



LM-PHRF Handicapping

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Types of Handicaps

BHCP This is the "base handicap" for the standard version of the the model of your boat. **When the BHCP value is calculated, it is assumed that the boat will be sailed in wind conditions of 8-12 knots and W/L type races.**

HCP This is the unique handicap assigned to your boat by the LMPHRF Council. It reflects all of the differences between how your boat is setup and sailed vs. the standard version of your boat. Many factors are analyzed, including hull modifications, rig modifications, sail sizes, etc. There is a TOD and TOT rating factor for HCP

NSHCP This in the non-spinnaker handicap and is used whenever your boat is sailed in the non-spinnaker or jib and main
There is a TOD and TOT rating factor for DHCP

DHCP This the distance handicap for your boat and is intended to be used in races exceeding 15 miles in length. Four factors are used to determine if the DHCP should be different from the BHCP.
There is a TOD and TOT rating factor for DHCP

Types of Handicaps - DHCP

Distance handicaps are intended to be used for races in excess of 15 miles. In distance races, where DHCP values are intended to be used, it is assumed that a smaller portion of the race will be a beat to windward and that there are few, if any, mark roundings.

❖ High Performance boats with W/L SA/Disp over 50 and D/L under 100 receives -3 (New for 2021). This relates to sport boats and TP52 types.

❖ Sprit or Prod - Boat with sprits and prods receive a -3 sec/mile penalty. They had credit in base HCP for lack of going downwind.

❖ Large boats with slow ratings - Boats that have hard time in W/L turning/accelerating.

Types of Handicaps - DHCP

Distance handicaps are intended to be used for races in excess of 15 miles. In distance races, where DHCP values are intended to be used, it is assumed that a smaller portion of the race will be a beat to windward and that there are few, if any, mark roundings.

❖ Keel Type - Boats that receive credits for CB/shoal draft keels would be removed. These boat received base HCP credit for lack of being able to go upwind.

❖ Rig Type - Two masted boats that can now utilize rig receives a -3 sec/mile penalty.

Equipping Your Boat

Know Your Boat

- ❖ Strengths and Weaknesses of Boat
 - ✓ Light air/Heavy air
 - ✓ Upwind/Downwind/Reaching

- ❖ Sail Inventory- Have Bases Covered for Races you do
 - ✓ Light air/Heavy air
 - ✓ Upwind/Downwind/Reaching

Equipping Your Boat

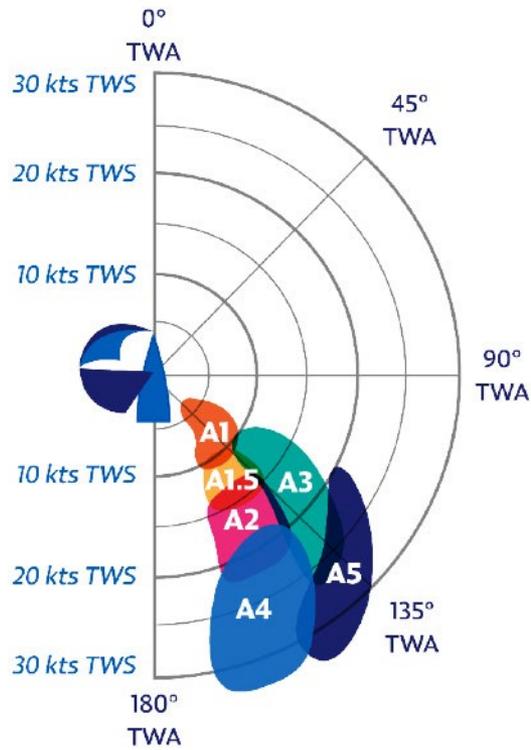
What Races Do You Want To Do

❖ What do you sail-

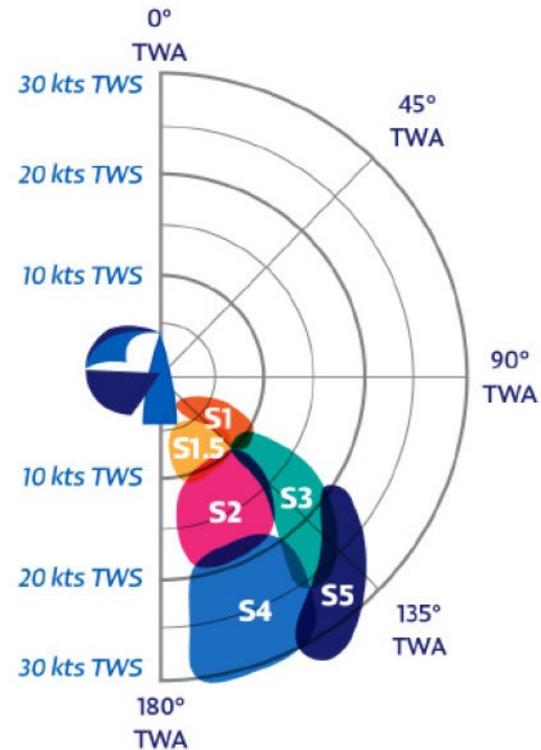
- ✓ Buoy/Distance or both, Inventories are much different. Need more Code 0, A3/S3, Jibtops and staysails for Distance Races.
- ✓ Need better jibs and A2/S2, A1/S1.5 for Buoy Races.

Equipping Your Boat

Sprit/Pole Boats



Pole Symmetrical



Modifying Your Boat



❖ Sail Inventory- Have Bases Covered

- ✓ Light air/Heavy air
- ✓ Upwind/Downwind
- ✓ Reaching

❖ Boat Mods

- ✓ Can boat handle mods structurally (hull and rig)
- ✓ Can boat sail to mods in all conditions

Modifying Your Boat

No Correction - Changes/Mods

❖ Asymmetric Sails

- ✓ On pole or deck (allowed to tack 12" forward of head stay).
- ✓ Code "O" sails allowed (midgirth 75% of foot).
- ✓ Must have area equal to or less than largest rated symmetric spinnaker (normally 50%-66% of largest sail)
- ✓ LRH on some boats (see Matrix)

❖ Running Rigging

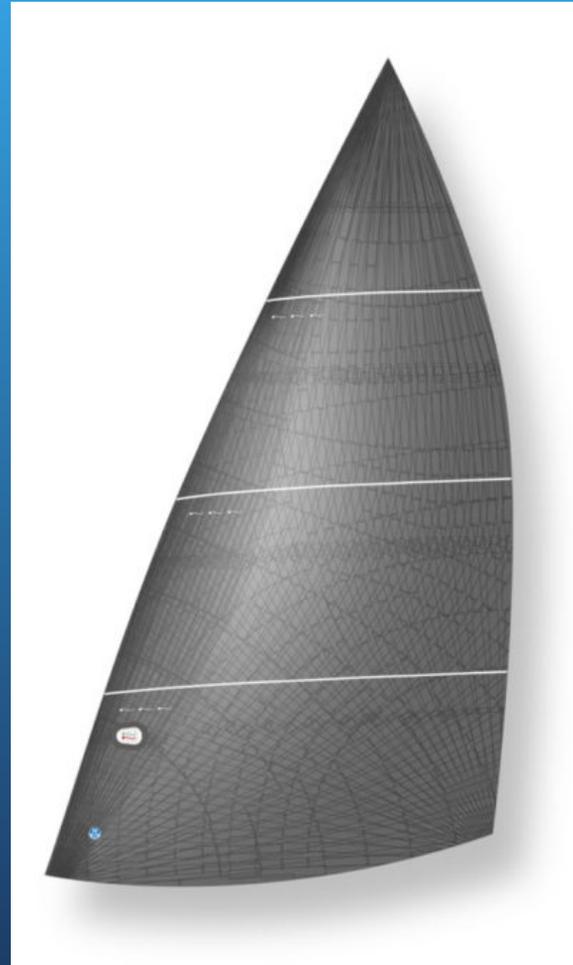
- ✓ Fiber (dynema, PBO) backstays, runners/check stays allowed.
- ✓ Stripped cover halyards/sheets/guys of any construction.
- ✓ Inhaulers for jibs.

Modifying Your Boat

No Correction - Changes/Mods

❖ Asymmetric Sails

- ✓ On pole or deck (allowed to tack 12" forward of head stay on deck or short prod.
- ✓ Code "O" sails allowed (midgirth 75% of foot minimum).
- ✓ Must have area equal to or less than largest rated symmetric spinnaker. Normally 50-66% of largest rated.



Modifying Your Boat

Corrections - Changes/Mods

- ❖ Tweener Sails - Masthead jibs with midgirths over 50% and under 75% of foot. Penalty based on size and rig type. (New for 2021)
- ❖ Pole/ISP Increase - Larger chutes either up and/or out. -3 for every 12%, Will be based on total SA increase for 2022.
- ❖ Boom Increase - Longer boom based on formula -3 for every 6% - 10% based on rig type (best bang for buck)
- ❖ Keel/Rudder - Change or modification to current base case by case basis.
- ❖ Weight Change - Normally based on -3 for every 5% loss.
- ❖ Square top mains - Based on area increase and rig height. (New/Corrected for 2021).

Modifying Your Boat

Corrections - Changes/Mods

LARGE ROACH HEADSAILS (LRH)

Headsails with an LP greater than 110% and a half width greater than 50% of the foot and less than 75% of the foot are considered Large Roach Headsails (LRH). The adjustment for these sails will be made on a Matrix basis. The adjustment will depend on whether the boat is a fractional or masthead rig; and if a fractional rig jib, whether she carries other masthead reaching sails.

Penalties for these sails will only be used in distance handicap and not for Base or W/L ratings unless LP is less than TPS.



Modifying Your Boat

LMPHRF LRH Rating Matrix

RIG	MH	MH	MH	MH
JIB LP	150	105	150	105
SPINN	MH Pole	MH Pole	MH	MH
SPINN LP	Any	Any	Any	Any
Spinn LP<TPS	N/A	N/A	N/A	N/A
SPRIT	None	None	Yes	Yes
HCP Penalty	None	None	None	None
LRH Penalty	0	-3	0	-3

RIG	FRAC	FRAC	FRAC	FRAC	FRAC
JIB LP	150	105	150	105	105
SPINN	Frac Pole	Frac Pole	Frac	Frac	Frac
SPINN LP	Any	Any	Any	Any	Any
Spinn LP<TPS	No	Yes	No	No	Yes
SPRIT	None	None	Yes	Yes	Yes
HCP Penalty	None	None	None	None	-3
LRH Penalty	0	-3	0	-3	-3

RIG	FRAC	FRAC	FRAC	FRAC	FRAC
JIB LP	150	150	105	105	105
SPINN	MH Pole	MH	MH	MH	MH
SPINN LP	Any	Any	Any	Any	Any
Spinn LP<TPS	Any	No	No	No	Yes
SPRIT	No	Yes	Yes	Yes	Yes
HCP Penalty	None	None	None	None	-3
LRH Penalty	0	-3	-3	-3	-3

Modifying Your Boat

• Corrections - Changes/Mods



- Square top mains - Based on area increase and rig height. (New/Corrected for 2021).
- There will be a lot more load on rig (pull and compression), car tracks and mainsheet/traveler systems.

Modifying Your Boat

Credit Correction - Changes/Mods

ROLLER FURLING MAINSAILS

- ❖ Credit is not awarded to boats that have roller furled mainsails as a standard feature of the production design.
- ❖ Luff (In-the-Mast) mainsail with no roach or battens +9 sec/mile
- ❖ Luff (In-the-Mast) mainsail with positive roach or battens +6 sec/mile
- ❖ In-the-Boom furled mainsail +3 sec/mile

ROLLER FURLING HEADSAIL ADJUSTMENT

The roller furled headsail adjustment

- ❖ Standard production feature - no correction
- ❖ Below deck furling drum - no correction
- ❖ Above deck furling drum - +3 sec/mile

Boats converting from a pole tacked spinnaker to a centerline tacked asymmetrical spinnaker shall receive the following credits:

- ❖ Displacement to length ratio less than 90 0 sec/mile
- ❖ Displacement to length ratio at least 90 but less than 150 +3 sec/mile
- ❖ Displacement to length ratio at least 150 but less than 250 +6 sec/mile
- ❖ Displacement to length ratio at least 250 +9 sec/mile

Appeal Rating Process

Types of Appeals

- ❖ New boat process “Provisional Rating”
- ❖ Your Boat
- ❖ Competitors Boat
- ❖ Fleet Balancing Lm-Phrf Committee Action

Appeal Rating Process

Types of Appeals - Your Boat

❖ Your boat - process

- ✓ Talk with with your area handicapper about your boat.
- ✓ Fill out forms for appeal.
- ✓ Need at least 15-25 races for appeal process.
- ✓ Need information before meeting for committee to review.
- ✓ At meeting you get 5 mins. To present followed by questions by committee members.
- ✓ You then leave room with all people in rating band for deliberations.

❖ Your boat - general questions asked by committee

- ✓ Sail inventory
- ✓ Boat prep
- ✓ Crew numbers and duration on boat

Appeal Rating Process

Types of Appeals - Fleet Balancing

❖ Fleet Balancing Boats - process

- ✓ Technical Committee works with Chief Handicapper, Area Handicappers about boats that may need help.
- ✓ Race data, observations and boat type is reviewed.
- ✓ At meeting boats are presented followed by questions by committee members.

Race Data Analysis

Types of Race Data Analysis

❖ Core Boat- process

- ✓ Races are run using phantom boat by averaging to top 1/4 to top 1/3 third of section depending on section size and section makeup.
- ✓ Boats then run showing sec/mile from core boat.

❖ Skipper Effect Boat- process

✓ Skipper effect is base on place delta differentials from a history of one design races where the boats are the same. The only difference is skippers, sails and boat prep. Boats used were T-10's, J-24's, Farr 40's, J-105's and others. All races had min. of 15 boats and over 100 races.

✓ Place sec/mile were found to be 1st/4sec, 2nd/3sec, 3rd/2sec, 4th/2sec ect.

✓ If you came in 3rd you would be 7sec/mile from first.

Race Data Analysis

Types of Race Data Analysis

❖ Core Boat/Skipper Effect- process

- ✓ Races are run using phantom boat of section.
- ✓ Boats then run showing sec/mile from core boat.
- ✓ Skipper effect is then used to deltas to show sailed to values.
- ✓ Boats that are faster than 9-12 sec/mile under sailed to for races shown could have slower rating than shown.
- ✓ Boats that are slower than 9-12 sec/mile over sailed to for races shown could have faster rating than shown.
- ✓ Boats data faster or slower than 30 sec/mile is not used to average data for boat (flyer effect)
- ✓ LM-PHRF need at least 15-20 races (with min. 8-12 boats in the section) to truly evaluate a boats rating correctly

LM-PHRF - Questions

