

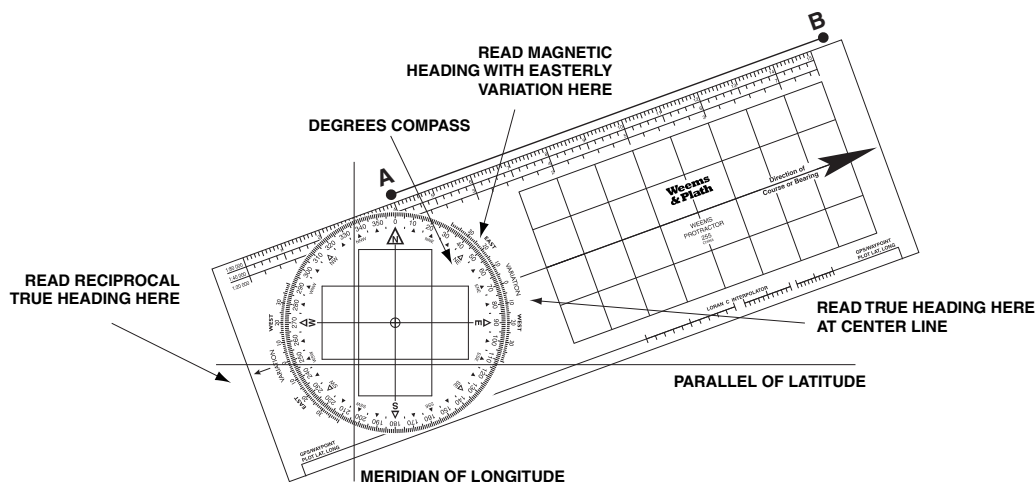
# Instructions for #255 Weems Protractor

## 1. Laying off a course

**(Determining direction along any line or between any two points on a chart).**

Align the edge of the protractor with the course (see A to B in figure below), and turn the protractor rose until any of the grid lines which run N to S are parallel with a meridian of longitude or one of the W to E lines are parallel with a parallel of latitude. Read the true course from the center line showing "Direction of Course or Bearing." If the reciprocal true direction is desired, read it on the rose at the arrow on the opposite (short) side of the protractor.

The magnetic course may be read directly on the protractor rose opposite the East or West variation which corresponds to the chart in use. **NOTE:** The scales are etched to allow a pencil mark at the correct variation. Also, be sure that the true course on the rose is aligned with 0 on the variation scale when reading the magnetic course.



## 2. Laying off a bearing

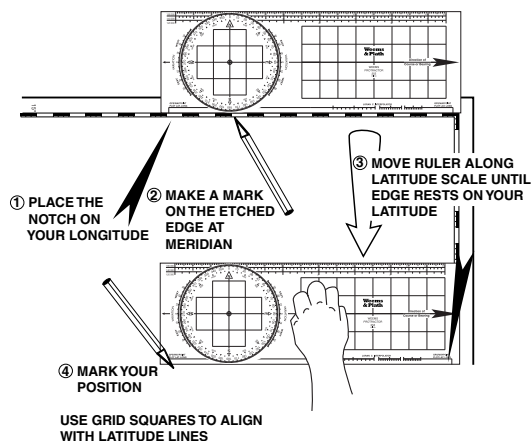
**(Determining a direction from a given point).**

Rotate the protractor rose to align the magnetic (vessel's) compass bearing to the point on the variation scale that corresponds to the variation on the chart in use. Place one of the protractor's long edges on the given point. Align the protractor so one of the rose grid lines which run N to S are parallel with a meridian of longitude or one of the W to E lines are parallel with a parallel of latitude. Draw the bearing line to the given point.

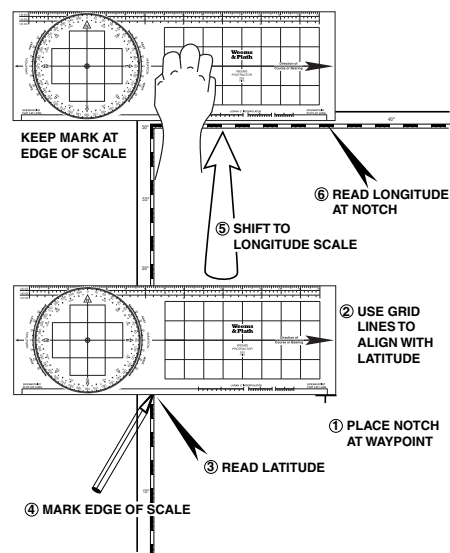
## 3. To measure distance between any two points

First note scale of chart in use. This chart scale is given on each chart under, or near, the legend giving the area covered by the chart. For chart scales of 1:20,000, 1:40,000 and 1:80,000 use the scales provided on the plotter. Place the zero of the protractor scale at one point and read the distance in nautical miles where the scale meets the second point. If no scale on the protractor matches the chart, make pencil marks on the etched edge along the bottom of the protractor at both points, then read the nautical miles using the latitude scale on either side of the chart. Note: One minute of latitude = one nautical mile.

## 4. To plot your position on a chart from a given set of coordinates. Follow the steps below.



## 5. To determine the coordinates of a position on a chart. Follow the steps below.



## 6. LORAN C Interpolator (lattice charts only)

Skew the plotter scale to give the best fit between charted readings. Compare to interpolator of chart in use.

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