



**Measurement Form
Cover Sheet**

National Heron Sailing Association of Australia Inc.,
Please mail to current Measurement Committee Secretary
 Form Issue Date 11/22 - WSP 1.0

| | |
|---|------------------------------|
| Boat Name _____ | Sail Number _____ |
| Owner's Name _____ | |
| Address _____ | |
| _____ | Postcode _____ |
| Membership Card No. _____ | Phone No. _____ |
| Builder's Name _____ | |
| Address _____ | |
| _____ | Postcode _____ |
| Licence No. & Production Unit No. _____ | |
| Construction <input type="checkbox"/> Full G.R.P. <input type="checkbox"/> Composite <input type="checkbox"/> Timber Date Built _____ | |
| Sailmaker's Name _____ | Sail Material _____ |
| Date Purchased _____ | Cost (if known) _____ |

Measurer's Remarks & Recommendations

Measurer's Certificate ... *I hereby certify that the measurements recorded on these forms are correct*
 Form A Sails Form B Spars & Rudder Form C Hull/Topside Form D Hull, Other
 Measurer's _____ Measurer's _____
 Name (Print) _____ Signature _____ Date _____
 Please forward to current Measurement Committee Secretary (refer to address in National Heron Newsletter)

Leave space below for Secretary of Measurement Committee Notations

Classification _____ Date _____ Classified by _____ Re-Classified date _____

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Measurement Form 'A'
Sails

(see notes on back of form)

National Heron Sailing Association of Australia Inc.,
Please mail to current Measurement Committee Secretary

Form Issue Date 11/22 - WSP 1.0

Sail Number

A. Sails (see notes on back of form)

Dimensions in Millimetres
(except A 1.10&A 2.2 which are square CM)

A 1 Mainsail

- A 1.1 Longest of 3 Batten Pockets
- A 1.2 Luff (11 kg tension for 30 seconds)
- A 1.3 Leech
- A 1.4 Foot (6.5 kg tension for 30 seconds)
- A 1.5 Quarter Girth
- A 1.6 Half Girth
- A 1.7 Three Quarter Girth
- A 1.8 Peak to Centre Foot
- A 1.9 Flat at head of Mainsail
- A 1.10 Transparent Panel Area (Square cm)
- A 1.11 Closest Transparent Panel Edge to Mainsail Edge

| Min | Actual | Max |
|-----|--------|------|
| | | 610 |
| | | 4318 |
| | | 4690 |
| | | 2235 |
| | | 1969 |
| | | 1461 |
| | | 813 |
| | | 4550 |
| | | 51 |
| | | 1290 |
| 203 | | |

A 2 Jib & Genoa (Common)

- A 2.1 Flat at Head of Jib
- A 2.2 Transparent Panel Area (Square cm)
- A 2.3 Closest Transparent Panel Edge to Jib Edge

| | | |
|-----|--|------|
| | | 50 |
| | | 1290 |
| 203 | | |

A 3 Jib

- A 3.1 Luff
- A 3.2 Leech
- A 2.3 Foot
- A 3.4 Peak to Centre Foot
- A 3.5 Half Girth

| | | |
|--|--|------|
| | | 2819 |
| | | 2515 |
| | | 1372 |
| | | 2590 |
| | | 700 |

A 4 Genoa

- A 4.1 Luff
- A 4.2 Leech (in a straight line)
- A 4.3 Foot
- A 4.4 Peak to Centre Foot
- A 4.5 Quarter Girth
- A 4.6 Half Girth
- A 4.7 Three Quarter Girth
- A 4.8 Batten Pocket Length (Max 2 off if fitted)

| | | |
|--|--|------|
| | | 3165 |
| | | 2915 |
| | | 1480 |
| | | 3050 |
| | | 480 |
| | | 880 |
| | | 1220 |
| | | 180 |

A 0 General

- A 0.0** After measuring by a measurer and if the sail(s) are found to be within tolerances then the sail(s) are to be marked by the measurer in indelible ink, in figures at least 12mm high, at the tack with:
- (a) Measurer's name (printed) (c) Boat sail number
 (b) Measurer's signature (d) Date measured
- A 0.1** Sails must be of woven material. Mylar or Kevlar/Mylar or any film coated sail cloths are not permitted.
- A 0.2** With the exception of reinforcing around the tack & clew or tape used to secure the bolt rope only one weight of sailcloth shall be in contact with the boom, the bottom panel can be of a different weight but the remainder of the sail must be of one weight and type of cloth.
- A 0.3** Sails made of two different weights or types of cloth and signed by a measurer prior to 14th April 1987.
- A 0.4** With the exception of the Jib and Genoa Luff (refer A 3.1 & A 4.1), all measurements are taken on a line through centre of the cringle to the outer edge of the sail (including bolt rope, luff wire or tabling).
- A 0.5** When measuring only apply tensions sufficient to remove wrinkles (except mainsail foot & luff, see A 1.2 & A 1.4).

A 1 Mainsail

- A 1.0** Headboards are not permitted. Sail numbers both sides with figures at least 305mm high by proportionate width. Unnumbered sails will not be measured. The mainsail shall be laced to the mast (any form of track is not permitted). The tack of the mainsail shall be fixed to the gooseneck or end of the boom adjacent to the mast in one position while sailing. The method of fixing is optional.
 A sliding gooseneck for the boom or a Cunningham Eye using a device attached to an eye in the reinforced cloth adjacent to the luff of the sail, no more than 300mm above the bottom of the mainsail foot bolt rope, is permitted to adjust the Mainsail luff tension while sailing. Mainsail boom outhauls to alter the tension of the foot of the sail whilst sailing are permitted.
 Emblem. The emblem of the National Heron Class is a HERON BIRD and shall be worn on the mainsail at about one fifth the height of the sail from the peak and shall face the sail luff with the underside of the 'bill' parallel to the foot of the sail and 'back' parallel to the luff. The height of the emblem is 305mm.
- A 1.1** A maximum of 3 batten pockets allowed with a maximum length each of 610mm. Batten position is optional except the forward edge of the lowest batten shall not be within 150mm of the top of the boom.
- A 1.2** Apply 11 kg tension to mainsail luff for 30 seconds and maintain while measuring. Shock cord in the luff is not permitted.
- A 1.3** A leech line is permitted.
- A 1.4** Apply 6.5 kg tension to the mainsail foot for 30 seconds and maintain while measuring. Shock cord in the foot is not permitted.
- A 1.5** } Girth. Three girth measurements are taken as follows. Both the Leech and Luff are to be marked
A 1.6 } at the quarter, half and three quarter points, obtained by twice folding the sail along these
A 1.7 } edges. The measurements are to be made with just sufficient tension to remove wrinkles and will be from the outer edge of the bolt rope to the aft edge of the cloth.
- A 1.8** Peak to Centre Foot. Taken from the top of the head through the centre of the cringle to the outside of the foot bolt rope. The centre of the foot shall be determined by folding the foot in half. The measurement shall be taken with just sufficient tension to remove wrinkles.
- A 1.10** A transparent mainsail panel is allowed up to 1290 square centimetres in area. panel material must not extend beyond the aperture of the transparent section by more than 25mm
- A 1.11** The transparent panel, if fitted, shall not be closer than 203mm to any edge of the mainsail. The panel material must not extend beyond the aperture of the transparent section by more than 25mm.

A 2 Jib & Genoa

- A 2.0** The sail number shall also be marked at the tack of the Jib or Genoa in indelible figures not less than 12mm high. Jib and Genoa luffs shall not be adjusted whilst sailing and the use of jib hanks is optional. Battens are not permitted in the jib but up to 2 battens are permitted in the Genoa.
- A 2.2** A transparent panel is allowed up to 1290 square centimetres in area.
- A 2.3** The transparent panel, if fitted, shall not be closer than 203mm to any edge of the jib or Genoa. The panel material must not extend beyond the aperture of the transparent section by more than 25mm.

A 3 Jib

- A 3.1** In the case of some jibs where the sailcloth does not cover the luff wire for its full length, the measurement for both luff and foot are taken to the point where the extension of the fore edge of the luff and the extension of the foot meet.
- A 3.2** Leech of the jib must be either straight or concave. Measurements for the foot and the leech should be taken to the point where extensions of the foot and the leech meet.
- A 3.5** Half point location of the luff is to be taken by measurement rather than folding the sail.

A 4 Genoa

- A 4.1** In the case of some genoas where the sailcloth does not cover the luff wire for its full length, see A 3.1
- A 4.2** Leech of the genoa may have a roach with a shape approximating an arc of constant radius. It may be up to 150mm in depth, at the half girth position, outside a straight line from the head of the sail to the sheeting clew. Measurements for the foot and the leech shall be taken to the point where extensions of the foot and the leech meet.
- A 4.5** Quarter, half & three quarter point locations of the luff are to be taken by measurement rather than folding the sail.
- A 4.8** If fitted the battens shall be located at approximately 1/3 divisions of the leech



Measurement Form 'B'

Spars & Rudder

(see notes on back of form)

National Heron Sailing Association of Australia Inc.,

Please mail to current Measurement Committee Secretary

Form Issue Date 11/22 - WSP 1.0

Sail Number

Dimensions in Millimetres

B 1 Mast (Common)

B 1.1 Projection of jib luff at mast, above mast base

Min 3090 Actual Max 3307

B 1.2 Does Mast swivel in Step ?

Yes No

B 1.3 Diameter Timber Mast

48 57

B 1.4 Diameter Aluminium Mast

50 57

B 1.5 Hounds (stay attachment) above mast base

3100 3255

B 2 Mast (Gaff Rig)

B 2.1 Length

3226 3277

B 2.2 Is there a sail track on the Mast ?

Yes No

B 3 Mast (Bermudan Rig)

B 3.1 Diameter at top

25 57

B 3.2 Overall length, assembled

5000 5170

B 3.3 Is taper above 3226mm a straight line?

Yes No

B 3.4 Diameter above 3226mm (non tapered extension)

44 57

B 3.5 Overlap of mast joining piece (spigot)

200

B 3.6 Does the track project more than 17mm aft of mast?

Yes No

B 4 Gaff

B 4.1 Thickness at halyard Attachment Point

48 54

B 4.2 Thickness at Heel

38 54

B 4.3 Thickness at Head

25 54

B 4.4 length (excluding jaws)

3150

B 4.5 Is Gaff able to pass through a 54mm square aperture ?

Yes No

B 4.6 Do Gaff Jaws function to plan ?

Yes No

B 5 Boom

B 5.1 Cross Section (height x thickness)

44 x 35 57 x 44

B 5.2 Aluminium Booms - Nominal diameter 50mm

48 52

B 5.3 Length

2311

B 5.4 Blackband, inner edge to Aft side of Mast

2286

B 5.5 Mainsheet Sheave centre to underside of Boom

150

B 5.6 Is Boom Vang attached to a single fixed point on the Boom no further from the Mast than 1150 mm ?

Yes No

B 5.7 Is the Boom Vang rigid ?

Yes No

B 5.8 Distance sail track opened aft of the Mast at forward end of the Boom

229

B 5.9 Boom track opening forward of the forward edge of the black band to accommodate a clew track

200

B 6 Jib (Whisker) Pole

B 6.1 When stowed protrudes beyond stem?

Yes No

B 6.2 Is the whisker pole timber or aluminium?

Yes No

B 7 Rudder

B 7.1 Cheek Thickness (Timber)

9 13

B 7.2 Blade Thickness

10 15

B 7.3 Blade and Rudder Box shaped to plan?

Yes No

B 7.4 Is the leading edge of rudder blade no further forward than parallel with front edge of rudder box ?

Yes No

B 7.5 Is the blade fixed?

Yes No

B 7.6 Is bottom of rudder box less than 30mm above outside bottom skin?

Yes No

B 0 General

- B 0.1** Spars (except gaff) may be of wood and/or aluminium tube and generally to plan.
B 0.2 Spars may be fibreglassed to repair or prevent damage at wear points but not extensively glassed.
B 0.3 Both sails must be capable of being lowered without lowering the mast when the boat is upright and afloat.

B 1 Mast (Common)

- B 1.1** Measurements from mast base includes the base fitting but not tenon at bottom. Luff at rigged angle with no sheet tension applied.
B 1.2 The mast shall not have an adjustable step or be capable of swiveling.
B 1.3 } Masts must be essentially circular in cross section. Timber masts may be laminated vertically and tapered within
B 1.4 } the diameter tolerances. Aluminium mast must not be tapered between the step and 3226 mm and may be tapered above 3226 mm.

B 2 Mast (Gaff Rig)

- B 2.1** Length includes mast cap /tenon at top but not tenon at bottom.
B 2.2 No form of track for the mainsail is allowed, only lashing.

B 3 Mast (Bermudan Rig)

- B 3.2** Overall length includes mast base fitting but not tenon and excludes any mast head pulley fitting above the top of the mast. The minimum length has been set to accommodate some existing mast lengths, however the recommended length is not less than 5120 mm.
B 3.4 This is to cater for the option of fitting a thinner wall parallel extension as apposed to a tapered extension.

B 4 Gaff

- B 4.1** } The gaff must be made of wood, may be circular or rectangular or a combination of these. Any taper should be
B 4.2 } continuous and not fall below a line joining the minimum tolerances.
B 4.3 }
B 4.5 The gaff must pass through a 54mm square, one side of which lies in a plane parallel to the fore and aft plane through the gaff.
B 4.6 The gaff jaws need not conform to the shape shown on the plan provided that the shape neither alters the type of rig nor the intended function. The jaws may be constructed of any suitable material. Tracks and/or goosenecks are not permitted.

B 5 Boom

- B 5.1** Timber booms must be rectangular in cross section, maximum rounding of arris is 6mm radius. Boom may be tapered within tolerances.
B 5.2 Aluminium Booms must be circular in cross section. Track shall not extend more than 17mm above top of boom.
B 5.3 Length of boom measured from aft of mast including gooseneck fitting.
B 5.4 Blackband must be painted on the side of the boom. Foot of the mainsail must not extend beyond inner edge of the blackband.
B 5.6 Multiple attachment points and/or tracks are not permitted.

B 6 Jib (Whisker) Pole

- B 6.1** Dimensions & length are optional but when stowed must not protrude beyond bow. May have more than one attachment point and/or a device to alter distance jib is poled out from the mast.

B 7 Rudder

- B 7.0** Timber, fibreglass or aluminium rudder boxes are permitted. The tiller and extension need not conform to the dimensions specified on the official plan; type and length being optional.
B 7.2 The rudder blade may be made of timber, plywood or fiberglass and foam. The rudder blade profile shall be shaped to plan but may be faired to an aerofoil section. Timber and plywood blades may be fibreglass sheathed.
B 7.4 The rudder blade may be positioned at any angle while sailing but shall not be capable of being rotated beyond a position where the leading edge is parallel with the front of the rudder box.
B 7.5 Blade must be capable of swiveling in the rudder box.



Measurement Form 'C'

Hull & Topside

(see notes on back of form)

National Heron Sailing Association of Australia Inc.,

Please mail to current Measurement Committee Secretary

Form Issue Date 11/22 - WSP 1.0

Sail Number

Dimensions in Millimetres

C 1 General

- C 1.1 Weight with Built-in Buoyancy
- C 1.2 Weight with Bag Buoyancy (bags excluded)
- C 1.3 Weight of Correctors (if fitted)
- C 1.4 Overall Length
- C 1.5 Is tow ring fitted and min 4mm x 38mm ID ?

| Min | Actual | | Max |
|--|------------|--------|------|
| | Fibreglass | Timber | |
| 66.0 kg | | | |
| 63.5 kg | | | |
| | | | |
| 3416 | | | 3442 |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |

C 2 Deck & Interior

- C 2.1 Transom to Aft Edge of Mast
- C 2.2 Blackband on mast - lower edge to hog top surface
- lower edge to internal fibreglass surface
- C 2.3 Transom to Aft Face of Deck Beam 2 (Bulkhead)
- C 2.4 Chainplates centre to Aft Face Deck Beam 2(Bulkhead)
- C 2.5 Beam at widest point to outside skin
- C 2.6 Rubbing Strips width forward of Chainplates
- C 2.7 Rubbing strips width aft of Chainplates
- C 2.8 Distance between jib sheeting positions at deck
- C 2.9 Distance between genoa sheeting positions at deck
- C 2.10 Width of Thwarts
- C 2.11 Side Bench, inner edge to inside skin
- C 2.12 Fore Edge of forward thwart from inside transom
- C 2.13 If fitted, aft edge of aft thwart from inside transom
- C 2.14 Width Carlin to Carlin at Frame 2/Bulkhead
- C 2.15 Carlins & Gunwales Section (test check only)
- C 2.16 Thickness of frames, brackets and formers
- C 2.17 Chine & Riser Sections to plan *see D4.1-D4.3*
- C 2.18 Spring at Frame 2 } (*While string line in place*)
- C 2.19 Spring at Frame 4 } (*also check C 3.10, see D1.2*)
- C 2.20 Skin Thickness
- C 2.21 Centreboard Case Ply Thickness
or Timber Thickness
- C 2.22 Is buoyancy in accordance with the rules ?
- C 2.23 Is sail number carved on hull ?

| | | | |
|--|--|--|----------|
| 2273 | | | 2299 |
| | | | 1220 |
| | | | 1230 |
| 2248 | | | 2273 |
| 302 | | | 312 |
| 1355 | | | 1391 |
| | | | 65 |
| | | | 50 |
| 735 | | | See Over |
| 800 | | | See Over |
| 229 | | | 254 |
| 229 | | | 254 |
| 1700 | | | 1730 |
| 413 | | | 438 |
| 550 | | | |
| 32 x 19 | | | |
| 9 | | | |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| 597 | | | 622 |
| 508 | | | 533 |
| 4 | | | 6 |
| 9 | | | |
| 19 | | | |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |

C 3 Transom

- C 3.1 Mainsheet Fixing Points from centre of transom
- C 3.2 Is mainsheet sheeting in accordance with the Rules?
- C 3.3 Transom Width at top outside skin
- C 3.4 Transom Width chine to chine
- C 3.5 Transom Depth at centre including skeg
- C 3.6 Transom Depth at centre including keel
- C 3.7 Transom Ply Thickness minimum 9mm?(Timber only)
- C 3.8 Does Bottom Planking extend aft of transom?
- C 3.9 Does the boat have an Internal Transom Stiffener?
- C 3.10 Transom Angle (see also D 2.2) keel to square

| | | | |
|--|--|--|------|
| 200 | | | 206 |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| 1060 | | | 1086 |
| 933 | | | 959 |
| 485 | | | 515 |
| 362 | | | 387 |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| 3 | | | |

C 1 General

- C 1.1 } Weight of hull in dry condition including permanently attached equipment, centerboard / floorboards, fittings
C 1.2 } (anything fixed to the hull by screws, bolts or rivets) and protective finish. Weight correctors, if fitted, are to be included in the weight. Boats may be weighed with satisfactory accuracy with a spring balance of about 50kg capacity. Suspend the boat by the stem head fitting and mainsheet anchorage, inserting the spring balance into one then the other. Sum the balance readings. Alternatively, balance the boat on it's side on bathroom scales
- C 1.3 If required to bring the hull up to minimum weight, correctors shall be of metal and shall be attached by screws or bolts to the underside of the forward thwart adjacent to the centreboard case.
- C 1.4 Overall length (when fully rigged) measured from the aft face of transom (excluding transom trim) to extreme bow (including everything other than a tow ring which is not used for any rigging attachment).
- C 1.5 Tow ring must be solid stainless steel, minimum 4mm material, minimum 38mm inside diameter.

C 2 Deck & Interior

- C 2.0 Arrises radiused more than 6mm are unacceptable. Longitudinal floor stringers are permitted.
- C 2.1 Top of aft face of transom (excluding any trim) to aftmost point of stepped mast at deck level.
- C 2.2 Blackband shall be painted. (Note: lower edge of boom shall not be above lower edge of blackband when sailing).
- C 2.3 Aft face of transom (excluding any trim) to aft side of deck beam 2/bulkhead (excluding any trim). For jig built boats subtract 11mm from the measured value.
- C 2.4 Use string line between chainplate centres. Measure from aft face of deck beam 2/bulkhead (excluding any trim). Both sides shall be within tolerance. Record the average measurement. For jig built boats subtract 11mm from the measured value.
- C 2.5 Projection of outside skin to skin at deck level. Requires a gauge of ply with a slot which fits over rubbing strips to indicate outer skin surface.
- C 2.6 } Measure from outside side.
C 2.7 }
- C 2.8 Jib sheets may be lead through fairleads (adjustable on a single straight track permitted) at deck level. The inboard surface of the jib sheets where they turn through the first lead eye or pulley from the clew of the jib shall be no closer than 735mm and equidistant from the center line of the yacht and no further apart than the outside skin. Any track shall not project inboard of the inboard surface of the carlin. A dummy carlin (made of timber or fibreglass) may be installed to pass inboard of the inboard end of the jib track following an even curve from frame 2 to at least frame 3 and fully decked to preserve the appearance of the boat. Carlins at frame 2 should meet measurement C 2.15. Barber haulers are not permitted.
- C 2.9 For genoas a second track may be fitted to suit the genoa. All the conditions of C 2.8 apply apart from the inboard surface of the genoa sheets where they turn through the first lead eye or pulley from the genoa clew shall be no closer than 800 mm and equidistant from the centerline of the yacht. Only one set of tracks shall be used in any race.
- C 2.10 Includes all trim.
- C 2.11 Side bench may extend to inside skin. Inner edges may be straight or curved to follow boat sides. Timber boats to be measured at frame 4, fiberglass boats opposite the aft end of centreboard case.
- C 2.13 The aft thwart is optional and may be removed from existing boats or not installed for new boats.
- C 2.14 Taken from projection of carlins at Frame 2/bulkhead.
- C 2.15 Carlins may be laminated. This measurement is not required for boats with GRP decks.
- C 2.16 All frames brackets and buoyancy tank formers may be fabricated from timber or from plywood pieces, sized to Official Plans, or may be cut in one or more pieces from sheets of plywood no less than 9mm thick or from sheets of Balsa laminate, see D4.0
- C 2.18 } Run a very taut string line from stem head to top centre of transom. String must not touch deck.
C 2.19 } Measure to top of hog at the aft face of frame 2/bulkhead & frame 4. If string line does not clear due to splash boards, mast step, etc., then raise both ends of string line by an equal amount to clear and subtract this distance from measurements.
- C 2.21 The centreboard case may be fabricated from timber, plywood or Balsa laminate and may have a support extending to the king post, see D4.0.
- C 2.22 Types of buoyancy permitted are:-
(a) For timber boats only. Standard inflatable bag buoyancy consisting of one bow bag and at least two large and two small pillow bags which must be securely fastened in the position and manner recommended by the Association.
(b) For timber boats only. Built in buoyancy is permitted forward of frame 2/bulkhead and aft of frame 5 and may be half or full height. Securely fastened standard inflatable pillow bag buoyancy may be fitted along the sides between frames 2 & 5. For timber boats built before December 1998, side buoyancy compartments in a similar configuration to that permitted in GRP and GRP/composite Herons may be added.
(c) For timber boats. In Timber, half or full height forward of frame 2/bulkhead and along the sides to the transom in similar configuration to the type built into fibreglass boats. OR In fibreglass - the only configuration permitted is that from a licensed builder using Association recognized moulds. After May 2006 side buoyancy is compulsory. For jig built construction see also D4.2 & D 4.3.
(d) Fibreglass boats. The only configuration permitted is that built in by a licensed builder using Association recognized moulds.
- C 2.23 Sail number must be carved on Deckbeam/Bulkhead or Transom (Kingpost for GRP Boats) in figures at least 12mm high. Alternate for GRP Boats - the boat number can be engraved in numerals at least 12mm high on a metal or plastic plate, the plate to be glued and rivetted to the inside of the transom, kingpost or deck beam 2/bulkhead.

C 3 Transom

- C 3.1 } The mainsheet shall be anchored to the transom then go to the boom (refer B 3.5 & B 3.6) and then back to the transom. The
C 3.2 } lead of the mainsheet may pass from the transom through blocks, fairleads/ cleats, etc., in the cockpit but may not otherwise deviate from the arrangement shown on the plans. Mainsheet fixing points on the transom may be on top of or on the inside face of the transom beam.
- C 3.10 Measurement is to be taken at the Keel from a square (90 degrees) off the stringline, referred to in C.2.19 & C.2.20 and touching the transom top. Length of both arms of the square to be at least 400mm. Alternatively a right angled template may be constructed having sides of 3480mm & 401mm. The hypotenuse should measure 3503mm. This template is suggested for ease of measurement of numerous boats at regattas. If necessary insert packing to clear transom beading and pintles / gudgeons and subtract the distance from the measurement.



Measurement Form 'D'
Hull, Underside &
Construction

(see notes on back of form)

National Heron Sailing Association of Australia Inc.,
Please mail to current Measurement Committee Secretary

Form Issue Date 11/22 - WSP 1.0

Sail Number

Dimensions in Millimetres

D 1 Bottom

| | Min | Actual | | Max |
|---|------|------------|--------|------|
| | | Fibreglass | Timber | |
| D 1.1 Externally Chine to Chine at widest point | 1162 | | | 1196 |
| D 1.2 Externally Chine to Chine, 2915mm from Transom Chine corner, along side of hull | 538 | | | 552 |
| D 1.3 "V" measurement 2250mm from Transom | 533 | | | 559 |
| D 1.4 Waterline length from Transom Chine corner | 115 | | | 135 |
| D 1.5 Stem length from Deck to Chine extension | | | | 3490 |
| D 1.6 Keel width 2880mm along keel from Transom | | | | 400 |
| D 1.7 Are both ends of a 100mm radius by 100mm arc length template always in contact with the bow profile? | 56 | | | 59 |
| D 1.8 Is any part of the bow profile concave? | | | | |
| D 1.9 "V" measurement at Transom | | | | |

D 2 Centreboard

| | | | | |
|---|------|--|--|-----|
| D 2.1 Is centreboard forward of vertical in fully down position? | | | | |
| D 2.2 Transom to Centreboard fore edge along keel plus Transom Angle (C 3.10) | | | | |
| D 2.3 Centreboard width at keel in down position | 1994 | | | |
| D 2.4 Centreboard width at 500mm below keel | | | | 356 |
| D 2.5 Maximum Centreboard depth when down | | | | 285 |
| D 2.6 Centreboard thickness | 699 | | | 724 |
| D 2.7 Is centreboard shaped to plan? | 10 | | | 18 |
| D 2.8 Is centreboard forward lower corner radius less than 30 mm? | | | | |
| D 2.9 Are fin rubbers fitted? | | | | |

D 3 Skeg, Hog & Keel

| | | | | |
|---|---------|--|--|--|
| D 3.1 Skeg Width at keel | 44 | | | |
| D 3.2 Skeg Width at lower edge | 32 | | | |
| D 3.3 Skeg Depth at aft edge including keel | 127 | | | |
| D 3.4 Is Skeg fairing more than 305mm forward of transom? | | | | |
| D 3.5 Is Skeg side profile shaped to plan? | | | | |
| D 3.6 Is the keel uniform and maximum depth 12mm | | | | |
| D 3.7 Hog | 12 x 90 | | | |

D 4 Construction

| | | | |
|---|----------------------------------|---------------------------------------|--|
| D 4.1 Forward Buoyancy Compartment | <input type="checkbox"/> Full | <input type="checkbox"/> Half | <input type="checkbox"/> None |
| D 4.2 Aft Buoyancy Compartment | <input type="checkbox"/> Full | <input type="checkbox"/> Half | <input type="checkbox"/> None |
| D 4.3 Side Buoyancy Compartments | <input type="checkbox"/> Yes | | <input type="checkbox"/> No |
| D 4.4 Outside of Hull (timber only) | <input type="checkbox"/> Paint | <input type="checkbox"/> Varnish | <input type="checkbox"/> Resincoat <input type="checkbox"/> Fibreglass |
| D 4.5 Outside Hull Colour | _____ | | |
| D 4.6 Construction standard | _____ | | |
| D 4.7 Plywood type (if known) (timber only) | _____ | | |
| D 4.8 Framing Timber type (if known) (timber only) | _____ | | |
| D 4.9 Thwarts (timber only) | <input type="checkbox"/> Plywood | <input type="checkbox"/> Timber Slats | |
| D 4.10 Side Seats (timber only) | <input type="checkbox"/> Plywood | <input type="checkbox"/> Timber Slats | |
| D 4.11 Unusual fittings (if any) | _____ | | |

D 1 General

- D 1.1** Measure over keel and bottom rubbing strips to true chine position, ignoring chine rubbing strips, if fitted.
Note. If required establish virtual frame stations for measurement as follows:
1. Set the boat right side up with a horizontal attitude ie. Deck level side to side and the top of the transom 142mm below a horizontal line from the bow.
 2. Using a string line or straight edge down the centre of the boat from bow to transom, mark off frame stations from the aft side of transom (minus trim) to Fr 5 = 442mm, Fr 4 = 1052mm, Fr 3 = 1662mm, Fr 2 = 2272mm, Fr 1 = 2882mm.
 3. At each frame station place a straight edge across the deck at right angles to the centre line. Check squareness by measuring to the transom at each side.
 4. From the straight edge across the deck at each frame station run verticals down to required reference points on the chine or inside the boat using a spirit level, string line and weights or a vertical laser line. These points define the virtual frame stations to be used for measurement.
- D 1.2** Measure the 2915mm distance forward from the transom chine corner around each side and mark with chalk, pencil, tape, etc. Make up caliper to take off the chine to chine measurement.
- D 1.3** At a point 2250mm from the transom measured along the keel, a straight edge is placed on the keel. The average distance to the chines measured at right angles to the straight edge is then taken. From this distance the thickness of the keel (above the bottom ply) is subtracted.
- D 1.4** This measurement is taken from the transom chine corner, around the side of the boat to that point on the stem where chines, when extended, meet. A flexible piece of 'masonite' or other material about 1 metre long and 50mm wide is recommended to be placed on the chine between frames 1 and 2 and the point marked on the stem where the straight edge indicates the chine extension to be.
- D 1.5** This measurement is from the top of the foredeck down the front of the stem to where the chines, extended, meet.
- D 1.6** Keel may be tapered forward of this point. The width must be maintained from the transom to this point.
- D 1.9** Measure from a taut string line or straight edge set chine to chine down to the intersection of the hull skins at the transom. A small gauge or calipers may be needed to get around the lower pintle fitting, or it may be removed for the measurement.

D 2 Centreboard

- D 2.0** Centreboard may be made of timber, plywood or fiberglass and foam. The Centreboard profile shall be shaped to plan but may be faired to an aerofoil section. Timber and plywood boards may be fibreglass sheathed.
- D 2.1** Measure with a right isosceles triangle template, sides 100mm long scalloped out. Place it on the keel forward of the centreboard leading edge, with the right angle point aft, and ease it towards the centreboard. If the right angle point can touch the leading edge while still in contact with the keel, the position is not forward of vertical.
- D 2.2** Measure along Keel from transom to fore edge of Centreboard in fully down position and then add to Transom angle measurement, C 3.10. If the right angled template described in C 3.10 (back) is used measurement may be taken from fore edge of centreboard along keel to template.
- D 2.4** Centreboard to be in down position, 500mm down leading edge, width to be measured at right angles to leading edge.
- D 2.7** The leading edge of the centreboard may lie between a straight line and the convex (outwards) curve shown on the plan. The trailing edge of the centerboard may lie between a straight line and the concave (inwards) curve shown on the plan.

D 3 Skeg, Hog and Keel

- D 3.0** Skeg may be faired into the keel at its leading edge similar to a G.R.P. hull.
Skeg may not be faired off from more than 305mm forward of the aft edge.
- D 3.7** A hog formed from timber of a minimum thickness 12mm and nominally 90mm wide is mandatory in all plywood hulls.

D 4 Construction

- D 4.0** Where referred to Balsa laminate means end-grain Balsa timber approx 10mm thick to which fiberglass or dynel fabric has been laminated on both sides with resin giving a total thickness of approx 12mm.
- D 4.1** Where side buoyancy is fitted to framed timber boats those parts of the frame outside the tanks may be omitted.
- D 4.2** Where side buoyancy is fitted the riser sections shall be a minimum of 19mm x 12mm.
- D 4.3** In Jig built construction only the chines may be formed of a reinforced glue fillet with a minimum radius of 15mm. The fillet may incorporate a timber section of nominal size 19mm x 19 mm.

Measurer's Comments (Attach additional sheet if required)