



**Measurement Form 'A'**  
**Cover Sheet & Sails**  
 (see notes on back of form)

**National Heron Sailing Association of Australia Inc.,**  
 Please mail to current Measurement Committee Secretary  
 Form Issue Date 09/09 –WSP 1.0

<b>Boat Name</b> _____		<b>Sail Number</b> _____	
<b>Owner's Name</b> _____			
<b>Address</b> _____		<b>Postcode</b> _____	
<b>Membership Card No.</b> _____		<b>Phone No.</b> _____	
<b>Builder's Name</b> _____		<b>Phone No.</b> _____	
Do not complete this section for SAILS ONLY	<b>Address</b> _____		<b>Postcode</b> _____
	<b>Licence No. &amp; Production Unit No.</b> _____		
	<b>Construction</b>	<input type="checkbox"/> Full G.R.P. <input type="checkbox"/> Composite <input type="checkbox"/> Timber	<b>Date Built</b> _____
	<b>Sailmaker's Name</b> _____		<b>Sail Material</b> _____
<b>Date Purchased</b> _____		<b>Cost (if known)</b> _____	

**A. Sails** (see notes on back of form)

Dimensions in Millimetres  
 (except A 1.10 & 2.7 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**

- A 2.1 Luff
- A 2.2 Leech
- A 2.3 Foot
- A 2.4 Peak to Centre Foot
- A 2.5 Half Girth
- A 2.6 Flat at Head of Jib
- A 2.7 Transparent Panel Area (Square cm)
- A 2.8 Closest Transparent Panel Edge to Jib Edge

		2819
		2515
		1372
		2590
		700
		30
		1290
203		

**Measurer's Remarks & Recommendation** (if space insufficient use Form 'D')

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 Name (Print) \_\_\_\_\_ Measurer's 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 \_\_\_\_\_

**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 14<sup>th</sup> April 1987.
- A 0.4** With the exception of the Jib Luff (refer A 2.1), 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. Shockcord 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. Shockcord 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, should 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**

- A 2.0** The sail number shall also be marked at the tack of the jib in indelible figures not less than 12mm high. Jib luffs shall not be adjusted whilst sailing and the use of jib hanks is optional. Battens are not permitted in the jib.
- A 2.1** In the case of some jibs where the sailcloth does not cover the luff wire for it's full length, the measurement is taken to the imaginary point where the extension of the fore edge of the luff and the extension of the foot meet.
- A 2.2** Leech of the jib must be either straight or concave.
- A 2.5** Half point measurement of the luff is to be taken by measurement rather than folding the sail.
- A 2.7** A transparent jib panel is allowed up to 1290 square centimetres in area.
- A 2.8** The transparent panel, if fitted, should not be closer than 203mm to any edge of the jib. The panel material must not extend beyond the aperture of the transparent section by more than 25mm.



**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 09/09 –WSP 1.0

**Sail Number**

Dimensions in Millimetres

	Min	Actual	Max
<b>B 1 Mast (Common)</b>			
B 1.1 Projection of jib luff at mast, above mast base	3090	<input type="text"/>	3277
B 1.2 Does Mast swivel in Step ?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 1.3 Can the sail be lowered while on the water ?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 1.4 Hounds (stay attachment) above mast base	3100	<input type="text"/>	3255
<b>B 2 Mast (Gaff Rig)</b>			
B 2.1 Diameter	48	<input type="text"/>	57
B 2.2 Length	3226	<input type="text"/>	3277
B 2.3 Is there a sail track on the Mast ?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
<b>B 3 Mast (Bermudan Rig)</b>			
B 3.1 Diameter from base to 3226mm above base	50	<input type="text"/>	57
B 3.2 Diameter at top	25	<input type="text"/>	57
B 3.3 Overall length, assembled	5000	<input type="text"/>	5170
B 3.4 Is taper above 3226mm a straight line?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 3.5 Diameter above 3226mm (non tapered extension)	44	<input type="text"/>	57
B 3.6 Overlap of mast joining piece (spigot)	200	<input type="text"/>	<input type="text"/>
B 3.7 Does the track project more than 17mm aft of mast?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
<b>B 4 Gaff</b>			
B 4.1 Thickness at halyard Attachment Point	48	<input type="text"/>	54
B 4.2 Thickness at Heel	38	<input type="text"/>	54
B 4.3 Thickness at Head	25	<input type="text"/>	54
B 4.4 length (excluding jaws)	3150	<input type="text"/>	<input type="text"/>
B 4.5 Is Gaff able to pass through a 54mm square aperture ?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 4.6 Do Gaff Jaws function to plan ?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
<b>B 5 Boom</b>			
B 5.1 Cross Section (height x thickness)	44 x 35	<input type="text"/>	57 x 44
B 5.2 Aluminium Booms - Nominal diameter 50mm	48	<input type="text"/>	52
B 5.3 Length	2311	<input type="text"/>	<input type="text"/>
B 5.4 Blackband, inner edge to Aft side of Mast	<input type="text"/>	<input type="text"/>	2286
B 5.5 Mainsheet Sheave centre to underside of Boom	<input type="text"/>	<input type="text"/>	150
B 5.6 Is Boom Vang attached to a single fixed point on the Boom no further from the Mast than 1150 mm ?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 5.7 Is the Boom Vang rigid ?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 5.8 Distance sail track opened aft of the Mast at forward end of the Boom	<input type="text"/>	<input type="text"/>	229
B 5.9 Boom track opening forward of the forward edge of the black band to accommodate a clew track	<input type="text"/>	<input type="text"/>	200
<b>B 6 Jib (Whisker) Pole</b>			
B 6.1 When stowed protrudes beyond stem?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 6.2 Is the whisker pole timber or aluminium?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
<b>B 7 Rudder</b>			
B 7.1 Cheek Thickness	9	<input type="text"/>	13
B 7.2 Blade Thickness	10	<input type="text"/>	15
B 7.3 Blade and Rudder Box shaped to plan?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 7.4 Is the leading edge of rudder blade no further forward than parallel with front edge of rudder box ?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 7.5 Is the blade fixed?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
B 7.6 Is bottom of rudder box less than 30mm above outside bottom skin?	<input type="checkbox"/> Yes		<input type="checkbox"/> 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** Stiffening aluminium tube inserts not more than 300 mm in length are permitted in masts around the gooseneck area, in areas where holes and cutouts have weakened the mast, and in booms around the vang attachment point.

**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 2 Mast (Gaff Rig)**

- B 2.1** Must be essentially circular in cross section but may be tapered within diameter tolerances. May be laminated vertically.  
**B 2.2** Length includes mast cap /tenon at top but not tenon at bottom.  
**B 2.3** No form of track for the mainsail is allowed, only lashing.

**B 3 Mast (Bermudan Rig)**

- B 3.1** The mast may be parallel above the 3226 mm measurement.  
**B 3.3** Overall length includes mast base fitting but not tenon and excludes any mast head pulley fitting above the aluminium extrusion. The minimum length has been set to accommodate some existing mast lengths, however the recommended length is not less than 5120 mm.  
**B 3.5** 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** Fibreglass rudder boxes are permitted i.e. timber or plywood with moulded or glass fibre cloth and resin. The tiller and extension need not conform to the dimensions specified on the official plan; type and length being optional.  
**B 7.2** Timber or ply blade may be covered with fibreglass cloth and resin, measure overall thickness.  
**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 09/09 –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 level
- C 2.9 Width of Thwarts
- C 2.10 Fore Edge of forward thwart forward of frame 3 *see D1.2*
- C 2.11 Side Bench, inner edge to inside skin
- C 2.12 Fore Edge of forward thwart from inside transom
- C 2.13 Aft Edge of aft thwart from inside transom
- C 2.14 Aft Edge of Aft Thwart at Frame 5 (Timber Only)*see D1.2*
- C 2.15 Width Carlin to Carlin at Frame 2/Bulkhead
- C 2.16 Carlins & Gunwales Section (test check only)
- C 2.17 Thickness of frames, brackets and formers
- C 2.18 Chine & Riser Sections to plan *see D4.1-D4.3*
- C 2.19 Spring at Frame 2 } *(While string line in place*
- C 2.20 Spring at Frame 4 } *also check C 3.10, see D1.2)*
- C 2.21 Skin Thickness
- C 2.22 Centreboard Case Ply Thickness  
or Timber Thickness
- C 2.23 Are Floorboards to plan and no closer than 45mm  
from inside of bottom skin?
- C 2.24 Is buoyancy in accordance with the rules ?
- C 2.25 Is sail number carved on hull ?

2273			2299
			1220
			1230
2248			2273
302			312
1355			1391
			65
			50
735			See Over
229			254
64			76
229			254
1700			1727
413			438
<input type="checkbox"/> Yes			<input type="checkbox"/> No
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
<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 Includes all trim.
- C 2.10 Measure from forward face of frame 3 side members, see D1.2.
- 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 2.14 Aft edge of thwart to be within  $\pm 12$  mm of frame 5.
- C 2.15 Taken from projection of carlins at Frame 2/bulkhead.
- C 2.16 Carlins may be laminated. This measurement is not required for boats with GRP decks.
- C 2.17 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 2.19 } Run a very taut string line from stem head to top centre of transom. String must not touch deck.  
 C 2.20 } 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 2.22 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 2.23 Floorboards shall be of timber, plywood/timber composite, Balsa laminate or GRP and shall extend from Frame 2/bulkhead to a point vertically beneath the forward edge of the aft thwart. The area covered shall be generally to plan.
- C 2.24 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 2.25 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 09/09 –WSP 1.0

**Sail Number**

Dimensions in Millimetres

**D 1 Bottom**

- D 1.1 Externally Chine to Chine at widest point
- D 1.2 Externally Chine to Chine at Frame 3, *See D1.2*
- D 1.3 Externally Chine to Chine, 2915mm from Transom  
Chine corner, along side of hull
- D 1.4 "V" measurement 2250mm from Transom
- D 1.5 Waterline length from Transom Chine corner
- D 1.6 Stem length from Deck to Chine extension
- D 1.7 Keel width 2880mm along keel from Transom
- D 1.8 Are both ends of a 100mm radius by 100mm arc  
length template always in contact with the bow profile?
- D 1.9 Is any part of the bow profile concave?
- D 1.10 "V" measurement at Transom

Min	Actual		Max
	Fibreglass	Timber	
1184			1190
1162			1187
538			552
533			559
115			135
			3490
			400
56			59

**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
- D 2.4 Centreboard width at 500mm below keel
- D 2.5 Maximum Centreboard depth when down
- D 2.6 Centreboard thickness
- D 2.7 Is centreboard shaped to plan?
- D 2.8 Are fin rubbers fitted?

1994			
			356
			285
699			724
10			18

**D 3 Skeg, Hog & Keel**

- D 3.1 Skeg Width at keel
- D 3.2 Skeg Width at lower edge
- D 3.3 Skeg Depth at aft edge including keel
- 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

44			
32			
127			

**D 4 Construction**

- D 4.1 Forward Buoyancy Compartment  Full  Half  None
- D 4.2 Aft Buoyancy Compartment  Full  Half  None
- D 4.3 Side Buoyancy Compartments  Yes  No
- D 4.4 Outside of Hull (**timber only**)  Paint  Varnish  Resincoat  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**)  Plywood  Timber Slats
- D 4.10 Side Seats (**timber only**)  Plywood  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.
- D 1.2** } Note. 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 1.3** 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 1.4** 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 1.5** 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 1.6** This measurement is from the top of the foredeck down the front of the stem to where the chines, extended, meet.
- D 1.7** Keel may be tapered forward of this point. The width must be maintained from the transom to this point.
- D 1.10** 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 shaped to aerofoil and 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** Bottom forward corner must have a minimum of 30mm radius.

**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.

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*Measurer's Comments (use only if insufficient space on Form 'A')*