

# Lesson Plan - 7.1-2 Navigation - Navigation tools and fixing

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## AIM:

To show crew the basics of how to navigate using a paper chart and the tools involved. Introduce them to charts and the information they carry. Show where the charts are kept onboard.

**Training Shoreside** - Introduce crew to the the tools of navigation and charts and how to use them.

- Show the tools we use, dividers, plotter, compass, pencil, hand bearing compass etc
- Get crew to handle the tools and explain how to use them
- Bring out the chart local to our waters
- Explain the features and information shown on a chart such as lat and long, scale, compass rose, buoyage, colours, notices, depths etc
- Explain methods of fixing a position using lat and long, range and bearing and a visual 3 point fix

**Training Afloat** - In the appropriate conditions, crew should be shown where the charts are stowed onboard, where the navigation equipment is kept and how to take fix our position using lat and long, range and bearing and a visual 3 point fix.

## Navigation Equipment:

### Basic Tools of Navigation

Dividers. Plotter (Portland Plotter and RIB Plot if available). Bearing Compass. 2B Pencil. Sharpener. Pencil Rubber. Drawing Compass. Chinagraph Pencil. Stopwatch.

Explain the use of each.

Show where these can be found at the station (in the chart desk) and where on the boat (footwell pocket by seats 2 and 3).

## Charts:

### Charts

Show where charts are kept at our station (in the chart desk) and where they are kept on the boat (tube attached to the A frame on starboard side). Use the chart relevant to our area.

Explain the common features and symbols used:

Title. Latitude and Longitude. Scale. Compass Rose. Hazards. Buoyage. Colours. Notices. Depths and Contours. Common Symbols. Local Information.

This list is not exhaustive, there is a lot of information carried on a chart. Be careful not to overload crew with too much to remember. For example going into the workings of Tidal Diamonds should probably be kept for another time!

Using Admiralty publication *Chart 5011 Symbols and Abbreviations Used On Admiralty Charts* will help crew become familiar with symbols and encourage them to research any they do not know.

### **Methods of Fixing**

Explain and demonstrate how to fix our position on a paper chart using the following:

Latitude and Longitude. Range and Bearing. A visual 3 Point Fix.

Explain the use of Lat and Long on the chart and how to plot a position.

Explain Range and Bearing and plot a position given a distance off something and a bearing.

Using the hand bearing compass take 3 fixes on known points and plot the position.

### **Reference Material:**

Crew Handbook