

MORF PHRF HANDICAP SYSTEM

The MORF PHRF Handicap System is a system for assigning empirical or performance handicaps to monohull and multihull racing/cruising sailboats for racing in MORF events. Each boat issued a MORF PHRF empirical handicap is expected to meet the minimum accommodation, equipment, and safety standards suggested by the United States Sailing Association's minimum requirements for Category IV races. Handicaps are assigned by the MORF Handicap Committee. The MORF Handicap Committee is chaired by the Rear Commodore and consists of two representatives from each section, the Section Captain and an Alternate. The Handicap Committee considers hull and appendage characteristics, rig and sail dimensions, USPHRF data, race data, and any other relevant information pertinent to a boat's performance in assigning a final handicap or sailing number (HCP) to a boat.

Handicaps

MORF calculates corrected times using time allowance mileage. The time allowance mileage for a course is equal to the course length, in statute miles, plus 10%. All MORF PHRF handicaps are given in seconds-per-time-allowance-miles (sec./tam.).

A *base handicap* (BHCP) in seconds-per-time-allowance-mile (sec./tam.) is assigned to each boat type or class by the Handicap Committee. The base handicap for a boat type or class assumes:

1. Standard hull and interior, keel, rudder, and rig as originally designed and built.
2. Jib overlap (LP) no greater than 155% of J.
3. Spinnaker pole length (SPL) no longer than J.
4. Spinnaker mid-width (SMW) no greater than 180% of SPL.
5. A folding prop, a retracted outboard, or a solid prop in an aperture.

A *One-Design (ODR) base handicap* may be assigned to a boat type having a standard rig and/or sail configuration that differs from assumptions 2-4 if the differences were part of the boat's original design and construction, or constitute a nationally recognized one-design configuration.

No adjustment to a boat's *base handicap* is made for boats racing Jib and Main unless the boat type has a *One-Design handicap* that includes an oversized spinnaker. Boats racing Jib and Main may use a (whisker) pole to push out the clew of a headsail. There is no limitation on the length of such a pole.

A *provisional base handicap* may be assigned for one-off, custom, modified, innovative or new production boats until sufficient information is obtained to result in the assignment of a stable handicap.

A *handicap or final sailing number* is derived by algebraically adding adjustments (credits or penalties) to the base handicap. Please see the section on kinds of adjustments and associated values reported in seconds-per-time-allowance-mile (sec./tam.).

Measurements and Verification of Hull, Rig, Sail Plan, and Interior Design or Layout

Assigning a base handicap and deriving the final sailing number or handicap requires measurement and verification of critical hull and rig parameters, sail dimensions as well as a description of the interior layout and appointments. Measurements provide necessary comparison values that enable the Handicap Committee to verify a boat's model or type and to establish with reasonable confidence which boats are standard and which are different or have been modified. MORF accepts the following for verification of hull, rig, and sail dimensions and interior design or layout.

1. Any current or still-accurate measurement rating certificate, such as IOR, IRC, and MORC.
2. Actual physical measurement by a LMPHRF or MORF handicapper.
3. Actual physical measurement by a competitor who normally races against the boat being measured, provided the measurement is verified to by a MORF handicapper.
4. A sail measurement certificate provided by a sailmaker.

Verifying sail plan and rig dimensions. Sails that require measurement are the largest mainsail, largest genoa, the largest spinnaker and blooper. Sails are measured, to the nearest tenth of a foot, suspended off the floor, with sufficient tension to remove cross wrinkles but not with 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 a projected point or to include shackles or swivels.

1. **LP** is the shortest distance from forward edge of luff tape to aftermost portion of sail at the clew. The value entered is the largest value from jibs and bloopers.
2. **SL** is the maximum length of symmetrical or asymmetrical spinnaker luffs.
3. **SMW** is the maximum horizontal width of spinnaker, usually measured by doubling the half width. For cruising spinnaker measure perpendicular to the luff.

Sail dimensions defined below are explicitly for banded spars; spars must be banded. 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., 34.5 feet). A current or still valid measurement certificate (IOR, MORC, IMS, etc.) may be used to obtain all of the required measurements. When this is the case, the boat owner must supply a copy of the certificate with the application form or certificate renewal documents.

1. **J** refers to the horizontal distance from forestay attachment point to front surface of mast.
2. **SPL** refers to the length of spinnaker pole from centerline of mast to outer end of pole.
3. **I** refers to the height of foretriangle measured from the highest point of 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.
4. **P** refers to the maximum hoist of mainsail measured from lower edge of the upper mast band to the upper edge of lower mast band or upper surface of fixed boom.
5. **PY** refers to the maximum hoist of mizzen measured from lower edge of the upper mizzenmast band to the upper edge of lower mizzenmast band or upper surface of fixed boom.
6. **E** refers to the maximum foot length of mainsail measured from after edge of mast to the inner edge of band on boom.
7. **EY** refers to the maximum foot length of mizzen sail measured from after edge of mizzenmast to the inner edge of band on boom.

Mainsails. It should be understood that MORF would not handicap a boat without penalty for carrying a mainsail that has an extra large roach except for MORC rated sailboats. Mainsails built to IOR/IMS specifications are allowed. Full battened mainsails are allowed. Midgirth measurements must comply with current IOR/IMS requirements. There is no restriction on the material for the battens. Battens must be evenly spaced along the leach but do not have to be parallel to the boom. There may be no more than four battens that must not have any lines permitting shape adjustment underway except the usual leech line and mainsail sheet.

Headsails. The Handicap Committee sets headsail maximum sizes from the information obtained from manufacturers or builders. Boats with larger genoas or oversize spinnakers or poles or both are penalized in order to effect equitable racing between boats of the same basic design as well as the other designs of the fleet without oversized sails. Both symmetrical and asymmetrical spinnakers are allowed. Asymmetrical spinnakers may be set with or without a pole. When set with a pole, the sail may not be set further forward of the mast than JC.

Cruising spinnakers, prohibited under MORC, IMS, or IOR rules, are allowed subject to the following definitions and rules. These are promulgated to ensure that cruising spinnakers are not used as oversized jibs, to "beat" an LP penalty. The SMW of a cruising spinnaker is its maximum width, which may not exceed 180% of J without penalty, and the luff length may not be larger than that of a genoa.

Asymmetrical spinnakers must not exceed the following dimensions to assure that these sails are not used as oversized genoas without penalty:

$$\frac{SL_{Leach} + SL_{Luff}}{2} \leq SL$$

$$\frac{SL_{Luff}}{SL_{Leach}} \geq 1.1$$

$$1.7(JC) \geq SF \geq 1.8(JC)$$

$$1.8(JC) \geq SMG \geq 0.75(SF)$$

Verifying Features of the Interior. The interior layout and appointments must be fully described. When an interior is judged by the owner to be unusual or when it has been customized, photos may be used, but are not required.

Credits and Penalties

Credits and penalties, in seconds-per-mile, are added algebraically to assigned base handicaps for variations of or modifications to "standard" hull, rig, sail plan, and interior layout. 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-season modifications must also be reported and an updated handicap certificate issued before boat races with the any modification. Understand that MORF assumes that modifications are made to increase speed. For example, a modification that results in a more favorable rating under another system such as IOR may result in a less-favorable handicap under MORF. The following adjustments are applied to all boats currently registered and racing with MORF PHRF certificates.

1. LP Adjustment: 155% of J or less, 0 sec/m; 155.1% to 165% of J, -3 sec./tam. greater than 165% of J, -6 sec./tam.
2. SPL Adjustment: Less than J, 0 sec./tam. Each 5% or fraction thereof greater than J, -3 sec./tam.
3. SMW Adjustment: Less than 180% of SPL, 0 sec./tam. Each 5% or fraction thereof greater than 180%, -3 sec./tam.
4. SL Adjustment: $0.95 \sqrt{I^2 + J^2}$, 0 sec/m. Each 5% or fraction thereof greater than SL, -3 sec./tam.
5. I Adjustment: Standard I, 0 sec/m. Each 2.5% or fraction thereof greater than I, -3 sec./tam.
6. Propeller Adjustments:
 - a. Folding prop, retractable outboard, or a two or three-blade solid prop in an aperture, 0 sec./tam.
7. Mainsail Adjustments:
 - a. Change to P or PY. Each 5% increase or fraction thereof, -3 sec./tam.
 - b. Change to E or EY. Each 5% increase or fraction thereof, -3 sec./tam.
 - c. Full-length battens will not be penalized. Mainsails must be constructed within established limitations. Boats not in compliance will not be rated.
8. Failure to verify hull parameters or rig and sail dimensions within a season: -10
9. 6 sec./tam. Failure to verify dimensions in a successive season will inhibit the issuance of a certificate or invalidate an issued certificate.

About MORF PHRF Empirical Handicaps

The MORF PHRF handicap (HCP) is the degree to which one boat design is potentially faster or slower than any other in seconds-per-time-allowance-mile. The MORF PHRF handicap is based upon the nature of a boat's original design and any modifications to it. It is the information acquired from race results which really enables the handicappers to determine the speed potential of one class or design in relation to the speed potential of any other class or design sailing in the same race. Analysis of consecutive race results aids the Handicap Committee in its annual determination of the relative difference in speed potential among boats racing in the Chicago region. Many other algorithms are also used to assist the Handicap Committee in assigning a valid handicap for a particular boat type or class. HCP is a time on distance factor utilized in scoring competitive events.

Obtaining a MORF PHRF Handicap Rating

A MORF PHRF Handicap Rating is provided for all boats registered to race in MORF events by current regular members of MORF as part of the annual MORF membership fee. A MORF PHRF Handicap is valid for the duration of the sailing season unless a boat is modified or one or more new sails are obtained after the rating was issued. Any modifications and/or new sails must be reported to the Rear Commodore, and sailmaker's sail measurement certificate must be supplied or the sails must be measured, before the modification and/or new sails can be used in a MORF race.

New Rating: Boats new to MORF and/or boats registered by a new owner must apply for a new rating. An application for a new rating must include complete, accurate information about the boat (builder/designer, model, construction date, hull ID number) and the hull, rig, and sail dimensions.

Renewals: Boats with valid MORF PHRF Handicap Ratings from the previous season do not need to resubmit complete hull and rig information unless the boat has been modified. Any modifications to the hull, interior, appendages, or the rig must be reported and described in detail. Any new sails must be reported and sail measurement certificates provided, or the new sails must be measured.

Appeals

An owner may request modifications of the handicap rating assigned to his/her boat or a competitor's boat.

Appeals may be filed for the following reasons:

1. There is performance data that clearly demonstrate that an adjustment to the handicap is warranted.
2. There is clear evidence that the Handicap Committee was not in possession of complete or correct data when the current handicap was assigned.
3. There is clear evidence that there have been unreported modifications made to the boat subsequent to the assignment of the current handicap. This type of appeal is usually the result of a successful protest to a race committee for initial action and under the current racing rules published by US Sailing.

Appeals must be presented in writing to the Rear Commodore. Appeals based on the performance of a boat relative to its competitors should be accompanied by a completed LMPHRF Appeals Form available at http://www.lmphrf.org/Appeal_Process.PDF. Appeals will be accepted at any time after the start of the current racing season and prior to the MORF winter meeting following the current racing season. While appeals may be accepted during the current racing season they are ordinarily not acted upon during the current season unless reasons 2 and 3 above apply. Typically appeals are acted upon during the period January 15 to March 15 prior to a given racing season. Only one appeal of the handicap may be filed each year for any given boat. However, if the appeal is based on modifications or evidence that incorrect data were used in assigning the handicap, it may be submitted for immediate action.