

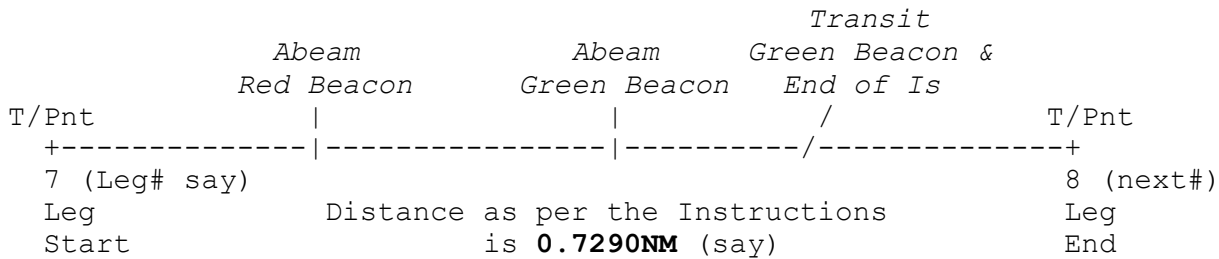
PISCES RUN SHEET PROGRAM

Traditional Navigation Events – Measuring Course Plots for Run Sheets

Charts that are blown up on a copier (unless exactly a multiple) and plots from Pisces can be at a scale which does not match a scale ruler. The measuring method below can be used on any copy or plot. It works by proportioning distances along the plot leg measured by a ruler in cms (or millimetres or any other consistent units).

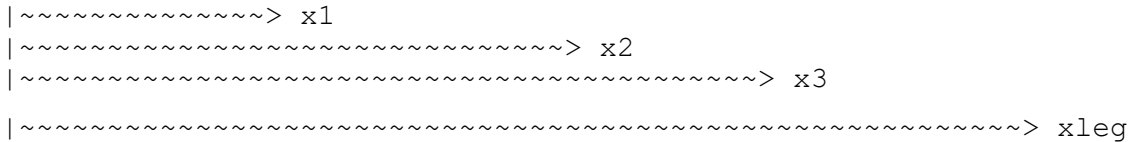
Best practice is to measure plot waypoint distances from the beginning of each leg. This is much more accurate than measuring individual segments within the leg, as the ruler can be zeroed at the leg start to measure all distances for the leg at the one time. Also waypoints measured this way can be easily added/removed in the Pisces *R/Sht Editor* (providing the coincident 'Data Input... 2-Prog. lengths within Legs' option is set).

Say we have a LEG (can be at any angle) with the following intermediate waypoints :-



- Note:-
1. *The Leg#'s relate to the beginning of the leg and T/Pnt = Turning Point.*
 2. *For this area of the plot, 1 NM (ie. the distance between latitudes) measures 16.08 cms - see below. Photocopies can distort. Such NM measurements may vary within the plot and page to page.*

Measure accurately with a scale ruler in CM's (or any consistent units), the waypoint distances 'x1', 'x2' etc and the overall leg distance 'xleg'.



On the Run Sheet (R/Sht) Measuring Template (see the next pages):-

1. Insert the measured distances in the WPnt_CM column and also notate the Description.
2. Insert the Instructions NM leg length in the WPnt_NM column, left of the 'T/Pnt' (see the '.729 T/Pnt' below).
3. Evaluate the multiplying factor (and store in your calculator memory):

$$f = \text{xleg(NM)} / \text{xleg(CM)} = .729 / 12.25 = .05951 \text{ (alternatively } f = 1 / 16.08 = .05952 \text{ \{16.08=1 NM in cms\})}$$

4. Multiply the individual waypoint CM's by this factor (recall memory) to give the NM's for the intermediate waypoints eg.

NM = CM * f (eg. for the Abeam Red = 3.15 * .05951 = .187NM, etc.)

| Leg# & Factor | WPnt CM | WPnt NM | Description | |
|------------------|------------|--------------|-----------------------|------------------------------|
| 7 | 3.15 | .1875 | Abeam Red | where .1875 = 3.15*.05951 x1 |
| | 6.75 | .4017 | Abeam Green | " .4017 = 6.75*.05951 x2 |
| | 9.05 | .5386 | Trans Green + Is. End | " .5386 = 9.05*.05951 x3 |
| f= | | - | | |
| .05951 | 12.25 | .7290 | T/Pnt | " .7290 = 12.25*.05951 xleg |

On completion enter the intermediate 'WPnt_NM' and 'Description' into the Pisces *R/Sht Editor* (with the 'Data Input... 2-Prog. lengths within Legs' option set before entering any data – normally the default setting).

SYC Power Boat Committee - Log/Nav Events - Run Sheets

Measuring Template: $Leg\ Factor = Leg(NM)/Leg(CM)$ & $WPnt(NM) = WPnt(CM)*Leg\ Factor$

| Leg/ WPnt WPnt | | | | Leg/ WPnt WPnt | | | | Leg/ WPnt WPnt | | | |
|----------------|----|----|-------------|----------------|----|----|-------------|----------------|----|----|-------------|
| Fact | CM | NM | Description | Fact | CM | NM | Description | Fact | CM | NM | Description |
| 1 | | | | 9 | | | | 17 | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 2 | | | | 10 | | | | 18 | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 3 | | | | 11 | | | | 19 | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 4 | | | | 12 | | | | 20 | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 5 | | | | 13 | | | | 21 | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 6 | | | | 14 | | | | 22 | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 7 | | | | 15 | | | | 23 | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 8 | | | | 16 | | | | 24 | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |

| Leg/ WPnt WPnt | | | | Leg/ WPnt WPnt | | | | Leg/ WPnt WPnt | | | |
|----------------|----|----|-------------|----------------|----|----|-------------|----------------|----|----|-------------|
| Fact | CM | NM | Description | Fact | CM | NM | Description | Fact | CM | NM | Description |
| 25 | | | | 33 | | | | | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 26 | | | | 34 | | | | | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 27 | | | | 35 | | | | | | | |
| Leg: | | | T/Pnt | Leg: | | | T/Pnt | | | | T/Pnt |
| 28 | | | | | | | | | | | |
| Leg: | | | T/Pnt | | | | T/Pnt | | | | T/Pnt |
| 29 | | | | | | | | | | | |
| Leg: | | | T/Pnt | | | | T/Pnt | | | | T/Pnt |
| 30 | | | | | | | | | | | |
| Leg: | | | T/Pnt | | | | T/Pnt | | | | T/Pnt |
| 31 | | | | | | | | | | | |
| Leg: | | | T/Pnt | | | | T/Pnt | | | | T/Pnt |
| 32 | | | | | | | | | | | |
| Leg: | | | T/Pnt | | | | T/Pnt | | | | T/Pnt |