Map Reading General

Introduction

Map Reading is a wider subject than is sometimes understood. It covers not only the ability to interpret the symbols shown on the map and to understand the information given in pictorial or written form, but it must also comprise a true understanding of the ground portrayed, and, in addition, an appreciation of the reliability and value of the particular map being used. These different aspects of map reading are explained more fully in the following paragraphs.

Reading of Map Information

The full understanding of the information shown on the map is the basic requirement of map reading. This includes not only the meaning of the various symbols and conventions, but also the understanding of the information given in the borders and margins of the maps. Conventional signs are not completely standardised, but each map should provide all the information necessary to enable a map user unfamiliar with that map to be able to understand the symbols used, provided he/she makes intelligent use of the information provided in the margins.

The reading of map information includes the ability to read and to give map references, the understanding of scales and measurements from them, position finding, and the description and following of routes by day or by night.

Understanding of the Ground

The ability to obtain from the map a mental picture of the ground portrayed is an essential but much less frequently understood part of map reading. It is sometimes called "mapcraft".

A mental picture of roads, buildings, and artificial detail is relatively simple to imagine; similarly of woods and streams and natural detail shown by lines or symbols on the map. The real mapcraft however lies in the ability to visualize the shape of the ground which is shown on the map only by contours and spot heights.

This reading of the contours and the ability to make from them a mental picture of the ground cannot be taught from a text book: it must be acquired by teaching and experience on the ground.

Appreciation of Map Value and Reliability

All maps are not of the same standard of accuracy, reliability, or up to dateness. An efficient map reader should be able to assess these qualities to a considerable degree from the information supplied on the map.

The information required to assess a map can generally be found in the margins. This should included information on the following points:

a. Dates of surveys or of other maps from which the map has been compiled.

b. Date and extent of last revision.

On some maps a reliability diagram may be shown.

When comparing the dates of last revision of two maps, it is important to check whether the revision was complete or was made only of certain types of information, eg, roads. When comparing relief information, a map compiled from larger scale mapping is more likely to be reliable than one compiled directly at the scale of the map: broken contours generally indicate lack of reliability.

Types and Scales of Maps

Topographical Maps

This is the type of map with which we are primarily concerned. Topographical maps show, in as much detail as the scale allows, both the physical features of the ground-rivers, woods and hills with their heights and shapes-and the man-made features-roads, railways, towns, villages and buildings, etc. They also contain a large number of names; both specific names of towns, villages and rivers, and also descriptive names of general features such as weir, ford, post office, etc. Their purpose is to present a picture of the ground as it exists. Topographical maps may vary in scale from about 1/10,000 to about 1/250,000: Variations exist in symbols and in presentation between map series, even though they are at the same scale. Therefore it is important to emphasise that each map used must be studied on its own to ensure that it is correctly interpreted.

*Planimetric (*Civilian Roadmaps or Town Plans)

There are frequent occasions when forces have to use local maps on varying scales (usually about 1/10,000 to 1/25,000) designed to show street names and other minor detail of a particular town. Some of these maps are topographical in that they also show relief contour or other means, but many have no indication of relief. Such maps are usually designed on an individual basis to suit the particular town mapped. The general interpretation of map detail applies to these maps also, but each map probably has a number of special features.

Other Maps

Other types of map in military use may generally be divided into two classes:

a. Maps on scales smaller than 1/250,000.
   These are used for strategic planning and by air forces. Map detail is generalized and only principal features are shown. Relief, if shown, is normally indicated by layer tints, or by other general means.

b. Special maps.
   These include maps to illustrate special items of information, eg, road maps, going maps (to show suitability for vehicular cross country movement), railway maps, and skeleton maps (showing only water and relief).

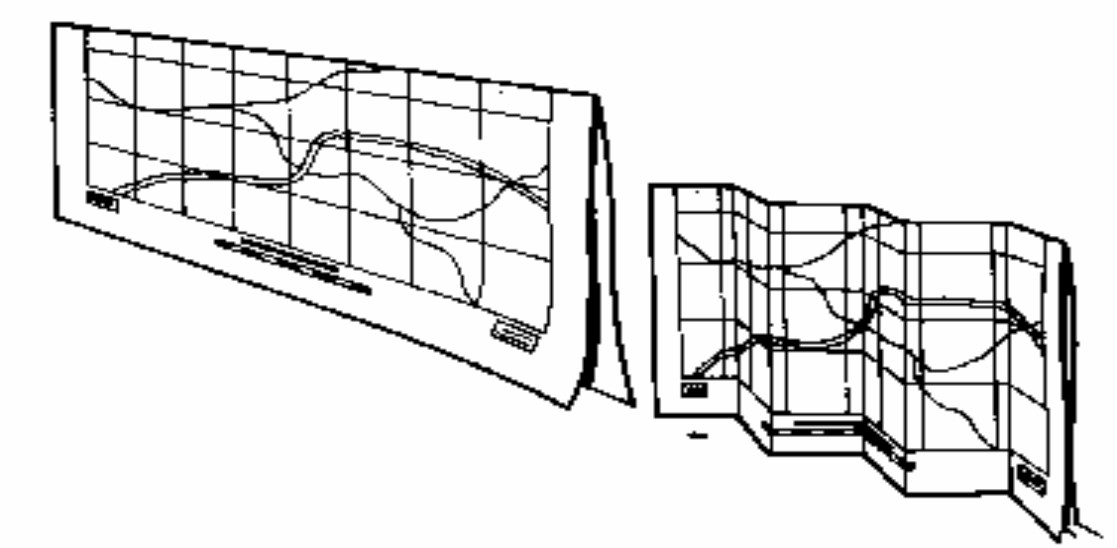
Photomaps and Map Substitutes

These are either single photographs or an assembly of aerial photographs of an area to make a composite picture with gridlines, contour lines, marginal data and other information printed over the pictorial area. These Maps are issued on special occasions.

Care of Maps

Maps must be treated with care, otherwise they become torn, dirty and creased and so they become unreadable. Constant folding of maps is the easiest way of wearing them out. The correct way of folding is:

First the map is folded in half lengthways with the map outwards, and then it is folded like a concertina. This method reduces the map into a more conventional size for carrying and ensures that there is a large area for study when any two folds are opened. (See below)



a map should be protected by either being kept folded in a plastic bag when not in use or in a transparent map case, if it has to be marked this should only be done lightly with a pencil and all markings gently erased when finished. It is easier to put the map inside a case and mark the case with a chinograph pencil.