

PART II – GENERAL LIMITS AND EXCLUSIONS

2.01 Hull Type

This rule is intended to be used for the rating of monohull yachts only. Hulls in which the canoe body depth in any section decreases towards the center line shall not be rated under this rule.

2.02 Stability

2.02.1 Stability Index: A yacht's eligibility for entry in ORR races of ORC Special Regulations Categories 0, 1 or 2 may be limited on the basis of her Stability Index, at the option of the race organizer.

$$\text{Stability Index} = \text{LPS} + \text{Capsize Increment (CI)} + \text{Size Increment (SI)}$$

Where, in imperial units:

LPS = Limit of Positive Stability, the heel angle at which the righting arm is zero.

$$\text{CI} = 18.75 * (2.0 - \text{MB} / (\text{DSPM} / 64)^{.3333})$$

$$\text{SI} = (((12.0 * (\text{DSPM} / 64)^{.3333} + \text{LSM0}) / 3.0) - 30.0) / 3.0$$

CI shall not be taken as greater than 5.0 nor less than -5.0.

SI shall not be taken as greater than 10.0.

NOTE: Stability Index for water ballast yachts is calculated with ballast tankage full on one side, empty on the other and for canting keel yachts with the keel fully canted.

The following table provides the recommended minimum stability index for various categories of races:

<u>Offshore Race Category</u>	<u>Minimum Stability Index</u>
0	120
1	115
2	110

2.02.2 Ballast-Leeward Recovery Index (BLRI). For a yacht incorporating water ballast or a canting keel, eligibility for entry in ORR races of Special Regulations Categories 0, 1 or 2 may be limited by the race organizer on the basis of Ballast-Leeward Recovery Index (BLRI) as recommended below.

- a) The BLR Index represents such a yacht's relative ability to recover from a knock down with sails aback, i.e., knocked down with all water ballast or canting keel to leeward. BLR Index is calculated as follows:

$$\text{BLR Index} = (\text{RA90} * \text{DSPS} / (2 * \text{SA} * \text{CE})) * 0.333 + 0.5$$

Where, in metric units:

RA90 is the righting arm, 90 degrees heel, ORR Sailing Trim.

DSPS is the ORR Displacement in Sailing Trim.

SA is the geometric area of the ORR rated sailplan, i.e., mainsail and foretriangle.

CE is the Center of Effort of the ORR rated sailplan, i.e., mainsail and foretriangle.
(all taken with full leeward cant or leeward ballast tankage full, windward empty)

- b) The Limits for minimum BLR Index are specified according to Special Regulations Race Category (0, 1 & 2) and vary with ORR sailing length in Sailing Trim. They are therefore displayed on the Certificate as SRCat0 Minimum and SRCat1&2 Minimum. The limits are calculated as follows.

SR Category 0: Minimum = $0.90 + 0.007*(LSM1 - 5)$

SR Categories 1 & 2: Minimum = $0.75 + 0.007*(LSM1 - 5)$

2.03 Appendages

Yachts may race under ORR subject to the following limitations on appendages:

2.03.1 Keel foils must be solid in profile and have an attachment to the hull at the yacht centerline.

2.03.2 The keel may have an end plate, winglets, a midline centerboard and/or a trim tab.

2.03.3 The keel may be canting (keel rotating around root hinged to hull at yacht centerline) and the boat will then be subject to restrictions pertaining to yachts with moveable ballast canting keels.

2.03.4 Keels may have trim tabs. The axis of rotation of the trim tab shall be in the center plane of the keel.

2.03.5 The yacht may have a skeg, one or two normal rigid-surface midline rudders or off-midline, coupled, non-retractable twin rudders.

2.03.6 Off centerline dagger boards are permitted.

2.03.6 The yacht may have a bona fide propeller installation and the usual instrument transducers.

2.03.7 Centerboard and daggerboard movement is restricted to motion up or down either in a straight line or around a single fixed pivot. Excluded are:

2.03.7.1 Centerboards arranged for fore and aft motion except the motion resulting from conventional pivoting around a pin located in the conventional position.

2.03.7.2 Centerboard openings or slots arranged to cause or permit angular motion of the centerboard in a sense to alter the angle of attack while sailing and any other schemes for achieving the same result.

2.03.7.3 Conventional flexible centerboard slot fairing closures are permitted.

2.03.8 Conventional flexible fairings over the rudderpost are permitted.

2.04 Speed Under Power

Yachts shall be capable of speed under power with racing propeller in smooth water and without assistance of wind of, in knots, not less than $1.811 * L^{0.5}$ where L is the ORR L (see 6.10) in meters ($L^{0.5}$ where L is in feet) to qualify for any Propeller Installation Projected Area (**PIPA**) greater than zero.

2.05 Propeller Shaft

The propeller shaft exposed to water flow is circular in cross section.

2.06 Weights and Ballast

2.06.1 Except for the stability and trim ballast of the hull, all weights measured under this rule shall be the true weight associated with proper structural engineering and no weights shall be artificially increased through ballasting.

2.06.2 No yacht shall be rated under ORR if any material having a density greater than that of lead (specific gravity = 11.35) is used as ballast in any form or location on or within the yacht.