

## Lake Champlain Performance Handicap Racing Fleet

### By-Laws

**Adopted - May 8, 2002**

—

## **I. POLICY DESCRIPTION**

—

### **INTRODUCTION**

As long as boats of different designs have raced against one another, skippers have sought an equitable method of handicapping. Various systems have been tried based on performance, hull measurement, or a combination of both.

The Lake Champlain Performance Handicap Racing Fleet (LCPHRF) is comprised of representatives from boat clubs and racing authorities. These representatives make up the LCPHRF Committee. LCPHRF has chosen to utilize the PHRF system for rating racing boats. It is the intent of the LCPHRF Committee to provide and oversee a rating system that reflects current boat conditions, is open to scrutiny by the member organizations and allows each organization to understand how the rating of each boat has been calculated.

### **PERFORMANCE HANDICAPPING**

Performance handicaps are not measurement ratings. Each handicap reflects an estimate of a sailboat's speed potential through previous racing experience supported by a consensus of the effects of differential hull and rig parameters.

Performance handicaps are arrived at through an empirical process based upon observations and analysis of race results. It is the intent of the performance handicap process to produce a relative measure of speed such that any well maintained and well sailed boat has a good chance of winning a race. Therefore, performance handicaps are adjusted on the basis of the boat types performance so that each well sailed boat has an equal opportunity to win. This is the fundamental concept of performance handicapping for offshore racing and cruising sailboats.

Performance handicaps are not intended to reflect skipper and crew capability. Handicaps are not adjusted to encourage a poor or careless skipper, and conversely no handicap adjustment is made to

penalize proficiency. The intensity of competition and the influx of new and aggressive sailors require each skipper to maintain consistently high performance in order to place well. Assuring that the boat rating is based on the performance of the boat, rather than sailing skill, is an important factor in preserving high morale and wholesome competition within the fleet.

## **BOAT DESIGN**

The PHRF is an open rule. There are few national hull or sail restrictions other than those consistent with standards for safety for offshore monohulls or multihulls. This means that monohulls must be self-righting and multihulls positively buoyant. There are no other fundamental limitations on ingenuity other than those contained in the US SAILING (formerly USYRU) rules. Class restrictions may be applied locally but are not a matter for national policy.

Well designed and constructed boats are not expected to be made obsolete by newer designs under PHRF. PHRF does not use measurements to determine formula base handicaps because any formula once established can be beaten by a clever designer. As faster designs appear, they are handicapped accordingly. Therefore, one of the major benefits of the PHRF system is to provide handicaps such that older boats can race competitively with the latest designs.

PHRF discourages “rule beating.” **If a skipper has modified his or her boat, PHRF will attempt to compensate for the new speed potential.** The use of taller masts, longer spinnaker poles, extra ballast, gutted interiors, or other modifications intended to increase speed are compensated for by the rating assigned.

## **EQUIPMENT**

PHRF assumes that a boat is equipped to race. It does not attempt to rate a partially equipped boat, or a boat which differs from others in its class, in that it is unusually heavy, out of balance, or has unusual windage (as from a dinghy on davits). The addition of extra equipment, heavier rigs, or older sails will not be taken into account when determining a boat's rating. Conversely, the removal of, or relocating of equipment can yield a rating penalty for a yacht. This being said, the LCPHRF Committee will attempt to provide fair and equitable ratings for each yacht.

## **METHODOLOGY**

The LCPHRF Committee will assign a base rating to each boat based on the standard configuration of the particular make and model of the boat. The base rating for each boat will be chosen through examination of base ratings used by various sailing organizations throughout the United States and Canada. The LCPHRF Committee will determine an adjusted rating for a boat based upon its base rating and any alterations from the standard configuration to compensate for any expected speed advantage or disadvantage. In order to properly rate each boat, alterations from the standard configuration must be reported to the LCPHRF Committee on a LCPHRF Rating Application form.

## **STANDARD CONFIGURATION FOR A PHRF BASE RATING**

1. The spinnaker pole length is no longer than “J”, \*
2. The spinnaker maximum girth is 180% of “J”, \*
3. The spinnaker maximum length is equal to 95% of the length of the jib stay,
4. The Genoa “LP” is 153% of “J” or less, \*
5. The boat is in racing condition,
6. The boat has a folding or feathering propeller, a two bladed solid propeller in an aperture, or a retractable outboard motor which must be on board at all times,
7. The hull and appendages may be faired, but are otherwise unmodified,
8. The boat complies with all Coast Guard and applicable state safety regulations.

\* except if rated under a one design rule.

## **ALTERATIONS FROM STANDARD CONFIGURATION**

As a minimum, the following shall be reported immediately:

Spinnaker pole length greater than J

Symmetrical spinnaker maximum girth greater than 1.8 times J

Symmetrical spinnaker height greater than .95 times the square root of I squared plus JC squared.

Asymmetrical spinnaker width greater than 1.8 times JC

Rig height (I) changes

Boom length (E) changes

Rig cross section/weight changes

Rig staying changes

Sail measurement changes (P, E, SMG, SL, and LP)

Keel/ballast weight changes

Keel/rudder camber changes

Keel/rudder chord changes

Keel/rudder depth changes

Propeller type/size/location changes

Hull canoe body changes

Interior modifications

Minor fairing of the hull/keel/rudder is permitted without reporting to correct unfairness in production molds. Fairing of the trailing edges of the keel/rudder is permitted, without penalty, provided any chord (fore-aft length) of the keel/rudder is not changed by more than two percent. Fairing of through-hull fittings, rudder gudgeons, and propeller struts is also allowed.

Any interior modifications which change the basic structure of the interior, it's weight, it's materials, or any removal of standard equipment must be reported to the LCPHRF Committee.

All rating adjustments are set forth in the Adjustment Schedule (see appendix 1). The LCPHRF Committee originally adopted the Adjustment Schedule by majority decision. These adjustments are reviewed annually and changes are made upon a 2/3 vote of the LCPHRF Committee.

## **CONCLUSION**

LCPHRF hopes that you take the time to review LCPHRF's rating system and the adjustment schedule and methodology in calculating each boat's rating. We hope that you offer your comments and suggestions to improve what we intend to be constantly evolving system. You have the opportunity to play an important part in shaping the future of LCPHRF racing, not only by sailing competitively, but also by taking an active part in the management of the rating system.

—

## **II. PROCEDURES**

### **BOAT RATINGS**

The rating of an individual boat is a time allowance expressed in intervals of three seconds per nautical mile.

### **BOAT RATING PROCEDURES**

The LCPHRF Committee will provide adjusted ratings to any yacht upon receipt of a completed application form and certification via signature that the application form contains true and accurate information. The LCPHRF Committee has the option to confirm any information provided by the applicant through physical inspection of the boat and its equipment.

Any boat wishing to race within a member club or other recognized organizing authority is required to submit a completed application form to the LCPHRF Committee Chairperson through mail, fax or e-mail on an annual basis and before the boat participates in any race during the season. If the applicant is a member of a recognized boat club or other organizing authority the form shall be sent to that organization and will then be forwarded to the Chairman of LCPHRF for consideration by the LCPHRF Committee

All assigned ratings may be reviewed and revised at any time. Modifications of a boat may affect its rating and, if so, the rating shall be adjusted accordingly and immediately.

### **HOW BOAT RATINGS ARE USED**

The rating to be used in a race is the adjusted rating in effect on the day the race is held. Each applicant shall receive a written notice of the adjusted rating of that applicant's boat and shall be evidence of a valid rating for racing. The ratings of all boats shall be provided to each recognized club or organizing authority at least once per year prior to the first race of the season either through mail, fax, or e-mail. This rating schedule shall be updated as soon as practicable upon the addition of a boat, or a modification to any boat. Changes in a boat's rating shall be effective when the recognized club or organizing authority receives a revised rating notice. It is the obligation of each applicant to enter races using the latest valid rating. Only boats with current ratings assigned by LCPHRF may enter recognized club or organizing authority events. On a short term basis the Chairman of a local club or organizing authority may appoint an individual to grant provisional ratings which are then reviewed by LCPHRF. When a new boat is purchased the owner or his designee must complete a new rating application.

**LCPHRF ratings are not transferable.**

\*- Excerpts of the Policy Description and Procedures have been taken from the U.S. Sailing Fleet Handbook

### **III. REGULATIONS**

#### **ARTICLE ONE-NAME**

1.1 The name of this committee shall be The Lake Champlain Performance Handicap Racing Fleet (LCPHRF) Committee.

#### **ARTICLE TWO-OBJECTIVES**

2.1 LCPHRF Committee shall establish, maintain and enforce an equitable system of performance-based ratings for boats raced on Lake Champlain or other surrounding lakes through the local boat clubs or other recognized organizing authority.

2.2 LCPHRF Committee shall maintain a rating database available for inspection by any elected or appointed representative of a member club or organizing authority PHRF committee.

2.3 The LCPHRF Committee, by and through its Chairperson, shall render assistance and maintain relations with rating committee representatives of any other sailboat racing association or organizing authority as the Chairperson deems proper.

#### **ARTICLE THREE- LCPHRF COMMITTEE ORGANIZATION**

3.1 The LCPHRF Committee shall be made up of representatives from any member boat club or recognized organizing authority from Lake Champlain or neighboring lakes. Each boat club may, but is not required to, appoint up to three representatives who shall serve and will have equal voting rights. Each racing authority may appoint one representative who shall have equal rights. Any boat club or organizing authority may request membership in LCPHRF, and shall be granted membership by majority vote of the existing Committee.

3.2 The Committee shall at the first meeting of each calendar year vote to appoint one member as the Chairperson, one member as a Vice-Chairperson, and one member as the Secretary of the committee. The Chairperson or Vice-Chairperson may also hold the position of Secretary.

3.3 The Chairperson shall be responsible for calling meetings, constructing meeting agenda based on input from the Committee representatives, and insuring that the by-laws of the Committee are met both in spirit and practice.

3.4 The Vice-Chairperson shall assume the duties of the Chairperson if requested to by the Chairperson, or by majority vote of the Committee.

3.5 The Secretary shall be responsible for all record keeping of the LCPHRF database, master forms, and dissemination of information to each club or organizing authority's LCPHRF contact person.

3.6 Each club or recognized organizing authority shall, through it's own means, appoint one representative to act as the contact person within that organization to the Chairperson, Vice-Chairperson and Secretary of LCPHRF

3.6.1 All PHRF forms from applicants will be forwarded initially to this individual who will make copies for the entity's records, and will then forward the original form to the Secretary of LCPHRF.

3.6.2 This person, either individually or by the committee, -is responsible for determining a provisional rating for the applicant based upon the information on the application form. This rating will be forwarded to the applicant with the understanding that it may be changed based upon the decision by the LCPHRF committee as a whole.

3.7 The LCPHRF Committee Chairperson, Vice-Chairperson, Secretary and Representatives may serve consecutive years without term limits.

## **ARTICLE IV - LCPHRF COMMITTEE DUTIES**

### **MEETINGS**

4.1 The LCPHRF Committee shall meet electronically, or in person as required by the Chairperson, and upon receipt of any completed rating application form, and shall consider any new rating application forms, rating changes, adjustment schedule changes, and any properly filed appeal of a current rating.

4.1.1 A quorum for a meeting, whether in person or via electronic means, shall have no fewer than sixty percent (60%) of the representatives participating and voting. If fewer than sixty percent of the representatives are present, any vote shall be non-binding and not enforceable by LCPHRF.

4.1.2 When an issue is transmitted electronically, each representative shall have the right to vote upon the issue, but shall be required to respond or cast their vote for or against within four (4) days from the date the Chairperson requests a vote. If the vote of a representative is not received within four days the Chairperson shall make a good faith effort to obtain a

response by phone or other means from the representative. If contact is not made within seven (7) days of the original transmission, then the representative's vote shall not count towards official action by the committee.

## **ADJUSTMENT SCHEDULE**

4.2 The LCPHRF Committee shall draft an original Adjustment Schedule that shall be approved by a majority of the LCPHRF Committee. (See Appendix number one)

4.3 The LCPHRF Committee shall annually review the Adjustment Schedule and make changes to the Adjustment Schedule upon two-thirds vote of the LCPHRF Committee prior to thirty days before the first race of the upcoming racing season.

## **BASE RATINGS AND ADJUSTED RATINGS**

4.4 The LCPHRF Committee shall provide a base rating and an adjusted rating to a boat upon receipt of a completed application form and certification of the applicant that the application form contains true and accurate information. The LCPHRF Committee has the option to confirm any information provided by the applicant through physical inspection of the boat and its equipment.

4.5 The application form will be provided by the LCPHRF Committee to the contact person at each boat club or recognized organizing authority. All applicants are required to submit a completed application form to the applicable contact person through mail, fax or e-mail on an annual basis and before the applicant's boat participates in any race during the season.

4.6 The LCPHRF Committee has the right to review and revise assigned ratings at any time and shall review and revise, if required, assigned ratings upon receipt of an amended application form or other written notice of modifications to any boat by that particular boat's owner.

4.7 The LCPHRF Committee shall assign a base rating to each boat based on the standard configuration of the particular make and model of the boat. The base rating for each boat will be assigned through examination of current U.S. Sailing guidelines, venues selected by the LCPHRF Committee whose conditions are similar to Lake Champlain, or on the actual performance of the boat while competing. The LCPHRF Committee shall choose the base rating through a majority vote of the committee members and Chairperson. The appropriate venues for comparison shall be **Yacht Racing Association of Long Island Sound, The Chesapeake Bay, Gulf Yachting Association, Lake Ontario, The Eastern Connecticut Sailing Association, Florida Suncoast, PHRF New England, and Narragansett Bay.**

4.8 The LCPHRF Committee will adjust the base rating of boats that have been altered from the standard configuration to compensate for any expected speed advantage or disadvantage by calculation pursuant to the current Adjustment Schedule. To properly rate each boat, alterations

from the standard configuration shall be reported immediately to the appropriate contact person who shall then report it to the LCPHRF Committee Chairperson so that the LCPHRF Committee can accurately rate each boat.

4.9 The LCPHRF Committee shall provide to each club or rating authority's contact person a written notice of the adjusted rating of that applicant's boat by mail, fax, or e-mail. The contact person will then be responsible for providing notice to the applicant and the race committee within their organization. The notice shall be that applicant's evidence of a valid rating for that particular boat for all races.

4.10 The LCPHRF Committee shall provide to each contact person a list of the adjusted ratings of all boats rated for the current season, and all boats previously rated at a minimum of once per year prior to the first race of the season either through mail, fax, or e-mail. The LCPHRF Committee shall update this list as soon as practicable upon a rating adjustment to any boat.

4.11 The LCPHRF Committee shall provide a revised adjusted rating notice to each applicant's contact person upon receipt of notice from the applicant of an alteration in the boat or its equipment. The contact person will then forward this amended rating to the applicant. Changes in a boat's rating shall be effective when the organization's contact person receives a revised rating notice.

## **APPEALS OF RATINGS**

4.12 Any applicant may appeal the rating assigned per their application. Any individual may protest the rating of any boat assigned a rating. In both cases, the following shall be required:

4.12.1 The LCPHRF Committee shall hear and review an appeal or protest as soon as practical after the Chairperson receives a written notice of appeal which has been filed through the appellant's club or organizing authority contact person.

4.12.2 The appeal or protest -must include evidence supporting the action, and the name, signature and contact information for the individual filing the action. If the action is filed via fax, the faxed signature shall be evidence of the intent to file. If filed via e-mail the name and address of the individual filing the action shall serve as the signature requirement.

4.12.3 A \$20.00 non-refundable fee shall be paid to the appellant or protestor's club or organizing authority. This fee is to be utilized to offset expenses associated with meeting to evaluate the appeal.

4.12.4 In the event of a protest being filed against a boat's rating, the club or organizing authority's contact person shall notify the individual who filed the LCPHRF Rating Application of the protest which has been filed. The contact person will also provide a

copy of the protest information to the applicant.

4.13 The LCPHRF Committee shall determine the appeal or protest upon a majority vote of the LCPHRF Committee Representatives.

4.14 The LCPHRF Committee shall provide a decision on the appeal or protest to the filer's contact person who shall immediately forward that decision to the filer by mail, fax or e-mail. If the decision results in a change to a boat's rating, the filer shall be provided a notice of adjusted rating with the decision. This decision shall also be forwarded to the rating applicant if the action is a protest of rating. All decisions shall be made in writing, with an explanation for the decision.

## ARTICLE FIVE - RATING REQUIREMENTS

5.1 The LCPHRF Committee shall provide ratings for boats that are certified by the applicant to be self-righting monohulls, or positively buoyant multihulls which meet all applicable class, state and federal safety regulations.

5.2 The LCPHRF Committee shall rate a boat as if it is well-equipped to race, well-maintained, and well-sailed. Ratings and adjustments are not intended to reflect the skipper and crew capability, but rather that of the boat. It is the intent of the LCPHRF Committee to require a skipper to maintain consistently high performance in order to place well. A boat shall be rated in the same manner as others in its class.

### 5.3 MODIFICATION GUIDELINES:

5.3.1 **Fairing** - Minor fairing of the hull/keel/rudder to correct unfairness in production molds is permitted as follows: Fairing of the trailing edges of the keel/rudder provided any chord (fore-aft length or position ) of the keel/rudder is not changed by more than two percent. Fairing of through-hull fittings, rudder gudgeons, and propeller struts is also allowed. Contouring of the hull, keel, and rudder must be consistent with the original design

5.3.2 **Interior Modifications** which do not alter the structure or placement of equipment in the interior of the boat are permitted. Interior modifications which change the placement of equipment, alter the center of gravity, or remove any equipment which is considered standard are not permitted unless they are documented on a LCPHRF rating application or are addressed in a rating modification request. All equipment and furnishings itemized in the Rating Adjustment Schedule must be reported to the LCPHRF Committee Chairperson by the applicant as soon as practicable after removal. The LCPHRF Committee Secretary shall enter the removed item in the database maintained by the committee. If the total weight of the items removed exceeds 2% of the displacement of the yacht a penalty of at least 3 seconds per mile shall be assessed. Other penalties for modification of the interior

may be assessed on a case by case basis.

**5.3.3 Painting and Polishing** of the bottom, blades, and hull is permitted.

**5.3.4 Repair and Reinforcement** of damage and/or inadequate structure is permitted as long as it remains consistent with the original design.

**5.3.5 Dry Sailing** is permitted

**5.3.6 Deck Hardware** - The replacement of deck hardware with similar equipment is permitted. The relocation, removal or addition of deck equipment must be documented on the application form and may trigger a penalty if there are significant changes

**5.3.7 Forestay Fairing or tracks** - The installation of a forestay fairing is allowed but the ISP (fore and aft area) will be added to headsail LP.

**5.3.8 Standing Rigging** - Any changes to the standing rigging must be documented

**5.3.9 Running Rigging** - The addition or removal of running rigging must be documented.

**5.3.10 Other Changes** must be reported and are subject to penalty.

**5.4** The applicant is solely responsible for being in compliance with all safety and rating requirements.

## **ARTICLE SIX - ENFORCEMENT**

**6.1** Enforcement of violations shall be initiated by written protest as set forth in the Protest of Ratings section of Article IV.

## **ARTICLE SEVEN - IMPLEMENTATION AND CHANGES**

**7.1** These by laws shall be implemented by a majority vote of the LCPHRF Committee. These by laws shall be changed only upon a two-thirds vote of the LCPHRF Committee and only after the last race of one season and before the first race of the next season.

## **ARTICLE EIGHT - PUBLICATION**

**8.1** The LCPHRF Committee shall provide a copy of these by-laws to each club or organizing

authority's contact person. They may be disseminated by any means deemed appropriate by that individual.

## **LAKE CHAMPLAIN PERFORMANCE HANDICAP RACING FLEET**

### **Rating Adjustments To Base Boat PHRF For Non-Standard Equipment (Sec./mile)**

Adopted May 8, 2002

**For generally recognized one-design classes base presumptions may vary.**

#### **AUXILIARY POWER – (Base: folding or feathering propeller on exposed shaft, two bladed fixed propeller in aperture, or outboard motor.)**

Three bladed fixed propeller out of aperture	+12
Two bladed fixed propeller out of aperture	+6
Outboard fixed in well with two bladed solid propeller	+6
Two bladed fixed semi-exposed propeller	+3
Three bladed fixed propeller in aperture	+3
Saildrive	0
Three bladed feathering propeller in aperture	0

**RIG HEIGHT (Both I and P adjustment. Assumes standard rig for class of boat.)**

Increase:

0.5% to 3% -3

3.01% to 6% -6

6.01% to 9% -9

9.01% to 12% -12

12.01% to 15% -15

Decrease greater than 5% +3

**BOOM LENGTH ADJUSTMENT (E adjustment. Assume standard boom for class of boat.)**

Increase 0.5% to 10% -3

Increase 10.01% to 20% -6

Decrease > 5% +3

**ROLLER FURLER (No credit for standard class boat supplied with roller furler from factory or racing roller furler) The furler must be used and sails must be cut and attached so that they can be used on the furler.**

**Above deck drum +3**

Above deck drum, sail with UV protected cloth, tacked above drum

and head on swivel +6

**Removal of Standard Furler -3**

## **MAINSAIL FURLER:**

Furler in mast without  
battens +6

Furler in boom with standard battens +0

## **HEAD SAILS (LP ADJUSTMENT**

133.1 or less +6

133.1-143% +3

143.1-153% 0

153.1-163% -3

163.1-173% -6

Over 173.1% -9 +

## **ASYMMETRICAL SPINNAKER OR ONE DESIGN RATING (ODR)**

If an asymmetrical spinnaker is standard for a boat, and is rated through an ODR system, then the



**For either type of spinnaker, penalties for spinnaker pole length or girth adjustments shall be the larger of either penalty. These penalties are not additive.**

**Spinnaker halyard height (ISP) greater than I**                      -3 for up to each 10% increase

## **ASYMMETRICAL SPINNAKER**

If part of a standard boat configuration, if sized appropriately      0

If added to symmetrical  
spinnaker                      -6

Only spinnaker on boat, flown from bow (30" pennant allowed) without  
sprit or pole on tack line    +9

Only spinnaker on boat, flown from bow (30" pennant allowed) with  
pole on tack line, no sprit    0

If sprit added to  
conventional boat  
-3 per 10% J increase

average of SLU and SLE > SL then -3 seconds per 10% increase (Does not apply where  
asymmetrical spinnaker is standard.)

Max Width > 1.8 x JC then -3 for up to each 10% increase (Does not apply where  
asymmetrical spinnaker is standard.)

## **SYMMETRICAL USED WHEN ASYMMETRICAL IS STANDARD**

If a symmetrical spinnaker is to be used on a boat configured for an asymmetrical spinnaker, there will be no rating adjustment if the symmetrical spinnaker is the only spinnaker used and it conforms to all applicable rules per the adjustment schedule.

## **HULL/KEEL/BALLAST/INTERIOR MODIFICATIONS** (Presumption is that the modification was made to improve speed.) All changes must be reported immediately.

- 1) **Cumulative weight removal greater than 2% of boat displacement penalized at a minimum of 3 seconds per 2% increment.**
  
- 2) **The following weight presumptions apply. Actual weight of removed item will apply with proof of weight:**

**Galley: Range-75 pounds (#), Cook top-20#**

**Head: Portapoti-10#; Manual-35#; Electric-50#**

**Cushions: Boat LOA 22' and under - 15#; 23' - 25' - 20#; 25' - 27' - 25#; 28'+ - 1 lb. per foot LOA.**

**Interior: Table-30#; Door-20#; Berth (settee)-50#; Battery-50#; Holding Tank-15#; Water tank-25#**

- 3) **Fairing the keel and rudder is allowed.**

- 4) **Keel and rudder modifications in excess of removing imperfections and necessary repairs will be assessed on a case-by case basis.**

**ADJUSTABLE KEEL – Adjustable keel boats must sail with keel in fully down position.**

**Since all modifications cannot possibly be anticipated, other changes will be considered on a case-by-case basis.**

**If a change is made in configuration of your boat during season, you must notify your contact person immediately. Failure to report any change will result in disqualification pursuant to the By-Laws.**

If in doubt about the limits of your boat, contact you club or organizing authority LCPHRF representatives.

## **APPENDIX NUMBER TWO - RATING DEFINITIONS**

# LAKE CHAMPLAIN PERFORMANCE HANDICAP RACING FLEET

**ASMG** Asymmetrical spinnaker mid girth measurement. Measured from the midpoint of the luff to the midpoint of the leech.

**BAL** Fixed ballast of the yacht measured in pounds. For rating purposes, note any changes in weight and or placement of ballast.

**BEAM** Maximum beam of the yacht

**BS** Bow sprit length

**DISPL** Displacement of the yacht in pounds, with all standard equipment, but without crew, water, fuel or stores on board.

**DRAFT** Draft of the yacht as measured from the waterline to the deepest portion of the hull, keel or rudder. If the yacht is equipped with a centerboard the board must be in the full down position.

**E** Foot length of the mainsail, measured from the mast to the clew in it's most outboard position.

EY E dimension of the mizzen mast

I Height of the fore-triangle measured from the deck sheer-line abeam the mast to the highest point of sail attachment.

ISP Height of the spinnaker halyard measured from the forward edge of the mast from the underside of the spinnaker halyard block to the sheer line abreast of the mast.

J Distance perpendicular from the fore-side of the mast measured to the point of intersection of the forestay with the deck.

JC The greater measurement of J or SPL or SMG / 1.8.

LOA Length over-all of the hull.

LP Distance on a fore-sail measured perpendicular from the luff to the clew of the largest jib.

LWL Load water line. The waterline of the yacht when fully equipped but without water, fuel, crew or other stores onboard.

MAT Construction material used.

ODR            One design rated boat

P                Luff length of the mainsail as measured from the top of the boom to the highest point the mainsail headboard will attain when under tension.

PY              P dimension of the mizzen mast

SF              Asymmetrical spinnaker foot

SL              Spinnaker luff length for a symmetrical spinnaker, or the luff length for an asymmetrical spinnaker.

SLE             Asymmetrical spinnaker leech length.

SLU             Asymmetrical spinnaker luff length

SMG            Spinnaker maximum girth measured leech to leech. Fold the spinnaker on centerline, measure the maximum width and multiply by two.

SPL             Spinnaker pole length measured with the pole in it's fittings and set in a horizontal position when located athwart ships.