PHRF OF EASTERN CONNECTICUT

The Performance Handicap Racing Fleet of the Eastern Connecticut Sailing Association

2010 REGULATIONS

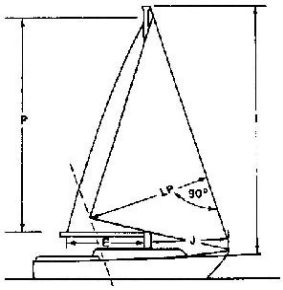
I. General Regulations

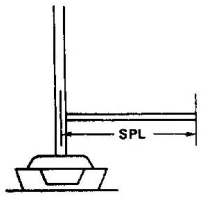
Handicap ratings are based on boat speed potential, determined from the demonstrated speed of "standard" boats, that are expertly sailed, well equipped, and conditioned. A standard boat **must** be equipped to the degree intended by the manufacturer, including those appointments and equipment supplied or intended by the manufacturer, such as joiner work, cushions, galley equipment, etc. It is the responsibility of the applicant to provide details of **all** changes that could possibly affect boat speed. To qualify for a handicap, a boat must be single-hulled and self-righting. Also, the use of a trapeze, hiking straps, hiking boards, or any other hiking aid is not permitted. A boat shall not have more than one current Eastern Connecticut PHRF Certificate at any time. Rating changes based on a change in headsail size will be limited to one per season.

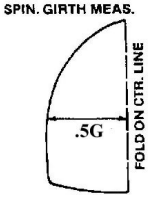
A boat with an ODR rating must conform to the hull, rig, and sail configuration specified by its one-design class. Additional class requirements such as limitations on crew weight, hiking, sail materials, number of on-board sails, new sail purchases, etc., will not apply. Practices permitted by the class, but otherwise prohibited by these Regulations, or the Racing Rules of Sailing, such as the use of trapezes or movable ballast, shall not be allowed.

II. Definitions

AMG	Asymmetric spinnaker mid-girth, measured from the midpoint of the luff to the midpoint of the leech.
ASF	Asymmetric spinnaker foot length, measured in a straight line from tack to clew.
BAL	Ballast of vessel in pounds.
BEAM	Maximum width of the vessel.
DECK HEIGHT	The height of the sheer line abreast of the mast.
DISP	Displacement of vessel in pounds, without any water, fuel, etc.
DRAFT	Distance from bottom of keel to LWL. Also include draft with board down if centerboard vessel.
E	Fully stretched or banded foot limit of mainsail.
EY	Fully stretched or banded foot limit of mizzen sail.
G	Maximum symmetric spinnaker girth measured luff to leech (IMS SMW).
I	The distance from the deck height to the point of intersection of the headstay and the mast.
ISP	The distance from the deck height to the highest headsail halyard (if above the intersection of the headstay and the mast).
J	Horizontal distance from the foreside of the mast to the point of intersection of the forestay and deck. Use the design "J" dimension for unmodified series production boats.
JSP	Horizontal distance from foreside of mast to outboard end of sprit when fully extended.
LLY	Luff length of the largest mizzen staysail (mule, etc.).
LOA	Length overall of hull.
LP	Distance perpendicular from the luff to the clew of the jib.
LPY	Distance perpendicular from the luff to the clew of the largest mizzen staysail.
LWL	Load water line.
MAT	Construction material of the keel or mast, e.g., lead, iron, carbon, alu.
MGM	Mainsail girth measurement from a point along the leech, halfway between the clew and the head, to the nearest point of the luff.
MGT	Mainsail girth measurement from a point along the leech, seven-eighths (7/8) of the distance from the clew to the head, to the nearest point of the luff.
MGU	Mainsail girth measurement from a point along the leech, three-quarters (3/4) of the distance from the clew to the head, to the nearest point of the luff.
P	Fully stretched or banded luff limit of mainsail.
PY	Fully stretched or banded luff limit of mizzen sail.
SL	Length of symmetric spinnaker measured along either luff, with only enough tension to remove wrinkles. Sail to be stretched flat while measuring.
SLE	Asymmetric spinnaker leech, measured from head to clew.
SLIM	Measurement equal to $.95\sqrt{(I^2 + J^2)}$, (or $.95\sqrt{(ISP^2 + J^2)}$, if applicable).







SLU	Asymmetric spinnaker luff, measured from head to tack.
SPL	Spinnaker pole length measured from centerline of mast to outboard end of pole when set in a horizontal position, athwartship.
TPS	Spinnaker tack point for deck-tacked asymmetric spinnakers. Measured from foreside of the mast, similarly to "J".
WPL	Whisker pole length. Measured similarly to SPL.

III. Handicap Adjustments

Non-Spinnaker Rating

Non-Spinnaker ratings are based on the ratio of mainsail size (including mizzen sails, if applicable), to foretriangle size as follows:
Ratio = (P x E + [PY x EY] + [.6LLY x LPY]) / (ISP x J).

Ratio	Rating Adj.	Ratio	Rating Adj.	Ratio	Rating Adj.
.3 but less than .4	+26	1.2 but less than 1.3	+17	2.2 but less than 2.4	+8
.4 but less than .5	+25	1.3 but less than 1.4	+16	2.4 but less than 2.6	+7
.5 but less than .6	+24	1.4 but less than 1.5	+15	2.6 but less than 3.0	+6
.6 but less than .7	+23	1.5 but less than 1.6	+14	3.0 but less than 3.4	+5
.7 but less than .8	+22	1.6 but less than 1.7	+13	3.4 but less than 4.0	+4
.8 but less than .9	+21	1.7 but less than 1.8	+12	4.0 but less than 4.0	+3
.9 but less than 1.0	+20	1.8 but less than 1.9	+11	5.0 but less than 6.0	+2
1.0 but less than 1.1	+19	1.9 but less than 2.0	+10	6.0 but less than 7.0	+1
1.1 but less than 1.2	+18	2.0 but less than 2.2	+ 9	7.0 + greater	0

Headsail Adjustments

(Headsail handicap adjustments shall not apply to boats with one-design ratings.)

Spinnaker Class

Size Range	Rating Adjustment
Up to 1.10	+7
Greater than 1.10 to 1.35	+4
Greater than 1.35 to 1.51	+1
Greater than 1.51 to 1.55	0
Greater than 1.55 to 1.60	-1
Greater than 1.60 to 1.65	-2
Greater than 1.65 to 1.70	-3
Greater than 1.70 to 1.75	-4

Greater than 1.75 is adjusted proportionally.

Non-Spinnaker Class

Size Range	Rating Adjustment
Up to 1.10	+16
Greater than 1.10 to 1.20	+13
Greater than 1.20 to 1.30	+10
Greater than 1.30 to 1.40	+ 7
Greater than 1.40 to 1.48	+ 4
Greater than 1.48 to 1.51	+ 1
Greater than 1.51 to 1.55	0
Greater than 1.55 to 1.60	- 1
Greater than 1.60 to 1.65	- 2
Greater than 1.65 to 1.70	- 3
Greater than 1.70 to 1.75	- 4

Greater than 1.75 is adjusted proportionally.

Mainsails

Unless standard for a class, unpenalized mainsail girth shall be limited as follows:

MGT (7/8 leech) shall not exceed .22E
MGU (3/4 leech) shall not exceed .38E
MGM (1/2 leech) shall not exceed .65E

Mainsail girths exceeding these dimensions must be declared, and will be penalized on an individual basis.

Excess mainsail foot (E) shall be penalized at the rate of 1 second/mile for each additional 5% or fraction thereof.

Asymmetric Spinnakers

(To classify as a spinnaker, the AMG shall not be less than 75% of ASF.)

Pole-Flown or Deck-Tacked An AMG of up to 180% J, and an average of the leech and luff lengths ((SLE+SLU)/2) not exceeding SLIM, shall be permitted without penalty. Oversized sails will be penalized using the same methodology as for symmetric spinnakers (see below), except the average of the leech and luff lengths will be substituted for SL.

Oversized poles will be penalized using the same methodology as for symmetric spinnakers.

Deck-tacked asymmetric spinnakers may be flown from a pennant not exceeding 2 feet in length, and will receive credit as follows:

TPS	Rating Adjustment
Up to 100%J	+9
Greater than 100%J to 112%J	+6
Greater than 112%J to 124%J	+3
Greater than 124%J	No credit

Sprit-Flown Base boat rating will be based on the largest standard asymmetric spinnaker, as specified by the boat manufacturer. Additional sail area will be penalized at the rate of 1 second per mile for each 5% increase, or fraction thereof, in sail area.

Symmetric Spinnakers

Spinnaker rating adjustment is based on the largest spinnaker measured by the G/J ratio and the SL/SLIM ratio. A luff length equal to SLIM is standard. The maximum girth without penalty is equal to 1.8 x J. If spinnaker luff length is greater than standard, excess length is converted to excess girth. Convert the excess luff to excess girth using the following formula: G/J Rated = (G/J Actual) (SL/SLIM).

Girth Adjustments for Symmetric Spinnakers

G/J	Rating Adjustment
Up to 1.80	0
Greater than 1.80 to 1.85	-1
Greater than 1.85 to 1.90	-2
Greater than 1.90 to 1.95	-3
Greater than 1.95 to 2.00	-4
Greater than 2.00 to 2.05	-5
Greater than 2.05 to 2.10	-6

Greater than 2.10 will be adjusted proportionally.

Maximum Spinnaker Pole Length (SPL) Without a Penalty

For spinnakers where G is less than or equal to 1.8 x J, SPL=J.

For spinnakers where G is larger than 1.8 x J, SPL=G/1.8.

If SPL exceeds both J and G/1.8, use the Girth Adjustment Tables (substituting 1.8 SPL/J for G/J) to determine penalty.

The spinnaker/pole penalty shall be the greater of either the girth penalty or the pole penalty.

Whisker Poles Maximum permitted whisker pole length (WPL) shall be .8 LP of largest headsail, or J, whichever is greater.

Modified Appendages All modified rudders shall initially be given -3 sec. penalty until reviewed by the council. Modified keels must be reported to the handicapper.

Mast Height Adjustments
(Only applicable when "I" & "P" change equally.)

Standard Mast Height is "I"
Excess or deficient height is measured by mast ratio. Mast Ratio= Actual "I"/Std. "I"

Mast Ratio	Rating Adj.
Greater than .91 to .93	+12
Greater than .93 to .95	+ 9
Greater than .95 to .97	+ 6
Greater than .97 to .99	+ 3
Greater than .99 to 1.01	0
Greater than 1.01 to 1.03	- 3
Greater than 1.03 to 1.05	- 6
Greater than 1.05 to 1.07	- 9
Greater than 1.07 to 1.09	-12
Greater than 1.09 to 1.11	-15

Greater than 1.11 is adjusted proportionally.

Engine or prop too small to drive vessel at KTS = .8 (1.3√LWL) -6

Propeller Adjustments

Inboard Engine	
2 or 3 blade folding or feathering	0
Solid 2 blade aperture	0
AutoProp	+ 3
Solid 2 blade exposed to water	+ 6
Solid 3 blade in aperture	+ 6
Solid 3 blade exposed to water	+12
Outboard Engine Propellers	
Std. retracted when racing	0
Engine not retracted, prop immersed on both tacks:	
2 blade	+ 6
3 blade	+12

Roller-Furling Headsails A boat utilizing a roller-furling headsail with an above-deck drum, will receive a 3 second, non-spinnaker rating credit.

Rating adjustments for other hull and rig modifications are handled individually.