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PRISMATIC COMPASS & ITS USE AND GPS

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LESSON PLAN MR 2

(Part 2)

INTRODUCTION

The magnetic compass is an instrument containing a magnetized pointer which shows the direction of magnetic north and bearings from it. The magnetic compass is used extensively in ships, aircraft and the various branches of the army to find and maintain direction. The Prismatic Compass is an accurate and reliable instrument of great value except during a "magnetic storm" or when subject to strong local magnetic field e.g. in polar regions.

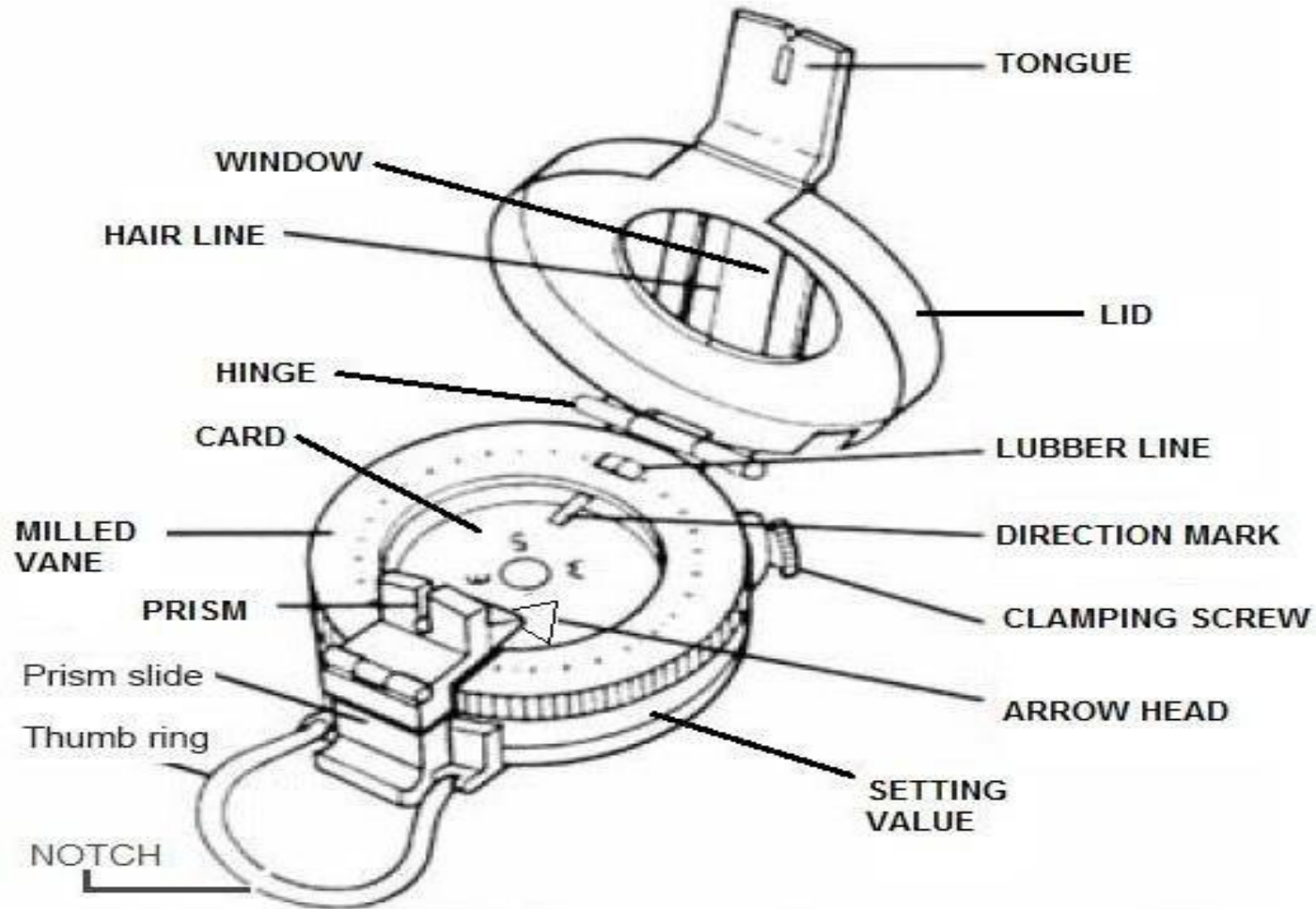
With the prismatic compass one can measure magnetic bearing on the ground.

Types of Compass and Acquiring a Bearing

Types of Compass and Taking Bearing

- There are two types of prismatic compass, the dry and liquid filled. Liquid type is easier to use though it is less sensitive.

VARIOUS PARTS OF PRISMATIC COMPASS

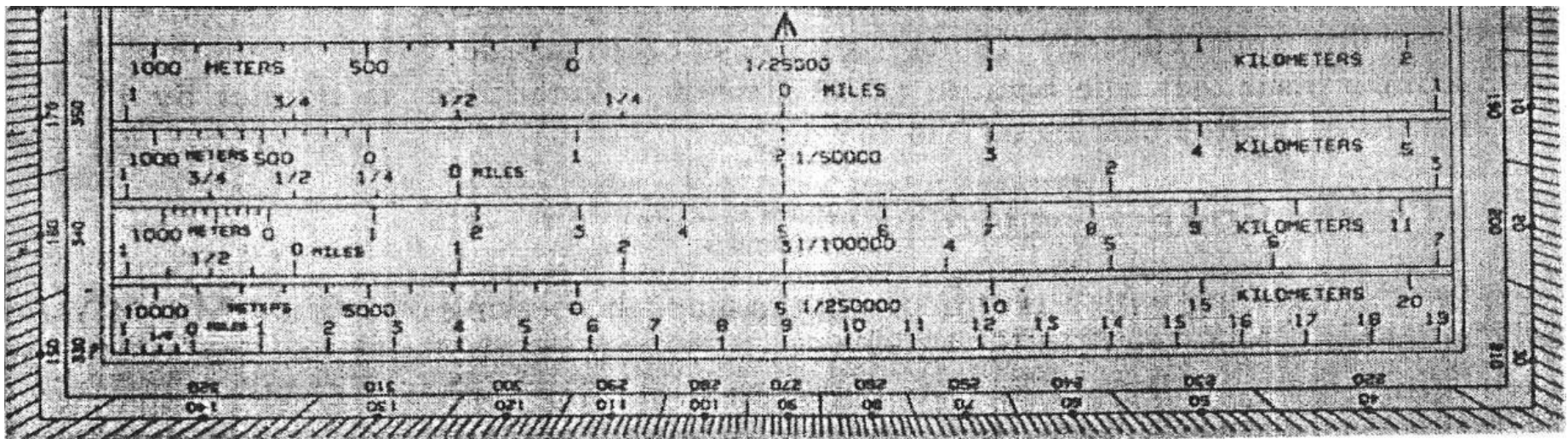


How to Take a Bearing

- (a) Open the lid of compass
- (b) Turn the prism casing over
- (c) Put your thumb through the ring
- (d) Put your forefinger underneath the compass & Hold
it to horizontal level
- (e) Bring the prism up to the eye
- (f) See through the prism via hairline to object
- (g) Read the bearing

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Navigation by Compass and GPS

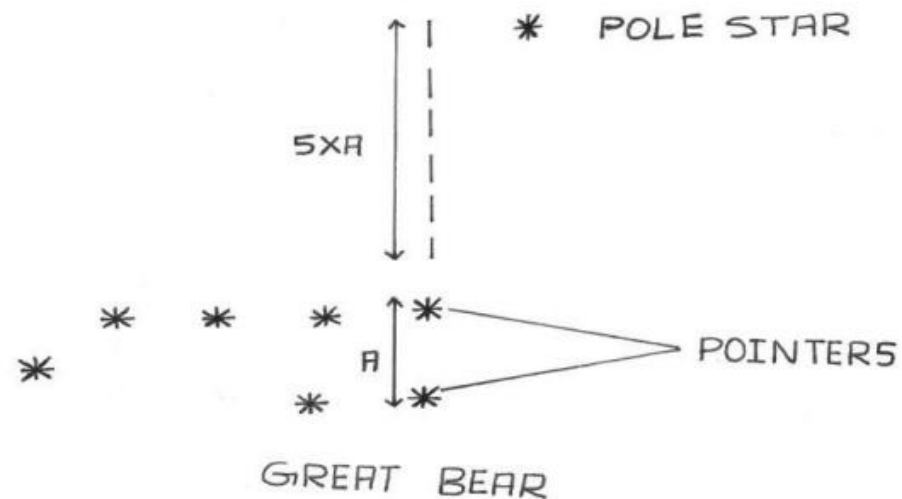
Navigation by Compass

Sometimes it may be necessary to march by night or in thick jungle area in the direction of a certain point; since the point may not be visible in darkness or thick vegetation. In such a situation follow the steps mentioned below

(a) Calculate the bearing from the Map i.e., Grid Bearing

- (b) Convert it to the magnetic bearing and cater for the compass error to arrive at a figure (say 250 degree), the compass must now be set to this figure to march on it.
- (c) Unscrew the clamping screw.
- (d) Rotate the milled vane to 25 till it comes exactly on the “lubber line”.
- (e) Tighten the clamping screw.
- (f) Compass is now set for 250 degree.

- (g) To obtain the direction of march, open the lid fully and keep the compass on the palm.
- (h) Now turn left or right till arrow head comes under the direction mark.
- (i) Direction of march is given by the direction in which tongue is pointing.



Compass Error

Sometimes due to the presence of impurities in the material of which a compass is made or other reasons, the magnetic needle may not point toward the magnetic NORTH but a little to the EAST or WEST of it. This deviation of the magnetic needle in the compass from the magnetic NORTH is termed compass error.

Global Positioning System

Global Positioning System (GPS) refers to a system of satellites and receivers that allows people and devices to pin point their precise location on the earth. The first GPS satellite was launched in 1974. GPS is funded and controlled by the United States, Department of Defence. Present technology provides very handy and accurate navigation. GPS is used by:

- (a) It assists troops to navigate through jungles, mountains and deserts, and also used to guide missiles to pre specified targets.
- (b) Commonly used in day to day life by general public like for travelling purposes
- (c) Fishermen and hikers to navigate.
- (d) Armed Forces, inbuilt its equipment and in uses in battle fields.

CONCLUSION

It is very important for a soldier to understand the prismatic compass and be proficient in using the same. An individual should know how to take the bearing set the compass and then march on the bearing set on the compass. The compass should be checked for correctness and errors if any be noted on the inside of the lid. While using the compass ensures that there is no iron objects nearby.

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THANK YOU



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