CHAPTER: XXI/22/e(iii)
COUNTRY: Germany
DATE: 21 Jan 43

TRANSLATION OF:

"ANLEITUNG ZUM GEBRAUCH DES MARSCHKOMPASSES (M.Ko.), 1934"

Marching Compass (fzg 1748)

I. General.

a) The marching compass is an item of equipment by means of which directions can be estimated and maintained, and maps and sketches can be correctly orientated, by day and night, in country which cannot be viewed, in unfavourable weather conditions or in artificial smoke.

b) The compass cannot replace precise work with director, scissors-telescope, protractor and romer.

c) The compass can be used quickly under difficult conditions, even on the battlefield in the neighbourhood of enemy fire and when wearing respirators.

The results are only an approximation, which is however sufficient for small distances.

d) Officers, N.C.Os, and as many men as possible must be trained in the handling application of the compass.

e) The individual parts of the marching compass and their nomenclature can be seen in the attached drawings.

f) Oscillation of the magnetic needle is more quickly damped if the compass is momentarily inclined and then again held horizontally, or if the needle locking stud situated on the right-hand edge of the compass is pressed.

g) In using the compass objects of iron and steel (e.g. steel helmets, weapons or side arms) must be removed as far as possible.

Setting up of the compass in the neighbourhood of large masses of iron or powerful electric currents is to be avoided.

In reading a compass when wearing a respirator the respirator must be on the line of prolongation of the compass needle. The respirator should not be brought nearer than 12 in. to the compass.

II. Handling and Application.

In using the compass in conjunction with maps use is made of the magnetic declination. Declination given on the map holds good for Western Germany. For Eastern Germany the declination is zero. In working in Central Germany corresponding mean values for declination must be used.

h) Correct Orientation of a Map.

(i) Maps with grid lines.

Set the direction indicator to "North" by turning the graduated circle. Set the graduated straight-edge along a North-South grid line on the map, so that the direction indicator points to the North margin of the map (Diagram 1). Turn the map with the compass, until the magnetic needle coincides with the magnetic declination.

(ii) Irregularly folded maps without grid lines; maps without margins.

Set the direction indicator to "O" (East) by turning the graduated circle. Set the straight-edge on a place name (this will be written from east to west), so that the place name appears as if written along the straight-edge and so that the direction indicator points to the eastern margin of the map (Diagram 2). Turn the map and the compass until the needle coincides with the magnetic declination. The map is then correctly orientated astronomically: all points on the surface of the ground lie in the same azimuth from the point of observation as the corresponding points on the map.

j) Laying out of a direction for Marching.

The position of the point towards which it is intended to march is estimated with the compass, and the compass direction is given out,

(i) when no point is visible on the ground to serve as a direction point and can only be estimated by means of the map, and

(ii) when no map is available,

(iii) when the possibility exists that the direction point may become invisible through cloud, the approach of darkness, or variations in the landscape;

(iv) when the use of prolonged cover (ravines, depressions, high ground, or the circumnavigation of field obstacles, swamps, lakes, extensive belts of thick undergrowth) or enemy fire necessitates temporary departure from the direction of marching.

Procedure under the above conditions.

Draw a line on the map joining the point of observation to the direction point. Orientate the map correctly. Set the compass with the straight-edge on the line so that the direction indicator points in the direction of march (Diagram 3). Hold the compass fast and turn the graduated circle until the magnetic needle points to the magnetic declination. Read off the number given by the direction indicator and give it out as "Compass direction X". See that all compasses are set to this direction. The lid of the compass is to be kept shut until it is actually to be used.

Procedure when the Direction Point can be seen.

Open the lid of the compass and set the mirror in an inclined position, so that the image of the magnetic needle can easily be seen. Align the direction point over the edge of the compass, the slot in the mirror, and the foresight.

(A handy method of holding the compass is as follows. Pass the thumb through the ring and lay the index finger round the case of the compass under the lid).

Establish the line of sight with the eye and turn the graduated circle with the free hand until the magnetic needle coincides with the magnetic declination.

Look in the mirror. Read off the number given by the direction indicator and give it out as "Compass Direction X".

k) Establishing a Marching direction while on the move.

After establishing the direction of marching according to sub-para (j) an intermediate point is chosen by observation with the direction finder, or with the foresight of the compass, and is used as a direction point. When the intermediate point is reached the direction of marching is checked.

Procedure.

Hold the compass in front of the body and turn the whole body without altering the position of the compass, until the magnetic needle coincides with the magnetic declination. Look for new intermediate points along the direction indicator (or along the line of sights).

If no intermediate points are available or if they are particularly difficult to recognise, it is recommended that a man be used as the intermediate point, and the march should be directed towards him with the help of the compass.

The poorer the visibility over the surrounding country, the more frequently must the direction be checked.

Example - Diagram No. 4.

The Blue force has to advance from the height A in the direction C1 and hold itself in readiness for an attack on a point G. in the wood to the West. G. is visible from A.; the compass direction is given out as 49.

When in the undergrowth B. the objective G. vanishes from sight. When on the high ground B. the direction of marching must be checked by compass, and intermediate points must be chosen.

The next high ground must be avoided as it lies under enemy fire. In the case of small departures from the original direction it will generally be possible instinctively to return to a point on the original direction of marching and there to check the direction of the compass. The following procedure will only be undertaken in the case of considerable deviations in direction.

It has been decided to deviate from C. in a northerly direction towards D. (from C1 in a southerly direction towards D1) and to resume the original direction of marching at E. (E1). C. (C1) is identified accurately on the map or on the sketch, and then points D. and D1 laid off at angles of 55 and 42, and lines drawn on the map from C. and C1 at these angles. The advance then proceeds to D. (D1). On the map or the sketch the points D. and D1 must be identified exactly and registered.

The compass direction for the further advance to E. (E1), 41 and 56 degrees must be estimated.

At E. (E1) a wood is encountered. A bearing of 49 degrees must be adopted until the forward concentration point is reached. The correct front at F. (F1) must be checked for the attack on G.

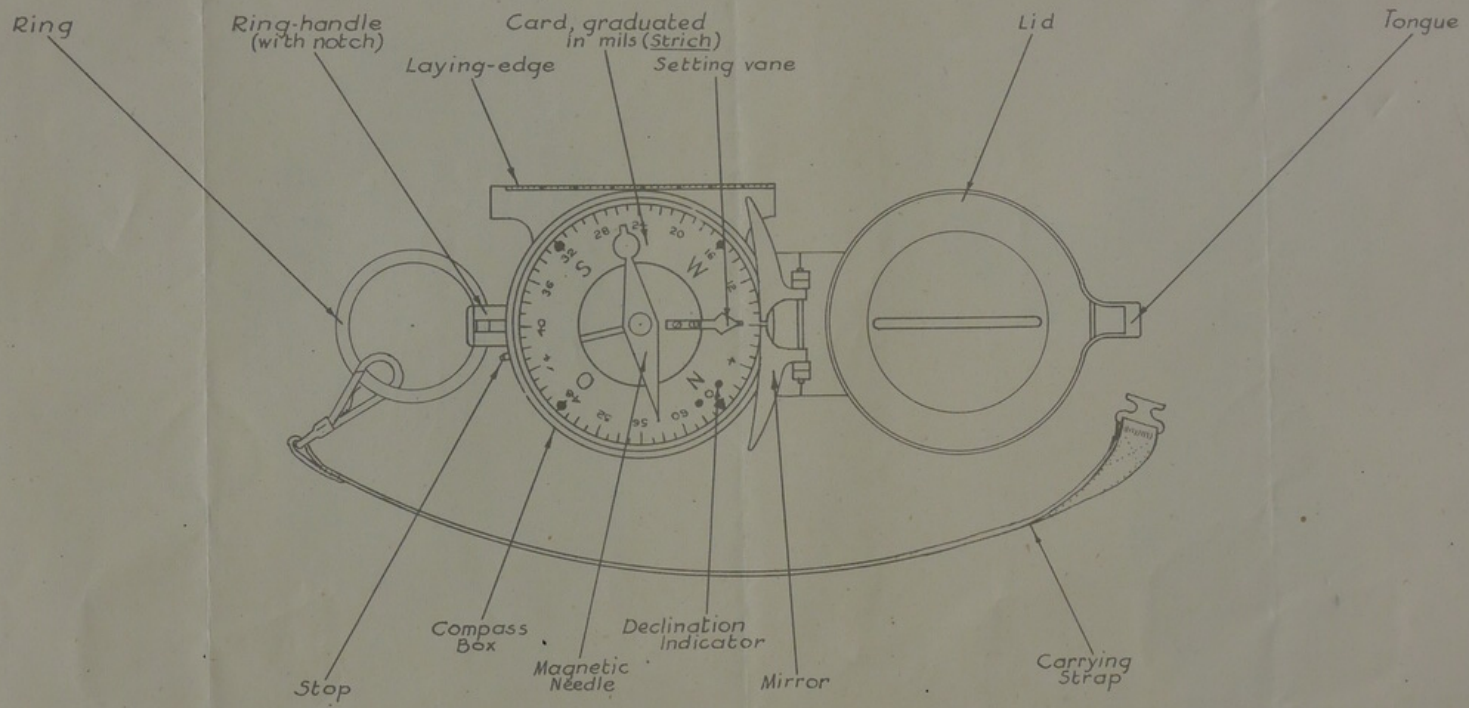
If by carrying out this deviation, the point at which the original direction of marching is to be taken up again (Point E. in Diagram 4) in actual fact cannot be found through darkness, mist, or undergrowth, the best solution is to measure on the map the distance between the two intermediate points, and to pace it out on the ground or measure it with a tape.

Berlin, 18th December 1928. Signed by the Ministry for War,

Chief of General Staff.

Issued with Martian Report No. 33
of 13 January '43

Most Secret



The German Marching Compass
(Marschkompass)

Draw. No. 409
13 January, '43

CHAPTER: XXI/22/(iii)

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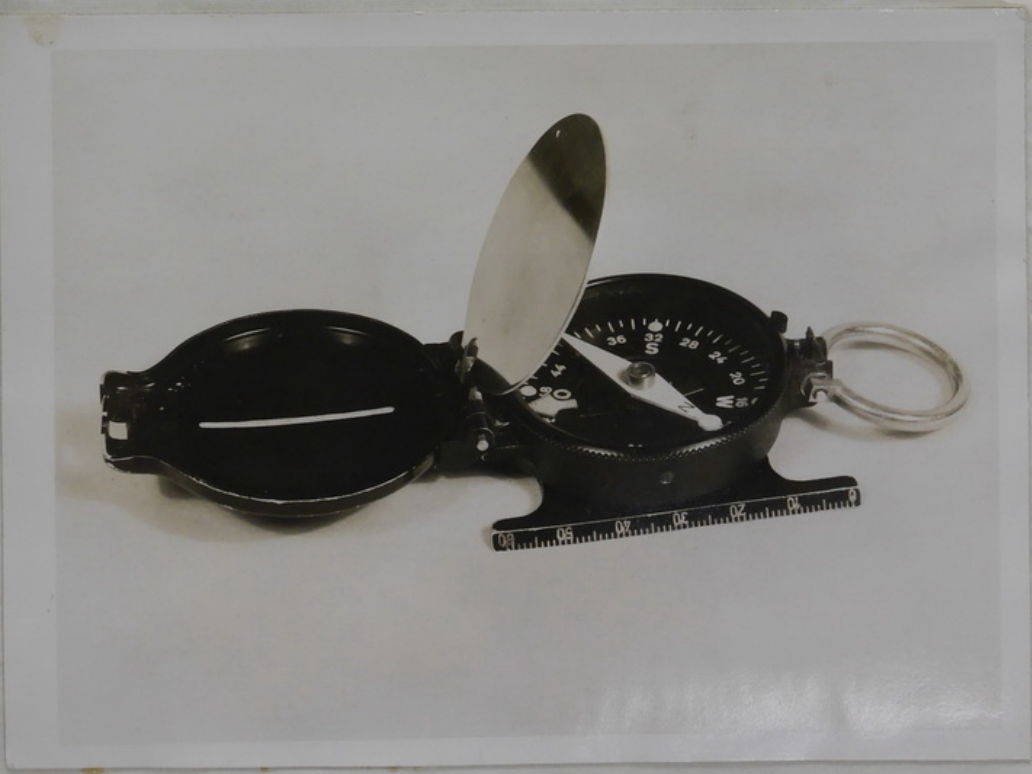

Marching Compass.