipt of administrative returns, their consolidation and transmission to higher formation.

Signposting

14. The section of provost working with rear HQ (*see* Section 41), are responsible for marking the routes to and from rear HQ, while the officer in charge of the advance party is responsible for signposting, anyway provisionally, all office areas, messes, etc within the actual area to be occupied. Special care must be taken to ensure good signposting if the area is off the divisional axis or difficult to locate.

15. A representative, usually provost, must be left at the site for a reasonable period when rear HQ moves in order to redirect visitors, etc. Thereafter he will rejoin at the new location, picking up the directing signs en route but ensuring that the divisional area is adequately marked forward.

SECTION 15—LAY-OUT OF A BRIGADE HEADQUARTERS

1. Since a brigade HQ is considerably smaller than its counterpart at division, is less unwieldy, and easier to accommodate and to conceal, it will not always be necessary to divide into a main and rear headquarters under static conditions. The need for concealment and dispersion may however dictate that the headquarters is divided into two parts.

2. During mobile operations a split may be found convenient, especially in an armoured brigade, and if a brigade has a number of additional units under command at the time. The arrangement, factors, etc are identical to those on the divisional level although the distances between the two headquarters should for convenience be shorter.

SECTION 16—THE DIVISIONAL ADMINISTRATIVE AREA

Definition

1. The divisional administrative area is an area in which unit "B" echelon transport and the service units of the division, whose functions do not require them to be elsewhere, are situated.

Considerations

2. The system of administrative areas has been devised for use when convenient and is not a procedure to be applied rigidly in all circumstances. The first consideration is that administrative units should be located and moved as most convenient for the performance of their task.

3. A divisional administrative area simplifies communications, control and defence. But, to be effective, it must have good traffic routes both forward and to the rear, it must provide adequate concealment, and it must be suitable for defence. A congested area will prove a liability.

Siting

4. A divisional administrative area should either be well forward or right back. A middle course will invite attack if the enemy infiltrates between the forward battle zones or from a flank, and may cause constant alarms. Administrative units have a full-time job with their own work and all opportunities to rest them must be taken. If well forward these units will automatically obtain some protection from the dispositions of the fighting troops. When they are right back they should only get a warning to stand to when infiltration is really imminent or airborne attack is expected; this warning should therefore, give them adequate time to take up their previously reconnoitred defence positions.

No rule can be laid down as various factors such as cover, roads, and signal communications (*see* Section 19) must be considered. But, as a general guide it can be taken that when an advance is planned the administrative area should be well forward; in defence, and more particularly if a withdrawal is contemplated the area should be right back. In the latter case adjustments may have to be made between B echelon vehicles and RASC transport in order to even out distances. (*See* Chapter IV).

Allotment of harbour areas

5. "Q" is responsible for laying out the administrative area and for allotting harbour areas for "B" Echelon, workshops and other administrative units. An estimate of the probable areas which can be occupied must be made, agreed with brigades as applicable, and confirmed with "G" as to availability. Thereafter, representatives from the echelon, etc, reconnoitre the area allotted and prepare it for immediate occupation, eg, improve entrances from roadways etc.

(Notes as a guide for the reconnaissance of an administrative area are given at Appendix F).

Command and control

6. A commander of the area will normally be essential both to control all the units in the area and to organize local administration and defence. It is most undesirable that the head of a service or commander of a unit in the area should be detailed for this task since they will be fully employed with their own duties and could only undertake another commitment at their expense and with a consequent adverse effect on general administration.

7. It is therefore better to form a special headquarters for this purpose with personnel drawn from the resources of the division. Since the commander so appointed may well be junior to some of those within the area personalities must play a major part in his selection. For instance it may be possible for the Divisional Battle School or Reinforcement Unit to supply a lieutenant colonel for this purpose.

8. In exceptional circumstances it may be necessary for command to be exercised direct from rear HQ which will at all times be in overall control.

SECTION 17—THE DIVISIONAL MAINTENANCE AREA

1. A maintenance area is any area which is established for maintenance purposes, on a temporary basis only, where certain additional stocks may be held. It is, therefore, distinct from an administrative area where authorized holdings of supplies and stores are merely transferred from one transport echelon to another.

2. In certain operations it may be necessary for a division to hold certain reserves, such as ammunition, on the ground in addition to the authorized 2nd Line holdings. This area is called the divisional maintenance area. For ease of control, provision of manpower and working, it should be sited within the divisional administrative area.

3. However, especially within an armoured division it will be the exception to form a maintenance area, since the essence of the division is its mobility; having stocks on the ground which cannot be lifted in the transport of the division only leads to waste.

4. At divisional level, a maintenance area will only be formed with prior permission of higher formation.

SECTION 18—ADMINISTRATIVE TRANSPORT ECHELONS

Categories of transport

1. Within a division all transport falls into two main categories:

(a) First line transport—which is all unit transport.

(b) Second line transport—which is the divisional column RASC. Second line transport can be augmented on occasions from first line by the formation of *ad hoc* platoons from unit B Echelons.

In rear of division other categories include corps, army, general and technical transport.

First line transport

2. The first line transport of units is grouped into the following echelons:—

“F” Echelon.—The essential vehicles required to accompany the fighting troops in action.

(Note:—It is unlikely that any administrative vehicles will be included in this echelon).

“A” Echelon.—The vehicles which must be readily available to support “F” echelon in action.

“B” Echelon.—Vehicles not included in “F” and “A” echelons. Such vehicles can be held well back and brought forward when the situation permits, often after dark.

The normal composition of these echelons will be laid down in formation and unit standing orders. The principle employed in deciding their composition is to relieve the troops engaged in battle of all vehicles not immediately required and at the same time have them readily available when required. This composition may require modification at times to conform with the changes in the tactical situation.

3. “A” echelon is the largest group and may for ease of control be divided into “A1” and “A2” echelons.

4. (a) “A1” echelons are under command of units for all purposes.

(b) “A2” echelons are normally brigaded and moved under arrangements of brigade headquarters (on timings obtained from “G” at division). Where individual units are sent on widely separated tasks, brigade headquarters will normally detach the “A2” echelon of that unit and allow it to move under command of the parent unit.

- (c) "B" echelon vehicles will often be collected in brigade groups, each group containing the vehicles of the units of the brigade, including other units under command or in support at the time. These will then come under divisional control. Because of the distances involved, armoured car regiments will normally keep their "B" echelons separate from brigade, etc. "B" echelon.

5. The only major exception to this normal split of echelons is in the case of regiments of the Royal Artillery. Here the "A1" echelon consists of the minimum number of vehicles required to service the regiment at the end of the day's fighting; the "A2" echelon consists of most of the first line holding of POL and ammunition to replenish the regiment as it is required; and "B" echelon consists of the remainder of the commodity holding vehicles and includes the QM, technical vehicles, stores, etc.

6. Each major "B" echelon must have an officer in command who will be in direct wireless touch with "Q" at rear HQ and through whom all replenishment, etc messages are passed to the units in the echelon.

"B" echelons are moved and allotted harbour areas by "Q" at rear HQ. They will usually be located within the divisional administrative area.

Second line transport

7. The second line transport of a division is that which is operated by the RASC. It should be treated as a pool of transport under CRASC, the broad allocation of available transport resources to meet the various commitments being the responsibilities of "Q" branch. (See Chapter IV).

SECTION 19—ADMINISTRATIVE COMMUNICATIONS

1. Good administration is just as dependent on communications as is the tactical efficiency of the division. The efficiency of the administrative communications should not be inferior to those devoted to operational control.

2. Except during periods of continuous movement, telephone lines should be laid between rear corps and divisional headquarters and between main and rear HQ and the brigades. This is an important consideration when siting rear HQ.

At other times direct communication is by wireless.

3. As soon as line communications are established replenishment demands should not be made by RT but passed as written messages through signals.

4. All officers of the administrative staff and the services, and their operators, must be as proficient in the use of wireless as those with fighting units.

5. The needs of security and the quick and accurate use of codes must be known to all those who are liable to use wireless.

CHAPTER IV

SUPPLIES AND TRANSPORT

SECTION 20—GENERAL

Organization

1. All divisions have a divisional column RASC. Within this column there are three or more companies, each company comprising standard components *ie*, transport and technical platoons (according to role) and a LAD, REME.

Whenever possible companies are organized on the commodity system which is the most economical way of using them. This means that one company may be organized to carry artillery ammunition, another POL, tank and infantry ammunition, and so on. But the companies may also be organized on a composite basis when necessary; for instance when a brigade group is detached and requires its own column of second line transport to accompany it.

2. In an armoured division an extra company is allotted to lift the infantry of the lorried infantry brigade, specific platoons being affiliated to infantry battalions to ensure the maximum co-operation, simplification of embussing drill, etc. These vehicles, however, must also be considered as a pool of transport as required.

3. When brigades or units of another formation come under command of the division an adequate scale of second line transport must be brought with them. Similarly, when divisional units are detached sufficient second line transport must accompany them.

Command and control

4. The CRASC (Lt Col) is head of the service and commands all the RASC units of the divisional column and those which may be attached to the division for some specific task. Although normally located at rear HQ in the field, CRASC is not included in the headquarters establishment but has his own headquarters which includes among others, officers for ammunition, POL and supply duties.

5. The column as a whole affords a tremendous load carrying capacity at the disposal of the divisional commander. It must, however, be remembered that there is always a shortage of road transport in every theatre. The divisional column is therefore continuously working to full capacity and, if waste is to be avoided, the principle of centralized control must be observed. In fact the column must be regarded as a pool of transport retained and operated under the hand of CRASC whenever possible. It is his duty to decide how to use this transport to its fullest capacity. The tendency to disperse vehicles and sub-units under command of brigades must be resisted, or the pool of transport will soon be scattered, and its potential frittered away in idleness or unnecessary tasks.

Duties

6. The main duties of the column include:—

- (a) The collection from the rear of ammunition, POL and supplies, and delivering them to units at some convenient point.
- (b) The holding and carriage of the division's second line reserves (*see para 7*).
- (c) Troop carrying. In an infantry division this task will usually occur during mobile operations. To do it a number of sub-units of the column will have to be diverted from their normal tasks and off-loaded. It is essential therefore that they shall be given a definite task and, when completed, allowed to return to fetch their loads. The tendency to hold unloaded RASC vehicles against the possibility of some tactical opportunity must be resisted.

For troop carrying arrangements in an armoured division *see para 2 above*.

- (d) Meeting the many and varied requirements of the division for second line transport work.
- (e) Controlling such first line transport as may be withdrawn from units from time to time to supplement RASC transport on divisional tasks. The divisional commander's permission must be obtained before such transport is organized, and the detail should be covered in standing orders. So far as possible CRASC should use this transport in support of the units finding it, while the divisional column is employed for more distant tasks. CRASC must be told what notice he will receive to return first line transport to units so that he may allot tasks accordingly.

7. The second line reserves of the division are its mobile reserve of ammunition, POL, supplies, and certain other stores. These reserves are carried by the divisional column, RASC. The principle is that all commodities should be "on wheels" and not dumped; if vehicles are off-loaded for a specific purpose, such as troop-carrying, a plan must be made in advance to enable them to pick up their loads as soon as the specific mission is accomplished.

Scales of second line reserves are laid down as a guide only, and may require varying, from time to time in accordance with the prevailing tactical situation, *eg*, it is wasteful to carry about large quantities of anti-tank mines during a pursuit when there is little or no threat from enemy armour. It is the duty of "Q" to make recommendations to the commander and to the general staff about variations to all such holdings and of CRASC to implement the ultimate decision.

8. Vehicles carrying lighting sets for divisional headquarters are RE vehicles, not RASC, and operate under orders of the CRE.

Co-operation

9. The physical well-being of the troops and the ability of the division to move (POL) and to fight (ammunition) depends to a large extent on the RASC column. A good understanding between units and RASC is, therefore, of great importance, and must be fostered by all possible means.

SECTION 21—HANDLING

Basic considerations

1. In addition to centralized control the successful operation of transport depends on good communications, including wireless, to enable it to be controlled over long distances and rapidly switched to meet changing situations.

2. It is impossible to lay down the distances that RASC transport can operate in a day. In a divisional area, where traffic congestion is often caused by operational moves and bad roads, round trip distances may be not more than 40 miles. The governing factor is the length of time which a driver can spend at the wheel over a period. For a few days he can maintain a sustained effort, driving for long hours each day and night. After this, however, strain and fatigue will tell, and transport efficiency will rapidly deteriorate if drivers are on the road under difficult driving conditions for more than 8 hours out of 24. CRASC must decide for how long and how far RASC drivers can be kept without sleep.

3. The platoon of transport is the unit for convoy running and loads should, as far as possible, be allocated in accordance with the tonnage capacity of the platoon.

Methods of working

4. The two systems on which the RASC column may be operated, the commodity and the composite systems, are defined in Section 20, para 1. The former is the more economical method, and is adopted when circumstances permit. It is usual, for instance, when the division is concentrated. The latter is resorted to when brigades or brigade groups are operating in widely separated areas.

The commodity system

5. In the commodity system "Q" branch details the location of ammunition, petroleum and supply points, and notifies to all concerned the times each will be open for drawing. These points should be established so far as possible on a divisional basis, but additional points may be set up when the tactical situation demands. CRASC is responsible for implementing the decision of the "Q" branch, for reconnoitring the site in detail, arranging for ground and air protection, and for traffic control.

The composite system

6. Using composite companies, replenishment of all commodities, other than RA gun ammunition, will normally be on a once daily basis.

Each company moves forward to meet the "B" echelon of the brigade with which it is working at a time and place previously notified to both, the commodities then being handed over in the brigade replenishment area.

Location of ammunition, petroleum or supply points

7. All points should have hard standings, cover from air and good traffic circuits. The period they remain open is arranged for the convenience of units who are allotted separate drawing times to save congestion. Allowance must be made for difficult driving conditions from unit locations.

An ammunition point (AP)

8. Within a division the principle of automatic replenishment of ammunition from the rear is applied by setting up APs. Each point consists of a standard number of RASC lorries, containing all or certain types of ammunition to replace normal or forecasted expenditure, and is accompanied by RASC despatch riders. The latter go forward to units and guide unit vehicles to a report centre whence they are directed to a particular AP because:—

- (a) in periods of active operations, it may be necessary to open up, say, four APs to each division (one for divisional troops and one for each infantry brigade), and
- (b) at times, separate APs are established for artillery ammunition and SAA.

The composition of an AP should be laid down in standing orders and variations required for specific operations notified in administrative orders.

A modification of this system is that field artillery regiments may send a guide to the AP and take the second line transport vehicles up to the wagon lines or even to the guns. This procedure can also take place when any unit demand exceeds the lifting capacity of the transport. It should, however, never be adopted without "Q" sanction as it unbalances and delays the forward movement of ammunition.

9. A mobile AP may be attached to a brigade or specific unit *eg*, an armoured car regiment during an advance or pursuit.

10. During operations APs are kept open and do not merely remain open for a fixed time as do POL and supply points.

11. The ammunition is retained mobile on wheels unless a dumping programme has been ordered. RASC personnel are responsible for the handling of the ammunition, for its protection and for the sorting and supervision of the loading.

A petroleum point (PP)

12. The principle for setting up and operating a PP is the same as for an AP. It will always be necessary to establish one for use by units which have no reserve gasoline lorries, *eg*, corps anti-aircraft regiment attached.

13. A PP is opened for a certain time only and may be combined with an ammunition and/or supply point to form a composite point. It is essential that units return all empty containers to the PP when they draw supplies of POL as otherwise a shortage may occur and endanger further supply.

14. A PP should be located as close as possible to the " B " echelon area.

15. For very long moves it may be necessary to attach a mobile PP to, say, a brigade group or armoured car regiment.

A supply point (Sup P)

16. Here again the principle of the Sup P is the same as for other delivery points, its location being dictated by the distance units have to go to pick up their supplies in their " B " echelon transport.

17. Normally there is a Sup P for each brigade, and one for divisional troops, which remain open for a definite period only. Alternatively, units can be assigned to supply groups which draw from their own Sup P, but when brigades are unlikely to be operating on their own axis it is more economical to form a divisional Sup P. This procedure simplifies the orders issued and ensures continuity of service between RASC companies and their dependent units.

SECTION 22—AMMUNITION

Definition

1. The term “ammunition” includes anti-tank mines, explosives, grenades, smoke dischargers, etc; in fact, any article of equipment designed to explode or to cause fire.

Principles of supply

2. The principles for demanding, collection and delivery of all types of ammunition, including anti-tank mines are:—

- (a) Ammunition must be passed systematically and automatically from rear to front.
- (b) All expenditure of ammunition must be replaced immediately.
- (c) In mobile operations, no ammunition lorry should be diverted from its legitimate function of ammunition supply.
- (d) No more ammunition will be dumped at the guns than will be required to be fired from the initial gun positions.
- (e) Indents for ammunition are not required; only receipts are necessary.
- (f) In an emergency any formation or unit is to receive ammunition on demand from any echelon on hand which carries ammunition of the type required.

Authorised scales

3. The scales of ammunition, by types, are laid down from time to time and may be varied within the division according to the forecast of operational requirements. These scales are divided into first and second line holdings, the former being the ammunition allotted initially to, and carried in, the transport of a unit, the latter being the immediate reserve of the division and carried in the lorries of the RASC. The proportion of second line ammunition to first line is normally fixed, though this proportion can, of course, be varied to meet the needs of any particular operation.

Note.—This second line scale must not be confused with the “Field Force Conspectus” (FFC) rates which do not directly affect the ammunition scales of a division.

Allocation of responsibility

- (a) In rear of division all ammunition is held by Ordnance.
- (b) “G” lay down the scale required for the operations and forecast requirements in conjunction with the CRA and CRE (for mines and explosives).
- (c) “Q” is responsible for implementing the “G” plan.

“ Q ” must ensure that:—

- (i) The ammunition situation is known thoroughly at all times, and that “ G ” is kept informed. Certain types of ammunition may from time to time come in short supply and be limited by Corps; it then becomes necessary to limit unit drawings and “ G ” must be warned of any such limitation.
- (ii) Holdings and reserves in all units are always up to scale, and that no withdrawals occur except as authorised or as the operational situation demands.
- (iii) Returns are correctly and promptly made.
- (iv) Labour and transport, as necessary, are available to bring the ammunition forward.

5. RASC responsibility starts when it collects the required ammunition from Ordnance, loads it into its second line transport, and thereafter holds, moves and delivers it to units as required, including the provision of loaders at all stages.

Field artillery ammunition

6. Owing to its bulk and the large amount which is liable to be fired, ammunition of the divisional field artillery may often be controlled by “ Q ” at corps HQ who are given a daily maximum rate of expenditure by RA at corps HQ who pass the information to the CRA. This is then sub-allotted by the CRA to the field artillery and units may draw up this amount without question. If more is required during the day the permission of corps HQ must be obtained before it is issued.

Anti-tank mines, etc

7. These are carried in the same way as normal ammunition in the RASC transport. Anti-tank mines are normally drawn by the Field Park Squadron RE in its own vehicles, usually from the RASC company locality.

Methods of collection and distribution

- 8. (a) Unit first line vehicles proceed back to the AP to replenish as required by complete loads if the situation permits, or
- (b) Second line vehicles of the RASC may on occasion proceed forward of the AP direct to wagon lines or “ A ” echelon areas, or
- (c) Mobile APs may be established for a particular brigade, group or unit during an advance or pursuit, or
- (d) During quiet periods of operations unit vehicles proceed back to the RASC location in the divisional administrative area and draw direct from them.

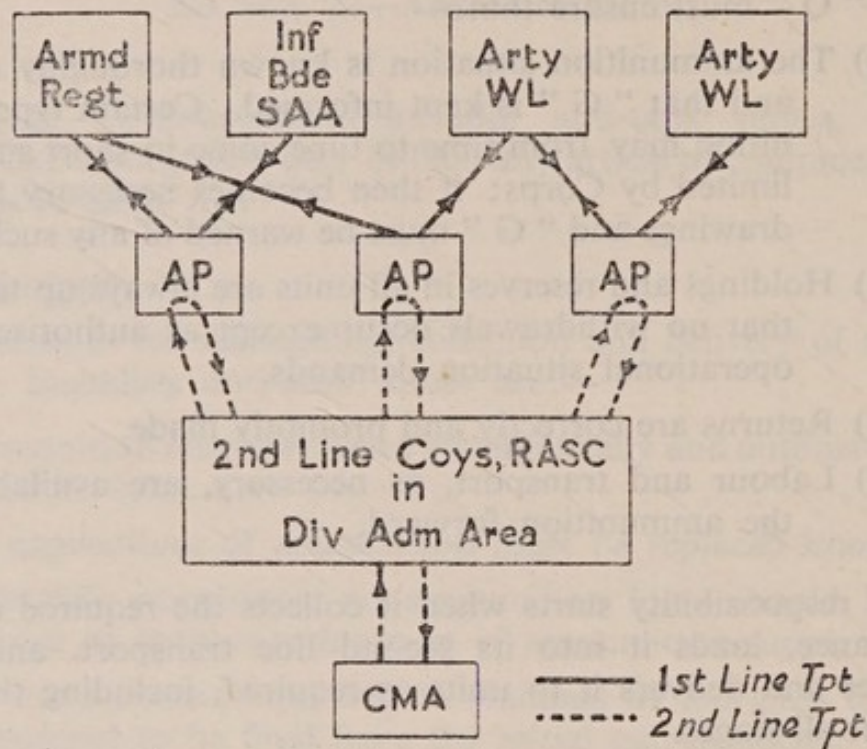


FIG. 1—Ammunition Supply

9. In all cases, RASC transport:—

- (a) move back to the Corps Maintenance Area (CMA) as they become empty to refill from stocks held by Ordnance, and proceed back to the divisional administrative area or forward to an AP as demanded, or
- (b) if the lines of communication are short and no CMA is established, draw direct from depots in the Army Maintenance Area (AMA.)

10. The whole essence is flexibility and any combination of the above methods may be resorted to, as decided by "Q" in consultation with CRASC. Further, it may be convenient to establish composite points (*see* Section 21) or, if the running time between the CMA and units is excessive or the distances too long, corps HQ may interpolate a corps transport link from the CMA forward to an ammunition refilling point where junction is made with the divisional RASC transport.

SECTION 23—PETROLEUM OILS AND LUBRICANTS (POL)

Definition

1. POL includes petroleum fuels, lubricants, hydraulic and insulating oils, temporary protectives, liquid coolants, de-icing and anti-freeze compounds together with components and additives of such products.

Principles of supply

2. The principles of supply are that stocks must be readily available and passed automatically from rear to front so that unit reserves are kept replenished and vehicles are filled up after a move and at the end of each day.

Authorized scales

3. (a) *Vehicle tanks*.—Vehicle tanks should be checked regularly, in particular before and after long runs and at the end of a day. Most vehicles have a tank capacity of 150 miles running and in addition carry a small reserve.

(b) *Unit first line reserves*.—Carried on wheels and in unit transport specially allotted for this purpose.

(c) *RASC second line reserve*.—Carried in divisional column RASC. The scales to be held in first and second line transport for each type of division are laid down from time to time by the War Office.

4. In a long advance, especially in an armoured division, it may be necessary to ration brigade and unit drawings in accordance with their task for that day.

Allocation of responsibility

5. In general, the responsibility for getting the required POL from rear to front is the same as for ammunition except that RASC, and not RAOC, are responsible for holding bulk reserves in the CMA.

6. (a) "G" forecast the operational plan.

(b) "Q" estimate the movement necessitated by the operation, and in conjunction with CRASC, plan the necessary unit replenishment. Instructions for the following days replenishment should be sent out the previous afternoon.

Methods of collection and distribution

7. Here again, the system is in general identical with that of ammunition.

(a) Units refill from their own first line reserve vehicles.

- (b) First line reserve vehicles either replenish from a PP or from the second line vehicles of the RASC at their location in the divisional administrative area.
- (c) Second line vehicles of the RASC refill from the CMA, (or, on occasions, from the AMA) and return to the divisional administrative area or to a PP as required.

8. When movement is taking place daily in an armoured division it may sometimes be convenient to split the POL Company of the divisional RASC into two echelons, the intention being for the forward echelon to be located in the "B" echelon area and open for a fixed time before returning to refill, its duties being then taken over by leap-frogging the other echelon forward to the new "B" echelon area.

9. For very long moves it may be necessary to attach a mobile PP to certain formations, groups and units.

10. Section 22, paragraph 10, applies equally to POL—corps HQ may decide in exceptional circumstances to establish a POL refilling point.

SECTION 24—SUPPLIES

Definition

1. The term "supplies" includes food, forage (when applicable), hospital nutritional requirements, rum, disinfectants, water chemicals, insecticides, and in addition for the maintenance of a division in the field, coal, wood fuel, and straw for billets.

Principles of supply

2. The principle is that units should have with them, or in RASC second line transport, two days supplies plus at least one day's reserve rations and one day's emergency ration.

Types of ration

3. There are four main categories of rations (food):—

- (a) *Fresh rations*—these will always be issued when the operational situation and administrative facilities make it possible. Part of the rations, eg, vegetables, will often be procured locally by the RASC.
- (b) *Tinned and dried rations*—these comprise all the items of the ration scale, being issued in tinned and dehydrated form. They will be issued when it is not possible to issue fresh rations.

Note.—The occasion will often arise when a combination of (a) and (b) will be issued.

- (c) *Special ration packs*—these contain complete rations for a fixed number of men for a specific period (eg, 10 men for one day—five men for two days, etc). Biscuits are packed separately. These will normally only be issued when the operational situation makes it impossible to provide (a) or (b) above; every effort must be made to return to fresh rations as early as possible.
- (d) *Emergency rations*—designed to cover one day. Carried by every soldier and normally to be consumed only on the orders of an officer.

4. The pack ration is smaller in bulk and less fragile than fresh rations but is monotonous. Although its use during the early stages of a campaign, during certain operations and frequently by small sub-units and tank crews is usually unavoidable, every effort must be made to return to fresh rations as early as possible.

Method of demand

- 5. (a) The unit demand for rations is prepared by the quarter-master on an indent form, the number demanded fluctuating with the casualties and reinforcements in the unit.
- (b) This indent is passed to the Brigade RASC officer (Section 10, para 4) or in the case of divisional troops to the HQ divisional transport column or RASC company concerned.
- (c) The indents are thereafter sent to the appropriate RASC company of the divisional column RASC when they take over the rations.

Allocation of responsibility

- 6. (a) “Q” is responsible for detailing the type or types of rations to be issued in accordance with the availability in rear of division, the operations in hand and the feasibility of delivery forward to and subsequent cooking in units. As with a supply point, “Q”, in conjunction with CRASC, selects the bulk breaking point.
- (b) The divisional RASC are responsible for drawing from the rear, loading, carriage forward, off loading at destination and breaking bulk.

Bulk breaking point (BBP)

7. Bulk breaking entails unloading the vehicles of the supply company, stacking the contents by commodities and sub-dividing the stacks into unit stacks in accordance with the separate indents. This is carried out by RASC personnel who also reload stacks into respective unit vehicles when they come to draw rations; alternatively, loading would be into RASC vehicles when a supply point is operating.

8. The requirements of a BBP are similar to a supply point, (see Section 21, para 16), but covered accommodation is desirable and well drained ground essential.

9. The process of breaking bulk for a division takes approximately one and a half hours.

Method of collection and distribution

10. (a) The indents are sent in as described in para 5 page 36.
- (b) RASC, having drawn the total requirements from the CMA, returns to its company locality to break bulk.
- (c) Under static conditions, units will draw normally from the BBP direct. The BBP thus becomes the supply point.

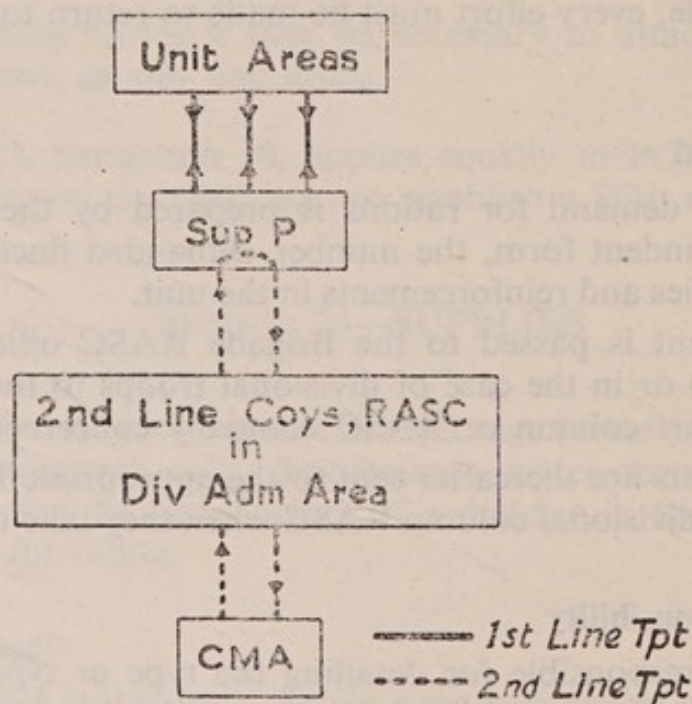


FIG. 2—Distribution of supplies (a daily process)

- (d) Under mobile conditions, when distances are extended, and in the case of units which have no "B" echelon vehicles, it may be necessary to establish a supply point forward of the BBP. In this case the RASC, having broken bulk, reload by unit stacks but in their own vehicles, and go forward to the supply point where they transfer their loads to unit vehicles.

11. Section 22, paragraph 10 in general applies equally to the distribution of supplies.

12. On occasions, divisional second line transport may be able to move supplies direct into unit areas, unit guides conducting the lorries forward from a previously arranged meeting point (MP).

SECTION 25—OTHER RASC SUPPLIES AND DUTIES

Miscellaneous supplies

1. For definition of supplies *see* Sec 24, para 1.
2. In addition the divisional column RASC will be required to bring forward certain miscellaneous supplies from time to time.

These include:—

Mail.—(*See* Section 49, para 3).

Engineer and Ordnance stores.

NAAFI/EFI commodities.

Such supplies will normally be collected in bulk, and therefore brought forward with the rations to the BBP, and placed in the stacks of respective units.

3. If water has to be brought forward in containers, it will also be carried in second line transport and delivered to previously arranged water points.

4. Blankets are not now carried in divisional second line transport. Anti-gas clothing is only lifted on orders from "Q", who will also lay down the scale.

Returning transport

5. To avoid waste of capacity "Q" must at all times, in consultation with CRASC, keep a close watch regarding the possibility of utilizing empty RASC lorries on their journey to the rear for the carriage of personnel, *eg.* leave parties and prisoners of war, and material such as salvage and surplus or damaged equipment.

SECTION 26—RASC WIRELESS NETWORK

General

1. Although the lay-out of the wireless network of the divisional column RASC will inevitably alter within different divisions and in accordance with the work in hand, the efficient control of second line transport, as already stated, depends largely on this system of communication, since it is normally the quickest method of dealing with replenishment of ammunition, POL and supplies, and with the movement of troops and general stores.

Allocation of sets

2. Wireless sets are provided for, and in the main operated by, Royal Signals. The allocation of sets is decided by CR Signals in conjunction with CRASC to provide communication between:—

- (a) CRASC HQ (if split).
- (b) CRASC and his companies.
- (c) CRASC, companies, and such APs, PPs, and RVs for transport as the situation may demand. The number of sets will not always provide for all these requirements, hence CRASC must either establish his claim for additional sets with CR Signals, or lay down a priority for the sets allotted him.

Priority of traffic

3. The priority of the commodities given in paragraph 1 above is liable to change and there are times when the volume of traffic dealing with a particular commodities increases, *eg*, ammunition replenishment normally must take priority over other commodities and, each evening, traffic is liable to increase in volume owing to stock state reports being sent to CRASC from out-stations. It is most necessary, therefore, for CRASC to exercise careful control over wireless traffic and to give priorities. He must also censor the type of message being sent so as to avoid unnecessary communications. Details of ammunition replenishment are usually arranged on the air direct between APs and the ammunition holding company or companies concerned, whilst CRASC can intercept this traffic and control the replenishment as necessary. Since ammunition expenditure is replaced immediately, as and when it occurs, such messages normally concern the movement of vehicles to and from APs. A similar procedure takes place for POL replenishment, the difference being that larger groups of vehicles are used and fewer messages are sent.

4. A major use of wireless communications is to provide a link between rear HQ and any transport report centre which may have been set up. Bearing in mind the desirability of having a flexible organization so that economy in transport can be exercised, wireless is of tremendous help in speeding up deliveries where movement is rapid and detailed locations uncertain.

Communications with higher formation

5. Since all replenishment comes *via* corps the closest touch must be kept with ST at rear corps HQ.

Security

6. A constant watch must be kept on the security aspect of all administrative traffic on the RASC net. Especially when a big artillery programme is scheduled the number of messages will increase enormously and it is vital from the security angle that the enemy receives no warning that an ammunition supply is being built up.

CHAPTER V

MEDICAL

SECTION 27—GENERAL

Organization

1. The allotment of medical units to a division is standard and the components vary little in the different types of division; the system of evacuation as between an armoured and infantry division is, however, often different owing to the tactical employment of each.

2. The medical units comprise:—

- (a) (i) Two field ambulances to an armoured division.
- (ii) Three field ambulances to an infantry division.
- (b) One field dressing station (FDS) to each division.

In addition one or more field surgical teams (FST) which are GHQ troops may be attached in support of a division during periods of active operations, in order to increase the surgical potential of the units shown above. A field surgical team is capable of undertaking up to 20 major surgical operations each day.

Command, control and affiliation

3. The head of the service is the Assistant Director of Medical Services (ADMS), a colonel. Unlike the heads of the other major services in a division the ADMS, with a small staff, is included in the establishment of the divisional headquarters. He is adviser to the divisional commander on all medical matters and commands the medical units of the division.

In an armoured division, because of the rapidly changing tactical situation, it will often be better to have the ADMS and some of his staff at main HQ.

4. To ensure the closest co-operation it is normal for each field ambulance in a division to be affiliated to a specific brigade, the CO acting as adviser to the brigade commander on all medical matters.

Although every effort should be made to allow a field ambulance too support its affiliated brigade at all times, for reasons of economy and flexibility all the medical resources of the division will normally work during operations on a divisional basis under the control of the ADMS in conjunction with AA and QMG (See Section 29).

Responsibility of the Staff

5. Medical matters are the concern of all three branches of the staff:—

- (a) “ G ” estimates the casualties likely to be incurred in an operation.
- (b) “ Q ” provides any additional transport required.
- (c) “ A ” is charged with the co-ordination of the medical plan and the clearing of the battlefield.

6. Close liaison is, therefore, essential between the medical staff and all branches and it is essential to get the right relationship between them. Fundamentally this is a matter of personalities and therefore varies; generally speaking, however, it will be better if the AA and QMG, who will be more the age and service of the ADMS, and not the DAAG, deals with the ADMS on all major questions.

Duties

7. The medical service has two main responsibilities within the division. These are:—

- (a) The maintenance of health of all ranks of the division.
- (b) The treatment and, when necessary, the evacuation of the sick and wounded.

Thus their duties are “ prevention ” and “ cure.”

8. In addition, duties include advice on the location of all the medical resources of the division; advice on, and implementation of, the medical plan (to include dealing with wounded prisoners of war, refugees, etc), the supply and replenishment of medical stores and equipment, and dental surgery for all ranks.

9. Although hygiene assistants (RAMC) are included in the establishment of a divisional headquarters (in certain theatres they may be reinforced by the addition of a platoon of a field hygiene company), the responsibility for army health and sanitation is not purely a medical one but devolves upon all officers.

Classification of casualties

10. All casualties are classified into three priorities:—

- (a) *Priority I.*—Cases requiring resuscitation and urgent surgery.
- (b) *Priority II.*—Cases requiring early surgery and, possibly, resuscitation.
- (c) *Priority III.*—All other wounded and sick—these will generally be sitting cases.

Wounded prisoners of war, etc

11. The medical resources of a division in the field must be available to such prisoners of war (and refugees) as may become casualties within the area in which the division is operating and who will require treatment and evacuation.

12. When a prisoner of war is documented at an advanced dressing station (*See Section 29*) a copy of his particulars must be sent to divisional or brigade headquarters for intelligence purposes.

13. Prisoners of war who are not wounded can be used as stretcher bearers.

Communications

14. The ADMS is provided with wireless communication as necessary from the pool of wireless sets held by CR Signals.

SECTION 28—UNIT MEDICAL ORGANIZATION

Resources

1. Although all units, however small, normally include a regimental medical orderly in their establishments, regiments, battalions, and their equivalents, have a definite allotment of RAMC personnel in addition to their regimental medical orderlies and regimental stretcher bearers. As an example, an infantry battalion has one RAMC sergeant and four RAMC corporals. In some units the medical officer is the only RAMC representative.

2. If casualties are likely to be heavy, or there is some other good reason for doing so, a section of a field ambulance may be allotted in support of a major unit (practically never to an artillery regiment) which then becomes responsible for the movement of the section.

Duties of the unit Medical Officer (MO)

3. The unit MO is responsible to the unit CO for the medical advice and arrangements (including training all ranks in first aid), for general prevention of disease, etc, within the unit and, during operations, for the running of the regimental aid post (*see Section 31, para 7*) and the initial documentation of casualties.

Medical responsibility of all officers

4. Good man-management has a definite bearing on the good health of all ranks. *See* Section 11.

5. For the responsibility of all officers with regard to hygiene and sanitation, *see* Section 27, para 9.

6. One lesson of the last war was that those who can do most to prevent large numbers of men becoming exhausted in conditions of intense warfare are the junior commanders, acting on the advice of the unit MO. It is essential to spot a man when he first shows signs of battle exhaustion and to send him back for a rest; that man, given suitable treatment at the right moment, and with guidance and help, should soon recover. The soldier who is not noticed in time but who goes back eventually through the normal medical channels will seldom recover sufficiently to rejoin his unit.

First aid

7. The knowledge that, if he is wounded, his comrades can care for him is an important factor in maintaining a man's morale. All commanders must ensure, therefore, that the men of their unit receive training in first aid and the application of a first field dressing.

SECTION 29—THE FIELD AMBULANCE

Organization

1. Each field ambulance is organized into a headquarters which includes a reserve section, and one company of three sections. It is commanded by a lieutenant colonel.

This organization allows the ambulance to set up:—

- (a) one advanced dressing station (ADS), drawn from the personnel and equipment of the headquarters, and
- (b) up to three casualty collecting posts (CCP), each provided by one section of the company.

2. A field ambulance is tented, is self-contained in transport and has a number of motor ambulance cars. It includes a dental team.

3. A parachute field ambulance is specially organized in equipment and transport for employment with airborne troops; it is otherwise identical with a normal field ambulance.

Duties

4. The functions of a field ambulance are:—

- (a) To collect casualties;
- (b) To carry out sorting (rapid diagnosis, essential first aid, labelling of casualties in order of priority or evacuation);
- (c) To evacuate casualties.

Medical capacity

5. Treatment at the CCP is limited to the type of first aid necessary to move the casualty back to the ADS, and the giving of blood transfusions.

6. Most of the sorting of casualties is done in the ADS, where emergency surgery can also be performed.

Handling

7. The CO of the field ambulance is responsible for deciding the number of CCPs he requires to implement the medical plan of the brigade he is supporting, and for their siting and movement.

8. By contrast, although responsible for the efficient working and detailed siting of his ADS, its general location and time of opening is normally controlled through divisional headquarters, the aim being to enable one ADS to be leap-frogged over another during an advance or withdrawal, thereby allowing the ADMS to keep a reserve of medical capacity in hand. It will, in fact, be unusual for all field ambulances to be open at the same time, but the retention of a reserve depends on such factors as the distribution of the troops in action, the severity of the fighting and the direction and condition of available roads.

9. In an armoured division it may be necessary to place a field ambulance under command of the brigade it supports.

Siting

10. A field ambulance will normally be near the headquarters of the brigade which it is supporting. Its exact location depends on the axis of evacuation *ie*, on available roads.

SECTION 30—THE FIELD DRESSING STATION

Organization

1. One field dressing station (FDS) is allowed to each type of division, each being standard in personnel, equipment and vehicles. It consists of a small administrative headquarters and two equal sections, each designed to operate independently, but which may operate together or be used for leap-frogging.

Duties

2. The primary function of the divisional FDS is to maintain the fighting strength of the division within the divisional area by holding all minor sick, slight casualties and mild exhaustion cases. All local casualties and sick are evacuated to the FDS. It also assists in the resuscitation of Priority I casualties, but is not intended to act as an advanced surgical centre.

3. In special circumstances the FDS may be employed in the divisional evacuation plan.

Siting

4. The FDS must always be sited well away from the gun positions, in as comfortable a situation as possible and on a main down route. It may often be close to the divisional administrative area.

SECTION 31—THE EVACUATION OF CASUALTIES

Principles

1. In battle, the evacuation of casualties is based on the principle of removing the casualty as quickly as possible from the battle area to the rear, where he can be treated with as little interference from the enemy as possible. The slowest and most difficult part of evacuation is that of moving the man from the place where he becomes a casualty back to the nearest CCP.

2. To effect this, flexibility in the method of evacuation and lay-out of the various links in the chain of evacuation is essential.

The medical plan

3. The responsibility of the staff, the ADMS and the COs of the field ambulances have, in general, been laid down in the preceding sections of this chapter.

4. Once the medical requirements of the operation have been calculated and agreed, both with regard to the estimate of casualties and the amount of additional transport required, the MO responsible will submit a plan for the evacuation of casualties, showing what proportion of his resources it is proposed to use and what will be held in reserve. When this plan has been approved by the staff it will be put into effect by the medical services.

5. In the administrative paragraph of an operation order (or in an administrative order if issued separately), the locations and times of opening and closing of the various medical units of the formation should be included, as they are of interest to all units taking part in the operation.

6. The possibility of evacuation by air must not be overlooked. If a division is being maintained by air, aircraft returning to base empty can be used for evacuation of casualties. It is probable that helicopters will be used for this task in increasing numbers in the future. (*See also Section 69*).

Evacuation within the unit (*See Section 28*).

7. The unit MO forms a regimental aid post (RAP) at which the unit is responsible for collecting its own casualties, and for which the stretcher

bearers, working under the MO, are the principle means of carriage. The RAP must be clearly sign-posted and have adequate protection from shell fire. It will normally be near unit headquarters.

8. A first diagnosis and emergency first aid (including morphia if necessary) is given at the RAP and the casualty is documented on the appropriate army form, this being tied to the man and retained with him up to his final hospital destination.

9. Normal accidents, not classifiable as battle casualties, are also dealt with at the RAP.

10. The chaplain attached to the unit will often be located at the RAP during battle.

Evacuation in an infantry division

11. The system is shown in Figure 3 below.

12. Touch between CCP and RAP is kept from rear to front, RAMC stretcher bearers, despatch riders or ambulance cars being used to contact the unit MO.

13. From the RAP, casualties are evacuated to CCP or direct to ADS or, in minor cases, direct to FDS.

14. Sorting is carried out in the ADS and casualties are evacuated into the corps area in corps transport. There, all walking wounded, minor sick and exhaustion cases are admitted to a corps FDS or other medical units which are filtering casualties. The more serious casualties are evacuated direct to the casualty clearing station (CCS).

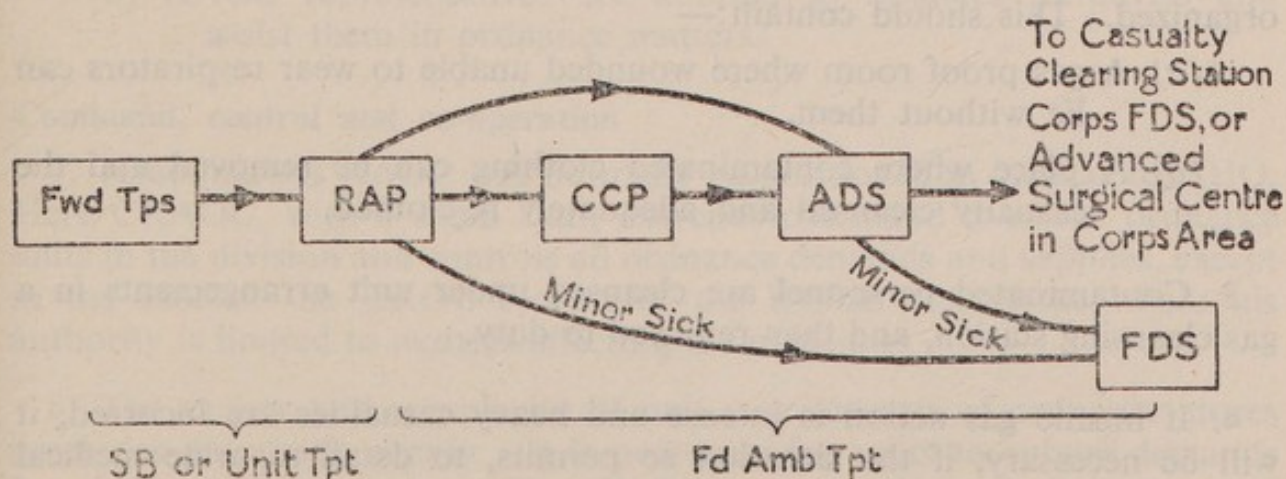


FIG 3.—Evacuation of casualties

Evacuation in an armoured formation

15. If a member of an AFV crew becomes a casualty the vehicle, subject to the immediate tactical situation, should withdraw to a concealed position where the casualty can be evacuated to another vehicle (preferably one from the RAP). The casualty then goes to the RAP which will normally be located in the A1 echelon area or near RHQ.

All tank crews must attain a high standard of drill at evacuating casualties through the turret. Each tank has a first aid outfit containing morphia ready for injection.

Evacuation from the RAP is normal.

16. The handling of the FDS of an armoured division is the same as that of the infantry division. The employment, deployment and tasks of the field ambulances are similar but require modification owing to the speed and range of operations. For these reasons, it is common for each field ambulance to operate under command of the brigade group it supports.

17. Collection of casualties is clearly more difficult than in an infantry division. Sections of the field ambulance may find difficulty in keeping touch with units and collecting casualties, yet that is their main task. They are responsible for the subsequent evacuation to the ADS in the normal way.

SECTION 32—GAS CASUALTIES

1. Contaminated personnel fall into two categories:—
 - (a) Gas casualties or wounded;
 - (b) Those merely contaminated—*Not* a medical responsibility.
2. Gas casualties or wounded are treated at the RAP where, when chemical warfare is being waged, a small gas clearing centre must be organized. This should contain:—
 - (a) A gas proof room where wounded unable to wear respirators can lie without them.
 - (b) A place where contaminated clothing can be removed and the casualty cleansed and adequately re-clothed.
3. Contaminated personnel are cleansed under unit arrangements in a gas cleansing station, and then returned to duty.
4. If hostile gas action is intense and heavy casualties are incurred, it will be necessary, if the situation so permits, to detail separate medical units, *eg*, a field ambulance or FDS, for this particular purpose; special equipment will be required.

CHAPTER VI—

ORDNANCE

SECTION 33—GENERAL

Responsibilities

1. The main tasks of the divisional RAOC in the field include the provision, receipt, holding in transit, and issue, of such ordnance stores as may be required by units of the division, and arranging for the issue of vehicles (other than certain AFVs and SP equipments) from ordnance installations in rear.

2. Ordnance responsibility for ammunition is dealt with in Chapter IV.

3. Miscellaneous ordnance duties includes the provision and working of the laundry and bathing facilities available in the field, and the supply of stationery, publications and printing arrangements.

4. Certain items of engineer and medical stores and equipment are the responsibility of the arms concerned.

Resources

5. The ordnance units of the division are:—

- (a) Headquarters, Commander RAOC (CRAOC).
- (b) The Ordnance Field Park (OFP).
- (c) The Mobile Laundry and Bath Company (MLB coy).

6. In addition:—

- (a) Each REME workshop within the division has an RAOC stores section permanently attached; this holds the spares, assemblies and materials required by the workshop.

Note.—These stores sections do not issue direct to units.

- (b) RAOC representatives are allotted to brigades to advise and assist them in ordnance matters.

Command, control and co-operation

7. Headquarters RAOC will normally be positioned in or near rear HQ. Here CRAOC, with a small staff, exercises command over the ordnance units in the division and controls all ordnance demands and supplies, except in the case of the RAOC section of the REME workshops where his authority is limited to matters affecting the personnel.

8. The variety and complexity of unit requirements of ordnance stores precludes automatic supply. It is necessary for units to submit demands for their requirements, and the RAOC representatives in brigades and divisions are there to give them the necessary assistance and advice.

Personal contact between CRAOC (and his staff) and units is essential to ensure the smooth running of the supply of ordnance stores.

Stores definitions

9. To facilitate demand, checking and issue, all stores emanating from ordnance are defined as follows:—

- (a) *Vote 7A*—which comprises clothing and necessities.
- (b) *Vote 7B*—general stores, including accommodation stores, tools, anti-gas equipment and expendable stores such as oils and paint.
- (c) *Vote 7D*—Warlike stores, including vehicles, small arms, armament, signal requirements, workshop machinery, etc.

SECTION 34—DIVISIONAL ORDNANCE UNITS

Ordnance Field Park (OFP)

1. The OFP organization consists of a headquarters (which includes park HQ, delivery section and regimental section), MT platoon, warlike stores platoon and general stores platoon.

2. The MT and warlike stores platoon carries two months requirements of fast moving stores for all guns, small arms, engineer and signal equipment and MT spares for all makes and types of vehicles held by units of the division.

3. The general stores platoon carries such items as cooker spares, bicycle spares, welding rods, metals, nuts, bolts, screws, etc., and industrial gas cylinders. It is also responsible for receiving from base bulk items of clothing and general stores and distributing them to units of the division.

4. Divisional ordnance field parks are trained to organize at short notice a mobile detachment for operation with a detached brigade.

5. The Ordnance field park does not supply stores to the ordnance sections with REME workshops who replenish direct from base.

6. The unit will normally be sited near rear HQ in or near the divisional administrative area. Its location is a "Q" responsibility in consultation with CRAOC.

Mobile laundry and bath company

7. The organization of the MLB coy consists of headquarters, one laundry and one bath section. Each section can produce five sub-sections; it works better, however, if kept concentrated, and its capacity is such that it is possible to leave the allotment of bathing times to brigades and heads of services who can have a call on a percentage of its overall capacity.

8. If used correctly this unit has great morale value. It should be sited as near the forward troops as possible to enable the soldier to have a bath and obtain clean underclothing.

The factors governing the location (and whether to decentralize or not) are the availability of suitable sites, which must be level, well-drained and with adequate water supplies, and the time taken by units to reach them.

Siting is a "Q" responsibility in consultation with the CRAOC.

SECTION 35—SUPPLY OF ORDNANCE STORES AND VEHICLES

Type of stores

1. The three sub-divisions into which stores supplied by RAOC fall are:—

- | | |
|--|------------------------------|
| (a) Ordnance stores—clothing and necessities | } See Section 33,
para 9. |
| general stores | |
| warlike stores | |
| MT spare parts | |

(b) "A," "B" (and "C") vehicles.

(c) Ammunition.

Of these, ammunition, as it affects ordnance within the division, has been dealt with in Chapter IV, and the replacement system of "A" vehicles in armoured formations through Armoured Replacement Group channels is dealt with in Section 54.

Clothing and necessities, and general stores

2. Units indent through CRAOC, who does not normally hold stocks.

3. CRAOC places demands on AOD or BOD (as detailed by corps HQ).

4. Stores to comply with the indents are moved forward with supplies from the CMA in second line transport of the divisional RASC to the OFP. These demands are consolidated and arrive in bulk; the OFP breaks them down into unit parcels.

5. CRAOC arranges for units to collect or for stores to be delivered forward in second line vehicles. Consignments tend to accumulate in the divisional administrative area in periods of active operations, when units cannot collect and forward delivery is difficult to arrange.

6. A common system in use in an armoured division for all stores is shown in Fig 4.

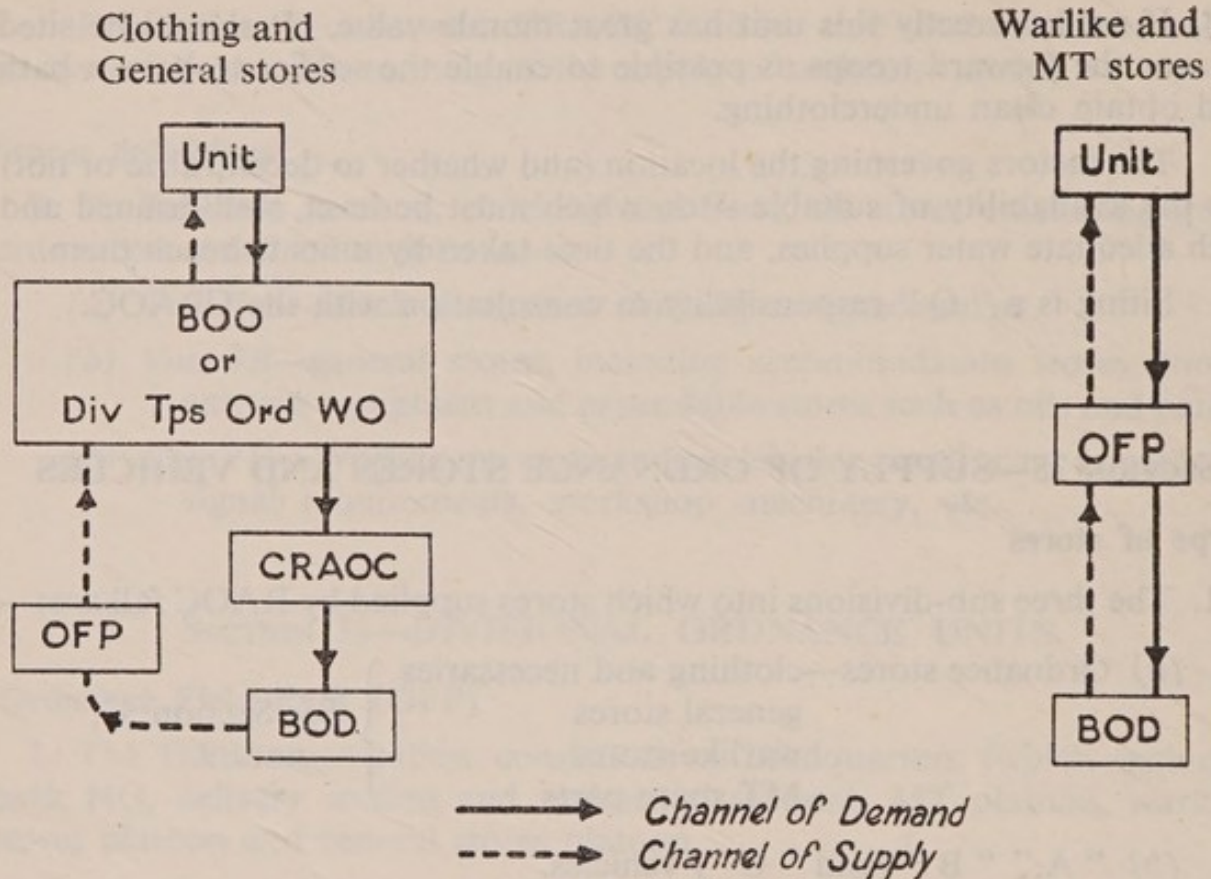


FIG 4.—Ordnance supply system

Warlike stores

7. *MT stores, small arms, armament and signal stores.*—Units and RAOC stores section affiliated to REME workshop units, indent on the divisional OFP direct.

OFP issues and demands replenishment from AOD.

8. *Other than those in para 7 above.*—Units indent on CRAOC as for stores which are not warlike, and replenish in a similar way.

Vehicles

9. Except for those "A" vehicles which go through Armoured Replacement Group channels as described in Section 54 the supply of both "A" and "B" vehicles to units comes from respective vehicles parks (under vehicle companies, RAOC) and corps troops OFP in rear.

The supply will clearly vary with the return flow into units of those vehicles under repair in divisional workshops. Thus, before forwarding daily vehicle replacement demands, CRAOC must consult CREME as to the output from divisional workshop units.

10. Vehicles which are released to units are either collected by units, or taken over by units at a vehicle delivery point normally established near the divisional OFP.

SECTION 36—MISCELLANEOUS ORDNANCE MATTERS

Returned stores

1. Units return all surplus, unserviceable and repairable stores under orders of CRAOC through the OFP back into the rear areas, where certain of them will be consigned to salvage.

Controlled stores

2. There are never enough fighting equipments and vehicles, and therefore these stores are invariably "controlled." This means that they cannot be issued by RAOC without permission from the staff duties branch of the general staff at higher formation. The demand for these stores must go through staff channels.

3. In addition there may be local shortages of other items, in which case local control is imposed. Before issue of such items CRAOC must obtain release from "Q."

CHAPTER VII

ELECTRICAL AND MECHANICAL ENGINEERING

SECTION 37—GENERAL

Definitions

1. The following definitions are among the more common REME technical terms now in general use:—

- (a) *An Assembly*—a combination of components forming a self-contained part of a vehicle or equipment *eg*, engine, gearbox, carburettor.
- (b) *Backloading*—the process of moving a vehicle or other equipment by towing or transporting from unit lines or the place to which it has been recovered to another REME location within the Army area.
- (c) *BLR*—Beyond local repair.
- (d) *Component*—a specific part of an assembly, vehicle or equipment.
- (e) *EMERs*—Electrical and Mechanical Engineering Regulations; issued by REME to all units throughout the Army and contain technical data, modification instructions and matters relating to the operation and functioning of REME units.
- (f) *Evacuation*—the rearward movement to the base of an equipment "casualty," after passing through the road or railhead.

(g) *Recovery*—there are two meanings to the word “Recovery.”

(i) in its more limited sense, recovery is the first movement of a vehicle or equipment which has become ditched, overturned or otherwise rendered temporarily immovable.

(ii) in its broader sense it covers not only this process but all “backloading” and “evacuation.”

(h) *Repairs*—are classified, according to the amount or type of work they involve, into three groups under the following designations:

(i) *Unit repairs*—are minor repairs and adjustments that can be carried out in unit lines by attached REME personnel and LADs.

(ii) *Field Repairs*—are those beyond the capacity of units and LADs and mainly comprise the replacement of defective assemblies. In addition, certain repairs to assemblies and other items are classified as field repairs.

(iii) *Base Repairs*—are overhauls to components, assemblies and complete equipments.

Responsibilities

2. REME are responsible for the repair and recovery of mechanical and electrical equipment which is beyond the capacity of unit resources, with the following exceptions:—

(a) RE units carry out unit and field repairs to RE operated engineering equipment.

(b) R Signals are responsible for operational maintenance of all signal equipment operated by them.

Principles

3. REME officers at all levels are responsible for:—

(a) advising their commanders on all measures connected with the maintenance, repair and recovery of unit technical equipment;

(b) reporting through REME channels any defects in manufacture and functioning of equipment and making suggestions for improvement;

(c) the direct control of REME units immediately under command.

4. The principles on which these responsibilities are carried out are:—

- (a) *Periodic inspections*—these are carried out on all technical equipment and vehicles to establish:—
 - (i) the technical fitness of equipment and vehicles from which readiness for battle and probable rates of wastage are assessed;
 - (ii) weaknesses in design or manufacture, so that modifications can be devised to overcome them;
 - (iii) the efficiency of unit maintenance.
- (b) *Forward repair*—repairs are carried out as far forward as possible, to reduce the time equipment is out of action, to minimize transference of casualties to the rear, and to reduce the reserve of equipment to be held.
- (c) *Flexibility*—normally, repairs are classified into categories for technical reasons, each category being undertaken at a different type of workshop. The system is, however, flexible and can be modified as the particular situation demands. The same principle applies to recovery.
- (d) *Planned recovery*—this involves the provision of the right recovery equipment at the right place with the least road movement and delay.

Responsibilities of the staff

5. The staff must remember certain basic requirements to enable REME to carry out its task efficiently. These are:—

- (a) REME must be given the earliest possible notice of future intentions. Recovery planning cannot begin until the senior REME officer of the formation knows the operational plan. Siting of workshops and repair programmes for workshops is governed largely by future moves. Local conditions also have a great influence on equipment.
- (b) REME workshops, whenever possible, should be given covered accommodation and adequate hard standings; the effect on production of good workshop accommodation is enormous.
- (c) REME workshops require time to establish themselves; frequent moves can be made only at the expense of production; carefully regulated moves ensure maximum output.
- (d) REME workshops must be kept supplied with adequate spare parts, assemblies and general stores. Repair requiring improvisation is a very slow process.
- (e) The staff must approve all local modifications as being operationally essential before field workshops are asked to undertake them; otherwise REME resources will be frittered away unnecessarily.

Resources

6. The following REME repair units will be found within the division:—

- (a) *LADs*—provided for major units for unit repairs;
- (b) *Infantry, Armoured, and Airborne Workshops*—provided in infantry, armoured and airborne divisions respectively, for field repairs.

In addition, REME tradesmen are attached to most units to assist in unit repairs.

7. REME recovery in the division is carried out by:—

- (a) recovery vehicles on the strength of LADs;
- (b) recovery sections in the infantry, armoured, and airborne workshops.

Command and control

8. CREME commands all REME units in the division, other than LADs, and is responsible to the divisional commander for their efficiency. He exercises technical control of LADs through brigade or unit EME officers. In addition, he is the adviser to the divisional commander on all matters relating to equipment whose maintenance is the function of REME.

9. The functions of the brigade EME are given in detail in Section 10, para 6.

10. The duties of the regimental EME attached to a unit are as follows:—

- (a) Technical advisor to the CO;
- (b) Commands the LAD and controls the activities of all REME tradesmen attached to the unit;
- (c) Co-ordinates the activities of unit tradesmen through the unit's technical adjutant or mechanical transport officer;
- (d) Carries out technical inspection of unit equipment;
- (e) Maintains liaison with the appropriate REME or brigade REME and with infantry, armoured or airborne workshops.

11. Details of the REME wireless net are given in Section 39.

SECTION 38—REME UNITS IN A DIVISION

HQ CREME

1. CREME has a small staff to enable him to command and control the REME resources in the division. This staff includes a tele-communications officer.

2. HQ CREME will normally be located at rear divisional HQ, but occasions may arise, particularly in the armoured division when the CREME and part of his staff may be at main divisional HQ.

Light Aid Detachments, REME

3. The LAD carries out the first stage of repair of vehicles and equipment, this being limited to such minor repairs, replacements and adjustment as can be carried out in unit lines.

4. LADs are designed to meet the individual requirements of the units they support.

5. Each LAD is under the command of its parent unit for all purposes except that it receives technical direction from the CREME or Brigade EME of the formation. It is located by the CO of the parent unit anywhere from A1 to B Echelon, depending on expected developments of the battle, and on availability of accommodation. It should be sited as far forward as possible in order to reduce recovery distances, and to get early information of equipment casualties. Both are important factors in ensuring that casualties are sent back into action with the least possible delay.

Infantry or Armoured Workshops

6. (a) *Scale*—three armoured workshops to an armoured division or one armoured workshop to an independent armoured brigade. Three infantry workshops to each infantry division.

(b) *Repair functions*—Field repairs. CREME allocates the repair load between the various workshops to the best advantage. Equipment of divisional troops is catered for by distributing the load over the three workshops concerned. During rapid movement it is customary to adopt a system of workshop leap-frogging. The common pattern of workshops within a division is designed to make this practice possible.

(c) *General Characteristics*—armoured and infantry workshops are fully mobile and are self-administering. They comprise a HQ and four specialist repair sections, which are integral parts of the unit, one RAOC stores section, and a recovery section capable of operating as a detachment. The normal and most efficient method of working is as a complete repair unit with the majority of the recovery section detached and sited to suit

the tactical recovery requirements. In exceptional circumstances, a workshop can provide an advanced workshop detachment which can perform limited functions independently of the main workshop. The decision whether an advanced workshop attachment shall be used is taken by the staff after consultation with the CREME. CREME will give the executive order to the workshop concerned.

(d) *Equipment*

- (i) *Repair sections* are equipped with hand tools, welding kit (oxy-acetylene and electric arc), machinery lorries, mobile cranes, portable canvas shelters and administrative vehicles.
- (ii) *Stores Sections (RAOC)*—are equipped with specially binned store lorries, bulk carrying store lorries and administrative vehicles.
- (iii) *Recovery Section*—see Section 40.
- (iv) *Advanced Workshop Detachment*—if resorted to, may be of any size and may contain trucks GS, hand tools and welding kit, store lorries, machinery lorries, recovery vehicles and administrative vehicles, or any combination of these as directed by CREME or Brigade EME. It should be noted that the forming of an advanced workshop detachment unbalances the organization of a workshop and in consequence invariably reduces output. It should only be formed when the tactical situation offers no other solution.
- (e) *Command and Control*—armoured and infantry workshops are majors' commands and are divisional troops under command of CREME. An exception is the independant brigade, in which the workshop comes under command of the brigade commander, and the OC and Brigade EME receive technical directions from the DDME of the corps or formation in which they are operating.
- (f) *Normal working location in static phase*—in dry weather armoured and infantry workshops can be located in the divisional or brigade administrative area, provided the requirements of cover, space, and accessibility to roads are fulfilled. In winter and wet weather, they should be located where hard standings and covered accommodation are available. Garages, railway stations and village squares are typical examples. In bad weather, the need for good accommodation may over-rule the advantage of being within the divisional or brigade administrative area.

Airborne Workshop

7. The organization, general characteristics and allocation of this unit are the same as those for an infantry workshop, except that the transport is as far as possible on a jeep and trailer basis.

8. The principle difference is in the tactical handling of the unit which, like other units in an airborne formation, can be split into a parachute element, a glider borne element and a sea or land tail. The estimated length of the operation will be a governing factor in deciding the REME plan; for example, in a short operation, REME tradesmen may be parachuted in with hand tools and light spares. In longer operations jeeps and technical trailers may be required, and an early link up with the land tail is desirable in order that heavy equipment and the full scale of spares may be available. After such a link-up the airborne workshop functions in the same way as an infantry workshop, except that the technical vehicles and equipment, being designed for lightness and airportability, are not so robust and have a shorter life in mobile land operations.

SECTION 39—REME REPAIR PROCEDURE

General

1. Unit repairs are carried out in unit lines by the LAD or attached REME tradesmen. Unit repairs for units with no REME personnel attached are carried out at the nearest LAD or workshop.

2. For field repairs units are directed by CREME to specific field workshops. By this means the repair load of each field workshop is balanced, and, if necessary, a degree of specialization can be introduced between workshops and the equipment they handle. Minor units without an LAD are based directly on field workshops.

3. Work involving base repairs is backloaded out of the division and a replacement equipment or vehicle issued to the unit.

Method

4. Periodic technical inspection of unit vehicles and equipment will be arranged by CREME in accordance with the appropriate Electrical and Mechanical Engineering Regulations (EMERs).

5. Formation operation and/or administrative orders will outline the repair policy and indicate the particular workshop on which a unit is based. In mobile conditions this allocation of units to workshops will be subject to frequent variation, owing to the necessity for freeing workshops for moves.

6. Units requiring field repairs will approach the appropriate workshop and arrange for the work to be undertaken. The workshop will then call the item in or arrange for it to be brought in by the recovery organization (Section 40).

7. It should be noted that:—

- (a) Equipment and vehicles undergoing field repairs remain on unit charge;
- (b) If inspection in field workshops reveals that the work is beyond their scope, they will notify the unit and issue a BLR certificate. This is the authority for the unit to strike the equipment or vehicle off strength and receive a replacement. The workshop will arrange disposal of such equipment and vehicles by means of the recovery organization.

Communications

8. In order to direct recovery and repair in battle, and to advise his commander of the vehicle and equipment situation and its probable effect on future stages of battle, the CREME has to keep in constant touch with the Brigade EMEs, the workshops, and recovery posts. Wireless sets, provided and operated by R Signals, are allotted to each workshop and to HQ CREME.

9. In the armoured division particularly, the CREME will frequently have to move forward to main divisional HQ, in order to keep in touch with the Brigade EMEs. In both armoured and infantry divisions it will often be difficult for CREME to keep in touch with Brigade EMEs as well as with workshops, recovery posts and advanced workshops detachments, if formed. The distribution of the available sets, and the location of the CREME himself, require careful consideration.

SECTION 40—RECOVERY ORGANIZATION AND PROCEDURE

Aims of recovery and backloading

1. The aims of recovery and backloading, which are two stages of the same process, are:—

- (a) to unditch or otherwise extricate any piece of equipment which has become a casualty from any cause;
- (b) to convey to the appropriate workshop or to its expected future location any equipment casualty requiring repairs.

2. Recovery is a continuous process which goes on irrespective of the phase of the campaign. Recovery planning must, therefore, in the first instance, lay down a broad policy that can be adjusted to meet changing conditions as they occur. Flexibility of the recovery plan ensures that the facilities existing in any particular area may be speedily reinforced to handle an increase of recovery work. The ability to do this, however, depends entirely upon the provision of adequate and reliable communications.

Information from the staff

3. Information is the key to successful recovery planning, which must ensure that the right recovery equipment gets to the right place with the least road movement and delay. Recovery vehicles are unwieldy and should not move more than is absolutely essential. Furthermore, backloading must be to a point which will fit in with future operations, so that no effort is wasted. Early information of the commander's intention is therefore essential.

4. The staff should ensure that the CREME is kept informed on the following points:—

- (a) Commander's plan;
- (b) Enemy ground activity;
- (c) Enemy air situation;
- (d) Specific operations, *eg*, anticipated river crossing;
- (e) Defiles on routes.
- (f) Minefield intelligence;
- (g) Details of any special equipment being used;
- (h) Priorities of recovery;
- (j) Availability of road space;
- (k) Expected movements of divisional administrative area, road or railhead;
- (l) Policy regarding destruction of unrecoverable secret equipment.

Duties of specific REME Officers

5. *The CREME* is responsible for producing initial and current recovery plans within the limits of the policy laid down by DDME at corps HQ, to fulfill the requirements of his formation.

6. *Bde EMEs* implement the recovery plan laid down by the CREME and frequently control the recovery sections of the divisional workshops.

7. *Regimental REME officers* co-ordinate unit and LAD facilities and consolidate reports of casualties.

Organization

8. The overall recovery organization has been divided into four stages from front to rear, as follows:—

- (a) *Unit recovery*—LADs recover to unit or LAD location.
- (b) *Field recovery*—recovery sections of divisional workshops backload from unit or LAD to backloading points or divisional workshops, and provide recovery posts in the divisional area. They also provide unit recovery facilities when necessary to assist units and LADs.

- (c) *Field (Corps) recovery*—armoured troops and infantry troops recovery units (corps troops provided on the scale of one for each armoured or infantry division respectively) backload from divisional workshops or divisional backloading points, and provide additional unit and divisional recovery facilities when necessary to aid forward recovery units. They also establish recovery posts in the corps area.
- (d) *Base recovery*—An army recovery company (allotted on the scale of one for each army) is responsible for backloading equipment from corps and army backloading points or returned vehicle parks to railhead. It will also be used for final clearance of any remaining casualties which divisional and corps recovery units have left on the battlefield.

It should be noted that field (corps) and base recovery facilities for the independent armoured brigade are provided by a heavy recovery section allocated from the establishment of the army recovery company. Its functions correspond to those of the armoured and infantry troops recovery units with the armoured and infantry divisions.

Reporting of vehicle and equipment casualties

9. *Responsibility*.—The reporting of casualties to REME is a unit responsibility. Casualty reports are made by units in the first instance to their LAD officer or to Provost verbally, by wireless or by written message.

10. *Information required*.—Reports should contain the following essential information:—

- (a) Unit;
- (b) Make and type of equipment;
- (c) Location—six-figure map reference;
- (d) Nature of casualty, *ie*, mechanical, battle damage;
- (e) Extent of assistance required;
- (f) WD No. of equipment;
- (g) Details of location—under enemy observation, suitable approaches, minefields, etc;
- (h) Whether crew or driver is with the equipment.

With regard to (d) above, for simplicity in wireless messages, the following classification is used to indicate the extent of the damage:—

- “X” Casualty—due to temporary stoppage and repairable by crew;
- “Y” Casualty—requiring assistance from LAD or divisional workshop to carry out recovery and repair;
- “Z” Casualty—requiring field or base recovery and repair.

Method

11. There are two main methods of employment of the recovery resources within the division:—

- (a) Recovery sections of divisional workshops are detached from workshops and pooled. The entire recovery resources are then operated centrally by either an officer from HQ CREME or an officer from one of the workshops under orders from CREME.
- (b) Alternatively, recovery sections of divisional workshops are placed in support of specific brigades and controlled by brigade EMEs, the activities of all such sections being co-ordinated by CREME.

12. Whichever method is employed, the chain of recovery is usually as follows:—

- (a) LAD recovers the casualty to its own site, and repairs it if possible;
- (b) if the LAD for any reason cannot undertake the recovery, the brigade EME will arrange for divisional facilities to be made available. The casualty is then backloaded to the appropriate field workshop, or to a divisional backloading point, sited as far as possible near a potential workshop site;
- (c) the degree of repair required is assessed and, if too long a job or the workshop is too heavily committed, the casualty will then be backloaded to the corps backloading point or to the medium workshops in support of the division by the field recovery unit.

13. In addition, the recovery plan will include details of the following measures for clearance of the main axis and routes used by the division:—

- (a) Road patrols.
- (b) Recovery posts at difficult points.
- (c) Local recovery in rear divisional area.
- (d) Availability of roads and road space for backloading.
- (e) Liaison with Provost at traffic control posts.
- (f) Details of intercommunication.

CHAPTER VIII

PROVOST

SECTION 41—GENERAL

Duties

1. The main duties of the provost company of a division are:—
 - (a) The supervision and enforcement of disciplinary regulations at all times.
 - (b) Traffic control—*See* Section 43.
 - (c) Supervision of prisoners of war and the divisional cage. *See* Section 44.
 - (d) Handling of refugees. *See* Section 45.

Organization, command and affiliation

2. Each type of division contains one company of the Corps of Royal Military Police commanded by a major. This company is mobile and self-contained; it consists of a headquarters and eight sections.
3. Centralized control is desirable but it will be normal for one section (or sub section) to be affiliated (each) to main and rear divisional HQ and to brigades. Company HQ will normally be located at rear divisional HQ.
4. Every effort should be made to retain one section of the company in reserve against emergency.

Staff responsibility

5. Although provost is an "A" service, because "A" branch deals with disciplinary and personnel matters, both "G" and "Q" have much to do with provost in matters such as guarding prisoners of war and traffic control.

The Assistant Provost Marshal

6. Provost is represented at divisional headquarters by the Assistant Provost Marshal (APM) a major, and his deputy. The APM deals direct with respective branches of the staff regarding provost matters and supervises the work of the provost company to whom he gives his orders as from the staff.
7. The APM must ensure that the best use is made of the limited provost personnel available and must allot them in sufficient numbers to cope with such tasks as may be required.
8. The APM will normally be located at Main Divisional HQ. His duties, however, especially during static periods, are such that it may be more convenient for him to move his office to rear HQ.

Employment

9. Provost must be used for specific tasks. Sections may be allotted to brigades, but a reserve must be kept in hand. In the latter stages of movement in battle, demands on provost always rise steeply.

10. Especially in an armoured division, provost sections may well operate under the APM for large scale moves, separate sections being allotted to routes. For tactical moves, allotment to brigades, etc, will be normal.

11. Under static conditions sections will normally be located at the headquarters to which they are affiliated.

12. The remainder of this chapter covers the problems connected with the other provost duties set out above, although they are not the concern of Provost alone.

SECTION 42—DISCIPLINE

1. Provost responsibility for discipline includes protection against, and detection of, crime. In this connection the difference between the provost company and the personnel of any field security section which may be attached to the division is that the latter act more in an advisory capacity, supervising and enforcing security regulations and investigating security offences while provost are more executive.

2. The aim, however, of all provost personnel must be to prevent crime rather than to arrest delinquents. The troops should instinctively look to provost for help and guidance and not regard them as heralds of trouble.

3. Disciplinary regulations will, however, almost invariably be broken from time to time by certain troops, and provost personnel must then act quickly and effectively. This strict enforcement of regulations is of special importance when troops are located in or near a town when their good deportment is vital—especially among foreigners.

SECTION 43—CONTROL OF MOVEMENT AND TRAFFIC

General

1. The responsibility for planning and organizing traffic control in a division devolves on the staff. After the plan is made it is the duty of the provost company to implement its execution by policing of routes, providing and erecting route signs and, where necessary, the provision of guides. In major moves it may often be necessary to supplement the provost company both in personnel and wireless sets even to the extent of utilizing a unit or sub-unit for the task; in addition the divisional Signal Regiment also has wireless sets available for traffic control purposes.

2. Although provost supervise the move and assist as far as possible it must never be forgotten that it is the duty of all officers and drivers to do everything they can to make any movement in convoy simple and smooth. It must be a firm rule throughout the division that no vehicle ever halts on the main axis for any length of time; especially at night, one vehicle so halting may cause the whole column to follow suit. The motto must be "get on or get off the road."

Only by clear and definite instructions and training can efficient march discipline be achieved and the task of traffic control facilitated.

Classification of traffic

3. Military traffic in a divisional area may be classified as follows:—

- (a) *Second (and third) line maintenance traffic.*—RASC vehicles going up and down the road regularly each day or night in accordance with maintenance requirements.
- (b) *Point to point traffic.*—Vehicles of a unit moving from one point to another according to the "G" or "Q" plan.
- (c) *Casual traffic.*—Vehicles not included above such as staff cars, unit B echelon duties or signal line maintenance vehicles.

Planning

4. The first principle in traffic control is to fix the responsibility for making the plan and for supervising it. Thereafter the exact boundary between the various areas of responsibility must be agreed, *eg*, between brigade and the staff at Rear Divisional HQ. Finally there must be the closest liaison between all branches irrespective of which is controlling the move.

5. Good communications, good sign posting, good march discipline and common sense are the main ingredients of a successful traffic control operation.

Systems of control

6. Movement planning must ensure that maintenance keeps pace with the forward troops, since any failure in this respect will prejudice operations. Control should aim at assisting movement, and arrangements made by the staff and the provost service must be simple and flexible, and restrictions should not be imposed unless they are really necessary. Some factors which will influence the type and degree of control to be adopted are: the availability, capacity and condition of roads, weather, the air situation, and the type of movement involved, *ie*, strategic, operational or administrative, etc.

7. There are many different systems of control. Groups of vehicles can be moved in convoy at fixed speeds, or in small parties, or singly. The tactical situation may require a complete formation or unit to be given

priority on a road and moved as fast as possible; alternatively, in strategic moves, administrative considerations may dictate the method of movement, and columns may be divided into slow and fast echelons. On other occasions, the air situation may dictate that movement can only take place by night, or in small widely dispersed groups of vehicles by day. Where sufficient roads exist, it may prove advantageous to have "up" and "down" routes as this system speeds up the flow of traffic on the main axes. On the other hand, this system is inclined to be uneconomical as road space may be wasted and the free movement of local traffic restricted.

8. Standard routes and timings should, whenever possible, be laid down for maintenance traffic. Slow moving vehicles and those carrying outsize loads should be allotted special routes and timings that will not interfere with other movement; for example, trucks can be moved a day ahead of wheels. Major roads should be used in preference to minor roads as they are less liable to become blocked.

9. Whatever system is adopted, the guiding principles are simplicity and flexibility. Control should only be imposed to ensure the efficient and even flow of traffic.

Further details are contained in Military Training, Pamphlet No. 42, Mechanized Movement by Road, 1944.

Causes of road blocks

10. Certain causes of road blocks cannot be prevented or foreseen, *eg*, accidents, a vehicle being hit by enemy shell fire or a bridge collapsing.

11. Experience shows, however, that there are many cases of blocks which should never occur. These include:—

- (a) When traffic in excess of the capacity of the road uses the road. At once an ever increasing column of vehicles forms with its head at the first bottleneck encountered.
- (b) Where a driver, in ignorance of his destination, halts on a road to obtain information. (*See para 2*).
- (c) Where the flow of intensive traffic is impeded by a tank, transporter, or other large vehicle moving of necessity at a slow speed. Such vehicles should be restricted for movement to specified times.

The staff problem of control

12. The primary day to day problem of the staff is so to control traffic that the users of the road can reach their appointed destinations on time and without being impeded by constant blocks. As already stated the first step is to assess the capacity of the road, making allowance for a

proportion of maintenance and casual traffic. Thereafter, as demands for timings are received it will become apparent whether the times requested are possible or whether a spread-over system must be applied to avoid congestion. Overloading will cause dislocation of traffic and may well delay operations.

Control by provost

13. The aim of provost control is to ensure that vehicles move according to the traffic plan.

14. This control is exercised by setting up traffic posts and by road patrols. A traffic post consists of a small self-contained provost detachment with wireless and/or telephone communication to a regulating headquarters. Posts should be sited at the entrances and exits of controlled roads and at important places along them, *eg*, cross roads or defiles. There should be ample parking ground at the site to hold vehicles ordered off the road by the police or held up on instruction of the staff.

15. The speed at which non-runners can be removed will depend almost entirely on the speed at which REME recovery facilities can be brought to the spot. The closest liaison between the APM and CREME is essential at all times, but particularly so before any large scale movement. It is usually an advantage to site recovery vehicles at each traffic post since the communications available there can play a big part in getting REME assistance quickly to any point where traffic is blocked.

16. The staff of regulating headquarters will be detailed by divisional headquarters and should include a provost officer. The personnel required to man traffic posts will be found from divisional provost. It should be sited near the headquarters which is controlling movement.

17. It is the responsibility of the divisional provost to man both the regulating headquarters and the traffic posts. Frequently there will be insufficient police available; each major unit must therefore be prepared to produce trained personnel for this duty. This requirement should be covered in standing orders.

SECTION 44—PRISONERS OF WAR

1. The normal channel for the evacuation of prisoners of war during operations is from unit collecting centres *via* brigade headquarters centre to the divisional prisoner of war cage.

The link at brigade level may, however, often be omitted; it will be normal for only important prisoners for quick interrogation to be sent there, especially during mobile operations.

2. "A" branch is responsible for locating the cage and detailing the personnel to man it. It should be sited within reach of main divisional HQ to facilitate interrogation by "G" (Intelligence) but, since provost will normally be in charge, it must be within access of the headquarters of the provost company. It should also be on the route for the evacuation of wounded.

There will seldom be sufficient provost personnel available to run the cage without help, especially if large numbers of prisoners have to be held there for any length of time. Additional personnel must therefore be drawn from units under orders of the "A" Staff to help man the cages.

3. Although escorts back to the cage will normally be found by units taking the prisoners, escorts from the cage and out of the divisional area must likewise be detailed by "A" branch. Close liaison with headquarters RASC is essential in order to utilize empty lorries moving to the rear.

4. A further problem in the event of having to hold large numbers of prisoners is the necessity of stocking the cage with rations, water, medical requirements etc, and making sanitary arrangements. The sooner evacuation out of the divisional area can, therefore, be completed the simpler is the administrative problem.

5. Under static conditions the cage may well be enclosed with barbed wire but in mobile operations this will seldom be feasible. In both cases, however, officer, NCO and other rank prisoners should be separated into their respective categories at the earliest opportunity.

6. In an armoured formation the escorting and evacuation of prisoners is more difficult than with infantry; under mobile conditions, it will seldom be practicable to set up a cage. Arrangements may, therefore, be necessary, to utilize the cage of any nearby formation or, failing this, it has been found practical merely to disarm prisoners and send them to the rear in "organized" parties under the escort of one or more tanks or armoured cars; these latter may well be battle or mechanical casualties also requiring attention further back.

7. Wounded prisoners of war are evacuated in the same way as our own casualties.

8. Prisoners may be used to dig graves and to carry casualties for one journey to the rear only.

SECTION 45—THE REFUGEE PROBLEM

1. The control of refugees can become a major problem within a division, and until such time as they can be evacuated outside the divisional area the administrative staff must ensure that the movement of refugees does not impede the operations in progress.

2. To this end, special routes for refugees may have to be detailed, together with collecting centres well out of the way of the normal activities and requirements of the division itself. Further, any centre from which it appears unlikely that the refugees can be evacuated within 24 hours must be provided with normal supplies, medical and sanitary arrangements. These facilities must cater for women and children in addition to men.

3. Although any unit may be required to provide personnel to assist with the control of refugees on orders of "A" branch, provost will normally be in charge of whatever centre is set up or special route detailed. Civil affairs detachments, when attached to the division, will assist.

CHAPTER IX

ENGINEERS

SECTION 46—GENERAL

Duties

1. The divisional Royal Engineers, although an arm, have numerous administrative functions to perform within the division. Chief among them are:—

- (a) The supply of engineer stores and plant.
- (b) The maintenance of communications, *ie*, roads, tracks and air-strips for light aircraft.
- (c) Water supply.
- (d) Assistance to units in construction of petroleum, supply, etc., points beyond unit capacity.
- (e) Work, beyond unit capacity, on billets, when applicable.
- (f) Bridging to improve communications.
- (g) Clearance of minefields in the divisional administrative area.

The above are in addition to the tactical functions of the Engineers as an arm.

Organization

2. The CRE (in war, a Colonel) is a member of the divisional HQ staff and has under command a field engineer regiment consisting of three field squadrons, and a field park squadron. CRE's office will normally be sited with or adjacent to main divisional HQ, though the CRE himself will often be required to form part of the divisional commander's tactical HQ.

3. The CRE has an administrative role under "Q". The field park squadron, which is responsible for 1(a) above, will normally be located in the divisional administrative area.

Responsibility

4. It is a "Q" responsibility to decide the administrative engineer work to be carried out and to allot priorities. Thereafter CRE calculates the stores required and demands them through RE channels. Finally the field park squadron receives these stores, holds them and issues to the users, either RE or other arms.

5. It is a "Q" responsibility, when abnormal quantities of engineer stores are involved, to allot additional transport and labour for handling as may be necessary.

CHAPTER X

MISCELLANEOUS SERVICES

SECTION 47—CHAPLAINS

1. A number of chaplains of various denominations are always permanently attached to a division in the field.

There will seldom, however, be enough chaplains and, therefore although each must be allotted a parent unit where he can be looked after and live, he must always be prepared to work with other units, especially those of the divisional troops.

2. The senior chaplain of the division is responsible for the ecclesiastical duties, postings, attachments, etc of all other chaplains (except Roman Catholics), and receives his orders direct from his department at corps HQ.

Roman Catholic chaplains are administered by "A" branch in consultation with the senior Roman Catholic chaplain within the division.

Local administration of all denominations of chaplains is the responsibility of the formation or unit to which each is attached, one batman driver and a car normally being included in the establishment of all such units for use by the chaplain. He carries, besides his personal kit, much that is needed for his work and services, and this vehicle and driver are vital to him.

3. The RACHD is responsible for the spiritual and moral health of all ranks of the division and, in particular, the spiritual comfort of the sick and wounded.

Chaplains can play a decisive part in forming and strengthening the morale of the division by inspiring the soldiers with the conviction of faith; it is particularly noticeable in war that men turn instinctively towards such spiritual aid.

4. The correct relationship between a chaplain and the commanding officer and men of the unit to which he is attached, is, therefore, most important. To be effective, a chaplain must receive support, not only from his divisional and brigade commander, but also within his parent unit.

There is sometimes a tendency to allot tasks such as president, mess committee, or welfare officer to the chaplain. Although a chaplain can and should assist with welfare arrangements in general he has a full time task in carrying out his ecclesiastical duties properly and he should not therefore be burdened with additional "appointments."

5. During operations chaplains should be in close touch with medical units, unit chaplains normally being based on the regimental aid post.

6. Chaplains should be provided with accommodation, whenever possible, to serve as a church, quiet room, social centre, etc.

7. Burials and Graves:—"A" branch are responsible for the overall policy for burials on the battlefield and locating brigade or divisional cemeteries. A divisional chaplain should, wherever possible, be present at the internment and conduct a short service.

Our own and enemy dead should be buried quickly, with all the dignity possible under the conditions prevailing. Burials are a unit responsibility and, as far as possible, should be performed in the divisional cemetery. All burials will be recorded by an officer detailed by each unit and a copy, giving location, etc, forwarded to "A" branch at division, who forward a consolidated list to the graves registration representative at rear corps HQ.

All graves must be carefully marked at the time of burial, the provision of pegs, stakes, etc, for marking being a RE responsibility.

SECTION 48—PAY

1. Each division and independent brigade in the field has a field cash office.

2. This office is under the command of a field cashier (RAPC) whose duties may be summarized as:—

- (a) Adviser to the divisional commander and his staff on all matters affecting pay and allowances.
- (b) The provision of funds to units for the payment of soldiers, etc.
- (c) The issue of advances of pay to officers.
- (d) Receipt of all sums due to the public.
- (e) Receipt of all impounded, etc, monies.
- (f) Receipt of monies for remittance to the United Kingdom or for banking by the command paymaster.
- (g) Exchange of currency.

3. It is the responsibility of "A" branch to arrange for such guards, etc, as the field cashier requires for the safe-guarding of his currency holdings.

4. The field cash office should be sited in or near rear divisional headquarters and its time of opening and closing should be notified in routine orders.

5. An efficient pay service has naturally a considerable morale value, and the field cashier must be readily available. As there is only one cashier, however, he will often require assistants to be provided by "A" branch, as he cannot work continuously without rest.

6. Full details of unit accounting instructions will be found in "Manual of Pay Duties, 1949."

SECTION 49—POSTAL

1. The division has a Royal Engineers postal unit, Type "B", designed to serve between 15,000 and 20,000 troops. This unit is commanded by an officer, who is also the technical adviser to the staff or the divisional commander on all postal matters. He is responsible for the organization and maintenance of the postal and remittance services for all units and individuals serving with the formation. The Army Postal Service is represented on staffs at nearly all levels, and CREs have no concern with postal units.

2. The dispositions of field post offices in the divisional area, and the provision of transport, are arranged in conjunction with the "Q" staff. Field post offices provide the means for the purchase of postage stamps, purchase and encashment of postal orders, registration of letters and parcels, etc, and such other postal facilities as are available in the theatre.

3. The system of mail delivery and collection for forward units within a division varies according to the maintenance plan adopted by the formation. In general the following methods are common, but may be varied:—

(a) The divisional concentration office known as the "D" Office is located in the administrative area of the division. From there it despatches mobile field post offices (FPOs) to agreed unit "Mail" points. These mobile FPOs can undertake all postal transactions.

(b) If the divisional maintenance plan is on a brigade basis, FPOs may be stationed in the brigade areas and linked with the "D" office by road. Daily contact with forward elements of units is maintained by mobile FPOs going forward from the brigade FPOs to agreed unit "Mail" points.

(c) Under non-operational conditions FPOs can be established with divisional and brigade headquarters, and connected by road with the "D" office. Units will then arrange the collection and posting of mail daily in these static FPOs.

4. The smooth, punctual and efficient working of the postal service has a major effect on morale. The " Q " staff must see to the following points:-

- (a) Information as early as possible being given to " Postal " on the moves of units from one formation to another. To reconcile security requirements this must be done in conjunction with " G " Branch.
- (b) To assist " Postal " with transport where necessary to ensure quicker delivery of mails.
- (c) To ensure that internal postal arrangements of units are organized on sound lines.
- (d) To issue orders on postal subjects and to publish information on general causes of delay to mail as may be advised.

5. Censorship of mail in accordance with current regulations is a unit responsibility—not postal.

SECTION 50—EDUCATION

1. Officers, warrant officers and non-commissioned officers of the Royal Army Educational Corps are included in the establishment of divisions and brigades. In addition, a regimental officer will be appointed in each unit as part-time educational officer. Unit other rank instructors may also be appointed to supplement the work of the RAEC.

2. The activities which go to make up army education are widely varied in character and include both the formal and informal. The detailed nature of the educational work which can be carried out inevitably varies in accordance with the circumstances and role of the units and men concerned and in accordance with the requirements of commanders. Normally, however, the following tasks are carried out by the RAEC in the field wherever opportunity exists:—

- (a) Advice to commanders as required on all matters of educational policy.
- (b) The dissemination by various means of news of the general military situation and of home affairs, *eg*, news sheets, lectures, broadcasts, and discussions.
- (c) The distribution of all reading material from newspapers and novels to textbooks.
- (d) The organization of activities of both a recreational and educational nature.
- (e) All forms of education which may be required to facilitate training of a strictly military nature. This may include subjects such as map reading, language training, etc.

- (f) The provision of full educational facilities as far as possible for units not engaged in active operations, for fighting units during periods of rest, and for military hospitals, convalescent depots and field prisons.
- (g) Direct assistance as necessary to the regimental officer in meeting the educational requirements of his men.
- (h) The preparation and execution of plans for educational programmes to meet the requirements of the various stages of a campaign.

3. To get the best out of any unit or formation it is essential to get the best out of every individual in it. The soldier's military skill will largely depend on intelligence, sound morale and mental alertness. In developing these qualities to the full, education can and should play a major part.

SECTION 51—WELFARE AND AMENITIES

The purpose of welfare

1. The purpose of welfare work in the Army is to provide for the soldiers' spiritual, mental and physical needs, so that he is at all times fit and ready to give of his best. Its purpose is also to link officers and men together in a bond of mutual respect and friendship, which will not only stand the test of war but will be strengthened by it.

It is sometimes said that the present day soldier needs more comfort and "cossetting" than his forebears. Nothing could be further from the truth. But a soldier who has private worries cannot give the best that is in him. Furthermore, men on active service, after enduring the alternate fear and tedium of war for long periods, get stale. After the strain and hardship, willingly accepted until the immediate aim is achieved, reaction sets in. Unless there is a change of interest and atmosphere, the result, whether it be grumbling, discontent or acts of open indiscipline, will be serious and enduring. Good welfare will prevent these evils from arising.

Welfare in the unit

2. Welfare is in fact part of man management, and is therefore the responsibility of every officer, WO and NCO for the men in his charge (*see* Section 11). They are the first link in the chain and the most important one. Matters in which they will be directly concerned are:—

- (a) *Leave*.—This is a subject of great importance to everyone. The regimental officer must know the current regulations and see that his men get their full quota. The leave roster must be absolutely fair and its running known to all. New arrivals must receive fair treatment. Vacancies once allotted must never be cancelled unless it is unavoidable. Leave parties must be despatched efficiently and in the greatest possible degree of comfort.

- (b) *Pay*.—The officer must take care to see that his men get their full entitlement and that any grievances are fully investigated.
- (c) *Messing*.—However hard the conditions, messing can be greatly improved by the care given to the matter by the regimental officer. Whenever the situation permits messing should be centralized in the unit and pains taken to ensure that the cooking and service of rations is the best possible.

A spirit of rivalry should exist between units in matters of welfare.

The divisional staff

3. Welfare, as far as the staff is concerned, is a "A" matter and one to which the AA and QMG will give a great deal of attention. The officer concerned with the detail is the staff captain "A." Matters which the staff should pay particular attention to, apart from the assistance which regimental officers in units will require, are as follows:—

- (a) *Chaplains*.—The staff can do a great deal to help the chaplains in their task by co-ordinating their tours of units, and by arranging for specific requirements such as the organization of church services and the provision of quiet rooms.
- (b) *Leave and rest centres*.—The organization of leave centres in theatres where good leave facilities are hard to come by is of inestimable value. It will always be difficult to find staff to run such centres, and there will also be the threat of increased operational activities which will make it seem that the trouble expended on such places is likely to be wasted. In fact the effort spent usually pays a big dividend. In particular, it is worth while making special efforts when the division is withdrawn for periods of rest and refitting.
- (c) *NAAFI/EFI*.—"Q" must ensure that the full allotment of available NAAFI/EFI supplies is drawn by units, and try to help those units who have little transport.
- (d) *Entertainments*.—Cinema shows and concert parties should always be accepted when offered, even though during active periods they play only to men of the rear echelons and services. Very often a change in the situation will enable more units than anticipated to attend.

SECTION 52—CATERING

1. The overall responsibility of the Army Catering Corps (ACC) is to ensure that the rations provided for the Army are prepared and cooked in such a way that the maximum benefit is derived from them.

2. Within the division all the cooks, other than unit learners, should be qualified ACC personnel; they are not, however, organized on a corps basis but come directly under command of the headquarters or unit to which attached.

3. Nevertheless, there is normally a catering adviser attached to the division, and he is usually located at headquarters RASC. His responsibilities include:—

- (a) Ensuring the best use is made of rations and cooking equipment to give the soldiers well cooked and varied meals under all conditions.
- (b) Advice on the avoidance of waste and the conservation of messing by-products.
- (c) The technical supervision of the efficiency of all ACC cooks.

The catering adviser should be able to assess the efficiency of all ACC cooks within the division and be able to advise on personal subjects affecting them, *eg*, promotion.

CHAPTER XI

OTHER ADMINISTRATIVE CONSIDERATIONS

SECTION 53—PROVISION OF REINFORCEMENTS

The Divisional Battle School and Reinforcement Unit

1. A divisional battle school and a reinforcement unit are allotted to each type of division. They are separate units and not separate components of the same unit. Staff responsibilities for these two units are as shown below:—

- ‘G’—The training role of the divisional battle school, whether this be the training of reinforcements, or any other special training within the division which the divisional commander may order.
- ‘A’—The holding of reinforcements, other than RAC, in the divisional reinforcement unit, and the best possible use of this unit to run a rest centre.
- ‘Q’—Because the highest possible standard of administration is necessary in the divisional reinforcement unit.

2. The divisional reinforcement unit (infantry and airborne divisions) is designed to hold 1200 reinforcements in four companies each of 300. Three of these companies hold reinforcements for brigades, the fourth dealing with divisional troops. When working on a four-company basis the divisional reinforcement unit can comfortably hold first reinforcements for the division. To meet any particular operational requirements it can, however, be expanded to a maximum of eight companies or a holding capacity of 2,400 reinforcements.

The organization of the armoured divisional reinforcement unit is under consideration. It is anticipated that it will be designed to hold up to 900 reinforcements in three companies each of 300. Two of these companies will hold reinforcements for brigades, the third dealing with divisional troops.

3. The divisional battle school is comparatively small, but has sufficient officers and NCOs on its establishment to give divisional reinforcements final training peculiar to the theatre in which they are operating. It is possible and often necessary for the divisional battle school to carry out its training function in a different location from that of the divisional reinforcement unit.

4. From the administrative aspect the main function of the divisional reinforcement unit is the reception, from corps and army channels, of reinforcements, holding, administering and training them as necessary, and subsequently delivering them to their allotted units. It also provides a useful centre for the collection and despatch of personnel going on leave or courses, discharged from hospital, or needing temporary rest from front line duties.

5. The divisional reinforcement unit will be sited in the divisional area preferably on the most direct route to the corps reception camp, and with a view to good training facilities. If suitable buildings can be found they should be used in order to provide the best possible conditions. Owing to the static aspect of its work the unit functions best when it can be left in one site as long as possible. The companies forming the divisional reinforcement unit are self-contained administratively, and where the division is making frequent moves, they can be leap-frogged forward, so that one element of the unit remains in the same site for a reasonable period.

RAC and RA reinforcements

6. Each armoured division and independent armoured brigade has a forward delivery squadron RAC permanently attached from the armoured delivery regiment of the Armoured Replacement Group (ARG) organization. Reinforcements for the armoured units of the division come forward to the squadron through ARG channels, and, on arrival, are allotted to their units and "marry up" with the replacement AFVs held. (*See Section 54*).

7. In some armoured formations this squadron may be required to hold certain RA reinforcements in addition to RAC, these being men trained in such self-propelled artillery equipments as are furnished by the ARG. Normally, however, such reinforcements will pass direct from a corps delivery squadron of the ARG to artillery units, while all other RA reinforcements (*eg*, for RA in infantry divisions) are provided through normal reinforcement channels.

8. From an administrative point of view, apart from certain regimental matters affecting the permanent staff, the forward delivery squadron is under command of the formation it is serving.

System of reinforcing

9. At the beginning of a campaign, unit first reinforcements calculated at one month's intense wastage rates are held in the divisional reinforcement unit and, for RAC, in the forward delivery squadron. From then onwards all reinforcements are calculated and supplied according to authorized wastage rates, the demand coming from units and the supply from base.

10. "A" branch at division is responsible for the reinforcement policy; to this end certain returns of personnel should be detailed in standing orders for submission daily, weekly and monthly by units through brigades to divisional headquarters, whence they are consolidated and passed to the rear. Full details of documentation are given in pamphlet "Unit Documentation and Casualty Procedure 1951."

11. Reinforcements arrive in the divisional area, as indicated above, often after a long and uncomfortable journey from the rear and, therefore, probably in a low state of morale. On arrival they must not be put into battle until their morale is raised; and for this reason their correct reception into the division is a most important factor. Here the "stranger" becomes a member of the team. He must be told, among other things:—

- (a) The name of his new unit.
- (b) What it has done.
- (c) What are his unit and divisional signs.
- (d) Who are the personalities in his unit, brigade and division.

His equipment must be checked and made up if necessary, and he must be seen by a medical officer. When the time is opportune he must be delivered to his new unit, but preferably not when the stress of battle is such that the unit will be unable to welcome him properly. In short, to obtain the best value from a reinforcement, he must first be welcomed into the team and then immediately absorbed into it.

SECTION 54—REPLACEMENTS OF AFVs IN ARMOURED FORMATIONS

The Armoured Replacement Group RAC

1. Although tracked vehicles and scout cars for other than RAC and RA are normally replaced through Ordnance channels as described in Chapter VI, an organization called the Armoured Replacement Group (ARG), is responsible for such replacements for all armoured units and the self-propelled artillery regiments of armoured formations.

The Forward Delivery Squadron RAC

2. The armoured delivery regiment RAC and ARG organization have a chain of delivery squadrons from army level forward to armoured division (or independent armoured brigade), the sub-unit at this level being the forward delivery squadron (see Section 53, para 6).

3. The demand for replacement AFVs is initiated by units, passed through brigade to divisional headquarters and is met by the ARG organization. The authorized holding of replacement AFVs is based on a percentage of the total holdings within the ARG, and the squadron should always be up to strength. Often it will be required to hold numbers in excess of this total.

4. The demand for replacement AFVs by division and their release forward from corps level is normally controlled by "G." Arrangements for their move into the divisional area is usually a "Q" responsibility since it will normally be over maintenance routes.

5. The forward delivery squadron should be sited close to the foremost armoured workshop of the division or brigade and may often move with it. The squadron consists mainly of reinforcements and its administrative requirements are equal in importance to those of the divisional reinforcement unit. They are, however, usually more difficult to implement owing to the squadron being further forward and moving more frequently.

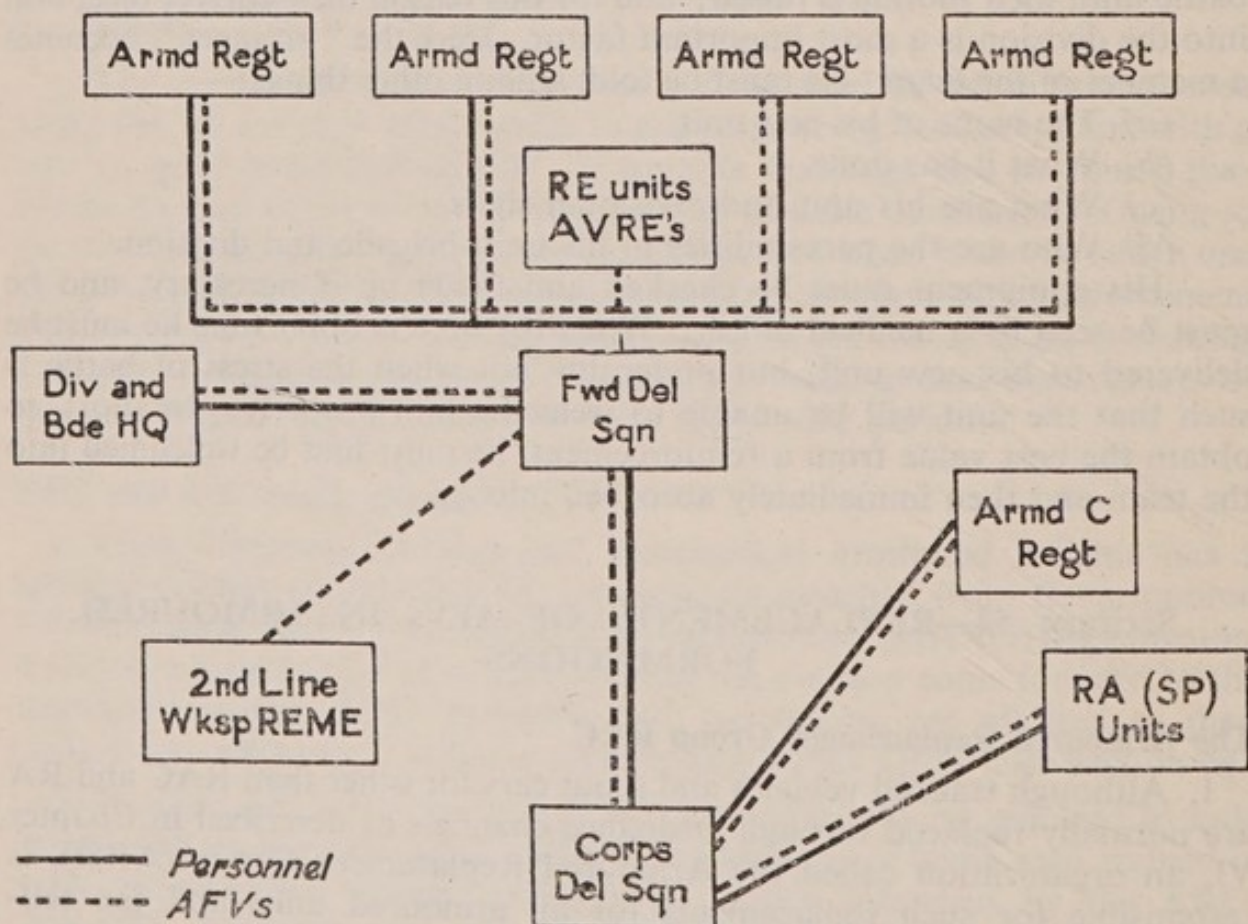


FIG 5.—The ARG supply channel for an armoured division (Applicable only to RAC, certain RA units and, on occasions, to RE armoured equipment).

Note.—The divisional regiment RAC, and some RA units of the infantry division will get their replacement AFVs from the corps delivery squadron.

6. The system of supply of RAC and RA (SP) reinforcements as laid down in Section 53 and of the necessary replacement AFVs, etc is shown in Fig 5.

Use of tank transporters

7. Tank transporters of the RASC may frequently be allotted to a division for the movement, both operational and administrative, of AFVs of all descriptions. The crew of each transporter can be self-contained administratively for a period, but transporters should always be moved in convoy. This movement will frequently be a "Q" responsibility; owing to their size, the selection of suitable routes is very important and "A," provost and all concerned with traffic control must be given early warning of intending moves by transporters in the divisional area.

SECTION 55—OFFICE ORGANIZATION IN THE FIELD

Layout of the Office area

1. The detailed layout of the "A/Q" office area in the field depends largely on ground, cover from air, buildings available, types of vehicles held on establishment, and personalities. Buildings should not be relied upon unless essential, as this limits location of headquarters, and delays moves.

At rear divisional HQ, "A" and "Q" will normally maintain separate offices, though located in the same area. At brigade level, since all matters are handled by the DAA and QMG, the offices will be immediately adjacent and, unless a rear headquarters has been formed, probably next door to the office of the brigade major. Within a unit, where the adjutant is responsible for "A" matters and the quartermaster for "Q," the two subjects will be dealt with in completely separate offices and often in separate echelons.

Duty Officers and clerks

2. A duty officer must always be available at divisional and brigade headquarters in the field, as must a duty clerk. Since the "A/Q" staff officers at both levels are not sufficient to provide a satisfactory 24-hour service it will be necessary to train other officers, eg, liaison officers, brigade transport officer, etc, to do periods of duty in the office and thus allow the staff not only a little rest but also to get out and visit units.

3. The location, duties and shifts for duty clerks must be clearly laid down in standing orders and easily understandable.

A/Q Information Centre

4. An "A/Q" information centre will normally be required at divisional level (and sometimes at brigade headquarters) giving detail of the administrative lay-out, traffic routes, etc. If operating at rear HQ, and

" Q " is not represented, this centre must also include up-to-date information with regard to the course of operations.

General working

5. The aim is that the office or offices shall be so organized that outgoing correspondence is kept to the minimum and incoming correspondence dealt with immediately.

6. Similarly, files must be reviewed periodically and kept to the minimum necessary for current use, future reference, and historical purposes. All others should be destroyed by burning on orders of the head of the branch concerned.

7. The principles and detail of all office work in the field are laid down in " Staff Duties in the Field (1949)."

SECTION 56—ATTACHED UNITS AND PERSONNEL

General

1. The administrative arrangements of a division must always be planned to provide for the requirements of attached units and personnel, the numbers of which vary in accordance with the operations in progress.

Although major units, given divisional backing, will usually be able to look after themselves, small detachments, such as civil affairs, and press personnel, entertainment parties, etc inevitably lack many of the day-to-day necessities available to the forces and must be carefully administered.

RN and RAF

2. A division is also responsible in the main for such detachments and personnel of the RN and RAF as may be attached, for their well being and for the provision of maintenance facilities for their vehicles.

CHAPTER XII

ADMINISTRATION IN BATTLE

SECTION 57—PLANNING FOR BATTLE

System of planning

1. Administrative preparations take longer than their operational counterpart and the principles laid down in Chapter I must be strictly observed if the administrative plan is to be successful. In addition, elasticity of mind is essential in planning in order that the many urgent but unforeseen demands which arise in prolonged operations may be met.

2. Unlike executive planning for operations, which is usually undertaken at brigade level with the assistance of all divisional resources, the administrative plan is almost invariably made, except for matters of detail, at divisional level, since here are found the heads of the services who must implement the plan.

Responsibility for planning

3. The administrative task required to support the proposed battle is given by the divisional commander to the AA and QMG, who is then responsible for working out the plan and co-ordinating the roles of the services in close consultation with their heads. Details are worked out by the "A" and "Q" branches of the divisional staff, the whole being supervised by the AA and QMG who must report progress at frequent intervals to the commander, but without worrying him with details.

4. The division of responsibility with regard to this planning is laid down in Section 5.

SECTION 58—ORDERS

General

1. Simple procedure, carefully thought out and practised, is as necessary for implementing administration as it is for operations. All general rules for drafting orders by "G" are equally applicable to the requirements of "A/Q."

2. To this end four types of order are normally available to the administrative staff of a division, viz:—

- (a) Divisional Standing Administrative Orders (operations).
- (b) Standing Orders for divisional headquarters.
- (c) Administrative Orders.
- (d) Administrative Instructions.

If circumstances permit, day-to-day administration can be covered in Routine Orders. See "Staff Duties in the Field (1949)."

3. All these orders should be repeated, as applicable and in modified form, in their counterparts issued at brigade level. Relevant portions may also be included in unit orders.

4. During active operations, day-to-day alterations to the administrative plan, such as moves of administrative units and times for drawing supplies, will be issued by RT, messages, verbal orders or liaison officer.

Divisional Standing Administrative Orders (Operations)

5. Specimen headings for such orders are given in Appendix E.

Standing Orders for divisional headquarters

6. These orders should cover all administrative matters and procedures in the field as they affect the "A/Q" staff and headquarters of services.

Several references have been made in previous sections to headings applicable to these orders. Additional detail should include such matters as the order of march of all vehicles at rear HQ, line telephone link-up, etc.

Further specimen headings are contained in "Staff Duties in the Field (1949)."

Administrative orders

7. These are primarily for the information of the troops being supplied.

When possible, administrative arrangements should be included in an administrative section of an operation order, but this may often be difficult since an administrative order cannot usually be started until the "G" plan has been completed.

In any case, the salient extracts, such as the plan for medical evacuation, should always be included in the operation order, even if they are repeated in the administrative order. This applies even more strongly to orders at brigade level, as unit and sub-unit commanders cannot be expected to refer to an administrative order as well as an operation order during battle.

8. In order either to include most of the administrative arrangements in the operation order or to issue a separate administrative order with the minimum of delay, the "A/Q" staff must be in the commander's mind throughout. On receiving his task from the commander the AA and QMG must make a rapid appreciation and outline plan, issue a warning order to the services by the fastest means available (and to units as applicable), and then settle details with heads of services at a conference. Early warning to all concerned is the important thing.

9. Whenever a separate administrative order is issued it should refer to a definite phase of an operation, which must be stated beyond doubt in the order. For instance, within the division it will often be as well to issue two administrative orders before, say, a deliberate set-piece attack; the first, to cover the preliminary arrangements such as deployment, dumping programme, re-grouping and assembly of administrative units and material; the second, to cover the arrangements for the attack itself.

10. Administrative orders should cover such matters as:—

- (a) Policy about control of A and B echelon transport.
- (b) Policy concerning ammunition, POL, supplies, water, evacuation of casualties, repair and recovery, etc.
- (c) Location of delivery points (to include times of opening, who is to use them and when).
- (d) Location of the prisoner of war cage.
- (e) Allotment of engineer, medical, ordnance, REME and provost resources—(these may be already covered in standing orders).

Domestic instructions for the services concerned should not be included.

11. Specimen lay-out and headings for administrative orders are contained in "Staff Duties in the Field (1949)."

Administrative Instructions

12. Administrative instructions are of two kinds:—

- (a) For the information of the brigades and units being supplied when it is not possible to foresee the exact course of operations, such as before an assault landing or a pursuit. These kinds of instructions are not often used, but, when used, are more common in armoured divisions than in infantry. They indicate the administrative policy so that all possible preparations can be made in advance, and while the operation is developing. The subsequent administrative order can then be kept very short.
- (b) For the information of the services who carry out the administrative plan. Administrative orders, intended chiefly for the troops being supplied, are necessarily short. The services require more information, which is obtained from administrative conferences, order groups, and by the issue of administrative instructions. These last, although they need not go into great detail, lay down the AA and QMG's policy very comprehensively, so that the services can know clearly what is required of them.

SECTION 59—THE ADVANCE

Administrative preparations

1. As in all phases of battle, the administrative staff must be consulted from the earliest planning stages before an advance to ensure that the "G" plan is administratively possible.

2. Preparations must be basically sound; once the division is on the move it will rarely be possible to make any major alterations to the administrative plan without causing some confusion.

3. In an advance of any distance the main problem is to maintain the fighting troops who are constantly moving further away from the administrative installations on which they depend. Higher formation cannot move these installations, with their stocks of dumped supplies, at a frequency and speed comparable with the rate of advance of the fighting troops. Preparatory arrangements must therefore be directed towards solving this problem.

Grouping

4. In order to ensure continuous administrative support it will normally be necessary to decentralize administrative resources for a certain period. The grouping of these administrative units and the allotment of the necessary road space requires careful planning; it is essential that details are fixed early as brigade group commanders must have sufficient time to give orders to units placed under their command for movement.

5. When a group is formed to carry out some special task the commander must be given the necessary administrative resources.

Control

6. How much to decentralize control requires careful consideration to ensure that the commander's aim is achieved at a minimum cost in administrative transport and materials.

To this end divisional control should be retained to the maximum extent, as it is more economical, and takes the load off brigade staffs who are not organized to deal with a large number of administrative units under command.

Factors governing a move

7. The main factors governing the move of administrative units are:—
- (a) *The likely degree of enemy air and ground opposition.*—This factor will decide which types of units must go forward early.
 - (b) *The length of the advance.*—If short, it may be possible for some units, eg, workshops, to continue to support the division without moving.
 - (c) *Road conditions, especially defiles.*—Fighting units must never be held up by the move of administrative units, some of which have heavy specialist vehicles.
 - (d) *Accommodation.*—It is no use moving administrative units forward until a suitable site awaits them. This applies particularly during the advance to contact.

Order of march

8. A major consideration, therefore, is the correct placing of administrative units in the order of march. An administrative group may contain over 100 vehicles and it will rarely move as a whole.

Complete units should, therefore, be leap-frogged forward, bounds being long so that units are non-operative for as short a time as possible; getting a field ambulance or workshop into and out of action is a lengthy process and they cannot work on the move.

9. The same applies, though to a lesser degree, to rear divisional HQ. (See Section 14).

Ammunition

10. During the advance to contact, ammunition expenditure may be negligible. The normal system of replenishment usually suffices.

POL

11. All units must start with full tanks. Although normal replenishment will continue, depending on the length of the advance it may be wise to arrange for all vehicles to carry an additional reserve. The effect of ground and speed of movement on the consumption of POL, particularly tracked vehicles, must be kept in mind.

Rations

12. Arrangements should usually be made for units to carry at least two days' reserve of rations. If extra rations are wanted, special arrangements must be made to include them in mobile supply points under control of groups.

Provision of water points

13. Water will usually be required. A preliminary plan for opening water points should be made in consultation with the CRE. Arrangements must be made to ensure that the necessary containers and jerricans are available and are moved well forward in the order of march.

Disposal of dumps

14. Plans must be made to dispose of any stocks which may be left in dumps when the advance starts. These stocks may be drawn on for normal replenishment by the division's second line transport or, if this is not practicable, they must be reported and handed over to another formation in rear.

Replenishment during the advance

15. Although normal replenishment should be continued as long as possible, distances, speed, and increasing enemy opposition may eventually necessitate the setting up of mobile APs and PPs on each axis of advance but operating under divisional control.

Brigades can be given instructions about drawing over the divisional RT net.

Medical

16. Field ambulances should remain under divisional control, although under command of brigades for movement.

The factors given in paras 7(a) and (b) above will largely decide whether one field ambulance should be kept open continuously and the few casualties expected evacuated by ambulances, or whether more than one can be kept mobile until such time as resistance stiffens.

Ordnance

17. Ordnance units will normally be the last to move, since once the division is advancing they can give little help.

18. If the advance is long it may be necessary to send forward a detachment of the OFP with essential stores.

Repair and recovery

19. Infantry and armoured workshops will be leap-frogged forward by CREME along the formation axis. Bounds are chosen so that each workshop remains in one site not less than four days. Frequent moves result in output being considerably reduced.

20. Recovery during the advance will take the following form:—

- (a) Recovery posts will be sited along the formation route.
- (b) Casualties will be concentrated as far as possible in an area previously selected and reconnoitered as a second line workshop site, so that the workshop can function immediately on arrival in the new site.
- (c) Recovery sections will normally be detached from workshops and operate as independent units under direct control of CREME or brigade EME.

Provost and traffic control

21. During the advance the control of movement and, therefore, traffic control, is a "G" responsibility. Routes must be well sign-posted and movement strictly controlled if the speed of advance is to be maintained. The provost company may require reinforcing with unit traffic control personnel and it may be necessary to set up a regulating headquarters (see Section 43).

22. Whether traffic control is centralized or decentralized to brigades will depend on local conditions.

Roads, tracks and diversions

23. During the advance engineer detachments with suitable equipment should be well forward in order to carry out rapid repairs to cratered roads, open diversions, etc. Further to the rear, engineer facilities for rapid repair are also essential.

Conclusion

24. Whatever the problem and however adverse the factors given in para 7 above appear to be, the administrative staff and heads of services must keep planning ahead, must never allow themselves to be surprised, and must ensure that the momentum of the advance is not held up through an administrative break-down.

SECTION 60—THE ATTACK

General

1. There are two types of attack:—

- (a) The deliberate attack, which is usually the result of long planning and preparation;
- (b) the quick attack to take advantage of the enemy's unpreparedness.

This section deals principally with the administrative side of the deliberate attack, since there will usually be little time available to arrange any far reaching administrative matters before a quick attack.

Basic problems

2. Three major administrative problems affect planning:—

- (a) Arranging for replenishing the division when routes forward are limited and congestion is considerable. Increased administrative activity before an attack may prejudice surprise and the commander may have to impose limitations on movement, particularly by day.
- (b) Dealing with returning traffic, both before and during the attack, on a limited number of routes when the main flow of movement is in the opposite direction.
- (c) Deciding when to switch the emphasis from the supply of ammunition, which has priority initially, to the supply of POL as the attack becomes more mobile.

Basic principles

3. The basic principles are, therefore:—

- (a) Administrative planning must start from the outset and not await the detailed operational plan, otherwise the arrangements may not be ready in time and the attack may have to be postponed. In particular, commanders at all levels and the "G" staff must specify any special requirements *eg*, unusual quantities of smoke or special pack rations, in time for them to be obtained.
- (b) The material resources needed to support the attack should be provided over and above the normal scale of holdings, so that all echelons are full at the end of the attack and the division thus prepared to exploit success or defeat the inevitable counter-attack.
- (c) Administrative units must be sited forward, so that all stages of the attack can be supported as far as possible without moving these units and denying their support to the division during such moves.
- (d) Medical units and workshops must be cleared as far as possible of casualties and "crops" before the attack, so that the whole of their resources are available to support the attack.

4. The problems and principles enumerated above show that in any attack it must be remembered that the break-in stage is only a prelude to the break-out and subsequent quick advance or pursuit. The administrative plan of the division must accordingly be devised to anticipate events and to support the attack at all stages and, if possible, the pursuit phase.

The detail below is, therefore, laid out to cover the normal administrative arrangements required during:—

- (a) The preparatory stage;
- (b) The attack itself.

Administration during the pursuit phase is discussed in Section 61.

(a) THE PREPARATORY STAGE

Accommodation

5. "Q" are responsible for allotting areas to all units, in consultation with "G," except that corps HQ may, for a major attack, exercise this control themselves. It is most important that units should not have to make subsidiary moves to the assembly area for an attack; only sound planning can prevent this.

Moves and grouping of administrative units

6. "Q" must arrange to move forward administrative units to sites from which they are capable of supporting all stages of the attack.

7. Priorities for movement require careful consideration.

8. If the brigade group system is in operation an early decision must be made as to allotment of administrative units to groups in order to avoid unnecessary movement and to ensure time for liaison.

Routing and signposting

9. Certain additional routes may be required in order to get men and materials forward for the attack. In particular, it will often be necessary to make tank tracks and so prevent AFVs cutting up existing routes during the assembly period. This may entail diversions and will always necessitate good signposting.

10. All routes must be arranged to fit in with the traffic plan for the pursuit.

Dumping of ammunition

11. First and second line reserves of ammunition are normally sufficient to tide over the interval between successive arrivals of replenishment ammunition lorries, whatever the emergency. During preparations for the

attack, however, expenditure of gun ammunition is very heavy, and the supply roads may be congested. In such circumstances it may be necessary to dump ammunition at the gun positions to ensure that the artillery programme is not held up. When dumping is decided upon, there is a great temptation to over-insure, with the result that large quantities of ammunition are left on the ground after the battle has moved on. Much of this is never recovered in a serviceable condition. It is most important to calculate requirements of dumped ammunition as accurately as possible and not to provide more than is needed to tide over the replenishment interval in the worst case that can be foreseen, taking divisional reserves into account.

12. The decision to dump for any operation is made by "G" in consultation with RA and "Q." Thereafter, the latter work out the detail in consultation with RASC who implement the programme accordingly.

The programme is not complete until the second line RASC lorries (and RA vehicles if they also have been used for this task) have refilled with their normal loads and returned to their battle stations.

13. The plan must cover the provision of transport, loading and unloading parties, routes to be used, signposting, and timings.

14. Arrangements must be made for the handing over of all dumps containing unused stocks when the division moves on. Throughout an attack units are responsible for reporting locations of any supplies they have had to leave behind. "Q" should try to collect for further use by the division or, if this is impossible, inform higher formation.

Provision of POL

15. In order that there may be no delay in the pursuit the aim must be that, at the conclusion of the attack, all vehicles have full tanks and a reserve of POL immediately available. To this end sufficient canned stocks must be provided for and carried by units. The size of unit reserves required must be estimated from the expected action of the division. A POL dump may be necessary.

Rations

16. It may be necessary to arrange for units to draw extra rations (up to two days) so that they will incur no delay if supply lines are interfered with. Since unit transport has a full load to carry it may be necessary, and is permissible, to overload vehicles for this purpose, but this must be restricted to the essential minimum.

"Q" are responsible for the arrangements. If possible some form of standard pack ration should be provided, since this reduces bulk and is easier to handle.

Medical

17. "G" estimates the probable casualties and the ADMS then allots totals by categories (*see* Section 27). The medical plan can then be made by ADMS and "A" Branch. This must include a ruling as to the length of time sick may be held in the FDS or ADS, the aim being to reduce these numbers to a minimum both before the attack starts and before the pursuit phase.

Ordnance

18. It is mandatory that every unit must go into the attack with its correct amount of equipment in a fit condition. During the preparatory stage, therefore, equipment and vehicles must be overhauled and replaced as necessary.

19. According to the plan for the attack and expected requirements, the holdings of the divisional OFP must be adjusted so that urgent needs can be met.

20. "Q" in consultation with ordnance are responsible for supervising these tasks.

Repair and recovery

21. Infantry and armoured workshops must be sited tactically in accordance with an appreciation of the probable axis of the attack. One workshop will be sited well forward and its repair load reduced to a minimum so that it can accept the initial heavy load of equipment casualties. The second workshop should be empty and ready to move forward as soon as the advance begins. The third workshop will be carrying the bulk of the load as the attack opens.

22. The principle functions of field recovery during this period are:—

- (a) Backloading of casualties from units and LADs to infantry and armoured workshops or to the divisional backloading point.
- (b) Local adjustment of loading on individual workshops by clearance from one to the other.
- (c) Siting of recovery posts.
- (d) Concentration of casualties at the divisional backloading point, or direct clearance by base recovery from the divisional area to the corps backloading point.

Traffic control and prisoners of war

23. The smaller the area for assembly the more complicated becomes the problem of control of movement; otherwise arrangements are very similar to any other move.

24. "A" must obtain from "G" an estimate of the number of prisoners of war likely to be taken in order that arrangements can be made for establishing the divisional cage, the provision of adequate guards and supplies, and evacuation to the rear at the earliest opportunity.

(b) DURING THE ATTACK

Replenishment

25. As the attack moves on it may become necessary to set up mobile delivery points to maintain the forward units. Once the break-out stage is reached there is likely to be an increasing demand for POL as opposed to ammunition.

26. Centralized control of these delivery points should be retained to ensure the best use is made of their resources.

27. The provision of water must be borne in mind (*See* Section 59, para 13).

Troop carrying transport

28. In the later stages of the attack there are likely to be demands for additional transport so that the divisional commander can reinforce success.

"Q" and CRASC must be ready to free second line vehicles from lower priority commitments with the minimum delay (*but see* Section 20, para 6(c)).

Forward movement

29. The leap-frogging forward of administrative units, in particular field ambulances, must be carefully controlled. It is essential to retain a small reserve of all types of administrative support in hand if the plan is to work smoothly.

Recovery

30. The bulk of the divisional recovery resources will usually be operating either:—

- (a) under direct control of CREME, and sited well forward in the general area of main divisional HQ; or
- (b) under control of brigade EMEs in the brigade sectors and sited in the general area of Brigade HQ.

Abandoned and captured enemy supplies

31. Units should report back the location of abandoned or captured enemy supplies, and should not normally use them without permission from higher authority.

Conclusion

32. It cannot be too strongly stressed again that, during any attack, the administrative staff and heads of services must be thinking ahead continuously; otherwise it may be impossible for the commander to exploit a successful attack.

SECTION 61—THE PURSUIT

General

1. Basically, the pursuit and the advance to contact are similar in so far as administration is concerned; both are advances under mobile conditions but, in the pursuit, speed and distances will normally increase and the provision of POL may take precedence over all other administrative matters.

In general, however, the detail given in Section 59 applies equally to the pursuit except as stated below.

The basic problems

2. The administrative problem lies in keeping fighting and supporting units constantly supplied through maintenance areas from which they are moving away very rapidly. Administrative units cannot be moved forward too frequently without seriously reducing their output. Rear divisional HQ should therefore be located so that it can keep contact with and control the two parts of the division.

3. Unless, therefore, useful enemy supplies are captured intact, this problem will increase in proportion to the tempo of the pursuit and the distances involved.

The administrative aim

4. The aim throughout the pursuit must be to produce what is required in men and materials at the right time and place to enable the fighting troops to keep up the pressure. Reinforcements, replacement vehicles, supplies of engineering and other equipment, these and many others must be dovetailed into the order of march and moved forward as required. The speed and density of columns must be carefully planned to ensure the maximum flow of traffic consistent with the air threat. Traffic control will be of paramount importance and priority traffic such as bridging vehicles may require roads to be cleared of other vehicles at certain times. Divisional supply echelons, possibly reinforced by higher formation, will require at least one good route forward.

5. The closest liaison between "G" and "Q" is essential to ensure a smooth forward flow and the protection of the large and vulnerable tail of the division against any enemy troops, fifth columnists, etc.

Control

6. The factors governing decentralization of control are similar to those in the advance phase. Mobile delivery points will, however, almost certainly be required under command of brigades and armoured car regiments.

Additional transport

7. During a long and quick pursuit the strain thrown on the divisional second line transport is immense, although additional RASC companies may, of course, be made available from higher formations. Within the division it may also be possible to increase the carrying capacity by using the transport of units not deployed, such as the LAA regiments. If this is done, administration is also eased since the unit itself can, by agreement with higher formation, maintain itself from the nearest CMA without assistance from divisional administrative units. In an infantry division, it may sometimes pay a dividend to rest one entire brigade in this manner in order to supplement the transport of the rest of the division, especially with regard to troop-carrying duties (*see* Section 20, para 6(e)).

Ammunition and POL

8. The provision of POL is a major commitment although, conversely, little ammunition will be used. A division cannot, however, afford to off-load any appreciable portion of its ammunition to make room for POL; when resistance is encountered ammunition will be expended at once and there will be an immediate call for replenishment.

Medical

9. Medical arrangements may be very similar to those required in the advance. If the pursuit is fast, casualties are likely to be small, while if a heavy engagement is fought there should be time during its preparatory stage to establish one of the field ambulances statically and so provide the necessary medical support.

Repair and recovery

10. The time allowed for repairs by field workshops must be severely limited so that they are able to keep up with the advance. Workshops will be sited in echelon with one well forward to deal with early casualties, and the rear-most workshop packed, ready to leap-frog ahead. Equipment and vehicles requiring longer repairs will be collected in sites to be taken over by base workshops in support of divisions. LADs will be almost entirely engaged on first aid repairs and recovery.

11. The main recovery effort will be the establishment of recovery posts, route clearance, and collection of casualties beyond the reduced scope of 2nd line workshops. This latter task may well require substantial assistance from 3rd line recovery resources to enable the recovery sections of the Infantry and Armoured workshops to concentrate on their tasks forward.

Prisoners of war

12. Large numbers of prisoners may well be taken, and there should be close liaison between the staff and divisional RASC in order to make full use of empty lorries returning to the rear. (*See Section 44*).

SECTION 62—DEFENCE

General

1. A defensive position may be occupied for a protracted period or for a few days only before resuming the advance. This chapter deals with the former situation. The same principles apply to a short defensive period though still greater care must be exercised in this case with regard to over-insurance.

2. Normal methods of supply should be continued as long as possible. All units, however, must be made administratively secure to guard against any disruption caused by enemy action. Sufficient reserves of all commodities must therefore be made available to them and administrative planning must consider possible alternative methods of supply.

3. A defensive role may adversely affect morale, especially if prolonged. This requires careful attention and the administrative staff can do a lot to off-set it by providing good amenities and rest arrangements.

4. A defensive period is only the prelude to resuming or taking the offensive. During this time, therefore, plans must be made to build up the necessary administrative resources to support the new forward movement when it begins.

Siting of rear divisional HQ

5. If accommodation and concealment permit, rear divisional HQ may be sited for convenience alongside main divisional HQ, each, however, retaining their separate identity.

Control and siting of administrative units

6. In general the services should be centrally controlled and work on a divisional plan. The siting of administrative units, other than those which must be in brigade areas or the artillery area, depends largely on the commander's appreciation as to the length of time the defensive operations will continue and what is likely to happen when this phase is over. If the

period is likely to be short and followed by an offensive, the divisional administrative area should be as far forward as possible where it can be protected to a great extent by the fighting units. It must, however, be out of range of enemy field artillery and sited so as not to interfere with the conduct of the defence. If, however, it is decided to site the area more to the rear it should be located so that units will not be interfered with by any local enemy penetration, and where they can carry on with their work uninterrupted.

Local defence

7. Administrative units are, nevertheless, responsible for their own local defence, both from ground and parachute attack. It is the responsibility of the AA and QMG to co-ordinate the overall plan, assisted as necessary by "G."

Provision of supplies and stores

8. Large quantities of supplies and stores of all descriptions will usually be required for building defence works and also for stocking up defended localities and making each "garrison" self-contained, the scales for the latter being laid down by "G."

The main requirements are:—

- (a) *Ammunition*.—Required for defended localities and in certain eventualities at the gun positions to anticipate expenditure beyond the scope of normal replacement. To this end it may be necessary to restrict daily expenditure in the heavier types of ammunition during quiet periods in order to build up reserves or because bad road conditions make supply difficult.
- (b) *Engineer stores*.—To save transport the maximum use must be made of local resources. The requirements usually include wire and mines for defence work, stores for overhead cover and concealment, and stone for road improvements. Additional bridging may also be required.
- (c) *Rations*.—Hard or pack rations will be necessary for stocking up localities. The advantages and disadvantages of normal cooking well forward must, however, be balanced carefully in relation to the tactical situation. The farther forward it can be done the better.
- (d) *Medical*.—Localities must be self-contained medically, especially as regards first aid.

9. In defence the question of where to hold supplies requires very careful consideration. There will always be a conflict between holding them well forward (thereby risking their being lost in the event of enemy penetration), and holding them back thereby prejudicing the defence if the L of C is

Interrupted. The correct balance can only be assessed against the local tactical situation and the availability of supplies. The policy to be adopted will normally be laid down by higher authority.

Transport

10. All vehicles not immediately required forward must be withdrawn to the administrative area. "G" will usually insist on this for concealment and other tactical reasons.

11. "B" echelon will normally be located in the administrative area which, if well forward, may also contain "A" echelons; if, however, the area is further back it may be necessary to site "A" echelon just in rear of the artillery gun areas.

12. The use of transport must be strictly controlled both to prevent overloading road capacity and for security reasons; in the latter case it may be necessary to restrict movement in the forward areas to the hours of darkness.

13. During periods of protracted defence, it should be possible to carry out maintenance and repairs on unit transport in preparation for offensive operations.

Medical

14. In addition to stocking defended localities with medical supplies (*see* para 8(d)), the medical plan must ensure the rapid evacuation of casualties from these areas.

Medical units in the forward areas should, however, be kept to the minimum so as to avoid unnecessary losses.

15. Sick men can be kept in the FDS longer than would be the case in other operations. Thus losses of lightly wounded and sick from the divisional strength can be decreased.

16. Occasionally, it may be necessary, to open a Corps FDS in the divisional administrative area as an advanced surgical centre; in this case a field surgical team and a field transfusion team will be attached to it.

17. Strict sanitary discipline in defended localities is essential from the outset if the health of the troops is to be maintained, especially in hot climates. Officers must ensure that all waste products are buried.

Ordnance

18. Ordnance units should be located in the administrative area except that some bath sub-sections should be sited near the forward troops, others near rest areas.

19. "Q" may have to arrange with Ordnance for supplies of special stores, *eg*, gum boots and protective clothing.

Repair and recovery

20. LADs and workshops should be sited primarily where the best working conditions are available (*eg*, with hardstandings if possible).

21. Provided withdrawal is not contemplated, the LAD may execute more extensive repairs than in other phases. CREME will dictate the policy.

Infantry and armoured workshops carry out normal field repairs and such special repair priorities and refitting as may be required by the General Staff.

22. Recovery tasks will be:—

(a) Setting up recovery posts in the divisional area.

(b) Backloading from LADs to infantry and armoured workshops and divisional backloading point, with such assistance as may be required from 3rd line recovery units.

Traffic control

23. Strict control and good signposting are essential to ensure that traffic moves quickly within the divisional area and meets the needs of concealment.

24. Engineer tasks connected with the improvement or building up of roads and tank tracks may require high priority in transport demands for road making material (*see* para 8(b)).

Prisoners of war and refugees

25. Few prisoners will normally be taken in a defensive battle, but, nevertheless, a cage should be established.

26. The policy regarding the evacuation of civilians will normally be laid down by higher authority; it is, however, undesirable to have many civilians in the divisional area.

Rest areas

27. "Q" should arrange to provide rest areas for units out of the line. These areas should if possible be beyond the sound of battle and in any case out of range of enemy artillery fire.

28. "A" is responsible for providing amenities for these areas, including recreation and entertainment.

SECTION 63—WITHDRAWAL

General

1. A withdrawal may be either a planned operation or it may be forced on the division by enemy action. The administrative principles are the same in both cases, though many of the problems in a forced withdrawal present greater difficulties.

Aim

2. The administrative aim must be to maintain the division without throwing such a strain on communications as may hamper the conduct of operations, and avoiding supplies and stores from falling into enemy hands.

To this end, unnecessary or indiscriminate dumping must be avoided and normal supply methods retained as long as possible. In a planned withdrawal this should present little difficulty, but when the enemy gains the initiative and manages to force the pace some dumping may be inevitable.

Planning for a withdrawal

3. Administrative arrangements depend on the time, transport and road space available.

4. The plan must be simple, flexible and capable of dealing with the unexpected. All vehicles not needed to maintain fighting units should be withdrawn in order to minimize congestion during the later moves and to create a reserve of transport. As administrative units will be the first to move, they should be given early information. Owing to its troops being self-contained for transport the problem within an armoured division is simplified. In an infantry division, however, administrative vehicles may have to take their loads to an area in rear and then return for troop-carrying duties.

The divisional commander must balance the security of his plans against the danger of delay caused by administrative units having insufficient time to perform their duties.

5. Much unnecessary mileage and effort can be saved, and a reserve formed, if the operational plan is sufficiently firm early enough to enable supplies held in the forward areas to be withdrawn to predetermined areas in intermediate positions where they will be required later.

6. Units should also be provided with as much additional ammunition, POL and rations as they can carry, thereby saving unnecessary movement for maintenance, especially during the final stages of each phase of withdrawal, and equipping them better to deal with unexpected enemy penetration.

Control

7. Centralized control of administrative units must be maintained if possible, thereby reducing the number of units which must remain to support the division in action, ensuring that all these units are safely withdrawn in due course, and minimizing road congestion.

8. If it is necessary to place any units under command of brigades this must be done in good time so that command passes correctly and the danger of any unit failing to get orders is avoided.

Reconnaissance of rear positions

9. Representatives of the "A/Q" staff must take part in the reconnaissance of the proposed new position in rear in order to allot sites for the services and make preliminary arrangements for the subsequent maintenance of the division. It may later be possible for all or some of the administrative units to move back direct to their new localities.

Intermediate positions

10. If intermediate positions are to be held by some brigades or units, these troops should either be allotted mobile delivery points or dumps of commodities to estimated scales placed on the positions earmarked; although the latter method saves transport there is the risk of the dumps being misplaced and, sometimes, of them falling into enemy hands.

Dispersal of stocks

11. An early decision must be taken as to whether to evacuate or to destroy dumped supplies. If they cannot be evacuated it is essential to destroy all commodities which, if captured, might enable the enemy to maintain or increase his mobility. Destruction, however, is sometimes a spectacular process (*eg*, burning POL dumps) and liable to give away the fact of withdrawal to the enemy.

Medical

12. Medical support must always be available for the fighting troops, but divisional medical installations must not be risked unnecessarily.

In order to evacuate casualties quickly, therefore, "Q" may require some additional transport from corps.

13. It may not always be possible to evacuate Priority II casualties (*see* Section 27, para 11). Arrangements must therefore be made to leave the necessary chaplains, medical officers and medical orderlies behind to care for them.

Repair and recovery

14. When a withdrawal has been decided upon, it is essential that priorities are laid down for the recovery and repair or the backloading of equipment. As part of this policy, orders must be issued for the destruction of equipment which has to be left behind.

15. CREME will then balance the load between workshops and leapfrog them behind successive defence lines.

16. The functions of 2nd line recovery will be:—

- (a) Route clearance.
- (b) Backloading casualties still under repair when the workshop is ordered to move.
- (c) Backloading repairable casualties awaiting repair.

Provost

17. Provost will almost certainly require reinforcing during a withdrawal. Duties include:—

- (a) *Traffic control*:—Strict control and the checking of vehicles and units at various points to ensure that all have withdrawn according to plan is essential; a staff officer will normally be detached for this purpose.

A traffic control set up is also required in the new position.

- (b) *Stragglers posts*.—These may be established, and all stragglers checked and re-directed either to their own or nearby units unless their reasons for having lost their unit are suspicious, when they should be kept in custody until their case has been investigated.
- (c) *Refugees*.—Collecting centres for refugees should be established and secondary routes allotted to them. In friendly countries civilian police may be asked to assist provost in this task.

18. Roads are almost certain to get blocked by unforeseen happenings. A reserve of provost should, therefore, be retained if possible.

19. Special arrangements to supply by air brigades and units temporarily cut off may have to be made with higher formation.

Morale

20. During a prolonged withdrawal the morale of those engaged may become lowered. Vigorous action must be taken to counteract this; although the administrative staff will be fully employed in planning the moves, etc, they must visit brigades and units and help raise morale and scotch the inevitable rumours.

CHAPTER XIII

ADMINISTRATION IN UNDEVELOPED COUNTRIES

SECTION 64—INTRODUCTION

General

1. In the previous chapters of this manual are laid down the principles of administration and the basic organization and method of work of the administrative units of a division under European conditions. Any type of division may, however, be required to operate outside Europe in a country and under conditions very dissimilar to the Continent. In undeveloped countries administration will often be so difficult as to exert a predominant influence on operational planning even at divisional level. Although the principles remain the same, improvisation and modification of the normal methods may be necessary locally.

2. The aim of this chapter is to outline the major differences which arise in the technique of administration within a division in undeveloped countries as compared with war waged under normal conditions. It is by no means comprehensive and should be read in conjunction with "Warfare in Undeveloped Countries."

Reserves and economy

3. Owing to the length of communications from home bases and the invariable shortage and bad condition of roads, etc, within the theatre itself the strictest economy must be practised. Waste cannot be accepted in any form, and an administrative sense of discipline must be instilled in all ranks to eliminate losses.

4. To this end the following points require special attention within the division:—

- (a) Care of arms and equipments.
- (b) Careful driving and sound vehicle maintenance.
- (c) Indenting for essentials only.
- (d) Avoidance of unnecessary dumping.
- (e) Holding nothing above the authorized scales of clothing, equipment, ammunition and supplies.
- (f) Enthusiasm for salvage.

Training

5. In the extensive warfare common to undeveloped countries, with wide frontages and open flanks, service units and echelon personnel may find themselves at any time engaged in active fighting. All such personnel must, therefore, be armed, trained in the use of arms, and confident in their ability to fight.

Morale, Welfare and Health

6. There is always a tendency for troops fighting far from home to think that they are forgotten and for their morale to be lowered in consequence. Sound administration can do a great deal to counteract this. Educational and postal arrangements must be the best possible and the publication of a divisional news sheet on a wide and generous scale of distribution and with a speedy method of delivery is essential, as is the provision of as many amenities as possible, including a rest camp.

Particular attention should be given to training in health discipline and to instruction in the particular diseases likely to be met and the methods for counteracting them. In this way much fear of the unknown will be eradicated, and men will face the dangers with a stout heart.

SECTION 65—DESERT WARFARE

General

1. A German general, during the last war, called the North African desert "a tactician's dream," but qualified this remark by adding that it was "the 'Q' officer's nightmare."

2. Though administration in the desert is more onerous than in a civilized and developed terrain, the principles and procedures of administration within the division, which have already been explained, hold good. However, the peculiarities of the desert—the shortage of water, the lack of normal communications and of civilized resources—add a special importance to the functions of administration, introduce one special feature, and alter or emphasize in some degree the application of certain principles and procedures.

3. The sections that follow deal with each of the peculiarities of the desert in turn and show how each affects in detail the application of principles and procedures already laid down.

Shortage of water

4. It is wrong to say that there is no water in the desert. Water exists but at widely separated points. It is also usual to find that even at water points, supplies are extremely limited.

The effect of this shortage of water is that:—

- (a) Water becomes as much a "Q" supply as rations or POL.
- (b) Water must usually be rationed. Experience during the summer months in North Africa during the last war proved that a ration of one gallon a head each day to provide for drinking and washing purposes and for MT radiator use was tolerable. In emergency and over short periods the ration was successfully reduced to half a gallon a head each day.

- (c) When water is rationed on a *per capita* basis, special provision must be made for the following types of unit.
 - (i) Medical.
 - (ii) Repair and recovery.
- (d) When water is rationed, water control and discipline must be rigorously enforced not only at water points but in the actual use of the water within unit lines.
- (e) Vehicle engines must be fitted with water conservators to reduce the loss of water by evaporation from radiators.
- (f) To safeguard crews of broken down or lost vehicles, each vehicle must carry a reserve of water at all times. There should be a drill for inspecting vehicles daily to ensure the water reserve is present and correct.
- (g) "Water intelligence" is essential. For the finding and development of water the administrative staff, the CRE and ADMS must be in constant touch. The engineers should always have available both water boring and water holding equipment.

Lack of roads

5. Roads in the desert are the exception rather than the rule. It is, however, usually possible to find good "going" in operational areas, though bad patches of soft sand or rock may be met. As a consequence:—

- (a) Every vehicle driver must cultivate an eye for "going" and must learn such rudiments as taking doubtful places at a steady pace in lowest gear.
- (b) The wear and tear of equipment and vehicles is heavier than normal because:—
 - (i) The desert is frequently rough, causing severe jolting of equipment and reducing the life of vehicle tyres.
 - (ii) The dusty conditions produce rapid wear of moving parts of vehicle engines. Oil changes must be made frequently.
 - (iii) The drag of driving through the softer belts of sand imposes a great strain on engines and transmissions and consequently vehicle unit maintenance must be maintained at an exceptionally high standard.
- (c) The administrative staff must:—
 - (i) Study the going maps before any operation.
 - (ii) Make allowance for an increased provision of POL.
- (d) When columns are moving long distances over new and un-signposted ground, the leading element should be accompanied by a recovery vehicle and a small provost element provided with a wireless to pass back "going" information. If possible, this provost should move ahead of the column marking the route.

Scarcity of landmarks

6. Though landmarks exist in the desert, the prominent ones are often very long distances apart and the remainder need exceedingly good map reading and experience to detect. Frequently parts of the desert are not accurately mapped. Movement by dead reckoning may therefore often be necessary.

7. As, owing to lack of roads, first and second line transport must carry out cross-country movement over long distances, the following considerations are important:—

- (a) Staff officers, and officers and NCOs in charge of convoys, must be able to navigate by sun and magnetic compass by day and by stars by night.
- (b) Speedometers must be efficient and frequently checked for accuracy.
- (c) Staff officers and convoy leaders must carry binoculars to pick up route markers and landmarks and to recognize units.
- (d) In any form of fluid warfare detachments such as ammunition points and recovery detachments must be provided with wireless.
- (e) A properly marked divisional axis is vital as it is along this axis that administrative movement of the division, and often of corps, flows. In mobile warfare it is to the divisional axis that wounded personnel and broken down vehicles are directed.
- (f) Excessive dumping is more severely penalized than in other forms of terrain, as once a dump is left behind it is most difficult to locate it again unless it happens to be on a well marked axis.

Lack of cover

8. Cover is difficult to find in the true desert, particularly from the air. Concealment is nearly impossible and extensive deception is usually limited by lack of the necessary material. This condition imposes the following refinements on administrative units and practices:—

- (a) Vehicles should carry and use camouflage netting to disguise their shape and contents. This particularly applies to vehicles of distinctive design such as:—
 - (i) Command vehicles and wireless trucks.
 - (ii) Petrol bowsers.
 - (iii) Tank transporters.
 - (iv) Large workshop vehicles.
- (b) Units must move and rest by day widely dispersed. The degree of dispersion will depend on the scale of enemy air activity but, in North Africa during the last war, dispersion, at times was as great as 200 yards between vehicles. Wide dispersion makes the following essential:—
 - (i) Cooking and feeding must be on a vehicle basis.

- (ii) During movement, control must be by flag signal, vehicles being manoeuvred like a fleet at sea.
- (iii) HQ and units must always be laid out in the same pattern to allow personnel—and particularly visitors—to find their way about easily.
- (c) Dumps of material must be very widely dispersed and vehicles loading and unloading at dumps must be strictly controlled. When the number of vehicles at dumps is too large those waiting to enter must “harbour,” well dispersed, clear of the dump area.
- (d) If used by day, delivery points and water points must be strictly controlled. Units or groups of units may have to be given times for drawing. If the enemy air force is active, it may be necessary either to have AA protection or to work at night.
- (e) Except in the most favourable circumstances all ammunition dumping programmes will have to be carried out at night.

Space

9. A feature of the desert is its largeness and there are few places where both flanks of any force are secure. It is the rule rather than the exception to have at least one flank open.

10. Owing also to the lack of cover, forces operate on extremely wide frontages. Hence penetrations and envelopment by small highly mobile parties of the enemy are more common than in normal terrain. Consequently:—

- (a) Administrative units must be more alert and even more prepared to fight than when operating in normal terrain.
- (b) When the enemy is about to attack, unwanted first line transport and administrative units may have to be drawn much further back from the battle zone than is normal.

11. Another feature of the desert is that objectives frequently lie very far apart. Tactical operations are often dictated by the necessity of moving from one administrative bound to the next and such bounds may be 200 to 300 miles in length. Owing to lack of water and all forms of resources between such bounds, it is essential for the force to move steadily and as fast as possible from one bound to the next. A long delay *en route* may mean the withdrawal of the force to its starting point.

12. Hence it is of vital importance that in any advance only the bare necessities to exist, to move and to fight should be taken forward. All other loads must be ruthlessly dumped to await collection when the bound forward has been completed. This is a matter for every unit in the division and is so important that the divisional commander should make every unit commander personally responsible that administrative orders are implicitly obeyed.

Administrative orders as to the essentials to be carried must be most carefully framed.

13. Long periods of fast and dispersed movement over wide fronts, and over featureless country makes the use of wireless more important than in any other kind of terrain. The maintenance of wireless sets is vital, as is the skill of operators, who must be trained to transmit over much longer distances than in normal theatres.

Lack of resources

14. Though the fact that the desert lacks every form of resource or amenity is obvious, the consequences which follow must not be overlooked. These are:—

- (a) Everything that can be of use or which is repairable must be conserved. Salvage is of more immediate importance in the desert than in normal terrain. A salvage "drive" pays large dividends.
- (b) During an advance all troops must show the greatest inquisitiveness in discovering enemy supplies and equipment. Once found they must be guarded against destruction or pilferage. Special highly mobile detachments from the administrative services may have to be formed for locating and controlling large dumps of enemy material. Though the formation of such detachments is normally a corps or army responsibility, shortage of personnel and the extent of the area to be covered may lead to the responsibility being on occasions delegated to divisions.
- (c) In withdrawal, more than normal care must be taken to ensure that no stocks of material of immediate use to the enemy are allowed to fall into his hands. This applies particularly to:—
 - (i) POL.
 - (ii) Water. Sources must at least be destroyed or contaminated.
 - (iii) Food.
 - (iv) Vehicles.

SECTION 66—JUNGLE WARFARE

General

1. The administrative principles applicable to normal warfare apply equally in the jungle, although their execution must be modified to meet the conditions which exist in these areas. An example of this is that a division in the jungle will be operating with a very curtailed establishment of administrative vehicles, these also travelling lighter than normal. The limitations of this reduced scale of transport can, however, be overcome by dumping and ferrying, made possible in their turn because the fighting troops move by short bounds only.

2. The immense importance of all aspects of administration in jungle operations can be assessed from the words of an experienced jungle fighter of the last war who said:—

“Jungle fighting? It consists of 10 per cent tactics—40 per cent engineer effort and 50 per cent administration—remember this and you won't go far wrong.”

3. It follows, therefore that administrative problems will normally influence the whole course of operations. This section outlines these major problems only in so far as they differ in essentials from those in any other theatre.

Climate and terrain

4. Climate and country combine to restrict movement. Administration has to be flexible to overcome such restrictions, which may occur very suddenly, especially in the monsoon when landslides, swollen rivers, etc, block routes. Much improvisation is called for. It will frequently be necessary to abandon one method of supply and switch to another. For example, divisions, brigades or even forward units may have to be supplied by air at short notice, and remain on this system for long periods.

5. Other effects are:—

- (a) The perpetual dampness affects most equipment, in particular wireless and gunnery instruments. This results in heavy demands on repairs and replacements.
- (b) Great demands for engineer effort, particularly in monsoon periods when main supply routes or airfields have to be kept working, or when new routes have to be opened up. The need for engineer stores, however, can be mitigated by resourceful improvisation, and the use of local materials such as bamboo, timber, etc.
- (c) In wet areas a man's vitality tends to become sapped, with the result that the sick rate of a division may become high, and fewer men are available for duty.
- (d) Under monsoon conditions road and air communications will become very difficult and sometimes virtually impossible. Monsoons are reasonably predictable, so the difficulties may be reduced by dumping.

Defence requirements

6. In a jungle there is an ever present need for the strictest protective measures, owing to the absence of a front.

7. When any administrative column halts, no matter for what reason or for how short a time, all round defence must be adopted immediately.

8. Rear headquarters and administrative areas must have their own local defence plan, which will include a drill for standing to at night. Perimeter defence will be necessary with a counter attack element available centrally. If wire is in short supply good obstacles can be made from local materials, eg, vines and bamboos. Patrol dogs are trained to operate silently and may be useful to augment the defence organization, particularly at night.

Welfare

9. A major factor in jungle administration is maintenance of morale by provision of amenities whenever possible. As in the desert, a good postal service with a generous supply of home papers and books and high class divisional news sheets have a great value. "A" and "Q" branches must always remember, that in the jungle, men have no amenities other than those which are provided for them by the staff.

Transport and carrying agencies

10. Types of transport will vary considerably both with the terrain encountered and the agencies available to the division. These carrying agencies are many and varied but may be resolved into the following groups:—

- | | | |
|---------------------------|--------|---|
| (a) Unit transport | | MT:—possibly jeeps and trailers only.
Mule pack.
"Fighting" manpack.
"Porter" manpack. |
| (b) Second line transport | | MT.
Mule pack (for restricted carriage).
Air transport.
Water transport. |

Little comment is needed to explain the uses of these agencies. In the case of unit transport, the use of MT will always be the aim but mules and porters will frequently be required. See Appendices H and J.

Ammunition

11. In jungle fighting rates of ammunition expenditure, particularly of artillery natures, may be considerably lower than those prevailing in other theatres.

POL

12. The problem here is enhanced by lack of roads and bad going with much low gear driving.

Supplies

13. The temptation to keep troops on composite ration scales in the jungle must be avoided. Fresh rations give greater variety and as many items as possible should be included in the supplies being issued.

14. If mules are being employed "Q" must indent for the necessary forage, because the jungle provides none. Water points must be established as required. Towards the end of the dry season in a jungle the water problem often becomes acute.

System of supply

15. The normal system will be applied with whatever modifications may be necessary because of reduced scale of transport, or the use of animal pack or porters.

This reduction of transport, combined with the fact that a division will seldom operate more than 20 miles from the nearest source of supply, automatically reduces the quantities of POL and spares required for maintenance but also limits other types of supply, particularly ammunition.

16. Actual distribution to front line troops, gun positions, etc, will always be made by one of the agencies shown in para 10(a).

17. If mule pack transport is likely to be used personnel must receive training in the loading and unloading of animals.

18. Supply by air will often offer enormous savings in transport and engineer effort in jungle warfare. In fact, it may prove the only means by which a division can be maintained in some areas. It must be remembered that, although the greatest need for supply by air may arise during the monsoon when roads are blocked and rivers swollen, the weather will severely hamper flying. At such times the division will have to hold or carry enough reserves to tide over the worst possible interruptions.

Prevalence of diseases

19. Disease is prevalent in the jungle and includes malaria, dysentery, scrub typhus, trench foot, hook worm, leeches, prickly heat and jungle sores, of which by far the greatest menace is malaria in all its forms. The chief difficulty with newly arrived troops and reinforcements will be to make them realize the magnitude of the threat and that rigid anti-malaria discipline does give complete protection.

20. Absolutely first class medical discipline must, therefore, be reached in the division; without it a unit may find itself non-effective in a very short time. In addition to the specialized medical regulations which must be observed within a unit, preventive remedies include cleanliness in cooking and eating, attention to the disposal of waste, good latrines, scrupulous water discipline, and the clearance of scrub from unit areas.

The responsibility of all officers, warrant officers and NCOs in combating the many diseases by insisting on strict medical discipline cannot be too highly emphasized.

Evacuation of casualties

21. The evacuation of casualties under jungle conditions is always a most difficult problem. It is simplified, however, if light aircraft or helicopters are provided, although this usually necessitates clearing ground for airstrips.

It will, usually, be necessary to rely on stretcher bearers and light transport for evacuation, and each unit should hold a minimum of 100 per cent reserve trained stretcher bearers. In addition, owing to the time lag in finding, collecting and evacuating wounded men, the importance of first aid training among all ranks is self-evident.

22. Many attacks in a jungle will be of the outflanking variety. This means that, unless aircraft evacuation is operating, the majority of casualties will have to be carried forward until the outflanking movement reaches the divisional main axis, when they can be evacuated down the road. To this end field ambulances may have to form holding posts until evacuation becomes possible, with a field surgical team attached if available. An allotment of one holding post to each brigade will be normal.

23. A further problem is how to hold sickness cases in the divisional area until they have recovered, so avoiding congestion in the overall evacuation system and the loss of a large number of personnel for long periods. The solution lies in either obtaining a CCS in support of the division and sited well forward or in making an "*ad hoc*" arrangement using divisional resources.

SECTION 67—MOUNTAIN WARFARE

General

1. Mountain warfare is similar to jungle warfare in the restrictions on transport and movement imposed by the country. Much of what is written in Section 66, therefore, applies also to mountain warfare. One important difference lies in the protection of administrative convoys. In the jungle every convoy must protect itself, *see* Section 66, paras 6 to 8. In mountains it will be more common to establish pickets, either permanent or temporary, on hills dominating the route over which administrative traffic will pass.

System of supply

2. The administrative lay-out and channel of supply for a division operating in the mountains under normal conditions is shown in Fig 6.

Points to note are as follows:—

- (a) There will normally be one main vehicle axis for each division forward from the CMA. This axis will continue as far forward as possible and on it will be established a vehicle roadhead, which must be in an area suitable for parking transport, transferring loads, etc. This area may be up to 10 miles in rear of the forward troops; it should be out of range of enemy artillery and will seldom be forward of the divisional rear boundary.
- (b) Within the divisional area there will be a number of jeepheads serving headquarters, gun areas and isolated units. These jeepheads may be in parking areas on or beside the main axis, the latter being preferable.
- (c) At times certain units may be inaccessible even by jeep or equivalent vehicle. Jeepheads will then become an area where loads are transferred from jeeps to mules.
- (d) In extreme cases mules may not be able to reach units or sub-units and loads will have to be transferred again at mulehead from mules to porters.

It must be remembered that each one of these areas may need protection and will always require a staff to organize the area, and labour to handle the loads.

3. Elements of the division will normally be sited along this axis as follows:—

- (a) Near the CMA will be the Divisional Rear Group consisting of the units and detachments shown in Fig 6. Non-essential personnel and vehicles must be ruthlessly thinned out of the forward areas, otherwise the best of administrative plans will break down.
- (b) In and around vehicle roadhead will be the headquarters, units and vehicles which, although not required right forward, cannot be left so far behind as to be located at the CMA.

4. The normal system of supply will be maintained as long and as far forward as possible. Since, however, the division will normally be operating away from MT routes, circumstances will dictate the number of echelons of supply required and the nature of transport to be used.

Types of transport

5. The types of transport available to a division operating in the mountains are virtually the same as for jungle warfare (*see* Section 66, para 10), the aim being to use normal MT for 2nd line work from corps installations to the foothills and thereafter to retain the normal RASC organization but substitute light vehicles (*eg*, jeeps) and trailers for the forward lift into the mountains. In the forward areas, transport will be either animal transport, porter transport or any combination of the two.

Notes on these types of transport are given in Appendices H and J.

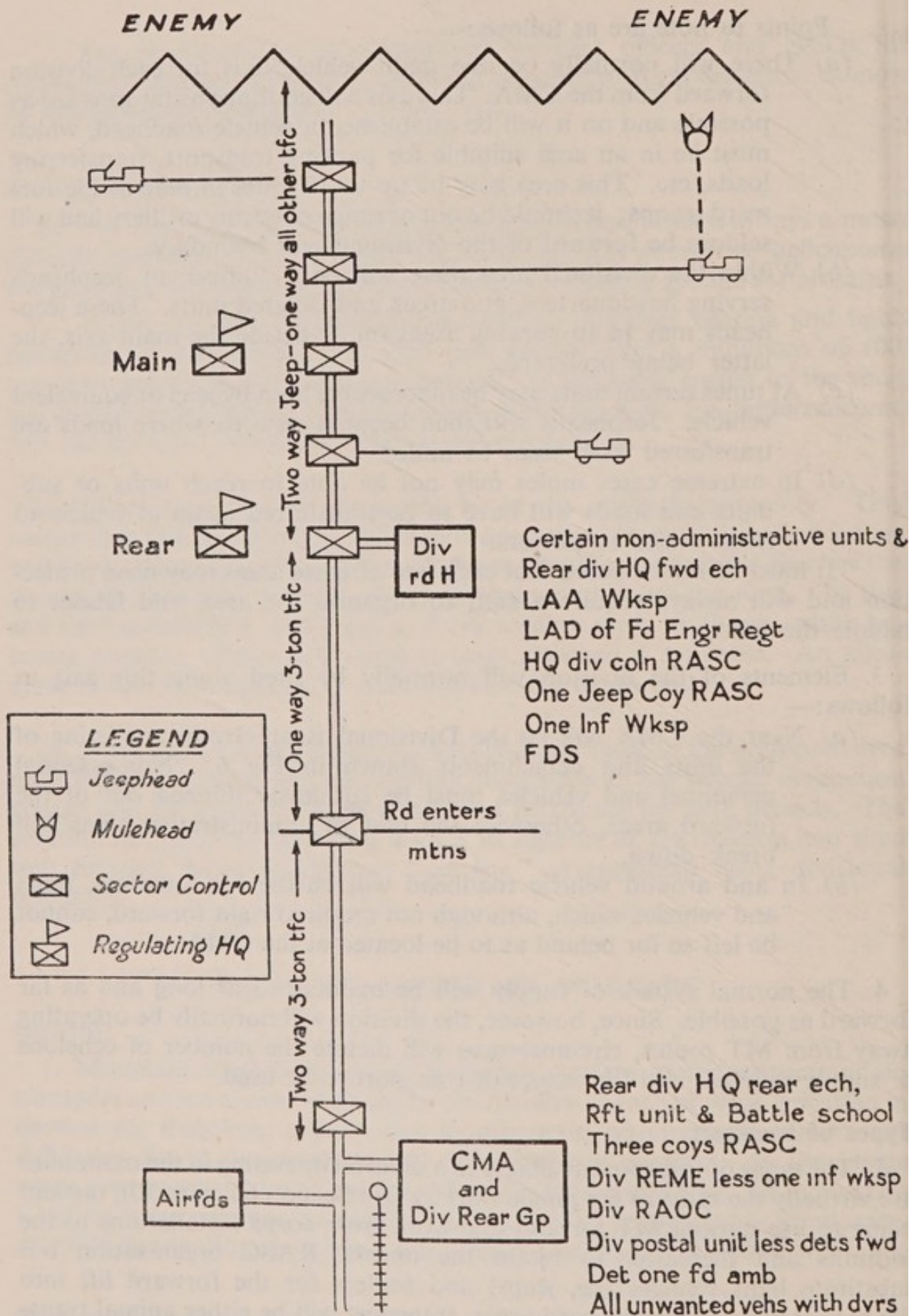


FIG 6.—A diagrammatic lay-out of certain administrative installations and the chain of supply along a divisional axis in mountain warfare.

Dumping of supplies

6. The tendency to form dumps of supplies in the divisional area should be resisted. Normally dumping in mountain warfare is only justifiable under the following conditions:—

- (a) If weather conditions are thought likely to deteriorate, thereby making maintenance difficult.
- (b) During the period that installations of higher formations are on the move and, therefore, not functioning.
- (c) If abnormal expenditure in any commodity is expected, *eg*, mortar ammunition before an attack.
- (d) In defence.

Rations

7. The calorific expenditure for each man each day in the mountains is considerably higher than on lower ground; during cold weather up to 6,000 calories are required.

Troops cannot operate on normal or iron rations at heights of over 8,000 feet for more than three days.

Pack rations, light to carry and easy to eat and digest, will be the normal supply.

Water

8. In certain conditions in mountains, water may become a major supply problem, and will have to be carried to the forward positions and stored there. A standard of water discipline similar to that required in desert warfare will have to be inculcated in all ranks.

Equipment

9. Special equipment and clothing will be in general use. This requires careful adjustment and fitting if the maximum benefit is to be derived from it. This equipment includes rucksacks, windproofs, extra gloves and light-weight sleeping bags.

Non-essential items

10. The normal principle is to hold forward plenty of what will be necessary rather than to hold bits of what might be required. Surplus "bits and pieces" must be kept as far back as possible.

Medical

11. The early stages of casualty evacuation will inevitably be slow, but casualties must be made comfortable and moved as quickly as circumstances allow. This often calls for considerable improvisation within the division and units.

RAMC personnel or porter stretcher bearers supplemented by other porters who have brought loads forward and, possibly, by mule pack, may be necessary to carry casualties from the RAP to the ADS. Again, if casualties are to be evacuated from the ADS, they may have to be carried by fighting or special porters who have finished their portage, or evacuated in trucks.

12. Owing to the difficulty of the country and the consequent delay in moving casualties a very high standard of individual first aid is essential.

Traffic control

13. In mountainous areas the capacity of roads is usually limited and their use will be restricted by enemy action and repair work, etc. One way traffic routes are always difficult to control and priority vehicles which cannot be forecast (*eg*, casualty evacuation) may prevent all other movement for certain periods.

14. The principles to be observed to minimize these difficulties include:—

- (a) Rigid centralized control of all traffic on all routes in the divisional area; no vehicle to move without sanction from sector control or regulating HQ, regardless of the importance of the occupant.
- (b) An increased traffic control staff, with good communications; it will probably be necessary to detail one complete unit for this purpose.
- (c) Continuous route improvement particularly in making passing places and parking areas; this may necessitate closing a route during certain periods each day until finished, and requires close co-operation between the staff and engineers.
- (d) Having joint engineer and traffic control reconnaissance parties well forward.
- (e) Careful and plentiful sign posting by day and lighting by night of difficult and dangerous sections of the routes.

15. One system of traffic control which has proved successful in the past is called the "Snow train system." The principles are as follows:—

Convoys run on a train system, running each way at certain times. Vehicles wishing to join the train turn up at set times and at set places, catching the "train" as it goes by or waiting for the next one going in the required direction.

The system of control, will however, inevitably vary in different divisions.

Road capacity

16. In order to maintain the system of supply efficiently the administrative staff must ascertain, as a background to other problems, the theoretical maximum capacity of:—

- (a) The main axis for normal second line transport between the CMA and divisional roadhead—one way or two-way.
- (b) Any jeep tracks—one-way.

The effect of bad weather on mountain tracks must also be appreciated. The carrying out of essential repairs may mean that, at intervals, the whole track capacity will be absorbed by vehicles carrying materials required to maintain it.

SECTION 68.—ARCTIC WARFARE

General

1. The basic principles of war and of administration remain unaltered by arctic conditions, though their actual application will be varied by the climate and topography encountered. The arctic and sub-arctic regions with which this Section deals are divided by the tree line. The arctic region is that in which climatic conditions cannot support the growth of trees. Warfare in these barren regions would have certain similarities to desert warfare. The sub-arctic is more comparable to the jungle with, in summer time, its mosquitoes, dense virgin undergrowth and soft marshy going. The difficulties of living and moving are the two chief factors affecting administration.

Living

2. Arctic conditions introduce one phenomenon that dominates all others—the climate alone can kill. A man must, therefore, be provided with enough to eat, efficient clothing and heated shelter.

Moving

3. Methods of movement include skis, which are used whenever possible, and snowshoes. The latter will normally be necessary in virgin country below the tree line.

4. Types of transport include:—

- (a) *Normal MT.*—Modified to suit the conditions. Special primers for starting purposes, engine heaters and cold weather lubricants are essential.
- (b) *Tracked oversnow vehicles.*—Such as the Weasel and Snowmobile. These are wide tracked vehicles with a ground pressure of 2 lb a square inch, which can be used in deep snow or swamp.
- (c) *Dog sledges.*—With payload of 100 lb a dog can keep up with skiers.
- (d) *Tractor train.*—Which can draw up to six 10-ton sleighs at an average speed of 2 to 2½ miles an hour over hard. “going.”

5. The effect of the climate on MT varies as follows:—

- (a) Sudden thaws bring it to a standstill and may cause road subsidence.
- (b) Sudden frosts harden ruts and strain vehicles.
- (c) Snow clogs the moving parts of vehicles.

Normal transport is, therefore, usually road bound and, as such, used mostly in rear of the division. If roads exist, however, MT, once started, is mechanically efficient even in very low temperatures provided the drivers understand the conditions and are trained to carry out the necessary maintenance. During operations it may prove advisable to keep engines warm by running them for 5 minutes in every hour.

6. However;

- (a) first line transport will consist normally of tracked and over-snow vehicles with trailer sledges;
- (b) second line transport will be by tractor train and a proportion of wheeled vehicles.

7. One of the major problems of warfare in the sub-arctic is the damage caused to roads and airfields by the onset of deep frosts in the autumn, and thaws in the spring. At times surface movement becomes nearly impossible, and special preparations for maintenance must be made.

Planning

8. As in any other undeveloped country where movement is restricted, difficulties in maintaining the fighting troops inevitably limit the scope of each operation. Accurate advanced planning and a careful administrative appreciation are essential. This should cover weather forecasts, clothing, shelter and transport requirements, etc.

9. The effects of a bad administrative plan on arctic operations can be very serious, as delays in extreme cold have more serious results than in temperate climates.

Morale

10. There are numerous climatic conditions which tend to lower a man's morale in the arctic; these include the cold, the long periods of darkness in winter months and the total lack of normal amenities. A major administrative effort must be made to offset them.

Supply and transport

11. 50 per cent of the vehicles of the divisional RASC column will probably be the over-snow type, whilst tractor trains will be in general use. Each vehicle must have a co-driver at all times, and "warming posts" should be established along the divisional administrative routes.

12. It is not sound to rely on animal transport, though Icelandic and Norwegian mules, ponies, reindeer, dogs and yaks have a limited role.

13. There will be great scope for supply by air in the arctic, often to the extent of maintaining divisions entirely by air. Seasonal variations may prevent air landing during part of the year. *See Section 69.*

14. Food storage does not present many problems, though care must be taken to protect those items which freeze easily and thus break their containers.

15. Water supply is a difficult problem for obvious reasons. It can often be obtained below the ice in deep lakes and rivers or by melting snow. The latter method will increase the consumption of fuel, and the snow used should not be contaminated with refuse. Water trucks are also used.

Under static conditions special arrangements will be necessary for pumping and storing the water so that it does not freeze.

16. Fuel is required for heating, lighting, incineration and numerous other tasks. Expenditure of fuel may have to be carefully controlled at all levels.

Medical

17. Although extreme cold presents no disease problem, as germs and flies cannot live at low temperatures, there are other effects, *eg*, frost-bite, that may be just as serious and require a great deal of personal care and attention.

18. The problem in evacuating wounded is first to find the casualty and then to send him to the rear quickly, the main principle being not to treat casualties forward but in a position where adequate heating arrangements are available. Casualties need special care and a lightly wounded man dies easily of shock if not very quickly warmed up in a special sleeping bag stretcher. The casualty should be placed on such a stretcher and then evacuated in a heated ambulance.

19. The number of CCPs established during operations may have to be restricted to ensure that each has enough personnel to collect and evacuate casualties. Casualty sledges with heating equipment are essential.

20. RAPs will be further forward than normal and "warming posts" for wounded should be established along the evacuation routes.

21. The disposal of waste, excreta and refuse is difficult but essential. It is useless to dump it in the snow since it will reappear once the spring thaw sets in. Two possible methods of disposal are:—

- (a) By incineration — an ideal method but very expensive in fuel.
- (b) By dumping on the edge of a frozen lake — the Spring then carries the refuse away.

Where it is impossible to arrange proper disposal, definite areas should be allotted and marked.

Ordinance

22. A far greater percentage of equipment must be held within the division in order to avoid delays in the normal replacement system. The OFP will therefore be re-scaled to suit requirements.

Repair and recovery

23. The normal organization of REME units remains unchanged but the bulk of vehicles must be of over-snow type.

24. Daily maintenance is as important in the arctic as elsewhere. It can be carried out, in the open, by sheltering behind a snow block wall, or within a heated shelter.

The procedure for maintenance should alternate between five minutes each of work, and hand-warming to keep the men's hands and fingers from becoming numb.

Once the operating temperature has been reached vehicle engines are liable to boil because the anti-freeze liquid with which the cooling system is filled is not such an effective coolant as water.

Traffic control

25. Normal duties and method of working are made more difficult by arctic weather conditions.

26. Roads and tracks within the divisional area must have posts established on them for use by road guards. These guards reconnoitre certain sections of the road, etc, at regular intervals and check their condition. Division must be prepared to keep these roads and tracks free from snow-falls, snowdrifts, etc.

CHAPTER XIV

ADMINISTRATIVE ASPECT OF SPECIAL OPERATIONS

SECTION 69.—TACTICAL AIR SUPPLY

General

1. Fundamentally there is no difference between maintaining a division by air and maintaining it by surface communications. There are, however, certain implications in using this method that must be understood by commanders and staff officers.

Uses of tactical air supply

2. Tactical air supply, which includes the movement of reinforcements in small numbers, may be used:—

- (a) to supplement existing land and sea lines of communication; or
- (b) where land and sea communications are difficult or costly, to maintain a force entirely; or
- (c) to supply clandestine or deep penetration forces.

Types of tactical air supply

3. Air supply may be either of an emergency or a routine nature:—

- (a) *Emergency air supply* will be resorted to in cases of sudden operational requirement or the temporary breakdown of normal maintenance methods. The time factor is, therefore, of vital importance and the system of supply evolved must aim at avoiding the introduction of any unnecessary channels of communication.
- (b) *Routine air supply* implies a situation in which this form of maintenance has supplanted entirely, or to a limited extent, maintenance by surface methods. Thus it becomes, temporarily at least, an integral part of the theatre's normal maintenance system.

Methods of tactical air supply

4. Supplies may be carried by any one or more of the following methods:—

- (a) *Landing by powered aircraft.*—This is the most economical and efficient method, but involves the construction of forward airfields to receive the aircraft.
- (b) *Landing by glider.*—Gliders are easy to unload and landing airfields are not required. They are at present used for carrying heavy or bulky equipment which cannot be carried in, or dropped from, powered aircraft, but in future will be replaced by tail-loading aircraft capable of air-dropping heavy stores and equipment.
- (c) *Dropping by parachute.*—This system is flexible and stores can be dropped anywhere. It is most effective where landing strips are not available or are unusable. No specific organization is required to receive supplies, although they are on occasions difficult to collect owing to dispersion.
- (d) *Free dropping.*—Suitable only for those commodities which will not damage on impact.

The method to be adopted will depend on many factors and is a joint RAF/Army responsibility, which will normally be settled by higher formation.

5. Whichever method is adopted, it should be realized that transport aircraft may be grounded at short notice by bad weather or damage to airfields. It is therefore essential to hold a reserve sufficient to cover any break in supply. This will usually mean the forming of a divisional maintenance area. However, as tactical air supply will normally be resorted to in difficult country where transport is short, it is essential not to over-insure.

Flexibility

6. Supply by air, however, is flexible in that, provided ground-to-air communications are good, aircraft can be diverted to alternative landing grounds or dropping zones up to the time of their arrival.

It should be realized that loads must be specially packed and it is not normally practicable to alter demands at less than 24 hours notice.

7. A division in receipt of air transported supplies will normally be allotted a Forward Airfield Supply Organization (FASO) under command, for the purpose of receiving, sorting and holding supplies as they arrive. In addition the FASO supervises backloading of stores and co-ordinates evacuation of casualties by air. It works as an increment to the staff. If, however, a FASO is not available, an "*ad hoc*" organization must be found from divisional resources.

Dropping zones (DZ)

8. The choosing and organization of dropping zones will be a joint "G" and "Q" responsibility of the formation being supplied.

9. All arms and units must be capable of choosing, clearing, marking and organizing dropping zones. The officer in charge, usually a RASC officer, must:—

- (a) Clear the DZ of undergrowth to make easy the finding and collection of stores.
- (b) Mark the DZ, sites for commodity dumps, and danger area. Provide wireless or visual ground to air communication as laid down.
- (c) Divide the DZ into sectors for collection and detail a collecting party for each sector.
- (d) Organize spotters to record the total number of packages dropped and others to watch for packages dropped wide.
- (e) Arrange the salvage of parachutes.

10. Requirements for DZs and details of their marking are set out in Land/Air Warfare, Pamphlet No. 5 "*Tactical Air Supply*."

SECTION 70.—MOVEMENT BY AIR

1. Any division, especially infantry, may be required to move by air either from the UK to an overseas theatre, or between one area of operations and another. Such moves fall into two categories:—

- (a) *Route transport operations*, involving the strategic movement of the division, or part of it, by air and air trooping.
- (b) *Transport support operations*, involving the carriage of the division, or part of it, into the battle area.

2. The principles of all such moves and the staff work required of all branches, etc, are laid down in "Staff Duties in the Field (1949)." Further details may be found in Land/Air Warfare, Pamphlet No. 4, and the supplement thereto, also in Army Training Instruction No. 13—"A Guide to COs on Movement of Units by Air, (1949)."

SECTION 71.—AIRBORNE OPERATIONS

1. The administrative aspects of an airborne operation undertaken by an airborne division consists of:—

- (a) preparing the division before the drop, and
- (b) supplying it by air for as long as necessary.

To this end the division should land with at least two days' supply; automatic replenishment by air should take place as soon as the operation has begun and continue until a junction is effected with the ground forces.

2. Once contact with ground forces has been made, the division should be assisted by the nearest corps HQ in order that it may function as soon as possible as a normal infantry division, pending the arrival of its own "land" tail.

3. The special administrative considerations and problems connected with airborne operations are common only to an airborne division—as distinct from a division being moved by air—and are outside the scope of this manual.

SECTION 72.—AMPHIBIOUS WARFARE

General

1. Any division may be called upon to take part in an amphibious warfare operation involving a long or short seaborne assault.

2. The administrative aim in any such operation is:—

- (a) to ensure adequate maintenance for the division immediately the assault begins and to continue it until it is firmly established and its administration becomes normal, and
- (b) to build up by a certain date, or dates, an agreed reserve of all essential commodities.

It is, therefore, a special aspect of war, varying in its initial stages from the normal and as such outside the scope of this manual.

3. Detailed information can be found in relevant Amphibious Warfare handbooks.

SECTION 73.—MAJOR RIVER CROSSING

General

1. During the initial stages of a water crossing operation control of the administrative resources of a division may well be decentralized to brigades or even to units. Control should, however, revert to division at the first opportunity.

2. Since all the crossing places are at first likely to be used to capacity for operational purposes, the normal movement of administrative vehicles forward to the units that have crossed the obstacle will not be practicable, and maintenance will have to be carried out from dumps established on the far side.

The forming of these dumps needs careful planning and foresight. They can either be ferried across by amphibious vehicles allotted from higher formation to the division, or rafted over in pre-loaded divisional transport. Each of these means has its own peculiarities and should therefore have separate loading and off-loading points. In any case a number of pre-loaded vehicles must be got across as soon as possible after the assault so that they are readily available to the division.

3. The work of administration within the bridgehead will be eased if a first key plan is drawn up and issued down to units: any amendments made necessary by the tactical situation after the crossing should then be embodied and distributed in a second key plan.

Command of crossing

4. To relieve the commander and all branches of the divisional staff of the detailed work required to co-ordinate the various means of movement, higher formation will normally allot a separate organization, called a Bank Control Group, to the division to control the movement of personnel up to and over the water gap, including the signposting and policing of the many routes. Personnel of the group will be specially trained and include representatives of the Q (Movements) branch of the higher formation.

Ammunition

5. Any dumping programme calls for forethought and care in the allotment of transport, of traffic routes, and of priorities. During the crossing of a water obstacle the situation may be aggravated by the fact that road space will also have to be allotted for the transportation of vast quantities

of engineer stores, both in divisional and corps or army transport. At first, however, demands for POL should be small and the staff should be able to free more vehicles for the carriage of ammunition.

POL

6. Beyond the need of establishing one small petroleum point early in each bridgehead no further special arrangements are necessary.

7. All vehicles must cross with their tanks full, and should also carry a small reserve.

Supplies

8. A start should be made with the dumping of supplies in the bridgehead as soon as possible after the assaulting units are firmly established. Provided this is possible, units need not cross with more than one day's reserve of rations.

Transport

9. Although there will usually be sufficient vehicles available for the dumping programme, there will seldom be enough to supply all needs. "Q" must estimate this shortage and apply to higher formations for the additional RASC companies required.

Medical

10. A system of prompt evacuation must be devised, and arrangements must be made for ambulance cars or stretcher bearing vehicles to cross the waterway early in order to collect casualties.

Provided the bank group is allotted medical units of its own, casualty embarkation points can be established close to the far bank and wounded shipped over in all empty returning craft to casualty disembarkation points on the near bank, after which evacuation will follow the normal lines. If this can be arranged the field ambulances can be retained for work in the bridgehead.

11. Whenever possible amphibious vehicles should be allotted to the division for the evacuation of casualties.

Repair and recovery

12. It will probably be necessary to establish recovery posts on both banks, and it is normal for recovery vehicles to cross in the first batch of vehicles. Great care must be taken in siting recovery posts along the approaches, as a bad blockage may jeopardize the success of the whole operation.

13. A 2nd line workshop will be held in readiness to move across as soon as the bridgehead has been consolidated, occupying the site which has been used as the forward collecting post.

Provost and traffic control

14. Should the division be required to find the bank group from its own resources, the provost company will be unable to cope with the traffic control problems involved as well as its normal commitments, *eg*, staffing of stragglers posts and organization of prisoners of war cage. Arrangements must therefore be made with higher formation for additional provost personnel to be attached to the division.

15. Initially, assaulting brigade HQ, and later divisional HQ, will control the move of vehicles over all bridges and rafts through the traffic control organization, but where rafts of varying classes are in use there is need for additional control to ensure that vehicles of the right category are available at the appropriate raft site when required. This is normally effected by setting up a vehicle waiting area in charge of an officer from the assaulting brigade HQ.

16. Effective traffic control will only be obtained if the provost work in close liaison with the RE representatives at all crossing places. Control arrangements include:—

- (a) The assembly of units in the concentration areas.
- (b) The movement of bridging vehicles to and fro between the engineer dumps in the concentration areas and the bridge marshalling harbours.
- (c) The movement of serials, both marching personnel and vehicles, from the concentration areas up to and over the waterway in accordance with the "G" plan, including adjustments to priorities made necessary by operations.
- (d) Directing serials to bridges in accordance with vehicle and bridge classifications;
- (e) Diverting traffic from one ferry to another in an emergency.
- (f) Controlling the movement of returning vehicles.
- (g) Warning the engineers of incipient damage to approaches and exits before serious deterioration develops.

Whatever system is devised to meet the multifarious tasks, traffic control organization should be based on a regulating headquarters, sector controls, and such traffic posts as are considered necessary. (Further details will be found in Military Training Pamphlet No. 42—"Mechanized Movement by Road"). Normal communications will probably require expanding. Since wireless silence may well be imposed up to the start of the operation, the traffic control organization will require a comprehensive line telephone lay-out.

SECTION 74.—BUILT-UP AREAS

General

1. The general principles of administration in an attack on a built-up area are normal, but their application is considerably affected by the special conditions which will be encountered. The main points to note are given below.

Ammunition

2. Expenditure of infantry natures of ammunition will be very heavy. Since it is important that units be really lightly equipped, reserve ammunition must be fed forward in mixed loads from the start of the operation. Dumping must be carefully thought out beforehand; there will be a heavy demand for grenades of all types.

3. Tanks, carriers and light vehicles, *eg*, jeeps, can all be used for bringing up ammunition to forward dumps, from which they will have to be man-handled forward.

Supplies

4. The cover and facilities found in houses should enable meals to be cooked in forward positions.

Medical

5. If "runways" through the houses have not been cleared, evacuation of casualties may have to be restricted to the hours of darkness.

6. Arrangements must be made to search for isolated casualties.

Civilians

7. There will always be problems of controlling and administering the inhabitants. Plans must be made to cater initially for civilian casualties, their supply requirements and, possibly, evacuation. Liaison must be made with existing civilian facilities such as hospitals.

8. Civilians can be used as stretcher bearers in areas which have been cleared of enemy.

Prisoners of war

9. The handling of prisoners of war is normal. Leading units must not be hampered by an accumulation of prisoners.

Traffic control

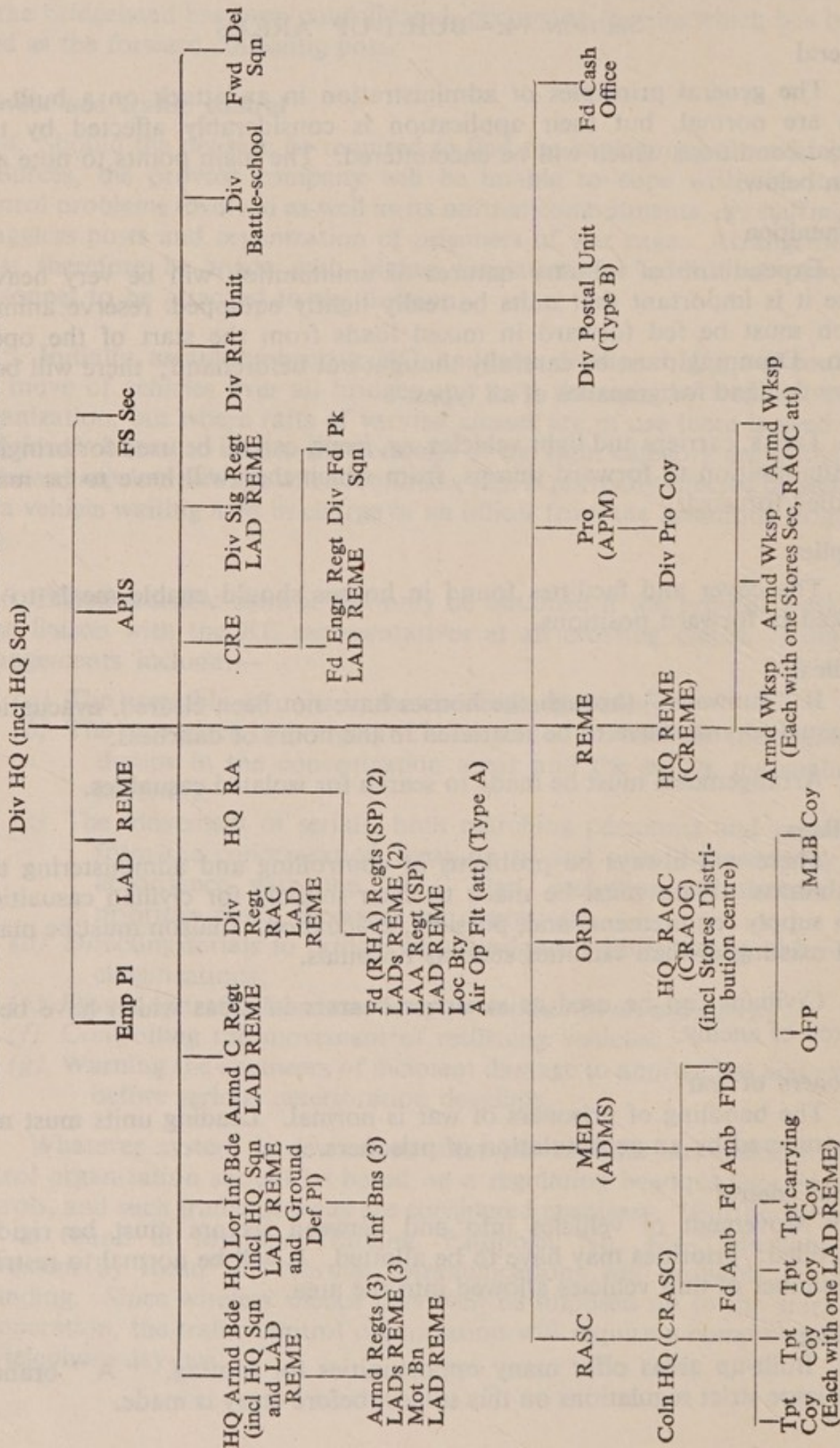
10. Movement of vehicles into and between sectors must be rigidly controlled; priorities may have to be allotted. It will be normal to restrict the number of unit vehicles allowed into the area.

Looting

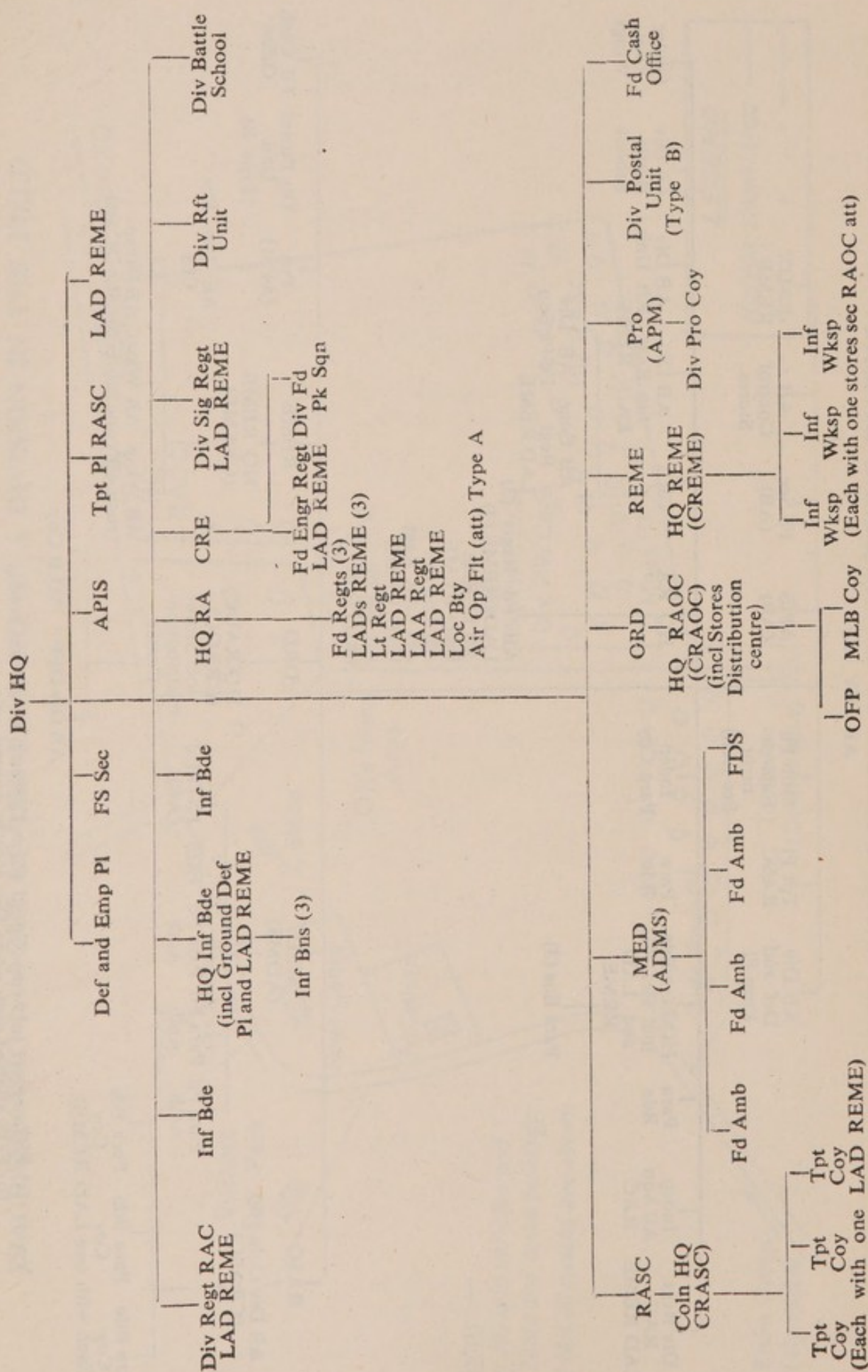
11. Built-up areas offer many opportunities for looting. "A" branch must issue strict regulations on this subject before entry is made.

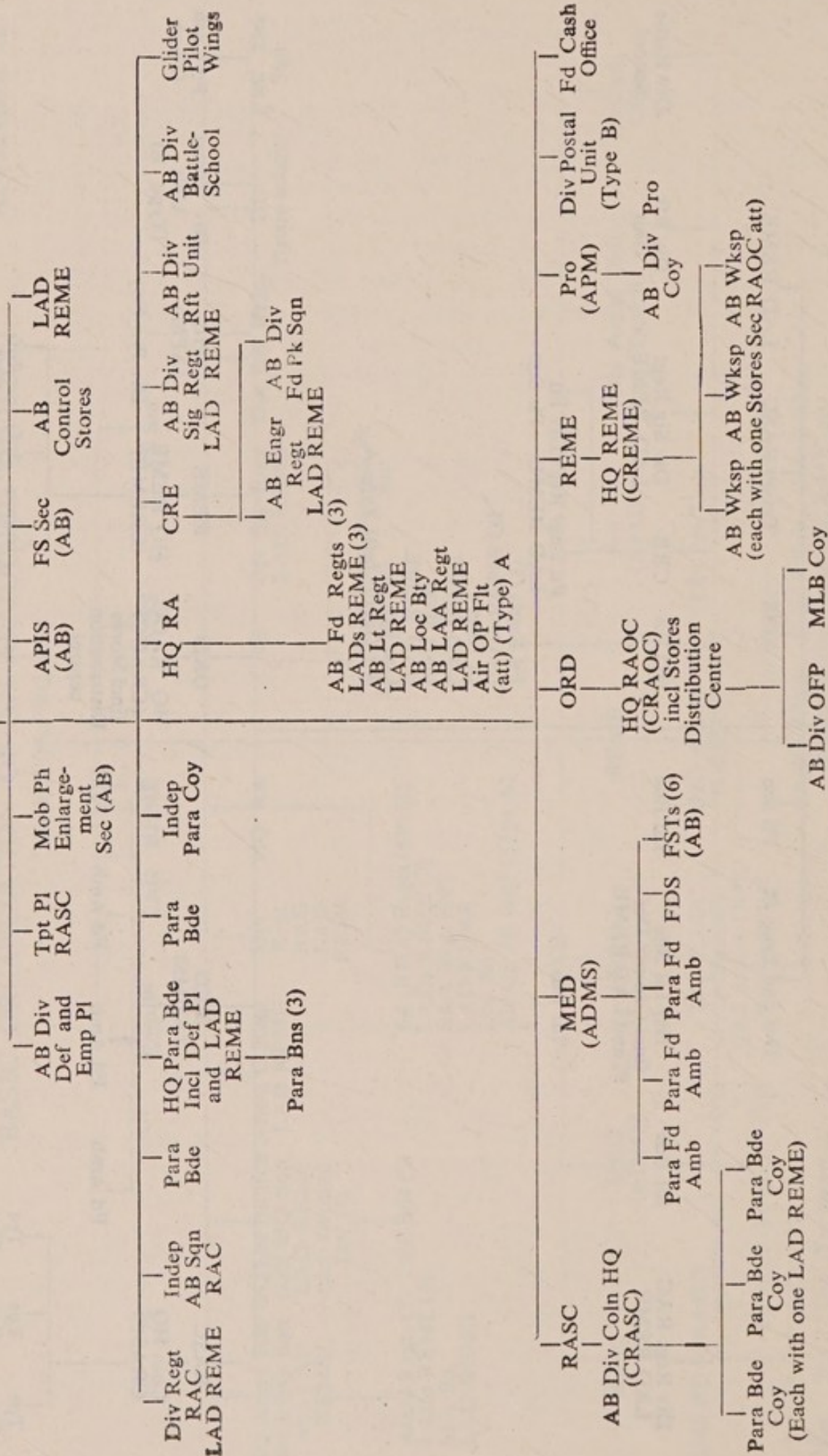
APPENDIX A

BASIC ORGANIZATION OF AN ARMoured DIVISION



NOTE.—Above is the “triangular” organization. Reversion to the “quadrangular” organization would require extra task vehs in the RASC Coln.

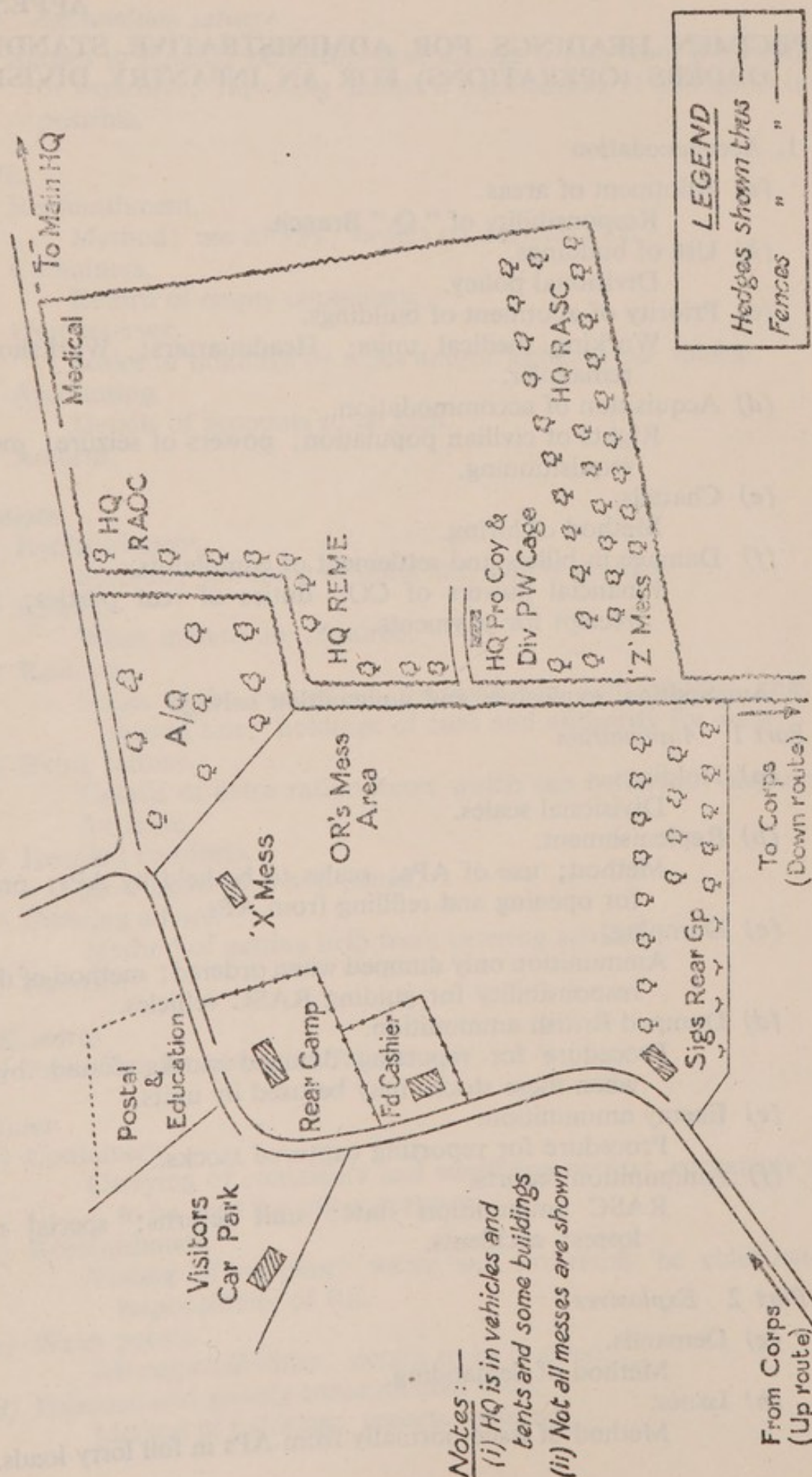




Notes: (a) FSTs revert to Army Comd when Div emp in ground role.
(b) FDS allotted only when Div emp in ground role.
(c) All units equipped for airborne movement.
(d) Div Regt RAC is not airborne. Indep AB Sqn PAC comes under the command of the Div.

APPENDIX D

DIAGRAMMATIC LAY-OUT OF THE REAR HQ OF A DIVISION IN THE FIELD



SPECIMEN HEADINGS FOR ADMINISTRATIVE STANDING ORDERS (OPERATIONS) FOR AN INFANTRY DIVISION

1. Accommodation

- (a) Allotment of areas.
Responsibility of " Q " Branch.
- (b) Use of buildings.
Divisional policy.
- (c) Priority of allotment of buildings.
Working medical units; Headquarters; Workshops;
remainder.
- (d) Acquisition of accommodation.
Rights of civilian population; powers of seizure; method of
requisitioning.
- (e) Chattels.
Method of hiring.
- (f) Damage in billets and settlement of complaints.
Financial powers of CO; duties of rear parties; form of
receipt for payments.

2. Ammunition, explosives and ammunition salvage

Part 1 Ammunition

- (a) Holdings.
Divisional scales.
- (b) Replenishment.
Method; use of APs; scales to be held by APs; procedure
for opening and refilling from APs.
- (c) Dumping.
Ammunition only dumped when ordered; method of delivery;
responsibility for guiding RASC vehicles.
- (d) Dumped British ammunition.
Procedure for reporting dumped stocks found by units;
when these stocks may be used by units.
- (e) Enemy ammunition.
Procedure for reporting captured stocks.
- (f) Ammunition reports.
RASC ammunition state; unit returns; special returns;
losses; accidents.

Part 2 Explosives

- (g) Demands.
Method of demanding.
- (h) Issues.
Method of issue normally from APs in full lorry loads.

Part 3 Ammunition salvage

- (j) Return to RASC; certificate that salvage is free from live rounds or explosive; reporting dumps if backloading of salvage is not possible.

3. POL

- (a) Replenishment.
Method; use of PPs; orders concerning PPs.
- (b) Containers.
Return of empty containers.
- (c) Unit reserves.
Scales of holdings by miles and/or jerricans per vehicle.
- (d) Accounting.
Details of accounts to be kept.
- (e) Returns.

4. Rations

- (a) Replenishment.
Method; grouping of units into supply groups.
- (b) Indents.
When indents are required.
- (c) Reserves.
Scales to be carried on the man, in unit vehicles, and in second line; holdings of rum and authority for issue.
- (d) Extra rations.
Details of extra ration items which can be issued; authority for issue.
- (e) Hospital comforts.
How demanded and issued.
- (f) Catering advice.
Method of getting help from catering adviser.
- (g) Returns.

5. RE stores

- (a) Procedure for obtaining RE stores.

6. Water

- (a) Containers.
Carrying of containers and sterilizing outfits; containers not to be used for other purposes.
- (b) Replenishment.
Testing of supplies; water will invariably be chlorinated; responsibility of RE.
- (c) Water points.
RE responsibilities; details to be notified.
- (d) Poisoned and grossly contaminated water.
Method of marking; reports required.

7. Transport

(a) Unit transport.

Division into A and B echelons; composition of echelons; responsibility of allotting B echelon areas and harbours.

(b) 2nd line transport.

Control.

(c) Demands for transport.

Form of demand.

8. Medical and hygiene

Part 1 Medical

(a) Evacuation.

Method; use of transport.

(b) Employment of medical units.

Control; responsibility of brigades to provide inter-communication and information; notification of locations.

(c) Disposal of arms and equipment.

How and when arms and equipment are to be collected from casualties; method of return to Ordnance.

Part 2 Hygiene

(d) Sanitation.

Disposal of excreta and refuse; marking of fouled ground; tasks of sanitary inspectors; how to obtain technical assistance.

9. Ordnance services

(a) Replacement of ordnance stores.

Methods of demanding and obtaining vehicles and complete artillery equipment; wireless sets; other warlike stores and general stores; clothing and necessities; MT spare parts for workshops.

(b) Method of indenting.

(c) Submission of indents and queries on indents.

10. EME services

(a) LADs.

Responsibility for repairs; responsibility on line of march.

(b) Infantry workshops.

Responsibility for repairs; control; tasks during moves.

(c) Recovery.

Policy for use of recovery posts; tasks of recovery posts; responsibility for back loading.

(d) Classification of vehicle casualties.

(e) Reports.

REME repair state.

(f) Removal of spare parts etc, from vehicle casualties not permitted; disciplinary action to be taken against offenders.

(g) Inspections of unit vehicles and equipments.

11. Traffic control

(a) Main routes.

Responsibility for selecting; policy for naming or marking.

(b) Brigade responsibility.

Control of traffic; marking routes.

(c) Divisional responsibility.

Issuing of traces; marking of routes; control and routing of convoys; applications for moves.

12. Prisoners of war, refugees and stragglers

Part 1 Prisoners of war

(a) On capture.

Searching; disposal of military documents; maps, special equipment, etc; separation of officers and senior NCOs from men; no smoking, eating or conversation until interrogated.

(b) Disposal.

Location of cage; provision of escorts and guards; establishment of brigade collecting post; use of PW for carrying wounded.

(c) Enemy wounded.

Treatment.

(d) Returns.

Provost reports.

Part 2 Refugees

(e) Responsibility for directing refugees; keeping clear of movement; sanitation.

Part 3 Stragglers

(f) Establishment and object of stragglers posts; taking particulars of stragglers; method of dealing with stragglers; reports to be sent to O2E on stragglers joining strange unit.

13. Pay

(a) Location of Field Cash Office and times of opening.

(b) Cash issues.

Methods of obtaining cash; officers' advance of pay.

14. Postal*(a)* Lay-out.

Allotment of field post offices.

(b) Post orderlies.

Appointment and duties of unit post orderlies.

(c) Inward and outward mail.

Times of collection and delivery.

(d) Registered mail.

Procedure for dealing with registered packets.

(e) Other business.

Distribution of newspapers; sale of stamps, etc; cashing of postal orders, etc; acceptance of parcels and registered letters.

15. Salvage*(a)* Specialized salvage.

Definition and procedure for collecting and disposal.

(b) Other salvage.

Procedure for collecting and disposal.

(c) Enemy equipment.

Must be left intact for intelligence staff to examine and for future use unless likely to be recaptured; method of reporting and disposing.

16. Documentation*(a)* Casualty and strength returns.

Details of unit and formation returns.

(b) Other returns.

Details.

(c) Casualties.

Methods of reporting routine casualties; casualties from sickness or accident and battle casualties.

17. Reinforcements

Method of demanding.

18. Military Secretary's branch*(a)* Officers' postings; promotions; appointments; relinquishments.

Methods of application; reporting; notifying.

(b) Confidential reports.

Details; methods of submitting.

(c) Citations.

19. Burials

- (a) Cemeteries.
Selection; recording of location.
- (b) Burials.
Procedure; responsibility.
- (c) Marking of graves.
- (d) Returns.
Submission of burial returns.

20. Intercommunication

- (a) Organization of divisional HQ.
Particular reference to rear division HQ.
- (b) Intercommunication facilities.
Composition of administrative RT net; RASC net; REME net.
- (c) Line.
Administrative facilities.
- (d) Addressing messages.
- (e) Security.

Appendices

1. List of returns.
2. Headings for an administrative situation report.

NOTES AS A GUIDE FOR THE RECONNAISSANCE OF AN ADMINISTRATIVE AREA

(To be read in conjunction with Section 16)

General

1. The following is a suggested drill for the reconnaissance of an administrative area. Divisions will usually work out their own methods and drills to suit the circumstances, and will lay them down in Standing Orders. These notes are a guide only. Two methods are discussed, the first, for desert or open country, and the second, for jungle or close country.

2. In all cases the "Q" staff are responsible for the selection and lay-out of the administrative areas. When selecting an area there are four major factors to be taken into consideration, apart from security:—

- (a) That the area is clean and healthy from the medical viewpoint (*eg*, non-malarious, free from scrub-typhus, etc).
- (b) Signal communications will be good (*eg*, wireless sets can operate).
- (c) The area is adjacent to and has good access to the main divisional supply route.
- (d) That the area allows units to work and rest.

It is usual for (a) and (b) to be dispensed with in the case of desert or open country.

Method

3. *Desert or open country*

- (a) The "Q" staff will select the area from a map/and or air photographs. They will then make a first key plan of the lay-out.
- (b) Service representatives will be given a copy of the first key plan as early as possible before the move.
- (c) A "Q" staff officer, normally the DAQMG, will meet services at a rendezvous near the new site. From the key plan he will point out the allotted areas, and the service representatives will then reconnoitre their respective areas.
- (d) During the move by service representatives to their allotted areas, the DAQMG should establish a temporary mobile control centre. This centre will deal with any minor difficulties as they arise. The control centre should be small, possibly the DAQMG and two or three orderlies.
- (e) Before the DAQMG completes his task, he should hold a co-ordinating conference, to make sure on the spot that arrangements are satisfactory, or to settle any adjustments that may still be required.

4. *Jungle and close country.*—It will be unlikely that the “Q” staff can complete all details from a map and/or air photographs; once the key plan has been made then a reconnaissance by the staff will be necessary.

5. The composition of this reconnaissance party will vary according to circumstances, but it should be kept to a minimum, and will include:—

- (a) A “Q” staff officer (normally DAQMG).
- (b) A medical representative.
- (c) An officer from the Divisional Signal Regiment, plus a signal vehicle to test communications.
- (d) Motor cycle orderlies.
- (e) Service reconnaissance parties (if necessary) who will wait at a rendezvous for instructions from the small staff reconnaissance party.

6. When the staff reconnaissance party has completed its task, it will issue verbal instructions and amendments to the first key plan to service reconnaissance parties, who will then proceed to lay out their own areas and await the arrival of their units.

Service reconnaissance parties

7. The reconnaissance parties must be equipped to improve entrances to roadways, etc, so that their main body can get off the road quickly. There must be no congestion at the entrance to the area.

NOTES ON JEEP (or equivalent) TRANSPORT

General

1. In theatres where road communications are undeveloped, *eg*, in jungle and mountain warfare, the jeep (or its equivalent) and trailer will normally be used in both first and second line transport roles within a division.

First line organization

2. In the first line role it may be assumed that a certain number of jeeps and trailers will replace normal vehicles for load carrying in all echelons; they should be held well forward and used as a pool of transport available for any echelon ("F," "A" or "B") as required.

Second line organization

3. The detailed organization of a jeep company RASC should remain unchanged from the normal if possible; it can, however, be formed in a variety of different ways. It will be unusual for all the vehicles of the divisional column to be substituted for the jeep and trailer since some heavier types will be required to operate between rear installations and divisional roadhead, the latter normally being situated in the area of the foothills. This, however, presents no problem; for instance, if the divisional troops company RASC has its vehicles replaced by jeeps and trailers the remainder of the column will still have plenty of normal vehicles left to carry on daily maintenance. In addition, a further reserve will be available for any special dumping or stocking programme into divisional roadhead or to help carry forward (or back) dumped reserves or supplies, ammunition and stores as a new roadhead is selected and established.

Tasks

4. Jeep transport available for operating forward of divisional roadhead will normally be employed as follows:—

- (a) *Pool of unit jeeps*—responsible for the delivery of POL, supplies, ordnance stores, SAA and some artillery ammunition.
- (b) *Jeep company RASC*—responsible for delivering forward the remaining artillery ammunition and engineer stores, and providing a reserve to meet unforeseen eventualities.

Pay load

5. The pay load of a jeep and trailer is 15 cwt (1680 lb), *ie*, 25 per cent of a 3-ton lorry load (approximately).

The lifting capacity of a jeep company is computed as with any transport company and presents no additional problems.

Stretcher frames (Carter type) are normally provided in AFG 1098 scales on a basis of 25% Jeeps on establishment. These can be used for the evacuation of wounded personnel in an emergency.

Conclusion

6. The above notes are by no means comprehensive. Further details can be found in "Warfare in Undeveloped Countries."

NOTES ON MAN PACK METHODS OF TRANSPORTATION

General

1. A unit operating in jungle or mountainous areas without any animal or wheeled transport can carry its load by:—

- (a) Fighting-man pack.
- (b) Fighting-porter pack.
- (c) Special-porter pack.
- (d) By a combination of any of the above.

These are not official definitions but suffice to define and distinguish the various ways in which loads can be carried on a man's back.

Fighting-man pack

2. A small scale operation can sometimes be carried out by a unit or sub-unit carrying its own loads. In this case the fighting men of the unit share out amongst themselves the essential fighting loads.

Further, in a larger all-man-pack operation some of the heavy loads will often, for tactical reasons, have to be carried by the men who are to use them *eg*, mortar base plates.

3. It follows, therefore, that a unit can undertake only a very limited man pack operation within its own strength; in a larger scale operation it must still carry some of its more important loads but, without assistance, will be able to operate only for a very short time and against only the lightest of opposition. It may therefore, be necessary to employ fighting-porter pack.

Fighting-porter pack

4. Fighting-porters are fighting troops of the division who are misappropriated to carry the loads of another brigade, unit or sub-unit.

5. Fighting-porters must be armed with either a pistol, sub-machine gun, bayonet or grenade.

6. The most usual loads for fighting-porters include mortar bombs, wireless sets and batteries, reorganization stores, extra water, rations etc. It can be seen, therefore, that for almost every operation in mountain warfare some allotment of fighting-porters must be made in a division or brigade unless special-porters are available.

Special-porter pack

7. Special-porters are men enlisted and trained for the work. They will normally be loyal local inhabitants or specially enlisted colonial troops.

8. They are unlikely to be armed and should not therefore be used in the forefront of the battle without adequate escort.

9. They can be used to carry any load, the usual method of employment being for them to carry forward an additional reserve of all important items and to form or replenish a dump in rear of the fighting troops for onward carriage by fighting-porters.

Over a period they cannot work more than eight hours a day of which not more than five hours should be under load. Their use is not, therefore, as economical as animal transport.

Organization

10. *Fighting-man pack*.—The organization of a unit on a fighting-man pack basis is not difficult to arrange, but does require careful planning at unit level. Certain modifications to the normal organization will probably be necessary, *eg*, a reduction in the numbers of heavy mortars.

11. *Fighting-porter pack*.—These must operate in their normal units and sub-units under their own commanders. They should be placed under command of the unit with which they are going to operate who, in its turn, will be responsible for their administration.

12. *Special-porter pack*.—No actual establishment exists for a native porter company RASC. However, to get the best results out of any special-porters employed the following points require attention:—

- (a) Firm friendly handling, coupled with a knowledge of the language or sufficient interpreters.
- (b) Escorts, protection and supervision, in proportion to their nearness to the fighting.
- (c) An echelon system which enables them to return to a well protected base after each journey.
- (d) When calculating loads the height above sea level must be considered. These porters may come from the plains or foothills and, if operating at 5,000 feet or more altitude, will soon begin to feel the effects.

Lifting capabilities

- 13. (a) *Fighting-man pack*—40 to 50 lb—(The total weight on the man should not exceed this amount).
- (b) *Fighting-porter pack*—25 to 30 lb—(This does not include a 20-lb basic load of a water bottle, 2 days rations and some kind of weapon).
- (c) *Special porter pack*—35 lb—(This does not include a 15-lb basic load of a water bottle and 2 days rations).

Note.—These figures are a guide only and will vary according to the type of men, the theatre, the climate and the scale of operations.

14. A method of calculating the number of porters required for a particular operation is as follows:—

(a) *Outline plan.*—Consider details of:—

- (i) Length of carry.
- (ii) Type of country.
- (iii) Presence of water.
- (iv) Suitable area for dumps (if necessary).
- (v) Type of porter unit available.

(b) *Computation details.*—

- (i) Calculate the lift (load carriers potential) of a unit or sub-unit.
- (ii) Determine the “domestic load” (if any) of the selected unit or sub-unit.

Note.—The “domestic load” is rations in excess of two days and a man’s share in the unit “B” echelon.

- (iii) By subtracting (ii) from (i) the pay load of the unit or sub-unit will be found.
- (iv) Calculate the total load to be lifted.
- (v) By dividing (iv) by (iii) the number of units or sub-units required for portage will be found.

Conclusion

15. The above notes are by no means comprehensive. Further details can be found in “Warfare in Undeveloped Countries.”

NOTES ON ANIMAL TRANSPORT

Types available

1. The mule is the most generally known and best pack animal. Other types which may be used in or attached for work with a division in different parts of the world include:—

					<i>Approximate pay load</i>
(a) Elephant	...	...	...	...	1600 lb
(b) Camel	...	...	...	...	400 lb
(c) Pony, Yak, Bullock			...	...	200 lb
(d) Donkey	...	...	...	...	100 lb
(e) Sheep	...	...	...	...	40 lb

By ruthless management these animals can be made to carry considerably more weight for a short time. When dealing with animals local expert opinion should always be consulted.

2. This appendix is confined to use of the mule, which will be common as pack transport in both jungle and mountain warfare and in other countries where the mule is found in large numbers.

Categories of mule

3. There are two recognized categories of mule normally employed in the army:—

					<i>Pay load</i>
(a) Mountain artillery mule (MA)	...			up to 340 lb	} across mountain country.
(b) General service mule (GS)	...	...		up to 160 lb	

Tasks

4. The GS mule is normally used for work with all echelons in a unit and for divisional second-line tasks.

Scope of employment

5. Mules can move over almost any country except that which calls for actual climbing or through deep snow.

6. (a) Through normal mountain country a mule can be expected to cover up to 16 miles a day, of which not more than 8 miles should be under load.
- (b) At night, over a very rough track, his range under load will probably be reduced to 3 to 4 miles.
- (c) In jungles a mule can be said to be able to go as far as its driver can in any one day.

7. Mules can work unshod in sandy dry going, but require shoeing in wet stony going, which wears their feet quickly.

Forage and water requirement

8. Thirteen hands pack mules require a daily grain ration of 5 lb, and fodder ration of 8 to 15 lb, which may be locally procured. They have very good digestions, however, and can adapt themselves to do well on dates, bamboo leaves, early monsoon kaing (elephant grass), etc, according to local circumstances.

9. A mule's daily water requirement is about 5 to 8 gallons and he is normally watered three times a day. He will usually drink only reasonably clear water, a factor which does affect planning.

Although possible, it is not a practical proposition for mules to carry their own drinking water.

Organization

10. Although a number of mules may be allotted permanently to any unit for a period and selected personnel will have to be trained in mule-management, loading, etc, it will be more normal for an allotment to be made to a division from a pack transport column RASC, for which an authorised establishment exists.

Since the majority of CRASCs are not experienced in the handling of pack transport the best results will be obtained if a pack unit or sub-unit is placed in support and not under command of the division or brigade.

11. Pack units will normally provide one driver to each mule for mules doing "F" echelon work. For "B" echelon and second line work it is customary for one driver to be provided for two mules.

Lifting capabilities of mules (GS)

12. As already stated, the pay load of a mule (GS) is 160 lb. In addition it has been found by experience to be the best and most practical system for each mule in the unit to carry surplus weight as follows:—

Driver's kit	5 lb
2 days ration (driver)...	10 lb
2 days ration (mule) ...	10 lb
	25 lb

This means that officially the mule is carrying overweight but the system is administratively sound and it does not harm the mule to do this. Adjustments may, however, have to be made in the case of smaller mules.

13. Another factor affecting the pay load is that allowance must be made for the "domestic load" *ie*, rations (any type) in excess of two days and one mule's share of the unit "B" echelon. This load must be carried either in wheeled transport allotted to the unit or, more likely, on the unit's working animals.

14. There are numerous methods of calculating the number of mules required for a particular operation. Some occasions require very detailed computations whereas at other times a "round figure" staff check will suffice.

In planning, two main points must be considered:—

- (a) If mules have to carry their own and their driver's supplies for more than 2 days (paragraph 13 above) their pay load must be reduced by an amount equivalent to the weight of the combined rations and multiplied by the number of days in excess of two.

Note.—This figure may be taken as 1/16th of the pay load per day, in excess of two days.

- (b) If any portion of the "B" echelon load, other than rations, is to be carried an equivalent number of working mules must be subtracted from the total number of mules available for the unit pay load after allowing for (a) above.

It may therefore happen that a point is reached when the use of animal transport becomes an uneconomical proposition, *eg*, when all the working mules available will be employed in carrying their own rations.

Points for staff officers

15. Handling animal transport will often be a strange experience for the staff officer of a division. Certain aspects peculiar to this form of transport are therefore given below:—

- (a) Animals cannot be treated like machines; they require rest periods otherwise they rapidly lose condition and efficiency.
- (b) When ordering a pack unit to report to a brigade or unit state the time by which the move must start; the pack transport commander will thereafter ensure that he arrives in time to load up and move at the appointed hour.
- (c) Warn the transport unit commander of any particularly awkward or heavy loads to be carried so that he may earmark special mules for the task.
- (d) When possible do not interfere with the basic organization of the transport unit, *eg*, do not split up sections.
- (e) Remember the importance of good water for mules.
- (f) Arrange for loading ropes or carriers to be sent to units the day before a move, to enable loads to be tied securely and laid out for loading.

- (g) Never allot mules to units unless personnel trained in their management are available.
- (h) If "A" echelons are to be separated from "F" echelons (by being brigaded) escorts and unloading parties must be provided for them.
- (j) It is important that the commander of the pack transport unit should establish his headquarters close to that of the brigade or unit he is supporting.

Conclusion

16. The above notes are by no means comprehensive. Further details can be found in the manuals "Warfare in Undeveloped Countries," "Animal management," etc.

SECTION 1.—VEHICLE COMPOSITION OF RASC LOAD CARRYING UNITS

Type of Unit	Role	No. of Tpt pls	Vehicle Composition					Amphi- bians	Remarks
			3-ton task vehs	10-ton vehs	TCVs	Tk Tptrs			
Inf Div Tpt Coy	Sec line	Two	60					An inf div tpt coln RASC consists of three inf div tpt coys.	
Arm'd Div Tpt Coy	Sec line	Three Four	90 120					(i)An arm'd div tpt coln RASC consists of:— two arm'd div tpt coys each of three pls one arm'd div tpt coy of four pls one arm'd div tp carrying coy	
Arm'd Div Tp Carrying Coy	Sec line	Three	90					An AB div tpt coln RASC consists of three AB div tpt coys. Each coy has, in addition to its 3-ton pls, one para pl of 20 cars 5-cwt 4 x 4 and 35 trailers for use in the AB role.	
AB Div Tpt Coy	Sec line	Three	90						
Indep Inf Bde Coy	Sec line	Three	90						
Indep Arm'd Bde Coy	Sec line	Five	150						
GT Coy	Corps Army Comn Z	Four	120						
GT Coy (Hy)	Corps Army Comn Z	Four		120					
Tipper Coy	Corps Army Comn Z	Four	120 (Tippers)					May be 10-ton tippers	

(i) Based on the "triangular" org of the arm'd div. The "quadrangular" org would require more task vehs.

SECTION 2.—POL CONSUMPTION FIGURES

The figures given below are average planning figures for active service conditions, and include cross-country going (where applicable) and stationary running.

Type of vehicle	MPG	Type of fuel	Remarks
'A' Vehs			
<i>Tanks</i>			
Centurion	0.25	MT 80	<i>Note.</i> —For consumption figures for special conversions such as AVREs, ARVs, Crocodiles, Bridgelayers, etc, use the figure given for the tank chassis applicable.
Comet	0.7	MT 80	
Cromwell	1.0	MT 80	
Churchill	0.6	MT 80	
Stuart VI Gun tower ..	1.0	MT 80	
SP 17-pr Valentine ..	1.5	DIESO	
SP 17-pr M 10	0.8	DIESO	
SP 25-pr RAM	0.8	DIESO	
<i>Armd Cars</i>			
Humber	6.0	MT 80	
Daimler	4.0	MT 80	
AEC	6.0	DIESO	
<i>Carriers</i>			
Oxford	2.5	MT 80	
3-in Mortar	6.0	MT 70	
TSC	6.0	MT 70	
Universal	6.0	MT 70	
<i>Misc</i>			
Scout Cars	9.0	MT 80	
ACV	8.0	DIESO	
'B' Vehs			
Motor-cycle	40.0	MT 70	
Car Lt Utility	20.0	MT 70	
4-str 4 × 2	18.0	MT 70	
Lt 4 × 4 (FV 1801) ..	12.0	MT 70	
Hy Utility	8.0	MT 70	
5-cwt 4 × 4	14.0	MT 70	
Ambulance	8.0	MT 70	
Truck 15-cwt	8.0	MT 70	
" " ½-track	4.0	MT 70	
Lorry 3-ton	6.0	MT 70	
5-ton	5.0	MT 70	
10-ton	9.0	DIESO	
Transporter	5.0	DIESO	
Tractor 4 × 4 Med ..	8.0	DIESO	
" Hy Breakdown ..	8.0	DIESO	
'C' Vehs			
Bulldozer	—	DIESO	Dozing consumption 8½ gallons per hour.

ADDITIONAL POL DATA

Lubricating oil requirements may be estimated at 4% of fuel consumption.

Cooking—5 gallons MTGAS per 100 men per day.

Lighting and Heating—2 gallons KERO per 100 men per day.

Jerricans—Dimensions 18½" × 13½" × 6½".

Capacity 4½ Imperial gallons.

Weight—Empty 9½ lb; Filled (average) 45 lb.

No. per 3-ton lorry—Empty 400 approx; Filled (average) 145.

1 Imperial gallon = 4.5 litres = 1.2 American gallons.

SECTION 3.—LOAD TABLES—POL, WATER, SUPPLIES, WIRE, BLANKETS, SANDBAGS, ANTI-GAS STORES

(a) POL and Water

Product	Packing	No. of gallons per 3-ton lorry
MTGAS	4-gallon non-returnable flimsy	840
	Jerrican	675
	Imperial 40-gallon drum	720
LUBS	Imperial 5-gallon drum	660
DIESO	4-gallon non-returnable flimsy	708
	Jerrican	620
WATER	Container, water, 4½-gallon	553

(b) Supplies

Type	No. of rations per 3-ton lorry
Compo (10 Men) packs (without biscuits) 168 packs	1680
Compo (5 men) packs (without biscuits) 320 packs	1600
Biscuits (cases of 6 x 5 lb 10 oz packs) 110 cases	6600
24-hr ration packs (cases of 10) 132 cases	1320
Fresh rations (Field Service scale) approx	1250
Hard rations (Field Service scale) approx	1500

(c) Wire carried by 3-ton lorry

Stores	Enough for 300-yd fence	Enough for 500-yd fence	
	Single Catwire	Low Wire	Entanglement
Pickets A1 long	192	—	—
Barbed wire concertinas	36	—	—
Barbed wire, coils, 28-lb	18	75	—
Cutters wire folding, Mk 1	15	15	—
Gloves wiring, pairs	24	24	—
Pickets A1 short	—	1000	—

(d) Blankets carried in 3-ton lorry—55 bales @ 25 per bale = 1375 or 120 bales @ 10 per bale = 1200.

(e) Sandbags carried in 3-ton lorry—78 bales @ 200 per bale = 15,600.

(f) Anti-gas stores carried in 3-ton lorry—Personal equipment for 700 men.

SECTION 4.—LOAD TABLES — AMMUNITION

The figures quoted in the following table are calculated on a 3-ton vehicle basis

Artillery		Mortars, etc		SAA	
Weapon	No. of complete rounds	Weapon	No. of complete rounds	Weapon	No. of complete rounds
(a)	(b)	(c)	(d)	(e)	(f)
2-pr	960	Generators Smoke No. 8	961	Browning .30-in	88,250
37-mm	1,360	Generators Smoke No. 24	157	Carbine .30-in	187,500
75-mm Gun and How:—		Grenades No. 36M	3,225	Rifle .303-in	
(a) Normal Pack	240	Grenades No. 80	3,610	(a) Universal Pack	60,000
(b) Jungle Pack	200	Grenades No. 83	3,155	(b) Other Packing	91,000
77-mm	135	Grenades Energa	4,444		
95-mm	170	Mortar 2-in (a) HE	1,604	Pistol .380-in	137,000
105-mm	94	(b) Smoke	2,080	TSMG .45-in	125,000
(a) Tropical Pack	112	Mortar 3-in (a) HE	422	Browning .50-in	20,000
(b) Others	85	(b) Smoke LRS	447	BESA 7.92-mm	
20-pr	320	Mortar 4.2-in (a) HE	195	(a) Tropical Pack	47,000
6-pr 7-cwt	110	(b) Smoke BEDS	167	(b) Other Packing	58,000
17-pr	180	2-in Bomb Thrower	1,960	9-mm	200,000
25-pr	200	PIAT	721	Cartridges Signal 1-in	27,250
4.5-in	85	Mines A tk Mk V HC	448		
5.5-in	59	" A tk Mk VII	220		
(a) 80 lb	54	" AP No. 5	4,080		
(b) 100 lb	25	" AP No. 6	4,500		
7.2-in How			(Approx)		
155-mm Gun	41	Mines Shrapnel	525		
3.7-in How	205	Rockets A tk 3.5-in	379		
20-mm (a) Oerlikon	7,500				
(b) Hispano	8,800				
40-mm	960				
3.7-in Gun (a) Mks 1-3	89				
(b) Mk 6	68				
5.25-in	47				

- NOTES 1. For the majority of equipments there are several natures of ammunition, eg, AP, HE, Smoke, but for general guidance the heaviest items have been included in the above table.
2. For most natures there are several types of packaging which, if all were included, would require a complicated table. The quantities shown above can therefore only be taken as a general guide.

RESTRICTED