

## Using the Weems & Plath Primary Navigation Set

This navigation set includes four plotting tools for basic charting and navigation functions.

### #105 Weems & Plath Nautical Slide Rule (MADE IN CHINA)

The Nautical Slide Rule consists of two circular dials mounted on a plastic base. Set the distance first when it is one of the known factors. Due to the fact that the speed scale is read through both dials, this setting should always be made last when speed is one of the known factors.

The time scale displays hours in green and minutes and seconds in black. Seconds are listed only to 120 and cannot be used as minutes and seconds, but only as total seconds for timed runs of less than two minutes. Likewise, the separate hour and minute scales are not combined as hours and minutes but used only as hours and fractions of an hour, or as total minutes.

**To illustrate:** set the time line on 1.5 minutes and note that it is also on 90 seconds. Either unit of measure may be used. Now set the time line on 150 minutes and note that it also reads 2.5 hours.

The speed scale reads from 1 to 100 knots or mph.

The distance scales are shown in nautical miles (green) or yards (black). For example, set 3 nautical miles on the distance line and note that this can also be called 6,000 yards depending on which unit of measure you are using for distance. The green distance figures may also be used as statute miles, but in this case your speed will be in statute miles per hour instead of knots. **WHEN USING STATUTE MILES THE YARD SCALES MUST NOT BE USED.**

**Example #1** To find speed when time and distance are known. Assume that you have run a distance of 12 miles as measured on your chart between buoys and that it took you 80 minutes to cover this distance. First turn the outer dial until 12 miles is on the DISTANCE line, then turn the inner dial until 80 minutes is under the TIME line. Now read your speed as 9 knots.

**Example #2** To find distance when speed and time are known. For a given run your boat makes a good speed of 15 knots and you desire to know how far you have traveled in 2-1/2 hours (150 minutes). Turn the inner dial until the TIME line is over 2.5 hours then turn the two dials together until 15 is opposite the speed marker. Now read your distance of 37-1/2 miles at the DISTANCE line.

**Example #3** To find the length of time it will take to go a given distance at a known speed. Assume you desire to make a trip of 30 miles and the speed of your boat is 19 knots. First, set the outer dial so that the DISTANCE line is on 30 miles. Hold this setting in place with your thumb and turn the inner dial to a speed of 19 knots and read your time of 95 minutes for the trip.

### #140 Weems & Plath Parallel Ruler (MADE IN CHINA)

#### To find the bearing or direction of a course:

1. Line up one ruler with the desired course line drawn between two objects on the chart.
2. Alternately, hold one ruler in place and swing the second ruler to walk the pair across the chart to the nearest compass rose.
3. Place the outer edge of one ruler at the center point of the compass rose and read the bearing on the rose.

#### To plot a direction or heading:

Reverse the above process. Start at the compass rose and walk the rules to the desired point of origin and draw a course line on the chart.

### #176 Weems & Plath Ultralight Dividers/Compass (MADE IN GERMANY)

#### To measure the range or distance between two points:

1. Open dividers to the distance between two points on your chart.
2. Transfer the dividers without change to the chart's scale.
3. Place the dividers on the scale line with one point on the zero mark.
4. Read the distance at the opposite tip.

You can use the scale to the left of the zero mark to measure shorter distances or fractions of a mile.

To measure range or distance on a chart greater than the width of dividers:

1. Set the dividers at a convenient opening for a whole number of units on the chart's scale.
2. Step this off the appropriate number of times on your course line.
3. Measure the fractional miles remaining per instructions above.

#### To use as a compass:

A drawing compass is used to draw circles or arcs a known distance from a given point. To use, place the point of the compass in the center of the circle you wish to draw, open the legs to half of the diameter of the size circle desired and rotate the compass handle so the lead makes a line on the paper.

**Weems & Plath®**

Annapolis, MD USA  
410 263-6700  
www.weems-plath.com

Item #32200 Primary Navigation Set



7 21002 32200 5

PACKAGING MADE IN CHINA