

MEASUREMENT DATA SHEET "H" (For all boats built after January 1, 2001, except as noted.)

5. Thickness of sides, transom, sides of centerboard trunk and bottom. Fiberglass and foam sandwich or fiberglass and honeycomb sandwich. Fiberglass: 3mm (1/8") minimum. Plywood and fiberglass and honeycomb sandwich: 1.5mm (1/16") inner skin minimum. Wood: cubic meter (0.185 lbs. per cubic inch) of less than 512 kg per cubic meter (3.2 lbs. per cubic inch), 1.9mm (3/4") minimum. Plywood: 10mm (3/8") minimum. Fiberglass and fiberglass plus fiberglass: 10mm (3/8") minimum plus fiberglass. Plywood and fiberglass: 10mm (3/8") plus or minus 3mm (2") wide at station 1. 6. Keel width 102mm (4") plus or minus 3mm (2") wide at station 1. Plywood and fiberglass: 10mm (3/8") plus or minus 3mm (2") wide at station 1. 7. Stern must be a smooth curve and it must follow the tube of stem. 8. Maximum chine radius is 19mm (3/4") at station 1, tapering to 3mm (1/8") at station 2 and is 3mm (1/8") from there aft. 9. Maximum lack of flatness aft of station 1 in any cross section is 3mm (1/8") per each 305mm (10") of distance over which the lack of flatness is being checked (i.e., distance 305mm ± 3mm, distance 450mm ± 4.5mm, distance 610mm ± 6mm or lack of flatness). 10. Thickness: Plywood: 6mm (1/4") minimum. Fiberglass and honeycomb sandwich: 1.5mm (1/16"). Fiberglass and foam of honeycomb: 1.5mm (1/16") or other skin minimum. 11. Forward deck must extend the full width of the boat to a point at least 1842mm (72 1/2") aft of the stem. 11.1. Afterdeck minimum 457mm (18") in length. 11.2. Maximum crown of deck 127mm (5"). 11.3. The top of the spray boards must be minimum 51mm (2") vertically above deck for minimum of 610mm (24") on either side of the centerline. 11.4. Maximum projection of deck or sheer molding beyond sheer is 32mm (1 1/4") in a horizontal plane, level with the sheer. 11.5. The hole in the deck where the mast goes through the deck (particulate) shall have a maximum size of 76mm (3") diameter by 254mm (10") fore and aft. The front side of the hole shall not be more than 1493mm (58 7/8") aft of the stem. 12. Maximum width: 1016mm (40") if the deck alongside the cockpit section of the deck with a plane 51mm (2") below the sheer. Cockpit corners may be square or rounded to any desired radius. 13. Only professional boatbuilders certified by SCA can make fiberglass Sape hulls (See Certified Builder Rule, page 54) Effective January 1, 1965. Hulls as approved by ISA and now in effect for wood hulls. The hull must not show any sheer molding. Part or all of a sheer molding may be molded with hull. Each builder's method of construction of fiberglass boats must be approved by the Rules Committee. The thickness of the hull must be uniform except where reinforced locally such as at keel, the chine, the stem, the mast step, and where the stay anchors and rudder padeyes are attached. Reinforced thickness due to incorporation of tension material in either the sides or bottom of the hull is not a violation of the requirement. If desired, the floorboards may be bonded directly to the bottom on the boat, outside the floorboards. A fiberglass and foam sandwich floor structure may be used. Wood and plywood are acceptable local reinforcements. 13.1. All professionally built boats must be measured before leaving the factory by a measurer satisfactory to the builder and the national secretary. Boats not so measured are prohibited from competition as regards above. The local level unit measurement is complete. Complete measurement includes a Moment of Inertia test. Materials: fiberglass cloth, woven roving or mat may be used, with either polyester or epoxy resins. Glass content must be at least 30% by weight. Deck: The deck may be plywood or it may be fiberglass. In general, a fiberglass deck will require some type of double surface and core construction for adequate stiffness. Fiberglass deck will require some type of double surface and core construction for adequate stiffness. Fiberglass cloth, woven roving or mat may be used, with either polyester or epoxy resins. Glass content must be at least 30% by weight. Hull must be built into the hull. Balsa wood or foam enclosed in resin-impregnated fiberglass cloth is considered equivalent. Supposedly straight compartments are not considered adequate.

Use Standard Marking Procedure on this form:
 • When NOT within the tolerance limits allowed, mark an "X" in the margin and state actual measurement.
 • Otherwise, do not write in the measurements of this boat except where specifically called for.
 • Draw a circle around the number of each paragraph when you have verified or carried out all its details.
 • When your examination is completed, every paragraph number shall be "checked" (indicating conformity); or will bear an "X" in the margin (indicating something needs to be rebuilt or submitted to the International Rules Committee for decision).

PLEASE PRINT**
 (a) Measurers must fill in every blank space provided on the Measurement Data Sheet. Each dimension shown must be verified by the measurer and if the dimension is not either the maximum or minimum or between the two, the measurer may recommend certificate good for local races only on home built boats. If discrepancy is MINOR and clearly shown. No discrepancies permitted on professionally built boats.
 (b) Each boat must have been assigned a racing number by the Association. This number must be carved, burned, or molded into the centerboard trunk to an unobscured position. Minimum height of these numbers must be 13mm (1/2"). Unless this is done, a boat cannot receive a Certificate of Measurement.
 (c) In order to be eligible to race, every boat must have an official deal for the current year, permanently attached to the starboard side just forward of the transom. Deals will be issued by the appropriate National Secretary for each year that dues are paid.
 Official Racing Number of boat on trunk: 30584

Full name(s) and address(es) of owner(s): IAN FERSSON
 ESTERHAG ERDE - DENMARK
 Name, complete mailing address and telephone or fax number of builder: STARLINE HIGHTCH
 VIA PETRONIO 1/A - HUGLIA

1. The purpose of the regulations under which Sape hulls are approved is to ensure that, to a great degree as possible, all hulls and keels have identical racing capability. It is impossible to list every restriction that might turn up in the future, and it is impossible to make any set of restrictions, which at some future date, someone cannot find. Any boat or sail having features which are not consistent with this purpose will not be approved and cannot race even though there is no specific restriction preventing the team in question. Improvements and changes will be made only when these changes do not obsolete older boats and still from the standpoint of racing capability or when they can be accomplished by anyone at reasonable expense.
 2. Boats must be measured by officially appointed or elected Fleet Measurers of by Class Measurers approved by SCA. No certificate shall be acceptable unless recommended and signed by such a Measurer. (See also Certified Builder Rule on page 54)
 3. Boats, to be eligible to race in this Class, must be built to conform in every way to these measurement rules. A boat that does not meet all these requirements shall be ineligible to receive a Certificate of Measurement, but it retains its identifying number. Such boats cannot take part in any open or closed regatta whatsoever. The measurer must notify the Race Director of any boat that cannot pass these requirements, giving the boat number, and the name and address of both the builder and owner.
 4. Nothing is opposed in these plans, specifications or restrictions unless definitely stated as such.

GENERAL RESTRICTIONS

MEASUREMENT DATA SHEET "H" (For all boats built after January 1, 2001, except as noted.)

MEASUREMENT DATA SHEET

Sheet H - Revised January 2001

EXCEPT AS NOTED

For all boats built after January 1, 2001

MEASUREMENT DATA SHEET

SNIP CLASS INTERNATIONAL RACING ASSOCIATION

30584

Jib

The jib is easier to measure than the main, the perimeter is measured as well as the head and mid foot to head.

- Start by folding the jib in half from tack to clew so that the grommet centers match, using a pencil make a mark at the crease at mid foot, remember to straighten away any wrinkles that may effect the measurement.
- Lay out the jib on a flat surface and remove as many of the wrinkles as possible.
- Using a tape measure from the center of the grommet, measure down the luff then mid foot and lastly the leech. Remember that for the corners you are measuring from center of grommet to center of grommet.
- Now measure the foot of the jib and record all these measurements.
- Use the fish scale to pull 3.6Kg of tension into the sail.
- Measure the clew and tack referring to the drawings in the rule book.
- The last measurement is the head of the jib, this area of the sail is always built very close to the maximum dimensions. From the center of the grommet measure down 127mm along the luff and the leech marking each with a pencil. Now measure the distance between these two marks. The maximum dimension is 108mm. The jib is now measured.

Approved Sail Laminates

As of March 1, 2001

CHALLENGE SAILCOLTH P05-15 1.5 mil 2.9 oz

DIMENSION POLYANT P2MX 1.5 mil 33 oz

CONTENDER AP8

DIMENSION POLYANT PL2X (1.5 mil)

DIMENSION PM -05 (1.5 mil), formerly M 290

DIMENSION PM-02 (1 mil), formerly M 240

BAINBRIDGE SL 1000P

DIAX 6



Construction of Plywood Hulls

14. Bottom and Sides: The weight of the plywood used must be at least 5.45 kg per square meter (18 1/2 ounces per square foot). If 10mm (3/8") material is used throughout, fiberglass or other covering material may be used to bring the hull up to a minimum weight.

15. All boats shall comply with the following flotation requirement: when the boat has been capsized and has remained in any position long enough to take in as much water as possible in high wave conditions, it shall, upon being righted, float so that the lowest point around the cockpit edge where water might enter the boat is at least 152mm (6") above the water when the boat is supporting 136 kgs (300 lbs). This may be accomplished by means of tank, flotation bags, self-bailing cockpits, increased low density flotation material, or other suitable means. Holes with maximum 645.2 sq.cm. (100 square inches) may be made in the transom to facilitate drainage. Where transom drains are used to comply with this rule they should have a minimum of 290.3 sq.cm. (45 square inches) total. For boats built before Jan. 1, 2001 meeting the requirements of this rule, the centerboard trunk may have a minimum height of 9" (229mm) above the outside of the keel if the boat, after capsizing and being righted, floats high enough so that water will flow out of the trunk; otherwise, the trunk shall be 51mm (2") above the water level in the boat after capsizing and being righted.

Moment of Inertia Test

16. All bare hulls, as defined in paragraph 38, must be subject to the moment of inertia test (for a full description of method, see Supplement to Measurement Data Sheet for Moment of Inertia Test). The moment of inertia of the hull is calculated from the following formula:

Where: I = Moment of Inertia
C = Spring constant, lb. per ft. (kg. per m.)
D = Distance to axis, ft. (m)
T = Time of one complete oscillation, seconds
= 3.1416

$$I = \frac{CD^2T^2}{4\pi^2}$$

For our purpose, D = 104" = 1" + 9/32" = 103.281" = 8.6067 ft. (2.6233 m).
The spring constant will be furnished with springs from SCIRA.

We can now simplify the formula to:

$$\text{English: } I = \frac{8.6067 \text{ ft}^2 \text{ CT}^2}{4 \times 3.1416^2} = 1.8763 (\text{CT}^2) \text{ slugft.}^2$$

$$\text{Metric: } I = \frac{2.6233 \text{ m}^2 \text{ CT}^2}{4 \times 3.1416^2} = .1743 \text{ CT}^2$$

The minimum moment of inertia of the hull as determined from above formula shall be:

Metric: 27.6 (metric slug meters squared)

English: 200 (slug foot squared)

If the hull moment of inertia does not meet the minimum, weight shall be moved to or added to the ends to bring it up to the minimum.

The Moment of Inertia for this boat is:

$$27.6$$

Amount of weight and detailed description of location of weight added to conform to MOI requirements (location must be marked on diagram on page 3 & 4.)

$$2.4 \text{ kg.}$$

Centerboard

17. Board: Verify dimensions with drawing, no other shape permitted. Maximum radius of bottom corners 13mm (1/2)". Centerboard shall be made of any hard aluminum alloy, 6061T6 or its equivalent is recommended. The thickness of centerboard shall be 10mm (3/8"). There shall be no inserts or other means of changing the distribution of the weight. Boards must be uniform thickness except within 25mm (1") of edges, which may be tapered off. Centerboards may be cut out for lightness (see drawing). The handle of the centerboard shall be installed in such a manner that the aft edge of the centerboard is perpendicular to the base line when the centerboard is completely down, and the centerboard shall not extend more than 851mm (33 1/2") below the keel. The 851mm (33 1/2") point shall be marked at aft edge on starboard side by a center punch.

17.1 Effective Jan. 1, 2001, centerboards complying with the measurement restrictions set out in Rule 17.1 (above) made of sheet molding compound (SMC) manufactured by Inspal Plastics of Portugal may be used in any Snipe regatta up to, but not including, national championships and major international championships. In addition however, the national sec-

retary of any SCIRA country may approve the use of the SMC centerboard in the national championship of that country. Boats sailing with the SMC centerboard must add weight where it may be easily seen if necessary to comply with minimum weight restrictions of the Class. Such weight shall be permanently attached with peened over bolts, glass cloth, or permanent mastic. Only one centerboard may be measured and used at a regatta.

17.2 Trunk: Slot in centerboard trunk maximum 546mm (21 1/2") long and no more than 13mm (1/2") in width if in fiberglass or 14mm (9/16") if in wood or plywood. The aft edge of the centerboard trunk shall be perpendicular to base line. Forward edge of centerboard trunk shall either be perpendicular or slope forward 6mm (1/4") maximum at the top of trunk. If seals are used on the centerboard trunk, they shall be used at the top of the trunk only. Any type of seals may be used.

For all boats built after Jan. 1, 2001: the aft end of the centerboard trunk must be 310mm, -0 + 3mm (12 1/4", -0" + 1/8") from the outside of the hull to the top of the trunk. The top of centerboard trunk shall be parallel to baseline.

18. The centerboard must be restricted white racing in such a manner that no point of the bottom edge extends less than 305mm (12") below the keel. To permit checking the position of the centerboard while racing a band 25mm (1") wide shall be painted on each side of the board. The top of the band being even with the surface of the deck at the centerline of the boat while the board is raised on this maximum height. A safety line must be used on centerboard while racing. The safety line shall not be adjustable and shall be fastened to the boat and to the centerboard by a shackle or snap of suitable dimension. Any type of retaining system may be used, provided such system allows the crew to extend the board completely when capsized without swimming under the boat. Only one centerboard may be used during a regatta unless irreparable damage has occurred.

Exception to Applicability of Prior Rules (#17 & #18)

The new centerboard shape and thickness must be used after January 1, 1976 on all boats in the World Championships, Western Hemisphere Championships and European Championships. Those existing boats which cannot use a 10mm (3/8") thick board because of trunk slot width shall use a 8mm (5/16") thick board of the new shape. The length of the trunk slot shall be 546mm (21 1/2") maximum.

Rudder

19. The rudder shall be made of wood, wood & fiberglass, fiberglass or fiberglass & foam. Metal rudder blades are prohibited. Only one rudder may be used during a regatta unless irreparable damage has occurred.

20. The rudder thickness above and below the water line shall be 19mm (3/4") minimum and 38mm (1 1/2") maximum.

21. The width of the blade below the water line shall be 260mm (10 1/4") maximum and 234mm (10") minimum. This measurement is taken across the rudder approximately at right angles to its leading edge.

22. The minimum weight of the rudder including pintles shall be 2.72 kgs (6 pounds). Weight of no more than 450g. (1 lb.) may be permanently attached to a rudder to reach the minimum weight.

23. Where pivoting rudders are desirable because of purely local conditions, they may be used for local races only. They may not be used in any regattas or championships.

24. The tiller shall be strong and attached firmly to the rudder head in such a manner it cannot be slid fore and aft and does not extend far enough aft to artificially lengthen the boat. Tiller must be directly connected and completely above the aft deck.

25. The rudder must at all times be mounted parallel to the transom. It must be attached to the transom and as close to the transom as conveniently possible with 38mm (1 1/2") maximum clearance. Vertical adjustments or changes in angle are not permitted. There shall be a suitable means of preventing the rudder from falling off with the boat inverted.

26. The gudgeons & pintles shall be 8mm (5/16") diameter.

26.1. The lower gudgeon shall be mounted on the transom 155mm (6 1/8") above the intersection of the transom and the keel. The upper gudgeon shall be 410mm (16 1/8") above the intersection of the transom and keel.

Mast - Boom - Rigging

27. Only one mast may be used during a regatta unless irreparable damage has occurred. The mast must be minimum 32mm (1 1/4") athwartships at the top band or at any point below. The mast may be tapered above the stay intersection. Any taper in the mast above the stay intersection shall be essentially a uniform taper. Aluminum extrusions may be used and must be made of alloy 6061T6 or equivalent. Masts having an athwartship dimension of 54mm (2 1/8") or less must use spreaders. Spreader length and rake limit shall not be adjustable while racing. Rotating masts are prohibited.

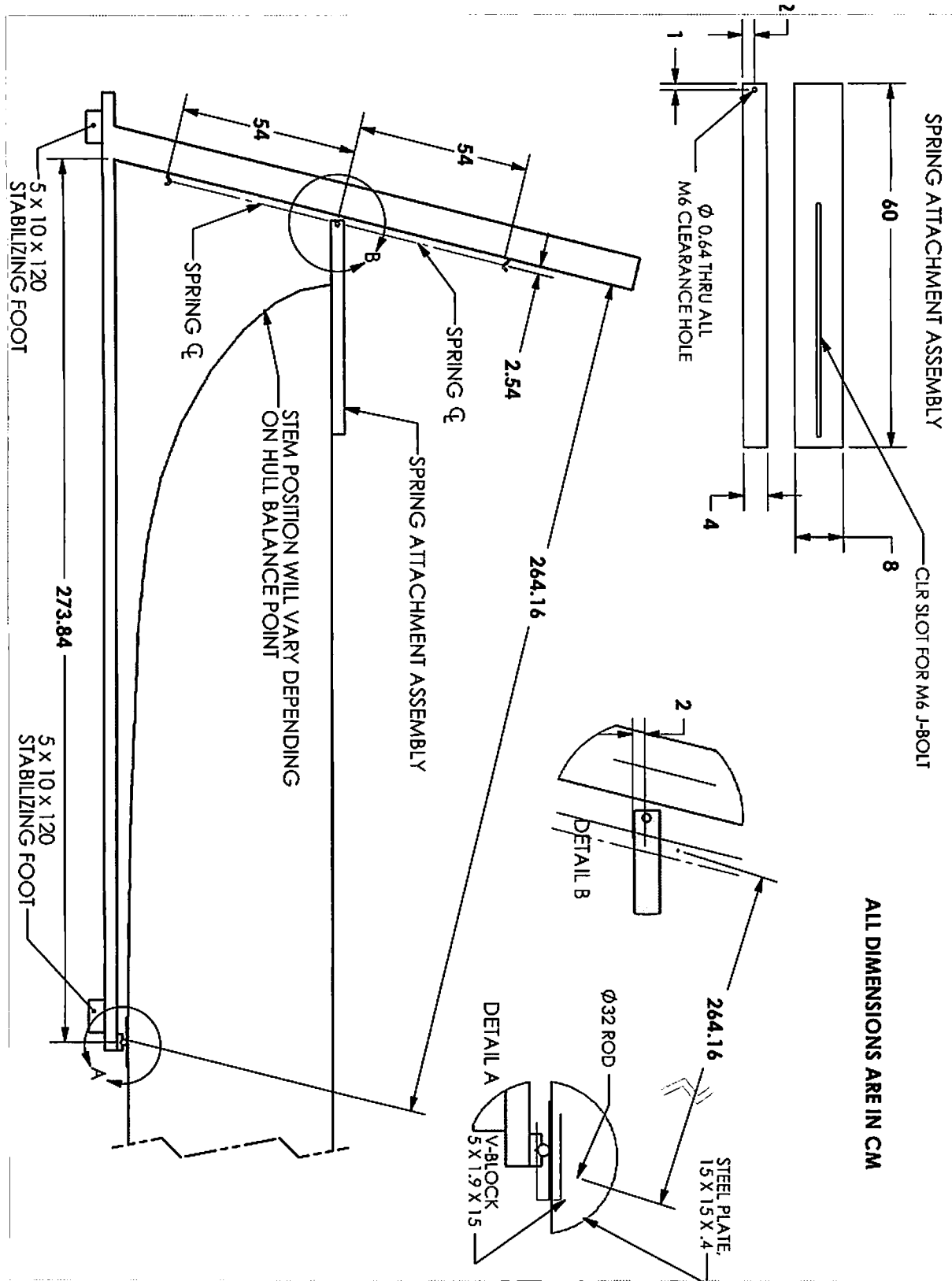
27.1 When stepped, the centerline of the mast shall be located between 1524mm (60") and 1626mm (64") aft of the stem. (For measurement purposes the front side of the mast should be between 1494mm (58 7/8") and 1600mm (63") from the stem with the mast in vertical position.)

27.2 For all boats built after Jan. 1, 2001: The floor of the mast step fitting must be no more than 400mm (15 3/4") and no less than 390mm (15 3/8") below the sheer line. For older boats: The mast shall be stepped on the keel, or so higher than 51mm (2") above the flotation tank in the bottom.

SNIPES CLASS INTERNATIONAL RACING ASSOCIATION

1833 Tustin Street, San Diego, California 92106-1735 USA

Diagram of MOI Jig



Moment of Inertia

All bare hulls including ballast, deck, centerboard trunk, floorboards, flotation, hull fittings and sheets in their normal working positions shall be subjected to and comply with the Moment of Inertia Test as described below.

Set the moment of inertia jig up on a hard level surface that is flat and smooth in a wind protected area. Also check the 2642 mm dimension from the aft side of the riser to the front side of the 19mm diameter balance rod.

Carefully balance the bare hull by moving it back and forth on the balance rod so that the top of the deck is level with the horizontal line on the riser. Be sure to use a thin metal plate (152mm square x 3mm is recommended) between the balance rod and the keel. Also the spring attachment assembly minus springs should be in position on the fore deck. When the hull is balanced, attach the springs to the spring attachment assembly and then to the hooks on the riser, being careful to stabilize the hull while doing this operation. Adjust the spring attachment assembly so that the centerline of the spring bolt is 25mm from the aft side of the riser and clamp the assembly to the deck with the hook bolt through one of the holes in the jib stay fitting. Recheck to see that the top of the deck is level with the horizontal line within plus or minus 6mm and adjust the hull position if necessary.

The hulls should not be free to oscillate about the pivot rod, being restrained only by the springs. Check this by displacing the bow approximately 76mm to 102mm above or below the horizontal and allowing it to oscillate. Please notice that an oscillation is one complete cycle, from starting point to farthest away point and back to starting point.

The moment of inertia of the hull is calculated from the following formula:

$$I = \frac{CD^2T^2}{4\pi^2}$$

Where: I = Moment of Inertia
 C = Spring constant, kg per m
 D = Distance to axis, m
 T = Time of one complete oscillation, seconds
 $\pi = 3.1416$

For our purpose, D = 2.6233 m

The spring constant will be furnished with springs from SCIRA.

We can now simplify the formula to:

$$\text{Metric: } I = \frac{2.6233m^2CT^2}{4 \times 3.1416^2} = .1743CT^2$$

Proceed to time the hull oscillations through a minimum of 20 complete oscillations. Divide the total time by the number of oscillations to arrive at the average time for one complete oscillations. Repeat this procedure twice to check that the average oscillation time is correct to the nearest thousandth of a second, starting with X to X bow displacement each time. Please note that the stop watch is started at the beginning of each oscillation but the number count is started at the end of the first oscillation.

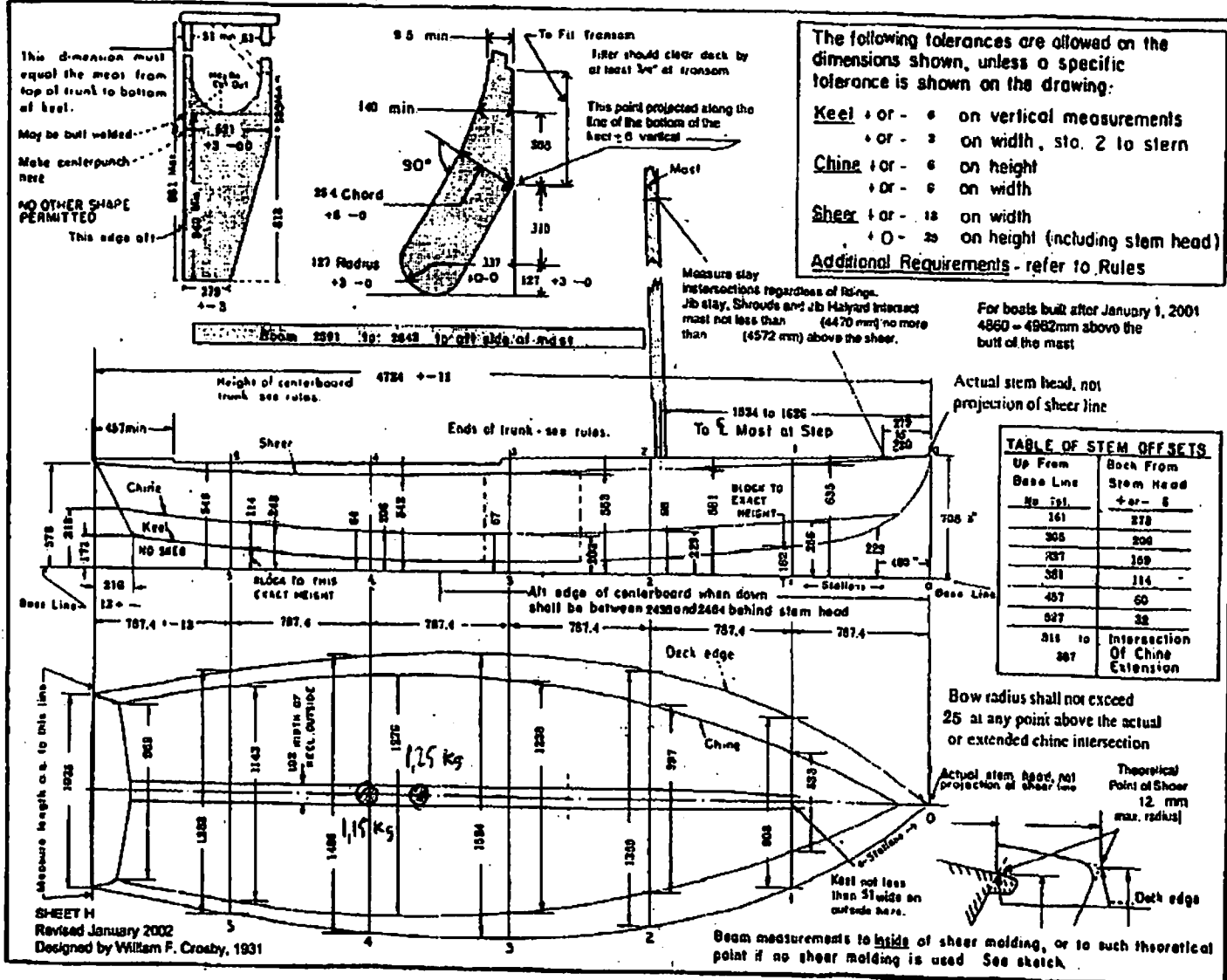
Using the average time for one complete oscillation, solve the formula for moment of inertia.

The minimum moment of inertia of the hull as determined from the formula above shall be: 27.6 m². If the hull moment of inertia does not meet this minimum, weight shall be added to the ends to bring it up to the minimum.



Those measurements found correct should be "circled" carefully on the drawing below, preferably with colored pencil.
 If certain measurements are *not* within the limits shown, cover same on the drawing with an "X" and use a reference letter or line across to your marginal note, giving the actual measurement.

*briefly note exceptions here
 (If additional explanatory
 sheet is attached, check...)*



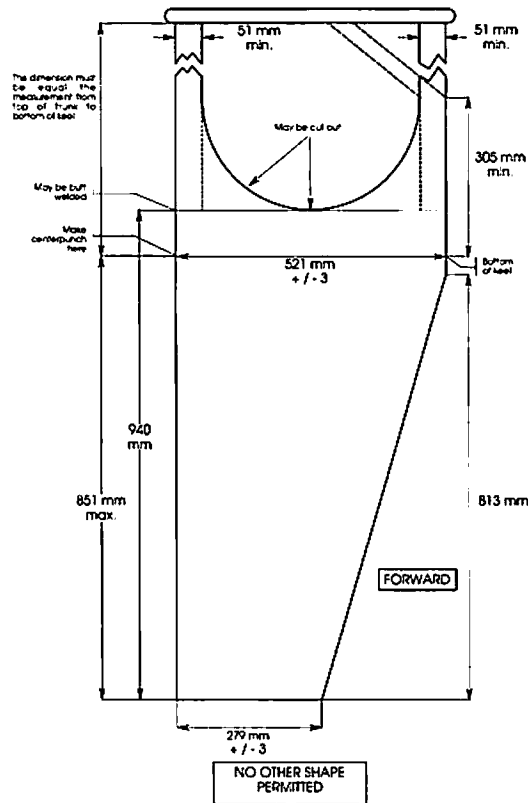
*BARE HULL
 OPTION
 Measurements finished
 Danish Measurer
 OT SCIRA
 DENMARK
 22-4-2007*

I hereby certify that I am the official measurer of the 30584 Divisional Fleet, Charter No. INT. SCIRA HEAS
 I certify and affirm that I have carefully measured this boat No. 30584 to the best of my ability and that all the measurements written herein or checked by me were found to be exactly as indicated. I am ready and willing to swear to this before any accredited notary public.
 (Date) 04.12.2007 (Measurer's Signature) [Signature]
 Recommended for Certificate CSA (Initial) [Initial] Not Recommended ITALY

Note: The Fleet Measurer must under no circumstances give the Certificate of Measurement to the owner unless he is positive that the boat fully complies with these restrictions. If positive, the Measurer gives the Certificate to the owner and sends this Data Sheet to the Secretary.

si2 040 127161 Sundprojekt 2008 Nov 04 9:53

Daggerboard: Lay the dagger board over the template and check the dimensions, tapering and punch mark. Note; to accurately check the taper use a combination square with the straight edge on the surface of the blade and the frame portion resting against the edge, set the square so that the frame portion is at 20cm so that the maximum taper will be 17.5 on the square. 25mm is allowed by the rules. Measure up from the bottom of the blade 851mm and permanently mark the blade with center punch. Check that the dagger board does not protrude below the keel any further than the punch mark. The easiest way to check this is to measure the depth of the slot in the trunk and from the punch mark to the stops on the blade. They should be equal. For boats built after 2000 the measurement shall 310 - 313 mm. And the top of the trunk shall be parallel to the base line. Ensure that the dagger board hangs perpendicular the baseline (note this is not the keel line). Measure the slot width and length of the trunk and that the aft edge of the trunk is perpendicular to base line.



Safety Equipment

Check that the Snipe being measured has a useable paddle and a 10 meter x 6mm tow line. Each Snipe must also carry wearable life preservers for all occupants at all times.

Dagger Board: Verify that there is a suitable safety line so that the dagger board may be raised only to its legal limit while racing and strong enough to secure the board when the boat is capsized. The safety line shall not be adjustable and shall be fastened to the boat and to the centerboard by a shackle or snap of suitable dimension. Verify that the retainer to set the dagger board height is capable of being released by the crew while the boat is capsized without having to swim under the boat. The board shall be restricted so that there is a minimum of 305 mm extending below the keel. To aid in on the water compliance of the board minimum depth, a contrasting stripe shall be painted on each side of the blade and 25 mm thick on the leading edge of each side. The top of this band shall be even with the topmost surface of the deck.

