MINNOW SAILING ASSOCIATION

RULES OF MEASUREMENT AND CONSTRUCTION

(Amended and approved to Aug 2015 by all State Associations)

A. GENERAL

(i) The Minnow is a One-design class and the object of these rules of measurement and construction is to ensure that in hull form, sail plan, spars and fittings the boats are nearly alike as possible.

Only a Minnow certified by a recognised Measurer as complying with these rules and measurements will be granted a Measurement Certificate. Measurement Certificates will only be issued to Members of the Minnow Association. **ANYTHING NOT SPECIFICALLY PERMITTED UNDER THESE RULES OF MEASUREMENT AND CONSTRUCTION SHALL BE DEEMED NOT PERMISSIBLE.**

(ii) It is the intention of the Minnow Sailing Association to promote fair and friendly sailing. Any variation of the hull or equipment from the rules of measurement and construction and building plans by the implementation of any adjustment, alteration or addition shall be considered an attempt to gain an unfair advantage and the boat shall be disqualified until rectified to the satisfaction of the Committee or- the Minnow Sailing Association. The Measurer may use templates taken from plans to check shapes,

A boat that otherwise measures may be deemed not to measure if the measurer in consultation with the responsible committee considers there has been a deliberate attempt to use the building tolerances to change the shape of the hull.

(iii) Any person competing in Minnow Association events may be required to submit his/her boat for measurement.

(iv) A Minnow Dinghy will only be accepted as an official Minnow Class boat if it: -

a) Conforms with these Rules of Measurement and Construction.
b) Bears a sail number issued by the Minnow Sailing Association or their accredited agent.
c) Is built from a plan or kit supplied by an organisation officially approved by the Minnow Sailing Association or is a fibreglass or foam sandwich hull built by an organisation officially approved by the Minnow Sailing Association
d) No materials such as “Kevlar” and “Carbon Fibre” shall be used anywhere in the construction.
e) A copy of the measurement details shall be retained by the state measurer with the original certificate being kept by the owner

B. HULL

(i) The weight of the hull in DRY condition shall not be less than 20.25 kg.

This rule will change effective 25 December 2015 to;
The minimum weight revised to 21.25kg
This rule will change effective 25 December 2016 to;
The minimum weight to be revised to 22.25kg

The weight limit applies to all boats including those previously measured. Weight correctors may be adjusted and re-recorded on measurement certification upon weighing of the hull by an official association measurer.

(ii) The hull includes all PERMANENT fixtures and fittings i.e. fixed by screws, nails, rivets, glue, or resin, but **no** other equipment. Stays, hatch covers and mainsheet blocks shall not be considered permanent fittings. Where it is necessary to fit correctors these shall be fixed permanently under the thwart. The weight of the correctors shall be recorded on the measurement certificate.

(iii) No fitting, bolt or screw or other projection outside the hull or gunwale (except rudder and forestay fittings) likely to cause damage shall be permitted.

(iv) The only holes permitted in the hull shall be as follows:-

a) For the fitting of inspection hatches with screw sealing caps, maximum diameter 150mm, in side tank sides and main bulkhead only*; one only in each side tank and a maximum of 2 in the main bulkhead of the front tank. (Updated 2007)*

b) For the fitting of sealable drainage holes in buoyancy tanks, maximum diameter 25mm, to be fitted to tank sides and bulkhead only.

c) For the fitting of a single venturi self-bailer which requires an aperture no greater than 3200 sq mm.

(v) No timbers, fibreglass or metal components other than those specified in the building notes or provided in the kit may be added to or omitted from the boat. *Internal trimmings (along inner edge of deck/buoyancy tank join) for comfort and to reduce wear on the inner of the boat to a maximum of 30mm are allowed. (Updated 2007)*

(vi) The mast step shall be made of timber, metal or fibreglass of maximum projection above the deck of 20 mm and shall not permit the mast to rotate or the mast rake to be adjusted.

C. SPARS

It is the intention of the Minnow Sailing Association that timber masts and booms will not be permitted on boats built after July 1st, 1984 and that boats built prior to that date and equipped with timber spars will be permitted to compete in Minnow Sailing Association events. No replacement mast and booms shall be in timber.

(i) ALUMINIUM the mast and boom shall consist of an extruded aluminium section as approved by the Minnow Association. The section shall be a constant, almost circular section with an integral parallel-sided sail track. The minimum diameter of the section shall be nominally 39mm. The mast shall not be allowed to rotate. The sail track section of the mast may be cut away from the mast base to a point no more than 150mm above the centreline of the boom. The mast must be totally sealed at each end and at each fitting attachment point so that it is completely watertight. The end sealing shall be such that it cannot be pushed in to or pulled out of the mast section. The forward end of the sail track section of the boom may be cut away to a point 152mm of the aft face of the mast. No cuts or other bend inducing devices shall be permitted in the mast and boom. The mast shall have no permanent bend. Anodising and/or powder coating of the mast and boom sections shall be allowed

(ii) TIMBER The mast shall have a sail track from 150 mm above the centreline of the boom to the masthead, which shall comprise an appropriate groove cut into the aft face of the mast. The minimum cross section dimension of the mast at a height of I50 mm above the centreline of the boom shall be 45 mm, tapering uniformly to a minimum cross-section dimension of 33 mm at the masthead.

The mast shall not be allowed to rotate.

The boom shall have a sail track from 150 mm from aft face of the mast to the furthest end, which shall comprise an appropriate groove cut into the upper face of the boom. The minimum size of the boom shall be 38 mm x 35 mm section.

D. STANDING RIGGING

(i) One pair of shrouds and a single forestay attached to the mast externally, material and gauge optional. The shrouds may be connected to the chainplates on the hull via rope lanyards, bottlescrews or vernier shroud adjusters provided there is no adjustment possible to shroud tension when on the water. The forestay shall be attached to the chainplates by means of a rope lanyard only, without running blocks.

E. RUNNING RIGGING

(i) MAINSHEET The mainsheet system is optional except that:-

a) Blocks with sheave diameter greater than 64 mm, and,
b) Mainsheet jamming systems shall not be permitted, except for a ratchet block, which is permitted. Mainsheet travelers consisting of either a slack rope (*non adjustable bridle-updated 2007*) or wire hawse are permitted and shall, if fitted be attached to the thwart. Adjustable travelers shall not be permitted.

c) Main sheet systems cannot exceed a 4 to 1 system – updated 2007

(ii) BOOM VANG. The vang system shall fix to the base of the mast (aft face) with a hanger or eye, and to the underside of the boom with a hanger or eye, the aftermost attachment point of which is 570 mm from the aft face of the mast. (*A fitting integrating a pulley, a fixed cleat and one other turning block mounted on the mast is allowed-Updated 2007*) The purchase shall be a maximum of 3:1. Fittings are optional but the cleat must be within the vang system. The rope extension after the cleat may have a single handle or knob attached, (*a single retainer cord can be fitted to the tail of the vang to allow easy access to the vang by fitting a piece of shock cord to the boat-Updated 2007*) Deck or hull cleating is not permitted.

This rule will change effective 25 December 2015 to include;
The purchase shall be a maximum of 6:1 (previously 3:1)

(iii) SAIL HALYARD Material and gauge optional: if wire, a rope tail shall be fitted for attachment to a cleat. The halyard shall run from the sail headboard (or head) over a masthead sheave (the sail track may be cut away to attach sheaf), to a cleat attached to the mast below the level of the gooseneck. The sail shall not be tensioned above the lower edge of the measurement band at the top of the mast. No running blocks or halyard locks shall be permitted. Internal halyards shall not be permitted in sealed section of the mast. The halyard shall not be adjusted when racing.

(iv) OUTHAUL The clew outhaul shall consist of a rope lanyard, which must be tied and shall not be adjusted when racing. No running blocks, cleat, or fixing position shall be any further forward than 105 mm from the aft end of the boom. . The sail shall not be tensioned beyond the inboard edge of the measurement band at the outer end of the boom.

(v) *Wind indicators either at the top of the mast or on the deck will be allowed – (updated 2007)*

F. SAIL (Amended 1 May, 1989)

(i) The sail shall be of woven polyester fabric or even weight throughout of minimum 3.8oz cloth coloured a uniform Pale Blue. The use of sail material that has been coloured after manufacture is not permitted. Class insignia and sail numbers shall be in black. The Class insignia shall have dimensions 355 x 130 mm overall. The sail numbers shall be 300 mm minimum height, attached to the upper three-quarter of the sail on both sides and offset vertically, starboard side highest.

(ii) The sail shall be measured in a dry state and laid on a flat floor with sufficient tension applied to remove wrinkles along and adjacent to the measurement being taken. The measurements shall include the boltropes.

(iii) For the purposes of measuring, the HEAD shall be taken as the uppermost part of the sail projected to the luff and the CLEW shall be taken as the aftermost part of the sail projected to the foot. The headboard shall not extend above a right angle to the luff.

(iv) The half leech measurement point shall be found by folding the head to the clew, the edge of the leech shall be the measuring point. The quarter and three quarter leech measurement points shall be found by folding the clew and head to the half leech point on the edge of the leech. Hollows found in the edge of the leech at girth measuring points shall be bridged by straight lines when measuring girths.

(v) There shall be three leech sail battens with centres within 50mm of the quarter, half, and three quarter leech measuring points. Material and design of battens is optional. Batten pockets can extend a maximum of 50mm past the ends of the battens.

(vi) The only reinforcing permitted, apart from edge and panel seams, shall be at the head, tack and clew for a maximum of 400mm radius from these points and at the ends of battens for a maximum radius of 50mm.

(vii) No windows, leech lines, elastic shock cord bolt ropes or loose foot sails will be permitted.
Telltale windows are also not allowed.

(viii) No part of the sail shall extend beyond a 90-degree projection from the inner edge of the boom band or the lower edge of the mast band.

(ix) Only one sail may be measured and used on a boat for a Minnow Association Championship. All measured sails shall be signed and dated by the Measurer.

G. CENTREBOARD, CENTREBOARD CASE, RUDDER AND TILLER

(i) The centreboard and rudder shall be solid plywood except that they may be coated with resin in which a single layer glass fibre cloth may be impregnated.
This rule will change effective 25 December 2015 to;
The centerboard and rudder may be constructed from either plywood, solid timber or laminated timber with or without a coating of fiberglass, or foam sandwich or solid fiberglass construction, but not to include exotic materials such as Kevlar or carbon fibre.

(ii) The centreboard shall be of constant width throughout its length except at: -
a) The lower end, which shall be shaped as per plan with a maximum tolerance of 5mm.
b) A cutaway at the upper forward corner as per pattern.

(iii) The thickness of the centreboard shall be constant except for a maximum TOTAL faired depth on the leading and trailing edges of 76 mm.

(iv) The centreboard case shall be constructed so that the ends are parallel to within 3mm.

(v) The rudder shall be of constant width throughout its length and shaped as per pattern.

(vi) The thickness of the rudder shall be constant except for a maximum TOTAL faired depth from leading and trailing edges of 56mm.

(vii) The rudderstock shall be wood, shaped as per plan.
This rule will change effective 25 December 2015 to;
The rudderstock shall be constructed of wood, fiberglass and/or aluminium shaped as per plan

(viii) The tiller shall be timber (*or aluminium- updated 2007)*, the size and shape and the method of attaching to the stock are optional.
Tiller extensions are allowed.

(ix) The maximum distance between the transom of the boat and the front edge of the rudder blade is 85mm (updated 2007)

H. BUOYANCY

The buoyancy tanks shall be inspected during measurement. Where, in the opinion of the Measurer, a demonstration of their adequacy is required one of the following tests shall be carried out:-

Either (a) the boat shall be put afloat with a crew or equivalent mass not less than 25kg aboard in the cockpit. The cockpit of the boat shall be fitted with water and the level maintained at the top of the plate case for ten minutes. The maximum seepage allowed into any one tank shall be three litres.

or (b) the boat shall be laid on its starboard beam, on land with the mast horizontal. The starboard buoyancy tank shall be flooded. After ten minutes the amount of water to be added to the tank contents to return it to its original level shall not exceed four litres. This test shall then be repeated with the boat on its port beam for the port tank. The same acceptability criteria shall apply.

The Measurer shall record the results of any buoyancy tests so carried out on the measurement form.

I. ACCESSORIES AND IDENTIFICATION

(i) The following accessories are mandatory:-

a) A towing lead ring of not less than 38mm internal diameter, of solid stainless steel (min, 4mm thickness) attached on the centreline within l50mm of the bow.

b) A rope lanyard or similar system, excluding shock cord, which attaches the centreboard to the hull by a clip so that the centreboard remains entered in the centreboard case when the hull is inverted.

c) A rudder retaining pin consisting of a stainless steel pin, ring or other approved securing device fitted through a hole drilled in the rudder pintle.

d) A hand held bailer, which shall be attached to the boat so that it cannot be lost in the event of a capsize.
The bailer shall have a minimum volume of one litre.

(ii) The boat name (if applicable), sail number, club and/or class association and other information as required by the Australian Yachting Federation regulation 26 "Hull Identification", Addendum Band as additionally required by State authorities shall be displayed upon the hull in the manner proscribed in these regulations.

All boats shall have the Registered Number permanently fixed to or cut into the hull (preferably on the thwart or transom post) in numerals of a minimum height of 25 mm.

(iii) The following accessories are not permitted: -

a) Centre case rubbers or similar type of sealing devices.

b) Tactical compasses.

(iv) A paddle may be carried and if so it shall be secured in the boat.

(v) Battened hiking shorts are not permitted.

J. HULL MEASUREMENTS

		Min. (mm)	Max. (mm)
1.	Weight if finished hull.	20.25kg	n.a.
2.	Overall length excluding rudder fittings.	2387	2438
3.	Total beam at widest point (thwart) including gunwales.	1168	1219
4.	Length of foredeck along centreline.	960	985
5.	Width at bow along top of foredeck including gunwales.	533	558
6.	Distance from centreline to chine measured at aft end of centrecase slot.	507	521
7.	Distance from centreline to chine at aft transom.	406	419
8.	Distance from centreline to chine at a point 304mm forward from forward edge of centrecase.	460	475
9.	Width at top of aft transom including gunwales.	930	950
10.	Distance from aft transom to aft end of centrecase slot. Measure outside the boat along surface.	1054	1105
11.	Depth of aft transom to centreline measurement to be taken outside boat.	241	254
12.	Distance along centreline from the lowest point of the bow transom to the lowest point of the aft transom measured along surface outside the boat.	2305	2337
13.	Width of centrecase slot at any point. Sides must be parallel to within 3mm.	13	19
14.	Length of centrecase slot.	280	330
15.	Depth of centrecase slot.	254	279
16.	Width of side deck at thwart including gunwales.	139	165
17.	Depth of centrecase bulkhead at centreline.	336	349
18.	Depth of side tank at aft edge of thwart.	266	280
19.	Distance from centreline bulkhead to centre of mast step.	600	700
20.	Projection of centreboard (when fully down) below hull.	n.a.	600

21 to 30 Spare numbers

SPAR Measurements

		Min. (mm)	Max. (mm)
31.	Diameter of mast (aluminium only)	39	n.a.
32.	Overall length of mast including end plugs and masthead fittings.	3784	3800
33.	Distance from base of mast to centre line of boom.	401	413
34.	Distance from uppermost shroud hanger attachment point on mast to base of mast.	2275	2295
35.	Length of cutaway of sail track on mast above centreline of boom	n.a.	150
36.	Distance from lower edge of painted band of minimum 6mm width and of contrasting colour, to base of mast.	n.a.	3710
37.	Diameter of boom (aluminium only).	39	n.a.
38.	Overall length of boom measured from aft face of mast with the boom attached in normal position.	2140	2210
39.	Distance from aft most vang hanger attachment point on boom measured from aft face of mast with the boom attached in normal position	n.a.	570
40.	Length of cutaway sail track on boom measured from aft face of mast with boom attached in normal position.	n.a.	152
41.	Distance from inner edge of painted band of minimum 6mm width and of contrasting colour to aft face of mast with boom attached in normal position.	n.a.	2110
42.	Diameter or minimum dimension of mast (wood only) at 150rnm above centreline of boom.	45	n.a.
43.	Diameter or minimum dimension of mast (wood only) at head.	33	n.a.
44.	Depth of boom (wood only).38	n.a.	
45.	Width of boom (wood only).	35	n.a.

46 to 50 Spare numbers

RUDDER AND CENTREBOARD Measurements

		Min. (mm)	Max. (mm)
51.	Width of centreboard below cut-off corner.	280	304
52.	Length of centreboard.	812	863
53.	Dimension of cut away along top of leading edge.	n.a.	n.a.
54.	Thickness of centreboard.	11	14
55.	Total combined depth of fairing on leading and trailing edges of centreboard.	n.a.	76

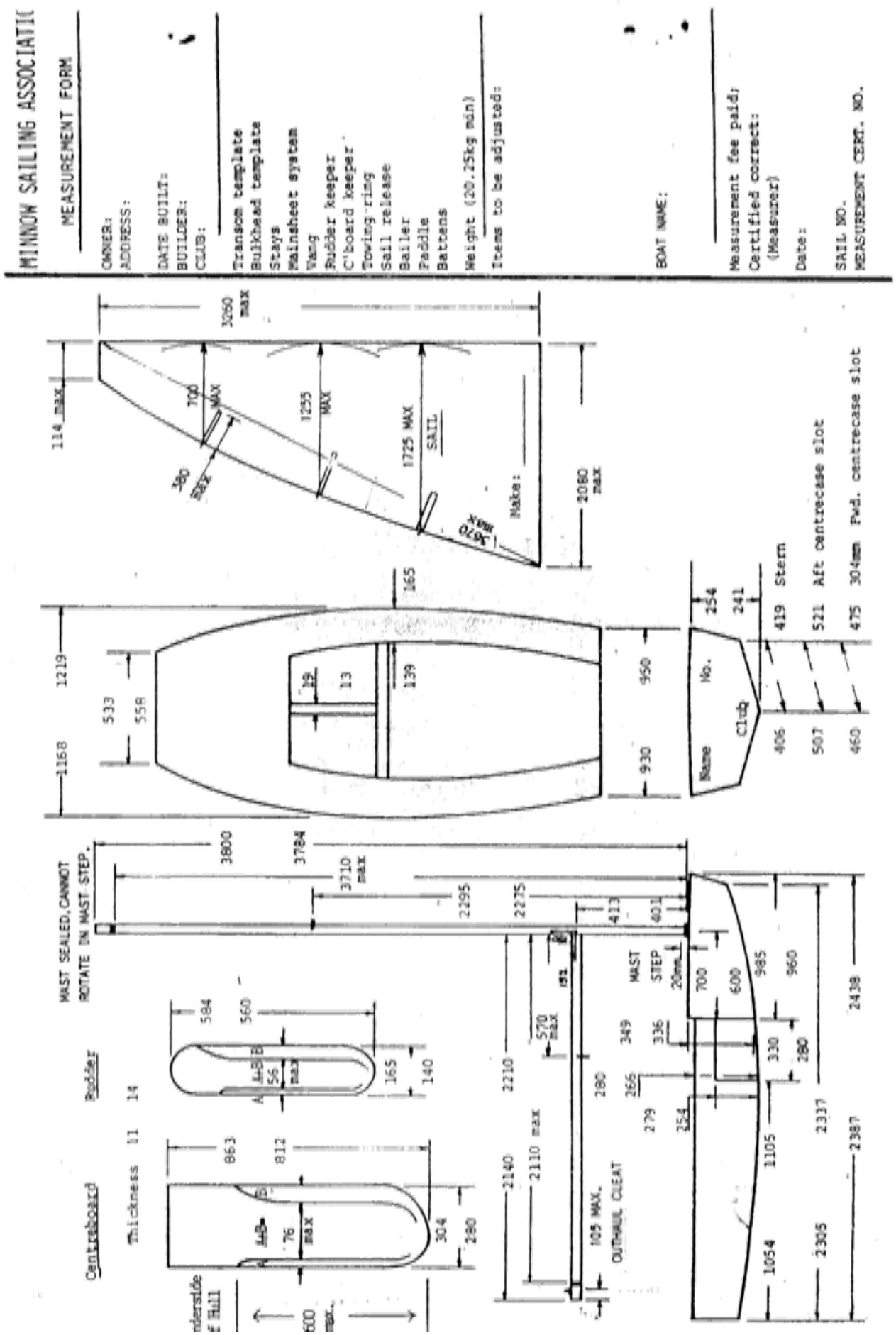
56 to 60 Spare numbers

61.	Width of rudder blade.	140	165
62.	Length of rudder blade.	560	584
63.	Thickness of rudder blade.	11	14
64.	Total combined depth of fairing on leading and trailing edges of rudder blade.	n.a.	56

65 to 70 Spare numbers

SAIL Measurements

		Min. (mm)	Max. (mm)
71.	Length of luff.	n.a.	3260
72.	Length of leech measured in a straight line from the head to clew.	n.a.	3670
73.	Length of foot.	n.a.	2080
74.	Width of sail at the quarter leech point to the nearest point on the luff.	n.a.	700
75.	Width of sail at the half leech point to the nearest point on the luff.	n.a.	1255
76.	Width of sail at the three quarter leech point to the nearest point on the luff.	n.a.	1725
77.	Width of headboard from forward edge of bolt rope to back of headboard.	n.a.	114
78.	Length of sail batten.	n.a.	380


MINNOW SAILING ASSOCIATIO
MEASUREMENT FORM
OWNER:
ADDRESS:
DATE BUILT:
BUILDER:
CLUB:
Transom template
Bulkhead template
Stays
Mainsheet system
Vang
Rudder keeper
C'board keeper
Towing ring
Sail release
Bailer
Paddle
Battens
Weight (120.25kg min)
Items to be adjusted:
BOAT NAME:
Measurement fee paid:
Certified correct:
(Measurer)
Date:
SAIL NO.
MEASUREMENT CERT. NO.
3060 max
114 max
700 MAX
1255 MAX
1725 MAX
SAIL
Make:
2080 max
165
1219
1168
533
558
12
13
139
950
930
254
241
No.
Club
Name
419 Stern
521 Aft centrecase slot
475 304mm Fwd. centrecase slot
406
507
460
MAST SEALED, CANNOT ROTATE IN MAST STEP.
3800
3784
3710 max
2295
2275
413
401
MAST STEP 20mm
700
600
985
960
330
280
2438
2337
2387
2305
1105
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Rudder
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105 MAX. OUTHAUL CLEAT