



FWBC-PHRF Rules and Regulations

(Rev 8-15-04)

1.0 FWBC-PHRF Rules and Regulations

The Fort Worth Boat Club Performance Handicap Racing Fleet (FW-PHRF) rules and regulations are intended to guide the assignment of handicaps to auxiliary, ballasted, monohull sailboats for intraclub and interclub racing. It is the intention of the FW-PHRF to handicap sailboats fairly and with as little expense to the owner as possible. Where FW-PHRF refuses to provide a rating, it is usually because it is not possible for handicappers to obtain accurate enough information to assess the sailboats speed potential or the boat does not comply with the abovementioned basic requirements. The FW-PHRF handicap rating form and instructions for completing the form are attached at the end of this document. All boats competing in FW-PHRF races must complete and submit a handicap rating form to the Handicap Committee (HC) for assignment of a handicap. This is required in order to be registered and scored.

2.0 Base Handicap

A base handicap (BHCP) in seconds-per-nautical-mile (sec./nm) is assigned to each type of class of sailboat by the Handicap Committee (HC) after observation and analysis of hull parameters, rig and sail dimensions, US-PHRF data, race experience, race results, and any other relevant studies of performance data. The base handicap for a class assumes:

- a. Standard hull and interior, keel, rudder, and rig, as originally designed and built.
- b. Jib overlap (LP) no greater than 155% of J.
- c. Spinnaker pole length (SPL) no longer than J.
- d. Spinnaker mid-width (SMW) no greater than 180% of SPL.
- e. A folding prop, a retracted outboard, or a two-blade solid prop in an aperture.
- f.

3.0 Temporary or Provisional Base Handicaps

Temporary or Provisional Base Handicaps may be assigned for one-of-a-kind, custom designs or innovative designs, and new production boats until sufficient information is obtained to result in a more stable base handicap. When warranted, and rarely, temporary or provision base handicaps can be changed at any meeting of the HC.

4.0 Handicap or Final Sailing number

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A final sailing number or handicap (HCP) is derived by algebraically adding adjustments (credits or penalties) to the base handicap. Please see section 11.0 on adjustments for types and associated values reported in sec./nm.

5.0 Non-Spinnaker Handicaps

FW-PHRF may assign a non-spinnaker handicap to each handicapped boat. The following regulations for headsails when racing using the non-spinnaker or "Jib & Main" handicap will apply. Boats racing in a fleet comprised solely of non-spinnaker boats will normally be assigned a BHCP rating.

A. Headsails shall be limited by the I, J, and LP measurements shown on the FW-PHRF Certificate.

B. No spinnakers are allowed. Bloopers, gennakers, cruising spinnakers or such sails by any name are not allowed.

C. Boats are limited to a single headsail except for boats designed and rated to carry a staysail (e.g., a cutter rig boat).

D. Boats that are allowed to carry a staysail are subject to the following restrictions:

1. Staysail overlap when hoisted cannot exceed the overlap of the largest headsail.
2. When used, a staysail must be tacked to the deck or bowsprit.
3. The staysail cannot be tacked further forward of the mast than the J measurement.

E. A whisker pole may be used to push out the clew of a headsail. When used, the outboard end of the pole must be attached at or near the clew of the headsail and the inboard end must be attached to the mast. The maximum overall pole length is restricted to 150% of J. If an over length pole is used, it must be banded to meet the length restriction.

6.0 Measurements and Verification

Measurements required for handicapping are not used to calculate a base handicap using an exact mathematical specification or formula; rather, they provide necessary comparison values to enable the HC to establish with reasonable confidence which sailboats are "standard" and which are different or have to be modified. To accomplish this and to assure the uniform assignment of handicaps, it is necessary that FW-PHRF obtain measurements parameters of hull and interior and critical rig and sail dimensions. (Note: Some classes are using metric units for class standards. The metric measurements are permitted to verify compliance with class standards where appropriate.) Greater accuracy is fine, but not really necessary. Any change to a sailboat must be reported to the HC. If hull, interior, rig, or sails are protested through normal procedures, FW-PHRF reserves the right to require verification by actual observation and measurement by a FW-PHRF handicapper.

6.1 Verifying Hull Parameters

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The length, beam, draft, etc. of the hull called for on the FW-PHRF application or renewal form do not need to be precisely measured, except in the rare case of a modified hull. However, these dimensions must be reported. Standard measurements for many sailboats are readily available from USSA. The type of keel, rudder, prop installation and type must be reported as well as the type of auxiliary engine installed. The sailboat must be raced with its designed and manufactured interior unless a boat sailing with a one-design HCP is specifically allowed removal or alteration by the class rules. Modification to an interior must be reported even though it may not cause an adjustment to the sailboat's base handicap.

6.2 Verifying Sail and Rig Dimensions

Sails that require measurement reporting are the largest headsail and spinnakers. The sail manufacturer's measurements are acceptable but are subject to verification by the HC. Sails are measured with sufficient tension to remove cross wrinkles but with not so much tension as to cause wrinkles in the direction of measurement. The measuring tape should conform to the catenary of the sail so that measurement represents the cloth length. The measurement point for edges or corners in all cases is to be the extent of the sail itself, and not to be a projected point or to include shackles or wrinkles.

The following sail dimensions are measured:

LP: Shortest distance from forward edge of luff tape to aft most portion of the sail at the clew. The value entered is the largest value from jibs and bloopers.

SL: Maximum length of spinnaker luffs.

SMW: Maximum horizontal width of spinnaker, usually measured by doubling the half width. For cruising spinnaker measure perpendicular to the luff.

Rig dimensions defined below are explicit for banded spars. Unbanded spars will be reported with spar dimensions equal to the maximum dimensions to which sails could extend with the installed halyard and outhaul. Please note that this may imply a penalty! Measurements are made in feet and tenths of a foot (e.g. 29.3 feet):

J: Horizontal distance from forestay attachment point to front surface of mast.

SPL: Length of a spinnaker pole from centerline of the mast to outer end of the pole measured athwartships.

I: Height of the foretriangle, measured from the highest point of the sail attachment to the sheer line at the point abeam the mast. The point of sheer line is the intersection of the hull and deck.

P: Maximum hoist of mainsail, measured from lower edge of the upper mast band to the upper edge of the lower mast or upper surface of fixed boom.

PY: Maximum hoist of mizzen, measured from lower edge of the upper mizzen mast band to the upper edge of the lower mizzen mast band or upper surface of the fixed boom.

E: Maximum foot length of the mainsail, measured from the after edge of the mast to the inner edge of the band on the boom.

EY: Maximum foot length of mizzen sail, measured from after edge of mizzen mast to the inner edge of the band on the boom.

Owners of conventional sailboats are expected to follow general requirements set for racing sailboats by IMS, MORC and USSA. Thus, IMS, MORC and USSA limitations and restrictions generally apply regarding hull, interior, rig and sails, methods of trimming, and so forth. However, it is not the intention of the FW-PHRF to prohibit new or unconventional hull designs such as winged or bulbed keels, or rigs such as unstayed masts, or sails such as cruising spinnakers and full battened mainsails. Handicaps will be generated for unconventional monohull sailboats. It is understood that such handicaps will reflect the unconventional design, method of trim, etc.

7.0 Mainsails

Mainsails built to IOR, IMS, MORC or other generally accepted rating rule are allowed. Sailboats will be expected to comply with the FW-PHRF standard (IOR, IMS, etc.) mainsail specification or one design standard as applicable. Sailboats with mainsails that do not comply should expect an appropriate penalty. An effort will be made to accurately reflect the additional speed potential of mainsails that are larger than the norms stated above.

Full battened mainsails are allowed. Mid girth measurements should comply with standard (IOR, IMS, etc.) specifications. There is no restriction on the material of the battens. Battens must be evenly spaced along the leech, unless otherwise specified by class rules, but do not have to be parallel to the boom. There may be no more than four (4) battens that must not have any capability of adjustment while underway.

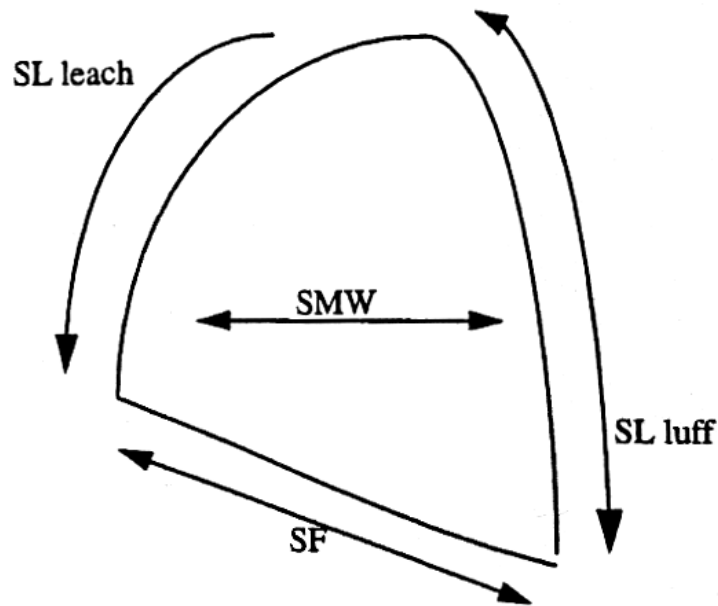
8.0 Headsails

Headsail maximum size generally conforms to the IOR specifications or one-design specifications. Sailboats with larger genoas or oversize spinnakers or poles or both are penalized in order to effect equitable racing between sailboats of the same basic design as well as the other designs of the fleet. Bloopers may be flown but must meet IOR specification.

9.0 Asymmetrical Spinnakers

Asymmetrical spinnakers prohibited under MORC, IMS and IOR are allowed subject to the following definitions and rules established to ensure that these sails are not used as oversized jibs.

FIGURE 1. FW-PHRF ASYMMETRICAL SPINNAKER RULE



- 1.) $1.7 \text{ SPL} \geq \text{SMW} \leq 1.8 \times \text{SPL}$
- 2.) $\text{SL luff} + \text{SL leach} = \text{SL}$
- 3.) $\text{SL luff}^2 / \text{SL leach} \geq 1.2$
- 4.) Area of asymmetrical spinnaker must not be greater than IMS/IOR spinnaker for that boat.
(Exception: Established one-design boats may comply with other appropriate class rules where a larger spinnaker is specified.)
- 5.) For boats with permanently mounted spinnaker poles, outriggers, bowsprits, etc., $\text{SPL} = \text{J}$ for the purposes of spinnaker size calculations when comparing with IOR/IMS Standards.
- 6.) Spinnaker widths other than SF must not be greater than SMW.
- 7.) All measurements of asymmetricals must be approved by the FW-PHRF
- 8.) An asymmetrical spinnaker may be flown with or without a pole. When used without a pole the tack must not be further forward of the mast than SPL. (Exception: Boats with permanently installed bowsprits expressly designed for setting of an asymmetrical spinnaker may use the bowsprit as designed. Such boats are prohibited from the use of conventional spinnaker poles).

10.0 Special or Strange Rigs

Special or strange rigs are appearing on sailboats produced by some manufacturers. FW-PHRF will deal with the standard rig for any monohull. Special or strange rigs may not have to satisfy mid girth

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measurements or anything else other than the original manufacturers specifications. Owners of sailboats with such rigs should be prepared to supply FW-PHRF with relevant information to verify any unique claims made under this provision.

11.0 Credits and Penalties

Credits and penalties, in seconds-per-nautical mile, are added algebraically to base handicaps for variations or modifications to standard hull, interior, keel, rudder, rig or sail plan. All modifications are handled on a case-by-case basis. Owners must report all modifications when they apply for or renew a handicap certificate. Mid-seasons modifications must also be reported, and an updated handicap issued before a sailboat races with the modifications. Understand that FW-PHRF assumes that modifications are made to increase speed. Thus, for example, a modification that results in a more favorable rating under another system such as IMS may result in a less-favorable handicap under FW-PHRF. Less favorable ratings may be assigned at any time deemed appropriate by HC. More favorable ratings will be assigned a maximum of twice per year. Boats that were assigned a provisional handicap may be updated more frequently at the discretion of the HC.

Schedule of adjustments:

The following adjustments are applied to sailboats currently registered and competing in FW-PHRF races.

- 1.) LP Adjustment: 155% of J or less, 0 sec./nm.; 155.1% to 165% of J, -3 sec./nm.; greater than 165% of J: -6 sec./nm.
- 2.) SPL Adjustment: Less than J, 0 sec./nm. Each 5% (or fraction thereof greater than J, -3 sec./nm.)
- 3.) SMW Adjustment: Less than 180% of SPL, 0 sec./nm. Each 5% (or fraction thereof) greater than 180%, -3 sec./nm.
- 4.) SL Adjustment: $.95 + \text{SQRT}(I^2 + J^2)$. Each 5% (or fraction thereof) greater than SL, -3 sec./nm.
- 5.) I Adjustment: Standard I, 0 sec./nm. Each 2.5% of fraction greater than I, -3 sec./nm.
- 6.) Propeller adjustments:
 - a. folding prop, retractable outboard, or a two-blade solid prop in an aperture, 0 sec./nm.
 - b. two-blade solid prop on exposed shaft or on a non-retracting outboard, +3 sec./nm.
 - c. three-blade solid prop, either inboard or on a non-retracting outboard, +6 sec./nm.
- 7.) Mainsail Adjustments:
 - a. Change P or PY. Each 5% increase or fraction thereof, -3 sec./nm.
 - b. Change E or EY. Each 5% increase or fraction thereof, -3 sec./nm.
 - c. Full-length battens will not be penalized. Their mainsails must be constructed within established limitations established and previously described. Sailboats not in compliance will not be rated.
- 8.) Failure to verify hull parameters or rig and sail dimensions: -6 sec./nm.

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The above adjustments are guidelines and may be modified at the discretion of the HC.

12.0 Centerboards, Lifting Keels, Water Ballast, etc.

A. Movable appendages which are equal or less than 10% of a boat's displacement may be moved while racing. Such appendages exceeding 10% of displacement are prohibited from movement while racing.

B. If water is an integral part of a boat's stability package, full water tanks must be maintained at all times while racing.

13.0 Cheating

Just what are considered serious violations of the PHRF rule? It is sometimes thought that it is a rule with few regulations and so anything goes. To a certain extent this is true. You can do almost anything but only after it has been documented and reported to the HC. The idea of PHRF and the area where it works best is to have a large number of identical boats race often and have observations based on the performance determine the rating. In order for this to work, it is necessary that boats be raced as similar as possible. Thus the rule requires the sailboat to be raced in "show boat" trim. That is all cushions, hatches, lockers, bunks, doors, tables, bulkheads, etc., that would be on the boat in order to sell it should be on the boat when it is raced. If, for some reason, you do not wish to race this way, you must inform the handicapper's council of your "modification". It is the right of the FW-PHRF to adjust your rating if the modification seems to justify it. It is not the sailboat owner's job to assess what is significant or not. Of course, if it is not significant, why do it? Violations of this normally would not bring about too great a penalty but do bring on one the possibility of being labeled a cheat.

More flagrant violations are not too uncommon in some fleets and organizations. Handicappers have found several sailboats over the years that have much larger sails than those actually rated. The HC views this as a serious violation of the rules and would refuse to issue a handicap to owners who systematically rig their sailboats with oversized sails. In addition, if you have a one of a kind sailboat and submitted to an IOR, IMS, MORC, etc. rating certificate to help the handicappers assign a FW-PHRF number, then it is expected that you will race your sailboat in the same trim as was required for that rating. If you do not wish to do so, you again must report the exact nature of these changes. In general, you may do what you wish but you must keep the HC apprised of what you are doing to your sailboat.

Be cooperative, sportsmanlike; follow the FW-PHRF rules. Report any and all changes you make to your sailboat. The FW-PHRF handicap is only "policed" by people who would not cheat to win a trophy.

Examples of reportable changes include but are not limited to:

- 1.) Removal of hatch tops under mattresses.
- 2.) Replacement of plywood hatch tops with composite material to save weight.

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- 3.) Replacement of teak table with composite material to save weight.
- 4.) Removal of stock cushions or replacement with lighter ones.
- 5.) Removal of head doors and other items of interior furniture.
- 6.) Removal of the stove or head.
- 7.) Replacement of a wooden cabin ladder with a lightweight aluminum ladder.
- 8.) Change of deck layout involving removal of stock winches.
- 9.) Replacement of wire rigging with rod rigging.
- 10.) Replacement of aluminum spinnaker pole with carbon fiber pole.
- 11.) Replacement of the prop with one of another type.
- 12.) Changing propeller shaft size and cutlass bearing strut size.
- 13.) Engine replacement
- 14.) Removal of fuel or water tanks.
- 15.) Adding running backstays.
- 16.) Adding a new headsail to the inventory.