

## RORC Inclining for SSI

The purpose of the exercise is to measure RM as for a normal rating inclination. In this case however, the data is used to calculate the IOR stability screening variable sv. This value is in turn used by the SSSN software to calculate a self-righting factor, FSR. This is then a multiplier on SSSN base value, and can enhance base value by up to 25%. Additionally, the data is used as input data for the calculation of RORC STIX.

For reference, sv is to be found in Part XII of the IOR Rule. sv of c-1.5 and lower achieves the maximum permissible FSR of 1.25. In the case of an IOR measured yacht, all the relevant variables will already have been measured. For non-IOR yachts, various of these are required as well as the inclining data. These are:

### 1. **Waterline Beam, BWL**

By inspection, establish an approximate BMAX station and hang a plumb bob over each side. Measure BMAX and insets from the plumb lines to the local waterline beam. By subtraction from BMAX, BWL can be found.

### 2. **Freeboard at BMAX station (IOR FMD)**

Measure freeboards both sides.

### 3. **Canoe Body Depth (IOR CMD, Centre Mid Depth)**

This will normally be found from the designer supplied line plans or other data.

### 4. **Waterline Length, LWP (IOR L)**

Measure as for IRC, subtracting forward and aft overhangs from LOA.

The inclining is carried out exactly as for an IRM/IMS inclination, with the exception that the only freeboards required are those at the BMAX station (2. above).

The boat may be in either empty condition be in 'light' sailing trim with all gear and equipment necessary to race the boat. If in the light condition, water tanks must be empty, but small quantities of diesel are acceptable. Any in-mast or headstay furling sails should be hoisted and furled. Otherwise, the mainsail should be on the boom and other sails stowed below. The condition must be declared on the input sheet.

Environmental conditions are critical. There must be no current and an absolute maximum of 10 knots of wind, preferably less.

For boats which have not previously been inclined, the weight to be used will first have to be found. Assuming that four weights are to be used, set the boat up with poles out both sides, position and read the manometer, hang one weight on a pole and re-read the manometer. Manometer deflection (for a 1500mm manometer) should be in the range 18 to 22mm. Adjust the weight linearly to achieve this.

With the boat moored head to wind from a single bow painter, start with all 4 weights on one pole and transfer one at a time to the other pole, reading the manometer each time. Measure weight distance, with equal weight on each side.

END