

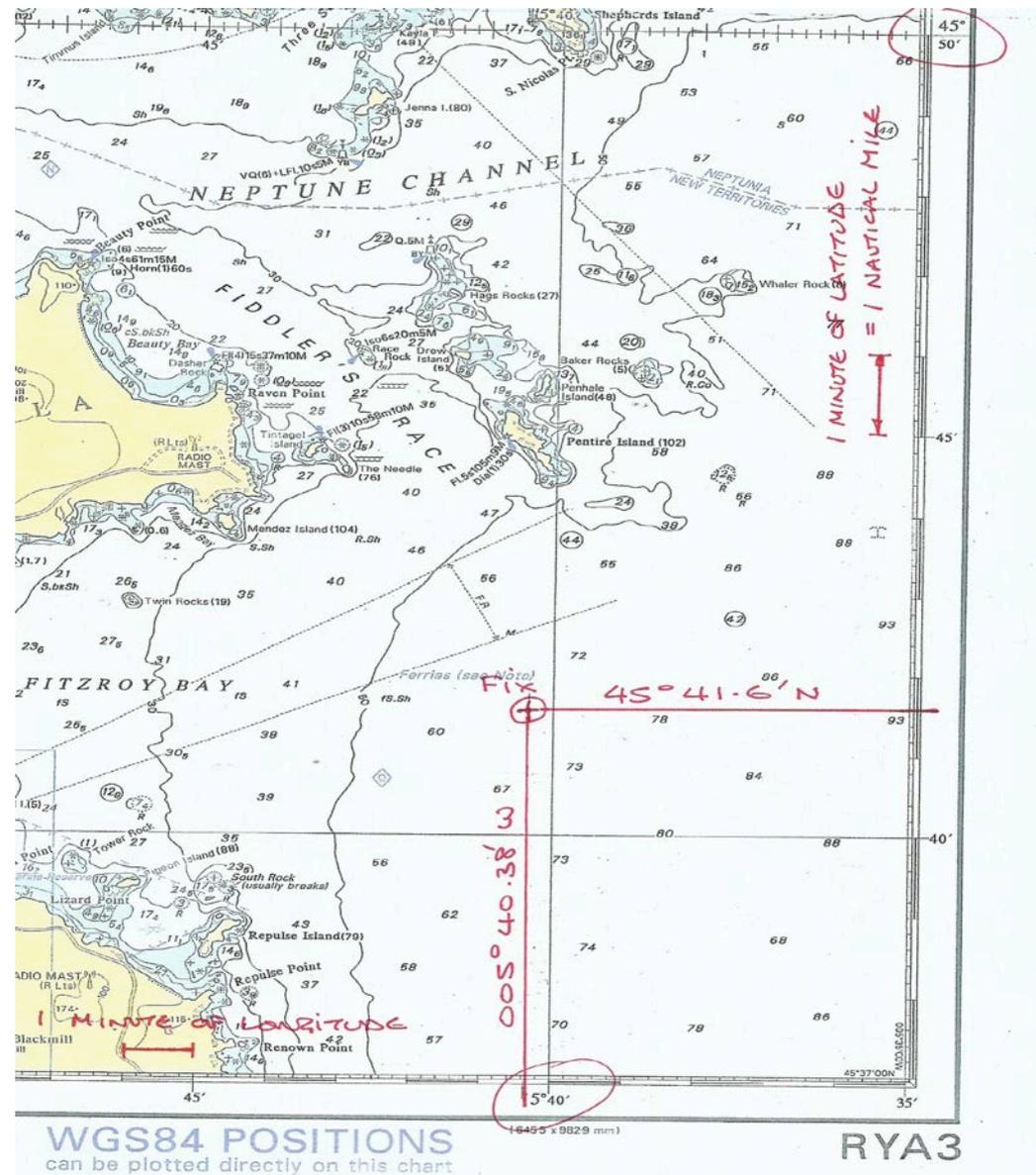
# Charts and Chart Work

## with Poole Sailing



# Charts and Chart Work

- Nautical charts are a mine of information but they need to be up to date. Corrections to charts are published by the Hydrographic Office monthly as 'Notices to Mariners' both in print and on-line. The latest correction should be noted on the chart in the bottom right hand corner.
- The scale of Latitude on the sides of the chart and the scale of longitude on the top and bottom can be used to co-ordinate a position. But be careful of the divisions, they vary between charts. This chart has the latitude and longitude scales divided into Degrees, Minutes, (there are 60 minutes in a degree) and fifths of a minute.
- You need to make sure that the latitude / longitude grid on your chart is the same as the grid on your GPS. There are many. The grid on this chart is WGS84, the default grid on most GPS.
- Meridians of longitude converge as they approach the poles and there isn't a regular distance between them. Parallels of Latitude do however have a relatively constant distance between them and can, therefore, be used for distance measurement.
- One minute of Latitude equals one Nautical Mile.
- One tenth of a Nautical Mile is known as a Cable.



# Charts and Chart Work

Correct interpretation of charts is vital. Learn to recognise chart symbols and understand their meanings. The Admiralty publication 'Chart 5011' is the key to all chart symbols and here is a selection with their meanings.



*Dangerous underwater rock*



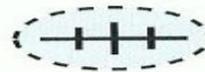
*Rock which covers and uncovers*



*Rock awash at the level of chart datum*



*Wreck showing above chart datum*



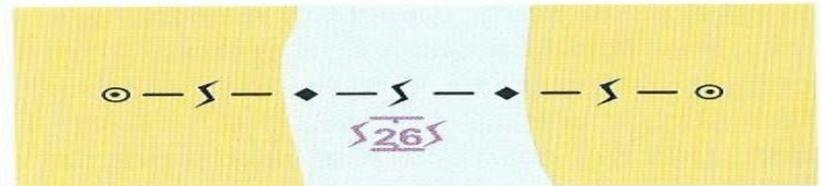
*Dangerous wreck*



*Wreck swept to depth shown*



*Underwater cables*



*Power transmission line, showing safe clearance*

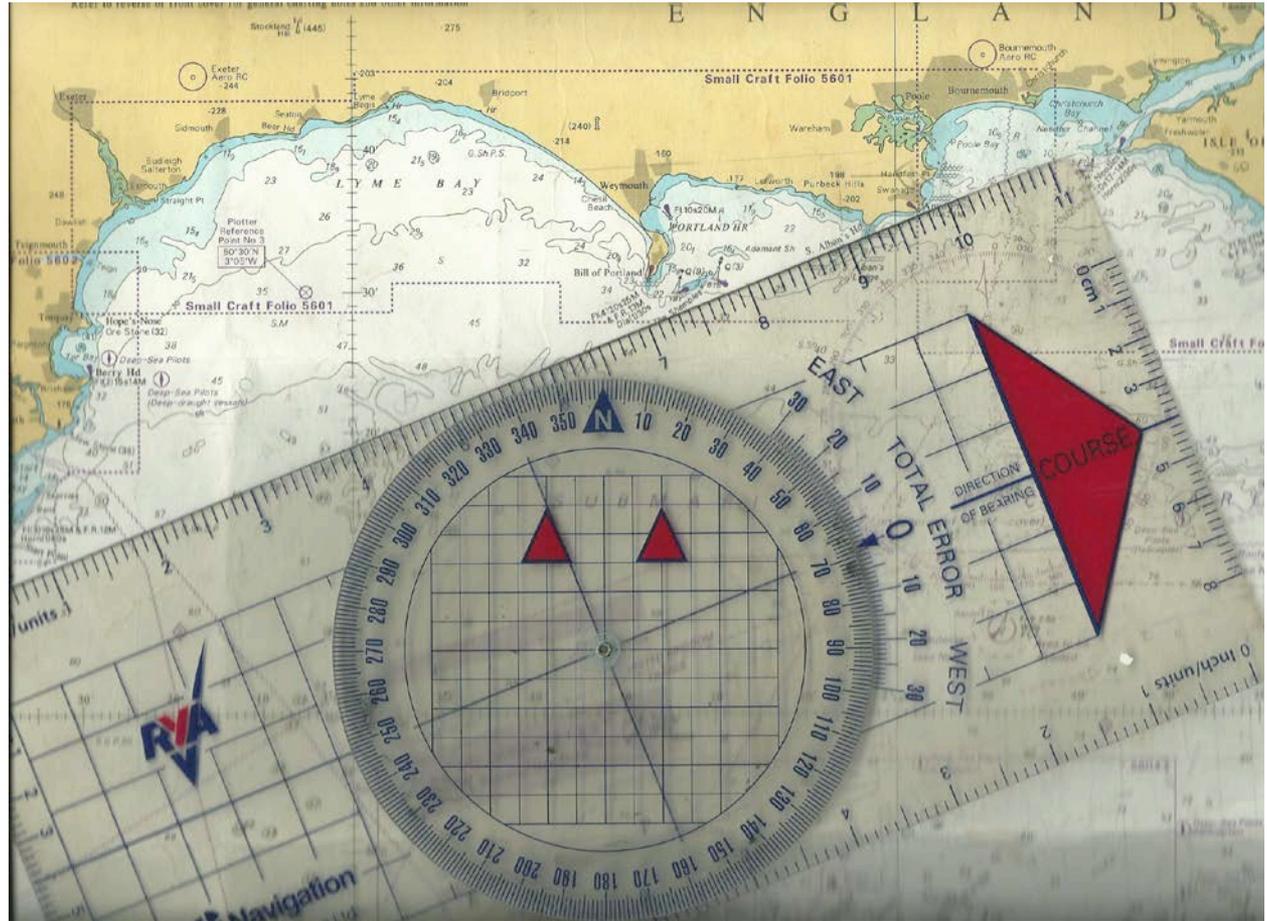


*Visitors moorings*



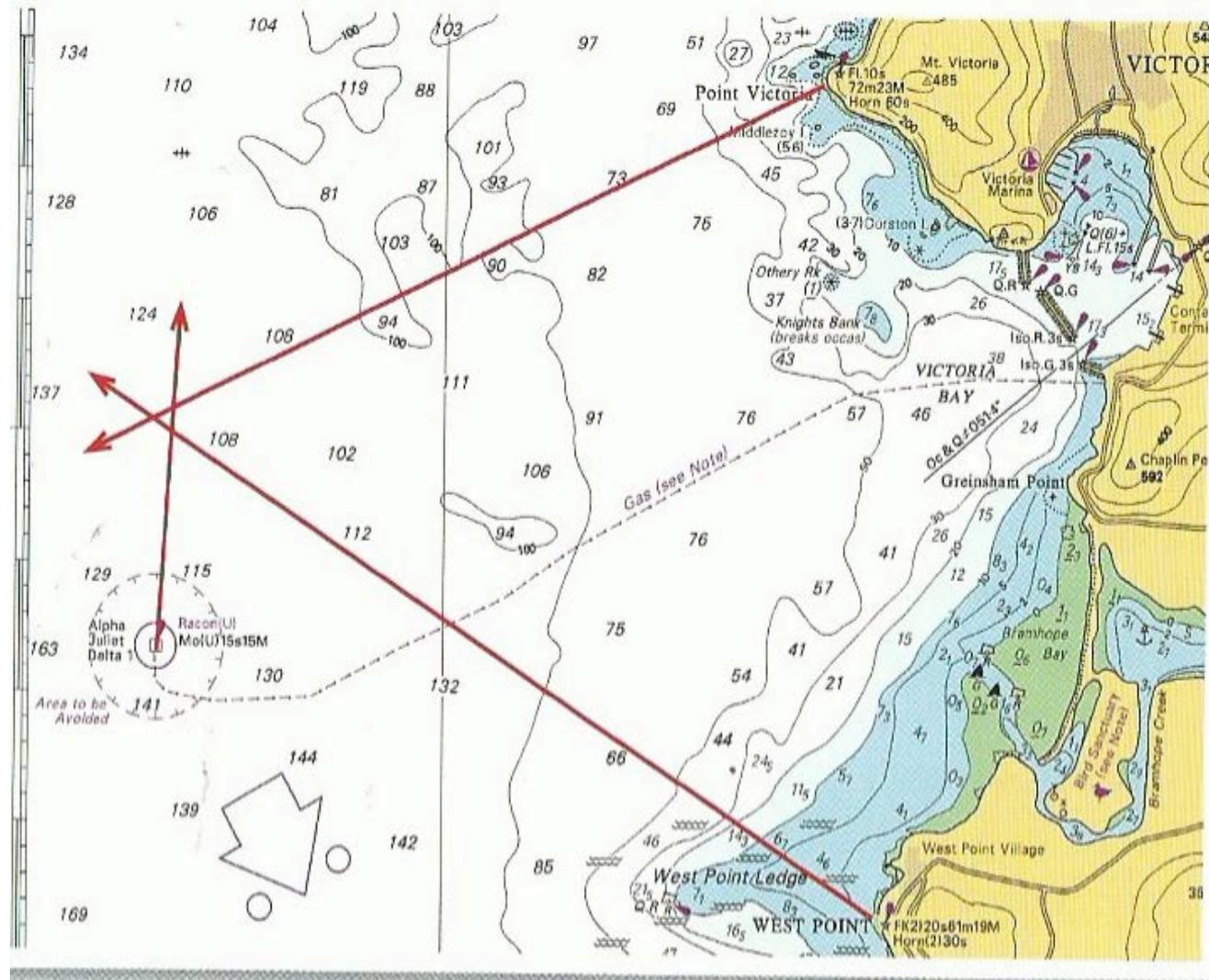
# Charts and Chart Work

- You can use a Breton Plotter to determine a bearing.
- Place the edge of the plotter on the bearing line, pointing in the direction of the sight.
- Dial the red arrows in the middle of the circular 'rose' towards north and align the square grid with the grid in the chart.
- Read the True Bearing against the zero, 68 Degrees.
- If you mark the value of variation on the plotter's 'error' scale, you can read the equivalent 'magnetic' bearing value against the mark.



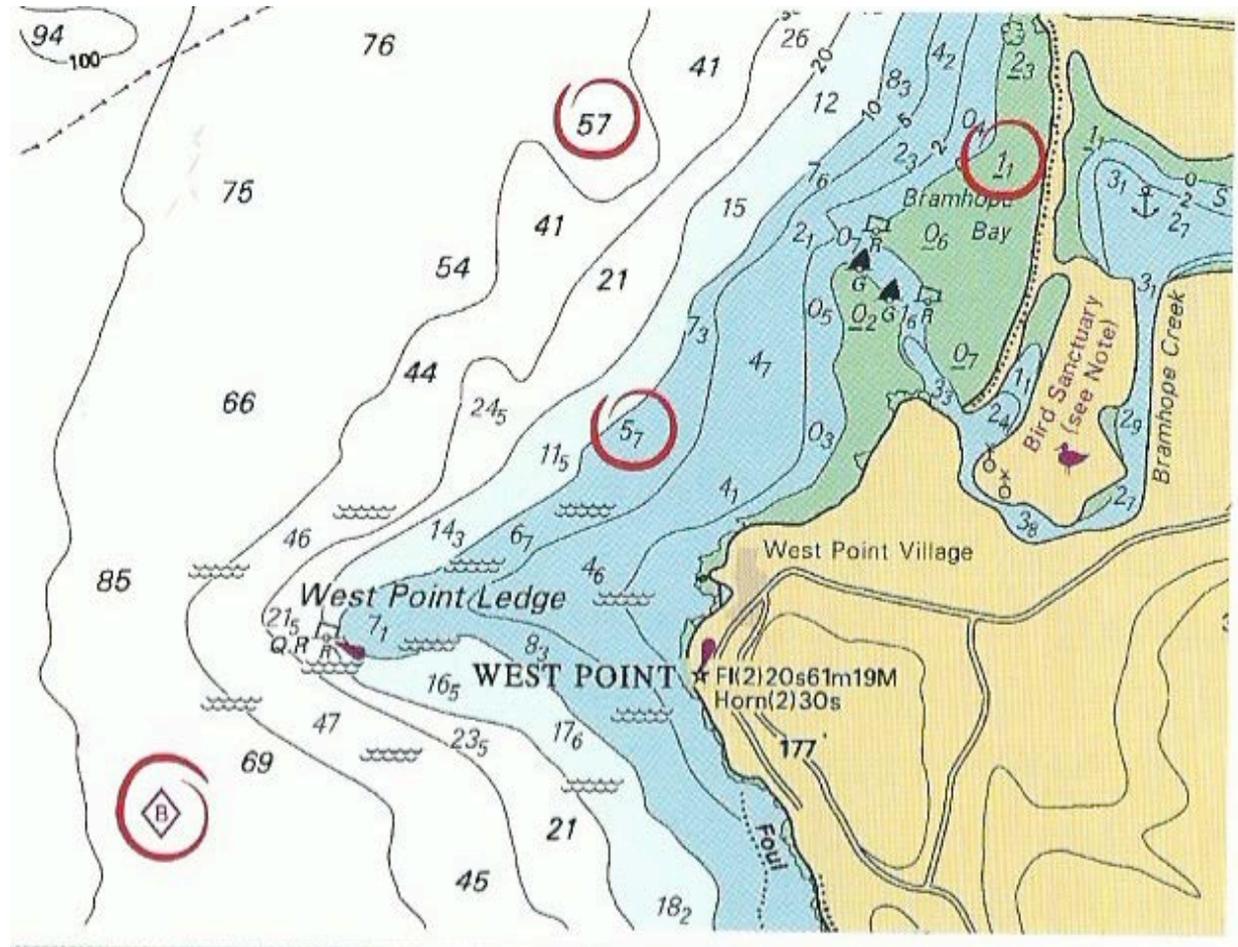
# Charts and Chart Work

- Once we are used to using bearings, we can fix our position by sighting prominent objects marked on the chart.
- This navigator has taken three bearings, two on lighthouses and one on an offshore rig.
- The bearings have been taken with a 'hand-bearing compass', and will therefore be 'magnetic' bearings.
- The three bearings have then been converted into 'true' bearings and then drawn on the chart from the sighted objects.
- Where the three lines intersect, that's where you are, a 'fix'.
- Its usual to end up with a small 'triangle of uncertainty', or 'cocked hat'.



# Charts and Chart Work

- This Admiralty chart has depth contours at 5, 10, 20, 30, 50 and 100 metres.
- The deepest water is shown white, there is a Charted depth of 57metres shown.
- Water is coloured light blue and then dark blue as it becomes shallower. See the charted depth of 5.7 metres circled.
- The green areas are those areas of sea bed that will be above water if the tide goes down to the level of Chart Datum. The Drying Height of 1.1 metres is circled.



# Charts and Chart Work

- Charted Depths are measured from the sea bed to Chart Datum. Also known as the Lowest Astronomic Tide, (LAT).
- Drying Heights are also measured above Chart Datum.
- The height of a Light House is measured from MHWS.
- Clearances under bridges are measured from the Highest Astronomic Tide.
- The difference between LAT and HAT for any location will be given in the Almanac.

