

A DESCRIPTION ON FILE WITH CLASS SECRETARY

7-11-68

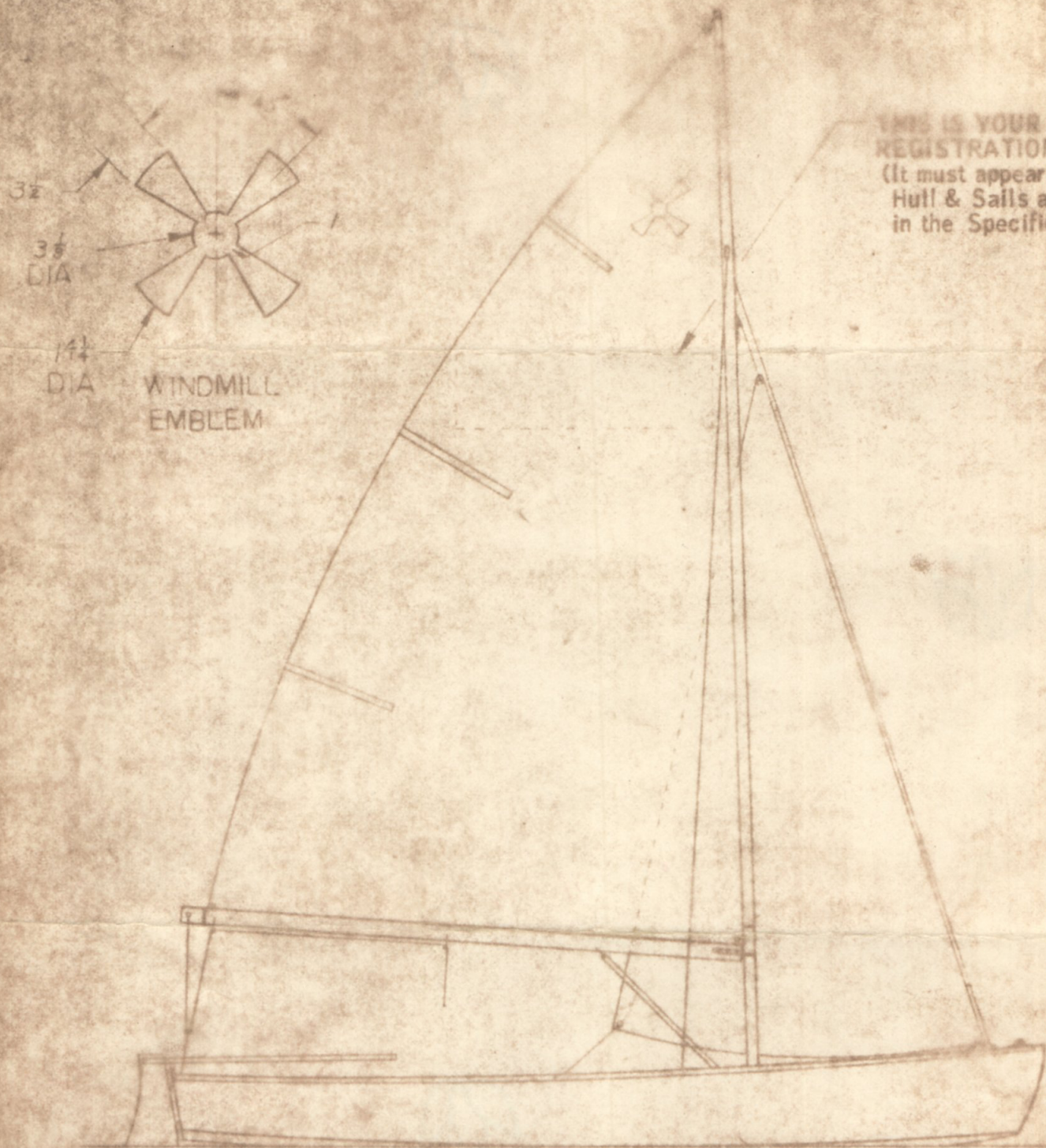
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CHG. REVISION

DATE

APPROVAL

A



# THE WINDMILL

OFFICIAL PLANS OF THE WINDMILL CLASS ASSOCIATION

DESIGNED BY:

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Revised Drawing by H. J. Johnson, Jr. 9/67

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Rules pertaining to the use of sails while racing are given under Racing Rules.

- a. Sails may be of Domestic or Egyptian Cotton, or of synthetic materials.
- b. Adjustment of the clew outhaul and the tack downhaul of the mainsail is permissible at any time provided maximum length of the luff (16'-0") and foot (9'-4") are not exceeded. Any other means of artificially changing the shape or length of the foot, leech, or luff of either jib or mainsail is prohibited.
- c. No extra battens or other means of artificially stiffening the leech or roach of either sail shall be used.
- d. The jib will be attached to the forestay by the use of clips or hanks. Jib attachment devices which completely house the forestay are prohibited.
- e. Sails are subject to remeasurement and to cancellation of approval at any time.
- f. There are three measurements to be made on each mainsail, and they are:
  - (1) Measurement of the width of the headboard.
  - (2) Measurement of the length of the leech.
  - (3) Measurement of the girth taken at the mid-points of the luff and leech.
- g. The maximum width of the headboard, measured perpendicular to the luff, shall not exceed 6 inches.
- h. The maximum length of the leech, measured from the grommet in the headboard to the grommet in the clew, shall not exceed 17'-8" when stretched under a direct line pull of 5 lbs. This dimension is to be taken with battens in their respective pockets.
- i. The maximum girth shall not exceed 6'-0" at the midpoints of luff and leech. The mid-points of the luff and leech are determined as follows: Fold the headboard to the tack, superimposing the headboard and tack grommets. Stretch the sail snugly while holding the headboard and tack together and crease the sail where it forms its natural fold. This point should be marked by the Measurer with an indelible pencil at the outside edge of the bolt-rope. The leech is folded and marked in a similar manner. The distance between these so-determined points shall not exceed the 6'-0" dimensions as mentioned above.
- j. The length of the luff and foot need not be measured as

they are controlled by the location of the bands on the mast and boom.

- k. The maximum dimensions for a Windmill Jib are: Luff-12'-3"; Foot-6'-4"; Leech-11'-6". Jib vertical measurement shall be no more than 12'-3/4".

- (1) The maximum depth of the jib including roach shall be measured as follows: Midpoint of the foot is determined by folding the jib vertically and superimposing the tack and clew matching the edge of the sail cloth, lightly stretching the material while holding the tack and clew together to produce a natural fold, crease the sail on the roach tabling; this marks the midpoint of the foot. The head of the jib is held firmly and a measurement is taken from the "measurement point" (See Para. 1 below: 5/8" maximum from luff and leech of sail) to the lowermost edge of the roach at the midpoint with two pounds tension on the sail. This dimension shall be no more than 12'-3/4". This specification is to take precedence over any other specification insofar as any conflict is concerned.

- l. The foot, luff, and leech dimensions shall be measured to the center of the grommets at the head, tack and clew. The proper location of the grommets in the head, tack and clew of the Windmill Class Jib is as follows (for measurement purposes only):

- (1) Head: The center of the grommet shall be located 5/8" maximum from the luff and the leech of the sail. The measurements shall be made perpendicular to both the luff and leech.

- (2) Tack: The center of the grommet shall be located 7/8" maximum from the luff and roach in the foot of the sail. The measurements shall be made perpendicular to and parallel to the luff.

- (3) Clew: The center of the grommet shall be located 7/8" maximum from the leech and roach in the foot of the sail. The measurements shall be made perpendicular to and parallel to the leech.

- m. All jibs shall have a wire luff which must be permanently affixed at the head and tack of the jib. The intent of this provision is to specifically eliminate adjustable jib luffs.

- n. Battens for the Windmill mainsail shall be 3 in number, and have the following maximum lengths. Upper -18"; Middle-27"; Bottom - 24". These battens are intended to approximately divide the leech into equal parts. There shall be no battens in the jib.



- o. Insignia - The official class insignia (size is shown on plans) shall appear on both sides of the main sail. Insignia should be back-to-back and located just above the top batten pocket, in the center of the sail.

Sail Number - The registration number issued by WCA shall appear on both sides of the main sail. Numbers shall be not less than 10" high and of 1-1/2" wide strips. Numbers should be located between the middle and top-batten with the number on one side lower than the other.

- p. Letters to designate the Nation under which the boat is registered may be used if desired. Insignia denoting honor awards consisting of chevrons may be worn (See Honor Awards for details).
- q. After measuring, stamping, and certification of each suit of sails, the owner is obligated to inform his fleet measurer of any changes or alterations which would materially affect the dimensions and specifications of his sails.
- r. All owners and sailmakers are hereby put on notice that any attempt to circumvent or take unfair advantage of the simple restrictions outlined herein shall leave him open to disqualification of any such sails. The provision is solely for the protection of the WCA, and shall be exercised stringently.
- s. Each sail used in Windmill competition must have sewn to the tack an official "Royalty Paid" label. Labels for sails now in use can be purchased from the WCA Secretary-Treasurer. Labels for the new sails should be furnished with sails by the sailmaker. In either event, label cost will be one dollar (\$1.00) each.

### 13. Fiberglass Hull Construction

- a. The use of fiberglass as a material for hull construction is approved. Fiberglass in this specification is defined as fiberglass reinforced plastic commonly used in fiberglass boat construction. All other requirements of the Windmill Plans and By-laws apply to hulls constructed of fiberglass except as expressly stated here in Paragraph 13. At all times the present wood hull is to be considered as the standard for all purposes including strength, performance, and shape.
- b. Royalty fee for fiberglass fabrication is required for each hull fabricated. Plan package cost (\$15.00) and royalty (\$10.00) is payable prior to issuance of Plan Package and Registration Number. All builders shall consider the plan Package as part of the completed boat and is the property of the buyers at the time of sale.

- c. To prevent excessive bottom loading, the minimum center of gravity for the fiberglass hull is 17 inches above the base line (hull being in measurement attitude.)
- d. The fiberglass hull shall have sufficient floatation permanently installed to safely support hull weight and two crew members when capsized. Under deck location of floatation is recommended. If buoyancy is provided by built-in air tanks, there shall be a minimum of two separate tanks, with each able to provide the safety specified above. No other floatation is allowed to be affixed to the bottom.
- e. Maximum thickness of bottom or sides is 1 inch. Minimum densities of filler materials are: end grain balsa, 6 pounds per cubic foot; polyurethane foam, 8 pounds per cubic foot; polyvinyl chloride foam, 4 pounds per cubic foot. Sandwich filler material shall not be flat grain balsa.
- f. WCA recommends that fiberglass covered wood be kept at a minimum throughout hull construction.
- g. Hull number must be permanently identified with 1 inch (minimum) numbers in the hull. If not placed as in the wood boat, the number shall be placed on the starboard side of the DB well, near the aft edge.
- h. Minimum thickness of the outer edge of the rub rail is 1/2 inch. The rub rail, or the outer 1/2 inch, should be replaceable.
- i. Thwart braces shall be equal or superior in strength to 1/2 inch marine plywood. Thwarts made of wood shall be replaceable.
- j. Keelson, chines, sheer clamps, deck coaming, stem cut-water, transom cheeks and stiffener, and daggerboard well stiffener and cheeks may be omitted providing hull construction is structurally strong without these members.
- k. Sufficient reinforcement shall be made at all places where hardware is attached.
- l. Fiberglass hull builders are encouraged to contact the Chief Measurer on questions concerning fiberglass construction. WCA suggests immediate review of prototype hulls or subsequent changes to hull construction to avoid rejection of the hull.
- m. It is strongly recommended that fiberglass hulls be measured and approved prior to sale as a hull is not a Windmill until it is officially approved.