REVISED May 2026

NORTHERN CALIFORNIA

PERFORMANCE HANDICAP RACING FLEET

(NCPHRF)

Part 1: Rules & Guidelines

Part 2: Technical Specifications

Part 3: Assistance with filling out an application

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PART 1
RULES AND GUIDELINES

I. DEFINITION

The Northern California Performance Handicap Racing Fleet Committee (NCPHRF Committee) is a Standing Committee of the Yacht Racing Association (YRA) of San Francisco Bay. Its sole function is to determine the performance potential of yachts in racing applications and provide a handicap value to equalize the chances of winning across a broad spectrum of competitors. This handicap value (rating) will be provided to a yacht that applies for a rating and meets the criteria listed in section II.

II. CRITERIA

Vessels applying for a rating shall meet the following minimum criteria:

1. The vessel shall have a single hull (Monohull type).
2. The vessel shall have a minimum, fixed, external ballast weight of 400 pounds.
    a. An exception to this rule is granted to vessels with ratings assigned prior to 1998.
3. The vessel shall have a minimum canoe body length of 19 feet.

The committee may decline to provide a rating for any vessel it considers unable to fairly evaluate. For new and unfamiliar vessels, a provisional rating may be provided by the committee, and subject to reevaluation at the committee's discretion after a period of observation.

III. APPLICATION

Ratings will be provided as described above to yachts that apply for a rating. The primary application form can be found in the appendix of these Rules and Guidelines and on the Northern California Yacht Racing Association website. Definitions, descriptions and guidance on filling in an application can be found further in these Rules and Guidelines.

1. It is the policy of the NCPHRF Committee that all documentation must be submitted to the YRA office prior to issuance of a rating. No ratings will be given in conversation or without all appropriate documentation being provided to the entire Committee.

2. The documentation is to include the following;
    a. A completed PHRF application form at a minimum
    b. ORR, IRC or any other previous rating certificates and documents, if any
    c. Photographs
    d. Written descriptions
    e. Previous race results, if any.

3. The PHRF application form shall be filed out in decimal feet and pounds (lbs). Forms incorporating metric values or missing information will be returned for revision without a rating.

IV. RATINGS

The Committee will assign ratings based on the following essential assumptions:

1. The racing will take place primarily on and around the central San Francisco Bay
2. The wind velocities will be an approximate median of the lesser winter wind speeds and the higher summer wind speeds
3. The ratings reflect the prevalent use of traditional windward/leeward courses with a minimum of reaching legs or random leg courses.
4. The yacht is in optimum racing trim and all normal equipment is on board
5. The hull bottom is fair and clean
6. The sails are in good condition
7. The propeller folds/feathers or the yacht has an outboard that can be raised clear of the water
8. The yacht is expected to be sailed to its optimal performance. Experience of the yacht's crew is not considered when determining ratings.
9. The yacht is not modified beyond the expectations of the committee at the time the rating was issued. The yacht shall not be "stripped out". For example, all the drawers, doors, systems and interior at the time of the rating shall remain in place. If the vessel is a production boat, all the standard items expected to be on board are in place. If a certification such as ORR or IRC was supplied with the rating application, all equipment accounted for in those certifications shall remain in place. One exception to this assumption is the removal of cushions.
10. The Committee will evaluate classes that allow different engine installations on a case-by-case basis.
11. The sails are in conformance with the assumptions below:
    a. Jib LP is less than 155% of J. For non-conforming production vessels, the Base Rating will be so annotated
    b. The midpoint on the headsail leech to the closest point on the luff shall be less than 55% of LP.
    c. Mainsail girth maximums as described in Part 2
    d. Vessel is equipped with a spinnaker
    e. Spinnaker maximum girths as described in Part 2
    f. Spinnaker maximum luff as described in Part 2
    g. All sails conform to maximum IMS sail dimension limitations
    h. Outriggers are not allowed under the Racing Rules of Sailing and boats will not be rated by the NCPHRF Committee to use outriggers.
12. The following ORR Conversion Formula may be used to help evaluate PHRF Ratings:
    a. PHRF = (. 95 x GPH)-520

The ratings shall be established taking specific attributes of the vessel into account. Examples of these include displacement (weight), waterline length, sail area and hull form. Previous ORR, IRC and National PHRF ratings are very useful for evaluation. Also used for evaluation are a vessel's similarity to other rated vessels, photos, drawings and various design data.

The rating is a numerical value, divisible by three, corresponding to seconds

per nautical mile. The minimum rating increment is three seconds per nautical mile. The rating' s usage is covered in Section XI. RACE RESULTS.

A value referred to as a Base Rating will typically be assigned to a vessel. This Base Rating can then be slightly modified based on characteristics particular to that vessel. This is very typical of production vessels.

Custom ratings will be assigned when a production boat has been modified outside of its standard configuration or when a non-class custom designed boat is being considered. Custom or "one-off" vessels will receive an "as-sailed" or "custom" rating notation.

For vessels that, while production, face inherent rating penalties due to design features, the committee reserves the right to apply a "custom" rating at its discretion. It also reserves the right to maintain this rating despite modifications made to bring the vessel into compliance with the PRHF guidelines.

V. ONE-DESIGN RATINGS

If requested, the Committee may provide One-Design Ratings (ODR) to classes that have their rules on file in the YRA office. All vessel's with ODRs while sailing in YRA or other NCPHRF races are to sail in conformance with their one design class rules within the following modifications:

1. Strict interpretation of limitations to hull, rig and sail dimensions
2. No limitations on:
    a. Sail material
    b. Quantity of class legal sails carried aboard while racing
    c. Who may steer
    d. Crew weight
3. Where class rules prohibit spinnakers, spinnakers are permitted while racing in NCPHRF in accordance with NCPHRF limitations. Please see Part 2

VI. DOWNWIND RATINGS

The PHRF Committee has established Downwind Ratings to better handicap yachts where 67% or more of the race is normally expected to occur in reaching to running conditions. Typical races in Northern California that should utilize the Downwind Rating are the Delta Ditch Run, the Coastal Cup, the Westpoint Regatta, the Spinnaker Cup, Windjammers, the Jazz Cup and the Saturday of the Great Vallejo Race.

VII. ADJUSTMENTS TO BASE RATINGS

1. MAINSAILS
    a. If MGU exceeds the maximum allowable, a penalty may be assessed.
    b. If MGM exceeds the maximum allowable, a penalty may be assessed.
    c. If MGM is less than 50% of E a credit of 3 spm is typically issued
    d. In-mast furling mainsails typically receives a credit of 3 spm
2. JIBS
    a. A 3 spm credit is typically issued if LP of the largest headsail is less

than 125% of J
    b. A 3 spm penalty is typically issued if LP of the largest headsail is between 155% and 170% of J.
    c. A 6 spm penalty is typically issued if LP of the largest headsail is 170% or more of J
    d. The committee will evaluate headsails with a midgirth greater than 55% of LP on a boat-by-boat basis.
3. SYMMETRIC SPINNAKERS
    a. A 3 spm penalty is typically issued for each 10% increase in pole length more than 100% of J.
    b. A 3 spm penalty is typically issued for each 10% increase in spinnaker area more than 100% of area based on I and J. See Part II Calculations.
    c. ISP greater than I will be assessed on a boat-by-boat basis.
4. ASYMMETRIC SPINNAKERS:
    a. A -3 sec/pm penalty is typically issued for asymmetric spinnaker poles that can articulate the spinnaker tack off of the boat's centerline.
    b. In general, the assessment for asymmetric spinnaker area will be the same as for symmetric spinnakers but the committee will evaluate this on a boat-by-boat basis.
    c. ISP greater than I will be assessed on a boat-by-boat basis.
5. VESSELS CARRYING BOTH ASYMETRIC AND SYMETRIC SPINNAKERS:
    a. There is no inherent penalty for vessels carrying both symmetric and asymmetric spinnakers. Vessels normally rigged to fly symmetric spinnakers opting to fly an asymmetric spinnaker off of the vessel centerline at J may receive a credit. Vessels normally rigged to fly symmetric spinnakers opting to fly an asymmetric spinnaker off of the vessel' s symmetric spinnaker pole will be reviewed on a boat for boat basis and will receive a penalty
6. PROPELLERS
    a. A 3 spm credit will be given for a 2 blade fixed propeller
    b. A 6 spm credit will be given for a 3 blade fixed propeller
7. ITEMS FOR WHICH THERE WILL BE NO CREDIT GIVEN:
    a. Sail inventories with headsails having an LP less than 125% of J
    b. Sail inventories lacking a spinnaker
    c. Excess weight in the form of optional gear and equipment
    d. Spinnakers with ASF or SSF less than 180% of J
8. ITEMS WHICH WILL BE EVALUATED ON A BOAT FOR BOAT BASIS
    a. Special rigs with unusual dimensions or features
    b. Modifications including but not limited to:
        i. Structural alterations
        ii. Optional construction or sail materials
        iii. Ballast
        iv. Ballast location
        v. Engine location
        vi. Keel modification
        vii. Rudder modification
    c. Typically there are no penalties for rudder modifications as this is

considered to be a positive safety modification more than a performance modification

9. PRODUCTION BOATS WITH NON-CONFORMING MEASUREMENTS When a production boat is supplied with measurements normally evaluated as a penalty, the Committee may, at its discretion, issue an "as-sailed" rating. Such a rating may or may not be reduced if the spinnaker is cut down to standard dimensions of the previous Section.

VIII. SPORT BOATS

The NCPHRF Committee defines a Sport Boat as any boat with a SA_DW/D ratio >=61, a D/WL ratio <=105, carries a sprit and has a LWL <32”

IX. ELECTRIC WINCHES

1. Electric winches are disallowed under *RRS Rule 52*. However, some race committees may choose to specifically allow the use of electric winches in their Sailing Instructions. The PHRF Committee recognizes that electric winches are becoming more commonplace, thus, boats that list the use of electric winches on their rating application will be assigned a penalty according to the table below. This penalty will apply to both buoy and downwind ratings. NOTE: The penalties are not cumulative.

FUNCTION OF ELECTRIC WINCH	CHANGE TO RATING
Electric Halyard Winch	-0 spm
Electric winches for sheeting, manually eased	-3 spm
Back-winding/reel winches*	-6 spm
Full Electric sail controls (powered winches, cunninghams, outhauls, vangs, etc)	-9 spm

*Backwinding or reel winches are generally highspeed winches that can con trol sheeting in and out with the push of a button.

2. The NCPHRF Committee recommends having a separate division for boats with electric sheeting winches and/or electric sail controls.
3. A boat that is rated with electric winches may opt to enter a race where they are not allowed, sailing ONLY with manual power. In that event the race committee may adjust the boat’s rating by removing the stated penalties above.

X. NON-SPINNAKER RATINGS AND VESSELS

Modifications to base ratings:

1. For the purposes of racing in a non-spinnaker fleet. NCPHRF recommends the certificate rating be modified using the following table. Nothing in these rules prevents an organizing authority from using PHRF ratings, or modifying them, in a non-spinnaker event or division.

If the larger headsail has LP of	Change to rating
105% or less 125% to 106% 126% or greater	+6 sec/pm +3 sec/pm -0 sec/pm
Use of a roller furling jib tacked to the top of a drum with the entire drum above the deck	+3 sec/pm

2. These modifications are not intended to be used in fleets combining spinnaker and non- spinnaker yachts. Confidence is very low in deriving equitable handicaps for mixed fleets.

3. Sail handling restrictions:
    a. Only one headsail may be flown at a time
    b. No headsail larger than the largest listed on the NCPHRF certificate may be used
    c. Headsail changes must be done using one headsail halyard at a time ("bald-headed" changes only)
    d. Whisker pole may be of any length
    e. Cruising spinnakers" and bloopers are spinnakers
4. Boat Restrictions:
    a. Some boats are rated as if they carry spinnakers even if they do not. They should therefore be racing in spinnaker fleets. Examples of such yachts are:
        i. Wylie Cats
        ii. Non-Such Cats
        iii. Cat rigged yachts in general
        iv. Star Class yachts
        v. Knarr Class yachts
5. Boats that should not be included in non-spinnaker classes are identified in the NCPHRF Base Rating Report with the notation "No NonSpin".

XI. RACE RESULTS

Races can be scored under two different methods: Time-on-Distance and Time-on-Time. A description of these methods is as follows:

1. Time-on-Distance:
    a. Multiply the stated course distance in nautical miles by the vessel' s rating. This is the Time Allowance.
    b. Subtract the Time Allowance from the vessel' s elapsed time around the race course. This is the Correct Finish Time.
    c. The vessel with the shortest Correct Finish Time is the winner.
2. Time-on-Time:
    a. Calculate the vessel' s Time Correction Factor (TCF)
        i. $TCF=\frac{650}{B\ Factor + PHRF}$

        ii. The following B factors are suggested:
            a. 480 - Heavy Air or all off the wind

b. 550 - Average Conditions
c. 600 - Light Air or all windward work

b. Multiply the TCF by the vessel' s elapsed time around the race course. This is the Corrected Finish Time (CFT)
   i. CFT = TCF * $TIMEelapsed$
c. The vessel with the shortest Corrected Finish Time (CFT) is the winner.
d. For races scored with the downwind rating:
   i. $TCF = \frac{480}{0+PHRFDW}$

XII. APPEALS

A yacht' s rating or competitor' s yacht' s rating may be appealed. There is a fee required for the appeal. When appealing your own yacht' s rating, it is strongly encouraged that an ORR certificate matching the PHRF certificate' s configuration be submitted with the appeal forms available on the NCPHRF website. When the rating of a competitor's yacht is being appealed, an appeal form shall be sent to the competitor who will be required to complete the form at the appellant' s expense. The appeal will be heard after receipt of the completed forms in either case

XIII. NCPHRF VISITOR POLICY

1. The NCPHRF Committee will entertain requests for an audience limited to 15 minutes at the beginning of a Committee meeting.
2. The principle reason for the meeting is limited to a discussion of a yacht that can not be had in writing through other means. The committee may ask clarifying questions during the meeting however no arguments or discussions will be permitted.
3. Guests may be invited for various purposes to present to the committee.
4. Visitors may review the approved official minutes from any meeting.

PART 2
TECHNICAL SPECIFICATIONS

I. DEFINITIONS:

ASF:	Asymmetric Spinnaker Foot Length
ASMG:	Asymmetric Spinnaker Mid Girth Length
AREAasym:	Area of Asymmetric spinnaker as measured
AREAmax:	Area of any spinnaker, maximum allowable, based on I and J measurements
AREAmain:	Area of mainsail
AREAsym:	Area of Symmetric spinnaker as measured
Bmax:	Maximum hull beam
Bwl:	Beam at the waterline
CFT:	Corrected Finish Time
D:	Displacement in pound or long tons. This is the weight of the vessel in racing trim.
DLR:	Displacement to Length ratio. This is an evaluation of the vessel's speed potential, particularly with regard to its planing ability.
DWSA:	Total Sail Area of the vessel (spinnaker included)
E:	The maximum horizontal distance from the back of the mast at the boom goose neck to the outhaul for the main clew.
GPH:	General Performance Handicap. This is a rating issued by the ORR.
HB:	Headboard. The distance from the front of the mainsail luff rope to the aft top corner of the sail
HGM:	Headsail Mid Girth
I:	The vertical distance from the chainplates to the headsail halyard exit on the mast
ISP:	Equivalent "I" dimension for the spinnaker sail
J:	The horizontal distance from the front of the mast to the headstay fitting on the hull
JSP:	Distance from front of mast to asymmetric spinnaker tack point
LOA:	Length overall
LP:	Length Perpendicular. The distance from a headsail clew perpendicular to the luff
LWL:	Length of the hull on the waterline with the vessel in racing trim
MGM:	Mid Mainsail Girth Length
MGU:	Upper Mainsail Girth Length
ORR:	Ocean Racing Rule. This is the rating office of US Sailing
P:	The vertical distance from the upper surface of the boom at the goose neck to the main halyard exit on the mast.
PHRF:	Standard general rating issued by the Committee

PHRFdw:	PHRF downwind rating issued by the Committee
SA:	Total Upwind Sail Area of the vessel
SAD:	Displacement to sail area ratio. This is an evaluation of the vessel% s power to weight
SL:	Spinnaker Luff Length
SLE:	Asymmetric Spinnaker Leech Length
SLU:	Asymmetric Spinnaker Luff Length
SPM:	Seconds per mile. The unit of measure of the handicap value issued by the Committee
SSF:	Symmetric Spinnaker Foot length
SSMG:	Symmetric Spinnaker Mid Girth length measured from each half luff length. Tmax: Maximum Draft
TCF:	Time correction factor
TCFdw:	Time correction factor using the downwind ratings

II. CALCULATIONS

1. **Eq 1**: Percent of overlap of a headsail, any consistent units

$$\%Headsail = \frac{lp}{J} * 100$$

2. **Eq 2**: Base spinnaker luff length, SL

$$SL = 0.95 * \sqrt{I^2 + J^2}$$

3. **Eq 3**: Base spinnaker mid-girth/foot length, SSF and SSMG

$$SSMG\ or\ SSF = 1.8 * J$$

4. **Eq 4**: Area of an asymmetric spinnaker, actual, any consistent units

$$AREAasym = \frac{ASF * (SLU+SLE)}{4} + \frac{(ASMG - 0.5 * ASF) * (SLU+SLE)}{3}$$

5. **Eq 5**: Area of a symmetric spinnaker, actual, any consistent units

$$AREAsym = \frac{SSF * (SL+SL)}{4} + \frac{(SSMG - 0.5 * SSF) * (SL+SL)}{3}$$

6. **Eq 6**: Base allowable spinnaker area based on I and J, any consistent units

$$AREAmax = 1.425 * J * \sqrt{I^2 + J^2}$$

7. **Eq 7:** Base Upper Main Girth, whichever is greater, any consistent units

$$MGU = 0.28 * E + 0.016 * P + 0.85 \text{ OR } MGU = 0.38 * E$$

8. **Eq 8:** Base Middle Main Girth, whichever is greater, any consistent units

$$MGM = 0.5 * E + 0.022 * P + 1.2 \text{ OR } MGM = 0.65 * E$$

9. **Eq 9:** Base Mainsail area, based on P, E, MGU, and HB, any consistent units

$$AREAMain = \frac{P}{4} * \left(\frac{HB}{2} + MGU + \frac{3 * MGM}{2} + E\right)$$

10. **Eq 10:** Displacement to Length Ratio, D in pounds, LWL in feet

$$DLR = \frac{\frac{D}{2240}}{\left(\frac{LWL}{100}\right)^3}$$

11. **Eq 11:** Sail Area to Displacement Ratio, SA in square feet, D in pounds

$$SAD = \frac{SA}{\left(\frac{D}{64}\right)^{0.667}}$$

12. **Eq 12:** Time Correction Factor for Time-on-Time handicapping

$$TCF = \frac{650}{550 + PHRF}$$

13. **Eq 13:** Time Correction Factor for Time-on-Time handicapping for Downwind Ratings.

$$TCFdw = \frac{480}{0 + PHRFdw}$$

PART 3

ASSISTANCE WITH FILING OUT AN APPLICATION FOR HANDICAP

I. APPLICATION QUESTIONS

1. SAIL NUMBER:
   a. This should be a number that the YRA office has assigned to your boat. Please call the YRA office at 415-771-9500 for more information.
   b. Sail Prefix is a country code. This space just in front of the number can be blank or it may have an alphabetic code such as “USA", “GBR", “CAN”, etc.

2. BOAT MODEL:
   Please enter the brand and model of boat if it is a production vessel. If the boat is custom or a limited production please indicate it as such. If it was designed to a specific rule such as 6-meter, IOR, MORC etc. please indicate it as such. If there are any historical measurement certificates please submit them with the application regardless of age.

3. FORETRIANGLE SECTION:
   a. Relevant dimensions can be found in Figures 1 and 5 .
   b. Largest headsail dimension is $\%headsail = \frac{LP}{J} * 100$
   c. I is the vertical distance from the chainplates to the headsail halyard exit on the mast
   d. J is the horizontal distance from the front of the mast to the headstay fitting on the hull
   e. ISP is the vertical distance from the chainplates to the spinnaker halyard exit on the mast
   f. JSP is the distance from front of the mast to asymmetric spinnaker tack point

4. MAIN SECTION
   a. Relevant dimensions can be found in Figures 1 and 4
   b. To locate the MGM and MGU measurement points along the leech, fold the main down bringing the front corner of the head to the clew. Mark the fold line at the leech. This is the starting point for the MGM measurement. Now fold the front corner of the head up to that mark. Mark the leech at the new fold line. This is the starting point for the MGU measurement.
   c. To measure either girth, place the end of a tape measure at the starting point on the leech and record the shortest distance to the luff. This is the girth measurement.
   d. Mizzen section refers to similar dimensions on Ketch or Yawl type rigs.

5. SPINNAKERS SECTION
   a. SYMMETRIC Spinnaker
      i. Relevant dimensions can be found in Figure 2
      ii. Symmetric spinnakers have luffs of equal lengths and are symmetric about the vertical centerline.
      iii. SSMG is measured from a point half way along the luff length to the same point on the opposite luff.
      iv. Symmetric spinnaker area is as follows:

$$AREAsym = \frac{SSF * (SL + SL)}{4} + \frac{(SSMG - 0.5 * SSF) * (SL + SL)}{3}$$

b. ASYMMETRIC/CRUISING Spinnaker
    i. Relevant dimensions can be found in Figure 3
    ii. Asymmetric/cruising spinnakers are area limited to 180% of symmetric spinnakers based on I and J (or ISP and JSP) for that boat.
    iii. Asymmetric spinnaker area is as follows:

$$AREAasym = \frac{ASF * (SLU + SLE)}{4} + \frac{(ASMG - 0.5 * ASF) * (SLU + SLE)}{3}$$

    iv. If the tack of the asymmetric spinnaker can be moved off of centerline while sailing, please record the maximum achievable angle between the centerline of the boat and an imaginary line from the mast base to the spinnaker tack.
    v. If an asymmetrical is flown from a spinnaker pole, this angle is 90 degrees
    vi. The performance of Cruising/Asymmetric spinnakers is not yet completely defined. Boats with excessive JSP or ISP and boats with articulating tacks points may incur some rating adjustments.

6. RIG SECTION
    a. Type of rig is typically Masthead or Fractional. Alternatives include Cutter, Yawl or Cat.
    b. Mast material is typically Aluminum. Alternatives include Carbon or Wood
    c. Standing Rigging Material is typically Wire. Alternatives include Rod or Composite

7. HULL SECTION
    a. Relevant dimensions can be found in Figure 1
    b. Beam is the maximum width of the boat.
    c. Draft is the maximum depth of the boat from the water surface
    d. Transom hung rudders need not be included in length measurements
    e. Draft on boats with daggerboards or centerboards is to be measured with them fully lowered

8. DISPLACEMENT SECTION
    a. Displacement is the total weight of the boat.
    b. The ballast is specifically the weight of the keel and any weights permanently installed in the boat intended to increase stability, alternatives may include iron and concrete
    c. Ballast material is typically lead
    d. Minimum ballast is 400 pounds for a PHRF rating, per PART I
    e. A trapeze is a guy wire from the mast designed to suspend a crew member over the side of the boat increasing stability.
    f. Hiking straps are lengths of webbing in the cockpit of the boat that secure the feet of a crew member allowing them to extend out over the side of the boat increasing stability

9. KEEL SECTION
    a. Movable ballast is any weight readily available to transfer from side to side increasing stability
    b. Movable ballast is typically water in tanks
    c. Movable ballast is not legal per *RRS Rule 51*. Only a few races alter the RRS to allow movable ballast. It is the vessel's responsibility to verify applicability in any particular race.
    d. SIMPLY BECAUSE IT IS CITED ON THE PHRF CERTIFICATE DOES NOT MEAN IT CAN BE USED
    e. Keels are typically fixed and on the boat's centerline. Alternatives include daggerboards that lift vertically and centerboards that swing back up along centerline. Advanced yachts can have keels that swing side to side increasing stability.

10. ENGINE
    a. Is the engine and outboard that can be removed from the transom during racing and stowed inboard to increase performance or is it permanently installed?

11. PROPELLER
    a. Propellers can be solid (fixed) or adjustable, allowing them to fold or feather reducing drag. For outboards this is not considered with the assumption the engine is lifted clear of the water while racing.

12. CLASS OR NON-CLASS BOAT
    a. If the boat is a production boat, with or without an existing racing class, and has not been altered since new, check the unmodified box. If it has been altered, cite the specific alterations in the Modifications space provided and be complete. Otherwise select the non-class box.

13. MODIFICATIONS
    a. Please describe all modifications that have been made to the boat sails or rig.

II. RATING FEES

1. Northern California PHRF is responsible for US Sailing Area G. This area extends from San Louis Obispo north to the Oregon border and West to Northern Nevada.
2. The fee for a new Certificate, or renewal of an existing PHRF Certificate, is $100, which includes a YRA Membership.
3. Skippers with multiple boats will pay $100 for their first boat and an additional $50 for each subsequent boat.

III. REGIONAL AND NATIONAL SAILING ASSOCIATIONS

1. YACHT RACING ASSOCATION OF SAN FRANCISCO BAY
2. The Yacht Racing Association is the RSA (Regional Sailing Association) under US Sailing. They provide many services to the local sailing community including:
    i. The YRA maintains the PHRF handicapping system, providing a way for a wide variety of yachts to compete with one another.
    ii. The YRA maintains several racing marks throughout the central San Francisco Bay. Nearly all yacht clubs use these popular permanent buoys.
    iii. The YRA coordinates the US Coast Guard blanket permit process for all local yacht clubs and sailing associations. This entails the recording, coordinating and scheduling of over 1000 individual races in the San Francisco Bay area each year
    iv. The YRA administers the US Sailing District Appeals Committee. This is the first level of redress should a participant feel that the race committee's protest ruling was in error.
    v. The YRA provides a liaison with the US Coast Guard and local governmental organiizations. It can provide the communication and lobbying efforts required to support the interests of the racing community.
    vi. The YRA hosts educational seminars on a variety of topics relevant to the racing community, from safety at sea courses to rules and tactics roundtable events.

3. US SAIILING
    i. US Sailing is our national sailing organization, which maintains the racing rules of sailing and appeals. By joining US Sailing you help support the administration of the rules, appeals, national championships, handicap systems, Certified Race Officer programs, and many other aspects of our sport.
    ii. You may reach them at 800-877-2451 or at ussailing.org/

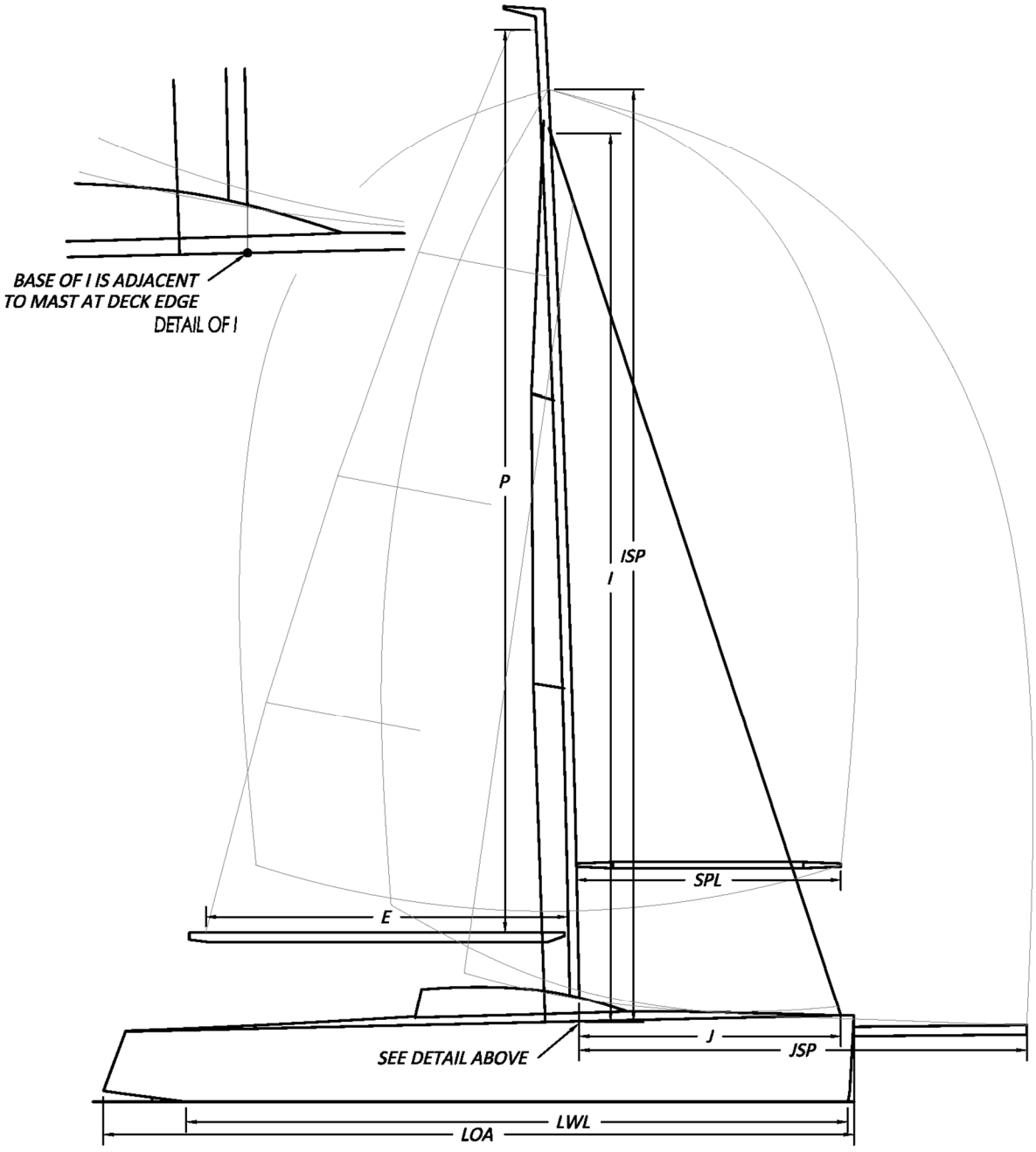


FIGURE 1 - SAIL PLAN, RIG AND VESSEL DIMENSIONS

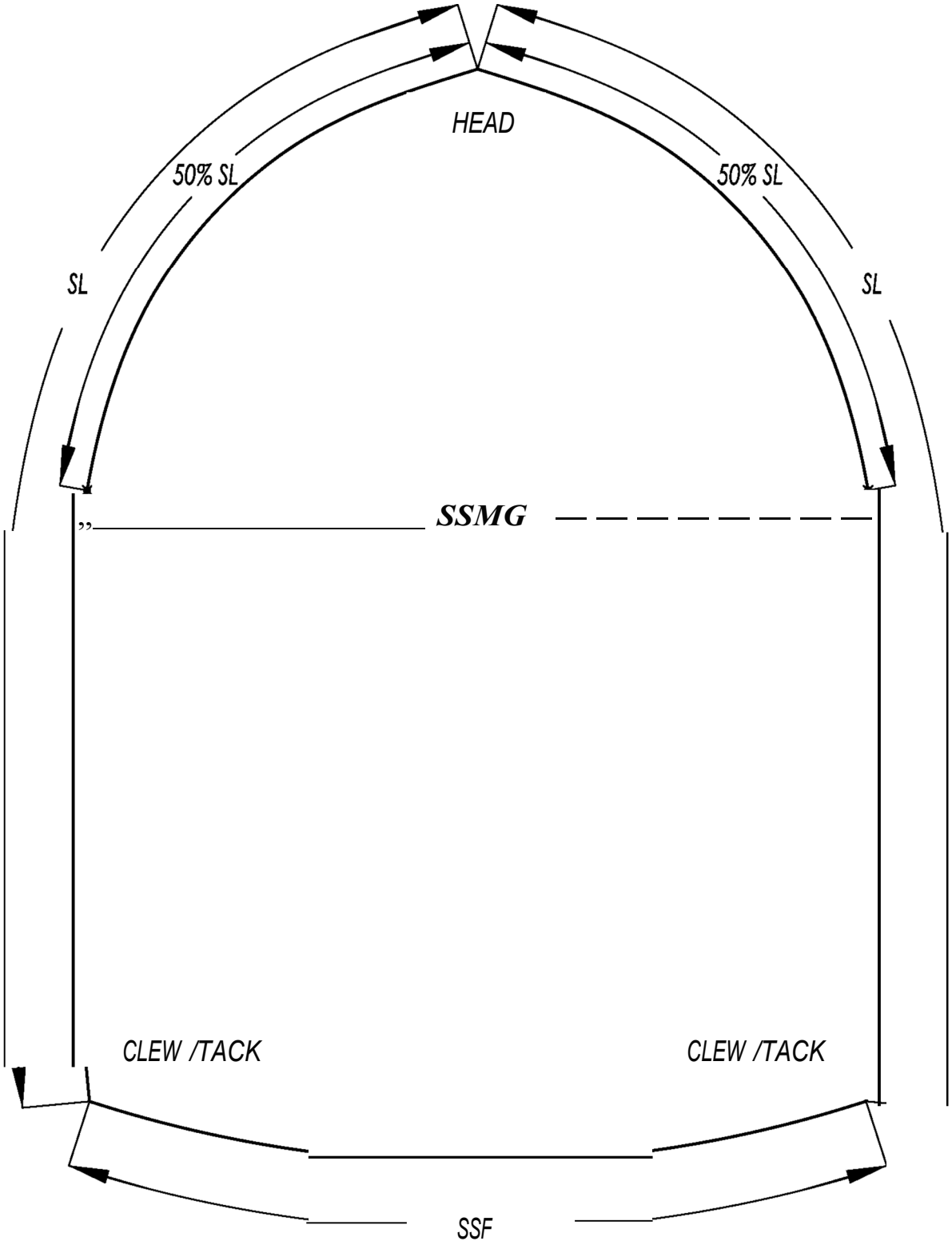


FIGURE 2 - SYMMETRIC SPINNAKER DIMENSIONS

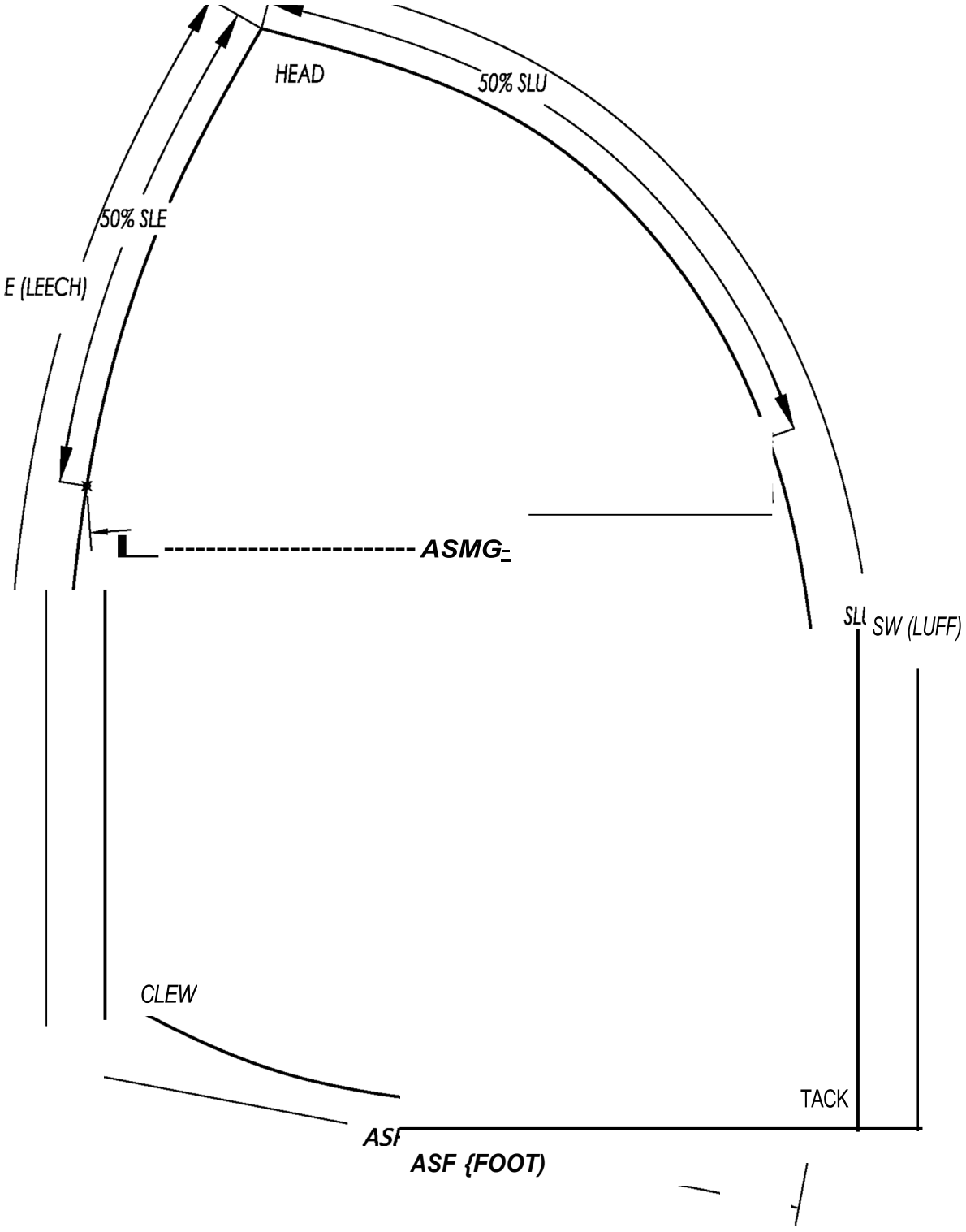


FIGURE3 -ASYMMETRIC SPINNAKER DIMENSIONS

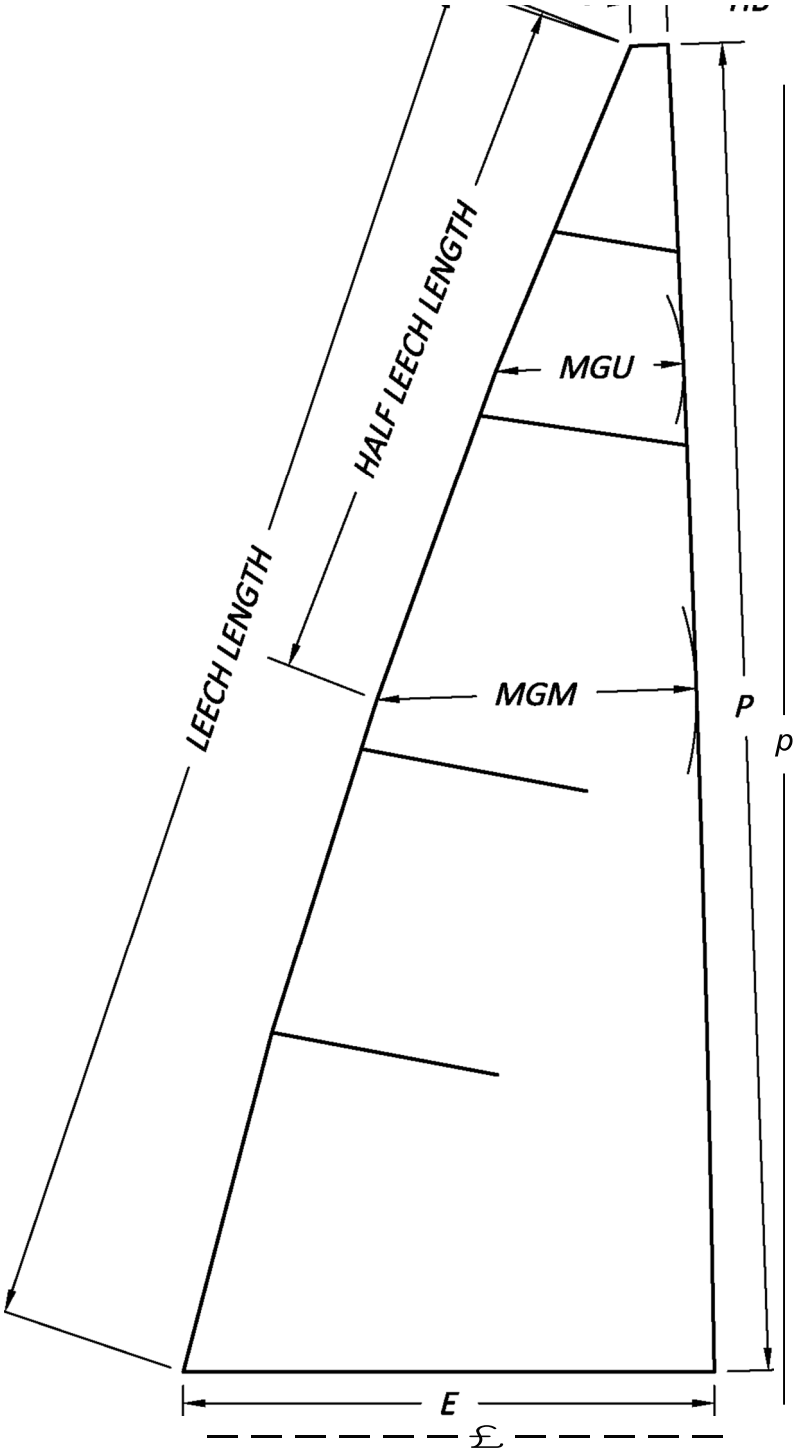
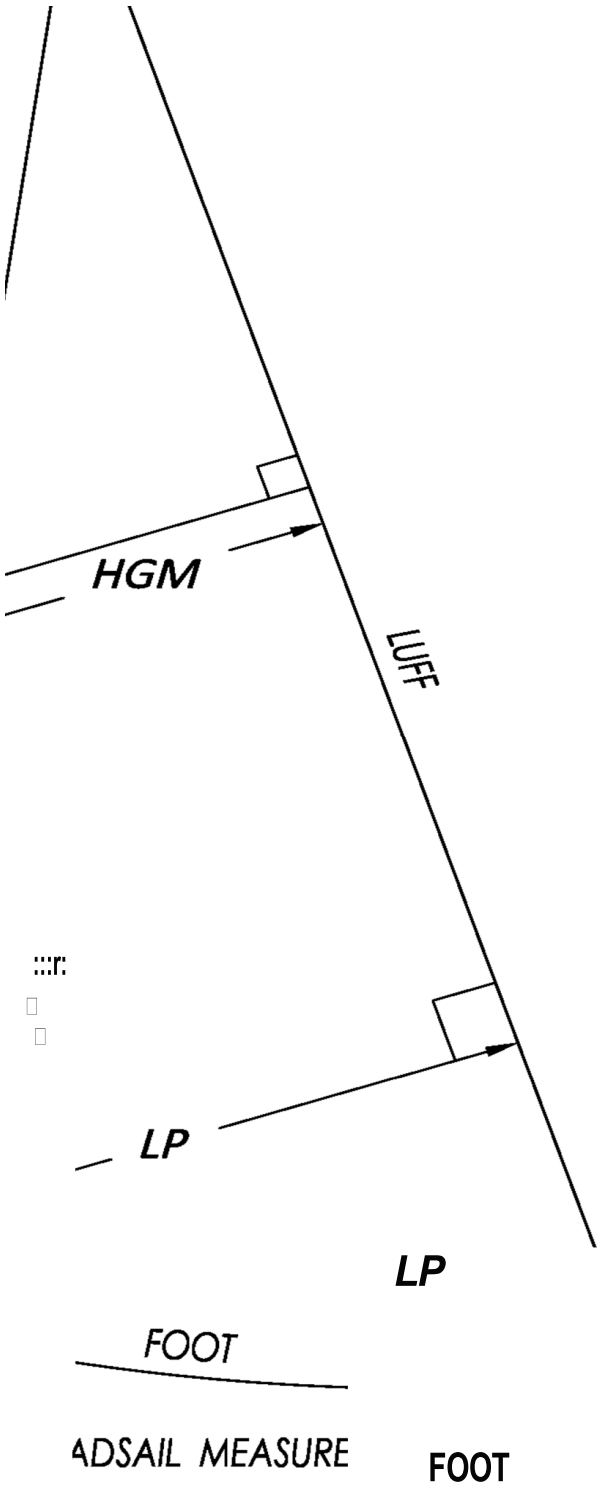


FIGURE 4 - MAINSAIL MEASUREMENTS



HEADSAIL MEASUREMENTS

flGURE5- HEADSA1L DJMENSIONS