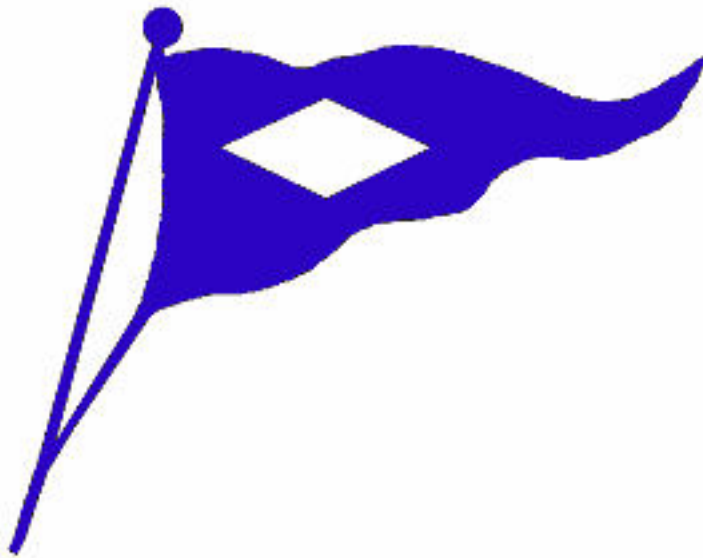


**HALIFAX RIVER YACHT CLUB**  
**2007**  
**RATINGS PROCEDURES**  
**And**  
**RULES**



## PHRF Rating System

A. Performance Handicap Racing Fleet (PHRF) ratings are based on the speed potential of the boat, determined as far as possible on observations of previous racing experiences. It is the intent of PHRF handicapping that any well equipped, well maintained, and well sailed boat has a good chance of winning. Handicaps are adjusted as needed on the boat's performance so that each well sailed boat has an equal opportunity to win. This is the fundamental concept. PHRF ratings are not intended to reflect skipper and crew capability. Ratings are not adjusted to encourage a poor or careless skipper, and conversely, no rating adjustment is made to penalize proficiency. Intensity of competition and the influx of new and aggressive sailors require each skipper to maintain consistently high performance in order to place well.

B. 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 dingy on davits). However, if the basic hull and rig differ from others in its class, it will, of course, be rated uniquely. The Ratings Committee does not rate boats using both symmetrical and asymmetrical spinnakers at the same time. A choice of asymmetrical, symmetrical, or both types of spinnaker shall be made at time of application or renewal and may be changed once during the sanctioned racing season.\*

\*See Standard Sail and Equipment Specifications (Page 7)

C. HRYC has adopted the ISAF offshore regulations governing minimum equipment and accommodations standards. The regulations shall be mandatory for PHRF class yachts in HRYC sanctioned events and in local club events. HRYC is responsible for specifying the category of its races. The final burden and responsibility for safety rests on the skipper of each yacht.

D. The Ratings Committee will determine a base rating using the following:

1. Handicaps from the current PHRF Handicap manual.
2. A Schell Regression Formula for the vessel.
3. Comparison to vessels with similar characteristics.
4. Data obtained from PHRF application.
5. Results from previous races

# **Fleet Policies for PHRF Ratings Committee**

## **Introduction**

Rating by performance handicap is a method of providing equitable time allowances for sailboats of different designs racing against each other. Numerous systems have been employed; some were methods of handicapping boats, some handicapped skippers, and some combined both systems. The increased interest in the racing of cruiser/racer type sailboats has produced the Performance Handicap Racing Fleet. Measurement-based rating formulas with the attending rapid changes in sailboats design have turned many skippers to the performance based handicap system. Performance handicap emerges as the best assurance of continued opportunity to compete fairly against all designs, both new and old. As a result, the PHRF system, begun almost two decades ago in California, has spread to the Pacific Northwest, the Great Lakes, and the Gulf and Atlantic coasts. In 1981, USYRU (now US Sailing) recognized PHRF as a full committee under its Offshore Racing Council.

## **Performance Handicaps**

PHRF ratings are boat performance handicaps based on the speed potential of the boat, and determined as far as possible on observations of previous racing experiences. It is the intent of PHRF handicapping that any well equipped, well maintained, and well sailed boat has a good chance of winning. Handicaps are adjusted as needed on the basis of the boats performance so that each well sailed boat has an equal opportunity to win. This is the fundamental concept. PHRF ratings are not intended to reflect skipper and crew capability. Ratings are not adjusted to encourage a poor or careless skipper, and conversely, no rating adjustment is made to penalize proficiency. Intensity of competition and the influx of new and aggressive sailors require each skipper to maintain consistently high performance in order to place well.

## **Boat Design**

The PHRF is an open rule. There are no limitations on ingenuity other than those listed herein. A sailboat must be a monohull, self righting, design, which meets the minimum equipment and accommodation standards for category shown on current rating certificate. Sailboats are assumed to comply with the standard hull and sail specification restrictions. Sailboats which do not comply carry a separate designation and are rated accordingly. One design class restrictions do not apply to PHRF, unless the boat is provided an "ODR" (one design rating). Well designed and constructed boats are expected not to be made obsolete by newer designs under PHRF. PHRF does not use formulas to determine 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 attractions of the PHRF system is that older boats can race competitively with the latest designs. PHRF discourages rule beating. If a skipper modifies his boat, PHRF will attempt to compensate for the new potential speed. The use of taller masts, longer spinnaker poles, extra ballast, gutted interiors, or other modifications intended to increase speed is compensated for by the rating assigned. At this time there are approximately 1,500 different boats rated by the PHRF in the United States, with a total membership of approximately 20,000. Published handicaps from the entire United States are used by the Ratings Committee to assist in rating the boats.

### Basic Ratings

PHRF ratings are expressed in seconds per mile. They are used to calculate corrected times. The higher rating indicates the slower boat. PHRF time allowances are not related to other systems. PHRF base ratings are made on the assumption that:

- 1) Spinnaker pole maximum length is equal to "J",
- 2) Spinnaker maximum girth is 180% of "J",
- 3) Spinnaker maximum luff is .95 times the square root of  $(I^2 + J^2)$ ,
- 4) Genoa maximum LP is 155% of "J",
- 5) Genoa minimum LP is 135% of "J",
- 6) The rig is of standard configuration,
- 7) The boat is in racing condition,
- 8) The boat has a folding or feathering propeller, a two bladed solid propeller in aperture or a retractable outboard motor.

Adjustments may be made to the rating as follows (see Page 14):

- |  |           |
|--|-----------|
| 1) Genoa larger than 155%  | -6        |
| 2) Genoa smaller than 134.9%   | +3        |
| 3) Bow sprit to lengthen "J"   | -3 to -6  |
| 4) No spinnaker  | +12       |
| 5) Oversized spinnaker   | -3 to -12 |
| 6) Oversized spinnaker pole  | -3 to -6  |
| 7) Rig modifications   | -3 to -15 |
| 8) Carrying <u>BOTH</u> an asymmetrical <u>AND</u> a symmetrical spinnaker | -3        |
| 9) Dacron sails  | +6        |
| 10) Keel modifications   | -3 to -12 |
| 11) Propeller  | +3 to +12 |
| 12) Roller furling (headsail and main)                                     | +3 to +12 |
| 13) Engine   | -3 to -6  |
| 14) Bimini Class   | +6        |

### **Changes to Design or Equipment**

A skipper may experiment with different ways of improving the performance of his boat without the necessity of inconvenience of re-measuring. However, if there are changes to the hull, rig, sails, or other factors upon which the existing rating is based, they must be reported to the Ratings Committee in writing for evaluation. All changes reported shall be reviewed by the HRYC Ratings Committee and a new Valid Rating may be issued. If a boat deviates from the manufactures specs, documentation from the manufacturer must be provided.

### **Handicap Ratings**

The handicap rating of an individual boat is expressed in seconds per mile. The smallest increment of performance used for rating is 3 sec/mi. Observations of numerous races show that it is impossible to gauge a boat's potential performance more accurately than this because of the multiple factors involved. Differences in skipper and crew skill represent a much larger factor than 3 sec/mi. Because headsail size has so much to do with boat speed, PHRF uses this characteristic as a rating factor. Boats are rated for use with large or small headsails, with 155% of LP being the dividing line. Once a boat is rated with a large headsail (over 155%) this rating must be used, even though wind conditions may preclude use of the sail. A skipper may not change his rating by choosing a different headsail, changing classes, modifying rig, or any other changes that would affect the boat's Valid Rating more often than once per calendar year without completing a ratings appeal application or submitting a new ratings application.

### **Handicapping Highlights**

A new boat in an established class is given the rating for that class, except that adjustments may be made for deviations from the class standards. If such adjustments are made, the adjustment appears the Valid Certificate. For unrated and one-of-a-kind sailboats, the rating is determined on the basis of comparison with similar boats with established ratings. Comparison is made considering the type of design and principal dimensions. The rating may be adjusted as performance data becomes available. For unrated and one-of-a-kind sailboats, a determination is made if the rig and hull comply with the approved guidelines as set forth by PHRF. To accommodate new designs and rigs, the Ratings Committee may rate boats which fall outside the established guidelines, assuming the boats still meet the Standard Sail and Equipment Specifications. If a boat falls in this category, a rating may be assigned by the Ratings Committee as it deems acceptable. The rating may be based on the established guidelines for all sailboats or an adaptation thereof, to suit the purpose of rating that sailboat.

### **Valid List**

The Valid List is the official list of current handicaps of all boats rated by the Ratings Committee. It is kept current throughout the year, maintained by the Ratings Committee chairman, and posted on the HRYC web site.

### **Eligibility**

To be able to compete in events sanctioned by the HRYC, a sailboat owner, or charterer, must:

- 1) Have a current valid rating certificate, issued by HRYC; and
- 2) Meets Category 4 minimum equipment and accommodation standards.
- 3) Meets all USCG requirements

### **How Ratings Are Used**

The rating to be used in a race is the rating in effect on the day the race is held. Each member receives a Valid Certificate giving the current rating for the boat, and the Valid Certificate is evidence of a valid rating. Ratings expire on December 31 of the year in which the valid certificate was issued and annual renewal is mandatory. Ratings may be adjusted by the Ratings Committee during the season. It is the obligation of each member when entering a race to enter using the latest valid rating. Only boats with current PHRF ratings may enter PHRF races. This is necessary even for class sailboats. Boats will be refused entry to races if not listed on the most recent Valid List.

### **Application For Ratings**

Owners of sailboats or charterers requiring a rating should apply to HRYC Ratings Committee.

### **Special Event Ratings**

Special Event Rating Certificates may be issued to sailboats competing in races either originating or finishing in the HRYC area, as requested by the host club as a requirement for entry into the race. Certificates from other areas of the country will not be valid for events being conducted by HRYC. Special Event Rating Certificates will require the same fee as a regular PHRF valid certificate and will be valid for current year.

### **Ratings Committee**

Ratings are determined by the Ratings Committee. The Ratings Committee will consist of no less than five members drawn from local yacht clubs and sailing associations. The Committee chairman will be appointed by the HRYC race committee chairman and will sit on the Race Committee. Committee members are selected on the basis of an active interest in handicap racing, knowledge of boat design and performance, a judicial temperament, and demonstrated leadership in sailboat racing. Most are active participants in racing, but have put aside their interests as contestants to evaluate sailboats fairly and accurately. *Clearly, the system rests on the integrity of the Ratings Committee.*

### **Appeals, Valid Ratings Adjustments, and Class Changes**

Formal appeals of ratings are made to the Ratings Committee and are considered in their meetings. Skippers may appeal their sailboat's or another sailboat's ratings once a year. Appellants set forth their views in writing, and document their case with supporting information. Appeals and requests for ratings adjustments must be submitted on the HRYC Rating Appeal Form and must be accompanied by payment of \$15.00. This form may be obtained from the Ratings Committee, or the HRYC web site. Changing class constitutes a PHRF rating change. The request to change classes must be in writing and be accompanied by a rating appeal form. Appeals will take not less than 14 days and not more than 30 days from time of receipt at HRYC. Rating changes are not effective until official notification is made. If possible deviations on the part of another sailboat become apparent; other contestants are urged to appeal to the Ratings Committee. A skipper may submit no more than one appeal per year for his boat. A second appeal must be submitted as a new ratings application and must be accompanied by the appropriate fee.

**Auxiliaries**

A sailboat, which carries a valid rating claiming an inboard, or outboard auxiliary, must carry that auxiliary during every race. For a sailboat rated with an engine, the sailboat shall have enough engine and propeller power to move the sailboat at a speed in knots equal to the square root of her waterline length (LWL) measurement. A sailboat which has a Valid Rating issued on the basis of no engine or auxiliary may choose to carry an auxiliary; however, no rating change shall be made. A sailboat may petition the Ratings Committee for a re-rating, considering the presence of an auxiliary, but no more than once in any calendar year.

**Asymmetrical and Symmetrical Spinnakers**

HRYC allows boats to be rated to race with a conventional symmetrical spinnaker, an asymmetrical spinnaker, or both types of spinnakers. Either type of spinnaker may be flown from a movable spinnaker pole attached to the mast. Boats may race with both types of spinnakers. Boats choosing to race with both types of spinnakers, must specifically request to be rated as such by the owner at the time of application or renewal. Once a valid certificate is issued, an owner may apply to switch between asymmetrical, symmetrical, or both types of spinnaker only one time per year, and receive a revised valid certificate.

**Race Results**

Race results are acknowledged to provide data, which can be a useful tool in handicapping. These results will be used by the Handicapping Committee to flag a potential misaligned rating of a particular sailboat or class.

**Effective Date**

Rating Certificates are effective as of the date issued. A rating cannot be applied retroactively.

**Policy Amendments**

Amendments to this document may be made at any time by the Ratings Committee. Amendments will be posted at Halifax River Yacht Club and at [www.hryc.com](http://www.hryc.com).

**Conclusion**

We hope you will enjoy racing in this open and competitive sport. The system is being refined constantly. You, as racers, have the opportunity to play an important part in shaping the future for this kind of racing, not only by sailing competitively, but also by taking an active role and providing your feedback to the Ratings Committee.

## Standard Sail and Equipment Specifications

### Headsails, distinctions between jibs and spinnakers

A headsail is defined as a sail in the fore triangle. It can be either a spinnaker, asymmetrical spinnaker, genoa, or jib.

### Headsail

A. Any sail tacked forward of the foremast that is flown with the luff attached to a stay or otherwise not free-flown is a headsail. Any sail tacked forward of the foremast with a half width not exceeding 75% of the foot length with a free-flying luff is also a headsail. The boat's largest headsail will be rated by computing 100 times LP divided by J, where LP is the distance of a line perpendicular from the luff, to the clew. Boats carrying largest headsails with LP in excess of 100%, with battens or other stiffening devices shall declare that fact to the HRYC Rating Committee, and provide the measurements of the HHW, Luff, Leech, Foot and LP of the largest headsail. Headsails with LP in excess of J, with battens or stiffening devices will be rated on an individual basis.

Measurements to be provided:

Headsails:	Luff	Length LL
	Luff Perpendicular	LP
	Half Width	HHW (for headsails with roach on leech)

B. The LP used for rating shall be the largest such dimension found on the jibs carried on board.

C. No clew boards may be used on jibs.

D. No headboards may be used on jibs.

E. The number of battens is limited to four, which must be arranged with approximately equal spacing between head and clew.

F. The distance, measured on the surface, between the midpoint of the foot and the midpoint of the luff shall not exceed 55% of the length of the leech.

G. Headsail sheeting to the boom shall be allowed provided the sheeting point is not further aft on the boom than E plus six inches. This shall be marked if such sheeting is to be used by a red band one (1) inch wide. The forward edge of the band will define the limits of the sheeting approved.

H. In no case shall the sum of the LP of the headsail and the distance measured from the forward end of J to the tack of the sail be greater than the yachts rated LP.

### **Spinnaker**

A. Any other loose luffed sail tacked forward of the foremast, with mid girth exceeding 75% of the foot length is a spinnaker. A Spinnaker is symmetrical if the luff and leech differ in length by four percent or less, and asymmetrical if the luff and leech lengths differ by more than four percent. Spinnaker maximum width is 180% of SPL, where SPL is the length reported for the spinnaker pole or bowsprit to which the spinnaker will be attached, with maximum girth measured from the midpoint of the spinnaker luff to the midpoint of the spinnaker leech. Symmetrical spinnaker maximum luff length shall not exceed  $.95 \cdot \sqrt{I^2 + SPL^2}$  or (if applicable),  $.95 \cdot \sqrt{ISP^2 + SPL^2}$ . Asymmetrical spinnaker square footage will not exceed the area of the largest symmetrical spinnaker that could be carried by the same boat, determined by the following formula: Spinnaker Area =  $((SLU + SLE)/2) \cdot ((SF + (4 \cdot SMG))/5) \cdot .83$ . Boats with spinnakers with battens or other stiffening devices shall declare that fact to the HRYC Ratings Committee, and provide the measurements of the Luff, Leech, Foot and SMG. Spinnakers with battens or such stiffening devices will be rated on an individual basis.

B. Asymmetrical spinnakers shall conform to the requirements of these specifications.

Spinnakers: Luff Length	SLU
Leech Length	SLE
Foot Length	SF
Mid Girth	SMG
Pole Length	SPL (mast to tip of spin pole)

C. Spinnakers shall be measured with such tension as will remove wrinkles across the line of measurement. The measurer will sign the sail indicating the date of measurement, and the maximum length of luffs and maximum width, and his approval of all other requirements.

D. Spinnaker Midgirth (SMG) shall be the distance between the midpoints of luffs measured in the shortest path across the sail.

### **Limitations of spinnakers**

A. Spinnakers shall be sheeted from only one point on the sail.

B. Spinnaker Luff (SL) shall not exceed .95 times the square root of  $(I^2 + J^2)$  without penalty.

C. Spinnaker Maximum Width (SMW) shall not exceed 1.8 times J without penalty.

D. Adjustable leech lines are not permitted on spinnakers.

E. Spinnaker pole length shall not exceed 100% of J without penalty.

### **Asymmetrical Spinnakers**

A. Choice of asymmetrical, symmetrical spinnaker, or both types of spinnakers shall be made at time of application or renewal and may be changed only once during the sanctioned racing season.

B. Unpenalized luff (ALU) shall be no greater than 1.1 times the square root of  $(Ia^2 + (J(SPL\%/100))^2)$

C. Unpenalized foot (AF) shall be no greater than  $(J \cdot (SPL\%/100) \cdot 1.8)$ . SPL% shall include extendible bowsprits.

D. Unpenalized mid girth to foot ratio (AMG/AF) shall be not less than .80. The unpenalized AMG/AF will be changed from .80 to .75 effective on 1 January 2008.

#### **Measurement of mainsails**

A. Foot of mainsail (E) shall be the length measured along the boom, of the foot of the sail taken from the aft face of the mast to the aftermost position to which the sail is permitted to extend. Where this latter point is inside of the boom end, it shall be located by the inner edge of a one inch band around the boom.

B. Mainsail hoist (P) shall be the measured length of the hoist of the sail. It is the distance along the after side of the mainmast from the highest level to which the head of the sail may be set to the lowest position of the tack. The highest point shall be taken at the top of the highest sheave used for the main halyard, or to the lower edge of a one inch band around the mast. If a sliding goose neck is used, measurement is to be made with the boom at the extreme bottom of the slide unless the lowest sailing position of the foot is marked by the upper edge of a one inch band around the mast.

C. Mainsail Headboard (MH) shall be the maximum fore and aft dimension from the luff of the main, projected if necessary, to the extreme aft edge of the leech measured across the widest part of the headboard.

#### **Limitations on mainsails**

A. The number of battens in any mainsail or mizzen shall be limited to seven (7) for all yachts. Batten spacing shall be approximately equal between headboard and clew.

B. The maximum mainsail headboard (MH) dimension shall not exceed 4% of E or .5 feet (6 inches).

C. The maximum girth is the same as that allowed without penalty under the IMS rule:

$$MGUL = 0.38 * E$$

$$MGML = 0.65 * E$$

D. Loose-footed mainsails are permitted only when they are the regular mainsail normally used for the yacht. When a loose-footed main is used the spare mainsail must also be loose-footed.

E. Spare mainsails are not permitted to be carried on board with the expectation of improved performance, as for varying weather conditions or points of sail, but rather a second mainsail can only be carried on board as a bonafide spare for emergency use.

#### **Mizzens**

A. The measurement procedures for mizzens shall be the same as for mainsails.

B. The limitations for mizzens shall be the same as for mainsails.

#### **Mizzen Stay sails**

A. Sheet leads may be to hull or rail and to mizzen boom, but they may not be sheeted to any other spar or outrigger.

B. Mizzen Stay sails must be 3-cornered (head, tack, and clew). The tack or tack pennant must be secured abaft the point of intersection of the face of the mainmast with the deck and also must be secured no higher than a rail cap, deck, or cabin top.

C. No mizzen stay sail may be carried set on a sloop rig flying from the backstay.

**Shooters, bloopers, etc.**

A. A blooper that is flown with a spinnaker must be no longer on the luff than the headstay. A tack pennant not to exceed 2.5 feet can be added. A blooper must be tacked to the stem fitting on the bow.

B. The midgirth measured between the midpoints of the luff and leech, shall not exceed 50% of the foot length nor shall the length of any intermediate girth exceed a value similarly proportionate to its distance from the head of the sail.

C. The distance, measured on the surface of the sail, between the midpoint of the foot and the midpoint of the luff shall not exceed 55% of the length of the leech.

D. The LP can be no longer than the largest declared headsail.

**General Equipment Limitations**

A. Boats shall race as rated with at least all the equipment and furnishings supplied as standard equipment by the manufacturer. A boat which has altered or removed bulkheads, permanently attached furniture, or structural interior components shall be considered a custom boat. Drawers, headliners, cabinet and locker doors, steps, ladders, and engine enclosures shall remain in place as supplied as standard equipment for a boat not to be considered a custom boat. Passageway doors, cushions, dining tables, and carpet are specifically exempted and are alterable or removable provided all Safety and Accommodations Standards are met. Boats shall also meet all COLREGS and USCG regulations that apply to them.

B. See current engine limitations.

**Non-spinnaker Limitations**

A. The maximum length of a whisker pole that may be used without penalty shall be equal to 1.5 times the J. If the whisker pole is adjustable, a red color shall be visible if the pole is extended beyond its rated length.

B. A second headsail shall meet all PHRF jib regulations. The luff of a jib shall not exceed 4% of the length of the luff away from the headstay or furling mechanism. The use of asymmetrical spinnakers is prohibited in the non-spinnaker class.

C. All other sail and equipment rules applicable to spinnaker classes apply to non-spinnaker classes. The double headsail class allows the concurrent use of more than one headsail while racing. For the Bimini Class, only one (1) headsail may be used at a time while racing, except for cutter rigs flying headsails in the normal configuration.

**Requirements for Roller Furler (RF) Credit**

A. The RF headsail must be tacked to the RF drum and have the head (or pennant) secured to the bottom of the upper swivel at all times while racing except while changing the headsail.

B. RF headsails may be constructed of any material, but laminated sails must be protected by continuous woven taffeta skins on both sides, and all RF sails must have 4.0 oz minimum woven UV cover present on both the leech and foot.

C. A second headsail, if flown, shall never be flown without the RF headsail also set.

D. All headsails used on the roller furling system must meet the requirements set forth in "B" above.

E. Roller furling mainsails will be evaluated on an individual basis.

**Hiking Aids**

No boat shall be sailed with any person having the majority of their torso outside the hull-to-deck joint of the boat.

**Unconventional Craft**

Boats that fall outside of the established guidelines will be evaluated on an individual basis.

**Bimini Class Limitations**

A. Sails for the Bimini Class shall be constructed in a manner such that at least one full surface of each sail is of woven material. Rating adjustments are considered individually for sails that do not meet this criterion. Composite sails are not allowed in this class.

B. Dual headsails may not be flown.

C. Headsail systems must be of cruising design, with hanked-on or roller furling headsails. Foils, except when part of an operable furling system, are not permitted.

D. Staysails are permitted on designated cutter rigs.

E. Boats must have a "full cruising interior" as designed and manufactured. This shall include at a minimum:

- 1) bunks for sleeping and all cushions
- 2) a permanently installed icebox (or refrigerator)
- 3) functional galley with stove
- 4) water and fuel tanks of appropriate capacity for cruising at least ¼ full
- 5) internal electrical system with lights and VHF radio.

F. Canvas for cruising will be installed, with a Bimini type top or comparable sunshade as a minimum. Biminis may not be folded or retracted while racing.

G. At least one anchor, with chain and rode (all of a size and weight appropriate for the boat) shall be stowed on the bow in such a way that it is available for immediate use.

H. Outboard motors shall remain in place on the transom mount during racing.

**Stock Boat Roller Furler (RF)**

A. If a boat is supplied from the factory with a RF system for the genoa/jib, the Ratings Committee will provide the rating for the class assuming no modifications to the RF system or sail attachment thereto. This means that the genoa/jib shall be tacked above the RF drum and the swivel be at maximum luff hoist when a jib is flown.

B. Any modifications departing from these standards must be reported to the Ratings Committee.

**Requirements for Dacron Sail Credit**

A credit for the use of DACRON sails may be applied for. All sails carried aboard the boat must be constructed of DACRON material.

**Crew Limitations**

Yacht LOA (ft.) Max. Crew

20.00 to 22.50	5
22.51 to 25.00	6
25.01 to 27.50	7
27.51 to 30.00	8
30.01 to 33.00	9
33.01 to 36.00	10
36.01 to 39.00	11
39.01 to 42.00	12
42.01 to 45.00	13
45.01 to 48.00	14
48.01 to 51.00	15
51.01 to 54.00	16

over 54.00 Add 1 for each 4 ft.

Children 14 years and under do not count against crew limitation.

## Effects of Boat Modifications on Ratings

Rating adjustments for modifications are considered and applied on an individual basis. The following GUIDELINES are useful for estimating the rating effect of changes, but do not necessarily reflect the actual adjustments that would be made. Sometimes the penalty, or credit, applied is less than the sum of the individual components in these guidelines. This happens most often when two or more of a combination of modifications falls between break points in a complimentary fashion. Other reasons for deviating from the guidelines are usually based on the different ways in which the same change might affect boats of unlike characteristics

### Rig Adjustments

Guidelines for rating adjustment due to rig changes are based on percent change to the calculated 100% Sail Area (SA).

1. Guide for I alone, J alone, I & J together, or I & P together:
  - a. Adjustment = -3 sec/mi for up to 2% change
  - b. Adjustment = -6 sec/mi for over 2% up to 4% change
  - c. Adjustment = -9 sec/mi for over 4% up to 6% change
  - d. Adjustment = -12 sec/mi for over 6% up to 10% change
  - e. Adjustment = -15 sec/mi for over 10% up to 15% change
2. Guide for P alone, E alone, or P & E together (affecting main only):
  - a. Adjustment = -3 sec/mi for up to 5% change
  - b. Adjustment = -6 sec/mi for over 5% change
3. Replacement of a yacht's mast with a new mast differing from the original mast in manufacturer, extrusion section, standing rigging, or design, shall cause the yacht to be designated as having a modified rig, and individually rated based upon observed performance. Changes to running rigging or backstay adjuster type shall not constitute a modification.

### Roller Furling Genoa/Jib Adjustments

Roller furling credits may be given if a roller furling sail meets material guidelines and has UV protection on the leech and foot. A credit of +6 seconds per mile may be given if the roller furling drum wholly above deck level. A credit of three +3 seconds per mile may be given if the roller furling drum is located at or below deck level. Roller furling headsails made before January 1, 2001 and constructed of aramid (i.e., Kevlar™, etc.) or carbon material are not allowed roller furling credits. Roller furling headsails build after December 31, 2000, must be of woven material, or have woven taffeta outer skins, and have a woven leech and foot cover of at least 4 oz. UV protected woven material to be eligible for a rating adjustment. Roller furling mainsails will be evaluated on an individual basis, not to exceed +6 seconds per mile.

### Jib Rating Adjustment

Adjustment is based on the largest jib and is determined by the LP/J ratio stated as a percentage. No headsails may be set to extend aft of the LP line used to establish the handicap. The recommended guide lines are:

LP/J	Adjustment
155.1 & over	-6
135.0 - 155.0	0
134.9 & under	+3

### **Spinnaker or Whisker Pole, and Bow Sprit Adjustments**

1. Symmetrical spinnakers and asymmetrical spinnakers may be used on the same yacht as requested by the owner at the time of application or renewal of the boat's rating, in accordance with fleet policies. A boat choosing to race with both types of spinnakers is subject to a rating penalty for using both types of spinnakers to be determined on a boat by boat basis by the Ratings Committee.
2. No penalty is imposed for the use of symmetrical spinnakers, provided they do not exceed the guidelines defined in the "Standard Sail and Equipment Guidelines". These guidelines apply to the largest spinnaker, if more than one is used. These guides are almost always applied as shown. Combinations not shown are considered unusual and must be evaluated by the Ratings Committee.
  - a. Spinnaker Pole Length (SPL) alone; penalty = -6 sec/mi per 5% above unpenalized maximum.
  - b. Whisker Pole Length (WPL) alone; penalty = -6 sec/mi per 5% above unpenalized maximum.
  - c. Spinnaker girth (G), or maximum width, alone; penalty = -6 sec/mi per 5% above unpenalized maximum.
  - d. Spinnaker luff length (SL) alone; penalty = -3 sec/mi per 5% above unpenalized maximum.
  - e. Combined SPL and G penalty, if both match each other (i.e., G is 180% of SPL); penalty = -6 sec/mi for each 5% increase of SPL over 100% of J.
3. No penalty is imposed for the use of asymmetrical spinnakers, provided they do not exceed the guidelines defined in the "Standard Sail and Equipment Guidelines". These guidelines apply to both the largest, and smallest, asymmetrical spinnakers, if more than one is used.
  - a. Asymmetrical Luff (ALU) penalty = -6 sec/mi for up to each 3% addition to unpenalized maximum.
  - b. Asymmetrical Foot (AF) penalty = -6 sec/mi for up to each 3% addition to unpenalized maximum.
  - c. Asymmetrical Mid Girth to Asymmetrical Foot (AMG/AF) ratio penalty = -6 sec/mi for up to each 3% reduction from unpenalized minimum.
  - d. Extended spinnaker poles or Bow Sprit (BS):
    1. Penalty = -6 sec/mi for up to 25% increase over J
    2. Penalty = -9 sec/mi for 26% to 50% increase over J
    3. Penalty for over 50% increase over J shall be evaluated by the Ratings Committee.

### **Keel Rating Adjustments**

Credits and penalties for keel variations or modifications, including boards, may vary from -3 to -12 seconds per mile. The Ratings Committee will evaluate each case on an individual basis.

### **Engine Rating Adjustments**

The rating differential between boats of the same type, one powered by an inboard motor, and the other by an outboard, may vary from -3 to -12 seconds per mile. The actual adjustment depends on the size, weight, and design configuration of the boat. Six seconds per mile is normal. Boats rated without an auxiliary engine shall have a penalty adjustment of -3 to -12 seconds per mile.

### **Propeller Rating Adjustments**

Credits to ratings may be provided for various types of fixed bladed propellers based on the type, number of blades, and the propellers "exposure". The actual adjustment depends on the sized, design, number of blades, and exposure as installed in the particular yacht. Evaluation of the design of the propeller will depend upon the intended purpose being primarily to propel the yacht under power (i.e., a cruising design). The recommended guide lines are:

- a. Credits = +12 sec/mi for 3 bladed solid prop out of aperture
- b. Credits = +9 sec/mi for 2 bladed solid prop out of aperture
- c. Credits = 0 sec/mi for 2 or 3 bladed folding prop out of aperture
- d. Credits = +9 sec/mi for 3 bladed solid prop in an aperture
- e. Credits = 0 sec/mi for 2 bladed solid prop in an aperture
- f. Credits = 0 sec/mi for 2 or 3 bladed folding prop in an aperture
- g. Credits = 0 sec/mi for outboard retracted when racing