



*Class Association of Australia inc.*

## **CLASS RESTRICTIONS**

AMENDED: February 2010

DESIGNER: ALAN WARWICK,  
Warwick Yacht Design, New Zealand

Rule		Page
1	<b>One Design Principle</b>	2
2	<b>General</b>	2
2.1	Class Association Membership	2
2.2	Sailing Requirements	2
2.3	Definitions	2
2.4	Liability	2
3	<b>Hull and Deck</b>	3
4	<b>Centreboard</b>	3
5	<b>Rudder</b>	3
6	<b>Tiller</b>	4
7	<b>Fittings and Equipment</b>	4
8	<b>Sheets and Control Lines</b>	4
8.1	General	4
8.2	Mainsheet	5
8.3	Traveller	5
8.4	Clew Outhaul	5
8.5	Vang	5
8.6	Cunningham Line	6
9	<b>Sails</b>	6
9.1	Registration and Limitations	6
9.2	Material	6
9.3	Class Emblem and Numbers	7
9.4	Battens	7
9.5	Measurements	8
9.6	Small Sail	9
10	<b>Mast</b>	10
10.1	Material	10
10.2	Length	10
10.3	Attachments	10
10.4	Gooseneck	11
10.5	Flotation	11
10.6	Markings	11
11	<b>Boom</b>	11
11.1	Material	11
11.2	Length	11
11.3	Attachments	11
11.4	Markings	11
12	<b>Repairs and Replacements</b>	12
13	<b>Clothing and Equipment</b>	12

## **1. ONE DESIGN PRINCIPLE**

- 1.1 The design and development of the Spiral was directed to the creation of a one-design class yacht where the true test is between helmsperson and not boats, and therefore any alteration of the hull form, construction, equipment, spars and sail from the Design and as specified by these rules is a breach of these Rules, not only in spirit but in substance, and is prohibited. Where a majority of Committee members present at a Spiral Association sanctioned event are of the opinion that any fittings, attachments or system(s) on any Spiral dinghy are in conflict with these rules or intent they may decline entry of that boat in the event.
- 1.2 With the exception of matters relating to safety, the Rules can only be altered by a two-thirds majority of financial members of the Association present at an Extraordinary General Meeting, notification of the proposed changes having been circulated to the Membership for not less than three months prior to the meeting. Proposed changes are to be forwarded to the Secretary.
- 1.3 Safety matters relating to the rules, including IYRU rule changes may be incorporated into the rules by the Association Measurer, from time to time except that all such changes shall not be contrary to the principle outlined in Rule 1.1.

## **2. GENERAL**

### **2.1 CLASS ASSOCIATION MEMBERSHIP / ELIGIBILITY TO RACE**

- 2.1.1 No person is permitted to race a Spiral in any Association event unless they are a current financial member of the Association and hold a valid Measurement Certificate for their vessel. Eligible vessels must also display; **a)** at least one (1) Association approved logo sticker on the transom area OR on the deck in front of the mast step, AND/OR **b)** at least two (2) Association approved logo stickers on the hull above the waterline which shall be located symmetrically on each side of the boat and of port and starboard orientation where applicable.
- 2.1.2 Entrants in both State and National Championships must also have completed at least four (4) races in a Spiral during the season at a Yachting Australia affiliated sailing club or Association event. A regular Spiral sailor who may be significantly disadvantaged by this rule through special circumstances such as sickness, study commitment or travel, may apply in writing to the General Committee of the Association for special dispensation. In reaching its decision the Committee should take into consideration the sailor's commitment to the Class during the previous season.
- 2.1.3 Boat owners and other sailors who are current financial members of the Association but have been unable to complete the four (4) required races may race in a separate Visitors Division, but will only be eligible for places and/or trophies in that Division.
- 2.1.4 Short race series or teams' racing series etc., held on one (1) day, constitute one (1) race.

### **2.2 SAILING REQUIREMENTS**

- 2.2.1 No part of the helmsman or crew may be placed forward of the mast while racing.
- 2.2.2 Nothing shall prohibit two persons from sailing a Spiral provided that both persons sail together for the entire regatta and do not alternate at the helm.

### **2.3 DEFINITIONS**

- 2.3.1 In these Rules, "builder" means any manufacturer duly authorised to build the Spiral in Australia by the licensee.
- 2.3.2 In these Rules, the "licensee" is the Association
- 2.3.3 In these Rules, "the Design" is that of Alan Warwick of New Zealand, as modified by the Association.
- 2.3.4 The "Association" is the Spiral Class Association of Australia Incorporated.
- 2.3.5 "The Association Measurer" shall be the National Measurer of the Association.

### **2.4 LIABILITY**

- 2.4.1 The Association, whilst taking due care in administration of the rules, cannot accept any legal responsibility in respect of these rules and/or the plans or any claim arising therefrom.

### **3. HULL AND DECK**

3.1 The hull and deck shall be built from tooling supplied or approved by the Association. They shall be constructed in accordance with the specifications of the Association, and shall be certified by the Association Measurer. It is, however, the sole responsibility of the builder to ensure that at all times the production moulds and/or plugs

comply with the plans, Class rules and building specifications; *see Appendix A for list of Builders.*

3.2 The hulls of all boats built after September 1, 1990, shall have the sail number allocated to the boat, moulded or engraved into the transom.

3.3 The dry weight of the hull and deck, including all fixed fittings but excluding items such as the hiking straps and the mainsheet traveller line and blocks, shall not be less than 55 kg.

3.4 Should the hull and deck be less than this minimum weight, ballast shall be securely attached in the vicinity of the centreboard aperture, in order to achieve the minimum weight. A maximum ballast of 6kg may be used.

3.5 The weight of the ballast shall be recorded on the Measurement Certificate and any subsequent alteration of the ballast shall be checked by the Association Measurer or his delegate and recorded.

3.6 It is the responsibility of the skipper to ensure that, at all times whilst racing, the minimum weight restriction is adhered to.

3.7 A towing fairlead shall be secured at the bow, on the centreline and in a useable position, in such a manner that it will not fail under loads normally generated under tow. The fairlead shall be a ring of not less than 38 mm internal diameter constructed of solid stainless steel of minimum 4mm thickness.

3.8 The hull identification requirements outlined in the Yachting Australia Yacht Racing Rules shall be adhered to.

### **4. CENTREBOARD**

4.1 The centreboard can be manufactured from any timber type or timber foam composite and may be glass/resin sheathed. It shall have a thickness of 20mm +/- 3mm. A solid glass/resin board or foam glass/resin sheathed board may be used.

4.2 The centreboard must be the same profile and measurements as specified in the Design, +/- 10mm vertically and +/- 10mm horizontally; see Figure 4 for profile diagram.

4.3 The centreboard when fully lowered shall not extend more than 710mm below the keel line.

4.4 The centreboard shall be restrained so as to prevent the top from passing below the deck level at the centrecase. A rope handle passing through not more than two holes, of maximum diameter 12mm, located fully above the deck when the centreboard is lowered, and/or rubber or timber stoppers are permitted.

4.5 Subject to rules 4.1 and 4.2, nothing herein shall preclude minor adjustments to the centreboard by way of sharpening the trailing edge, refinishing or repairing damage provided that the centreboard can be readily moved up and down at all times.

4.6 Centreboards shall be positively secured to the hull, by lanyard or other effective means so that they remain in the centreboard case when the hull is inverted.

4.7 The boat number is to be marked at the top of the centreboard in a prominent and visible position.

### **5. RUDDER**

5.1 The rudder head shall be of the type supplied by the builder, and approved by the Association Measurer, in keeping with rule 1.1.

5.2 The rudder blade can be manufactured from any timber type or timber foam composite and may be glass/resin sheathed. It shall have a thickness of 20mm +/- 3mm. A solid glass/resin blade or foam sheathed in glass/resin blade may be used.

5.3 The rudder blade must be the same profile and measurements as specified in the Design, +/- 10mm vertically and +/- 10mm horizontally; see Figure 3 for profile diagram.

5.4 Subject to rules 5.2 and 5.3, nothing herein shall preclude minor adjustments to the rudder by way of sharpening the trailing edge, refinishing or repairing damage, provided that the rudder underwater profile remains fundamentally unaltered, in keeping with rule 1.1.

- 5.5 No part of the rudder, when fully lowered, shall extend more than 525mm below the extension of the keel line.
- 5.6 The rudder blade shall have a downhaul.
- 5.7 The rudder shall be fully down at all times while racing, however, it may be raised for short periods of time to assist in clearing debris fouling the blade.
- 5.8 While racing, the rudder stock is to be securely fixed to the hull by a stainless steel retaining pin passing through one of the pintles.
- 5.9 The boat number is to be marked at the top of the rudder in a prominent and visible position.

## **6. TILLER**

- 6.1 The tiller and tiller extension are not restricted in any way except that the tiller shall not be capable of removal from the rudder head, and shall be straight.
- 6.2 The tiller shall have a clam cleat for the downhaul. This cleat may be of any type of material.

## **7. FITTINGS AND EQUIPMENT**

- 7.1 Inspection ports not exceeding 180mm in diameter may be installed on the deck or in the cockpit to provide access to the hull cavity, provided that any inspection port is fitted with water-tight, threaded covers (bayonet mounted ports are deemed to be not threaded). A compass may not be attached to or mounted through an inspection port.
- 7.2 Clips of any kind or ties may be affixed for use only for securing paddles or an anchor in the cockpit or on the deck.
- 7.3 A self-bailing device of a type approved by the Association Measurer (see Appendix C) may be added.
- 7.4 The traveller eyes may not be repositioned except as provided in the rule 12.2.
- 7.5 It shall be demonstrated that the mast cannot become disengaged with the mast aperture in the hull if the boat is inverted whilst sailing. If this is not achieved with the Cunningham line a separate line shall be added for this purpose.
- 7.6 Storage bags or receptacles may be attached to the inside of the cockpit;
- 7.7 One compass may be mounted on the deck or in the cockpit, provided that the hull cavity is not pierced by other than the fasteners;
- 7.8 Wind indicators may be attached as follows:  
A wind indicator may be attached to the top of the mast provided that the sail is not cut; in addition one wind indicator may be affixed anywhere to the boat, its boom, spars or equipment; and ribbons, wool or similar wind indicators may be attached to the sail;

## **8. SHEETS AND CONTROL LINES**

### **8.1 GENERAL**

- 8.1.1 **Intent:** It is intended that the control line systems should be simple, economical and durable and should conform to the 'one design' principle outlined in Rule 1.1 of these restrictions. While the Mainsheet and Traveller systems are tightly specified, some flexibility is allowed in the set-up of the Clew Outhaul, Boom Vang and Luff Downhaul. This is to make the sailing of the Class enjoyable for people of varying size and physical ability.
- 8.1.2 Sheets or lines in whole or in part of wire are prohibited.
- 8.1.3 Each individual sheet or line must be of uniform diameter (i.e. no tapering of any lines is permitted). Local thickening of lines by external sheathing in the areas of cleating may be allowed at the committee's discretion.
- 8.1.4 All lines and fittings used in control systems shall be of a type readily available to all competitors.

## **8.2 MAINSHEET**

- 8.2.1 The mainsheet shall have not more than a 2:1 purchase at the outboard end of the boom. It shall be led along the boom to a pulley on the boom above the rear of the centrecase and thence to a pulley (or alternatively a ratchet block) mounted on the deck at the rear of the centrecase.
- 8.2.2 Leading the sheet through the final block aft of the centrecase is optional.
- 8.2.3 A guide strop may be fitted to the boom to support the section of the mainsheet between the two pulleys on the boom. The strop shall be fitted in such a way that it does not significantly alter the: strength of the boom; the bending characteristics of the boom; the mechanical advantage of the mainsheet system.
- 8.2.4 While racing, the sheet shall not be controlled from aft of the forward block on the boom, except to facilitate a tack or gybe.
- 8.2.5 There shall be two attachment points for mainsheet pulleys on the boom: At the outboard end, the centreline of the attachment point shall be located 2550mm +/- 10mm from the aft face of the mast (except as provided in rule 12.2). Above the centrecase, the centreline of the attachment point shall be located 1000mm +/- 10mm from the aft face of the mast (except as provided in rule 12.2). All measurements shall be made with the boom attached to the gooseneck and with the boom in its normal position; approximately at right angles to the mast.
- 8.2.6 All mainsheet attachments to the boom and the mainsheet blocks themselves shall, with the exception of the optional ratchet block, be as approved by the Association Measurer, in keeping with rule 1.1. (see Appendix C for list).

## **8.3 TRAVELLER**

- 8.3.1 The traveller shall be of one piece of line, of uniform diameter.
- 8.3.2 It shall be rigged so as to form a closed loop across the stern, between dead eyes mounted at the two aft corners of the deck. Deadeyes shall be attached by screws or bolts.
- 8.3.3 The end of the line forming the loop may be knotted or spliced.
- 8.3.4 The free end of the line shall pass through a clam cleat mounted on the centreline of the rear deck.
- 8.3.5 The end of the line forward of the clam cleat may be formed into a loop or knot.
- 8.3.6 No attachments, knots or other devices are permitted which would further assist, or prevent the free movement of the traveller block on the traveller and/or alter the purchase.
- 8.3.7 All attachments including the traveller blocks shall be as approved by the Association Measurer, in keeping with rule 1.1 (see Appendix C for list).

## **8.4 CLEW OUTHAUL**

- 8.4.1 No fittings for the outhaul shall be fitted to the boom in such a way as to significantly alter the strength or bending characteristics of the boom.
- 8.4.2 No outhaul controls shall be permanently attached to the mast section and no extra holes may be drilled in the mast for the attachment of outhaul fittings.
- 8.4.3 The outhaul shall be rigged to obtain not more than a 16:1 purchase.
- 8.4.4 The clew outhaul if led to the deck shall pass through no more than one turning point and lead to one cleat positioned within an area bounded by the front edge of the mast aperture and the front edge of the cockpit and within 55 mm of the centreline. No purchase may be gained using any deck fitting.

## **8.5 VANG**

- 8.5.1 The vang shall be a rope and pulley system with an integral cleat, a limit on the purchase that may be rigged of 16:1
- 8.5.2 The attachment point on the mast shall be determined by the intersection of the vertical centreline of the mast projected to the sides of the mast and the continuation of the centreline of the vang tackle. The mast attachment point, as so defined, shall be 450mm +/- 25mm above the base of the mast, excluding the end plug, except as provided in Rule 12 (see Figure 3)
- 8.5.3 The attachment point on the boom shall be determined by the intersection of the horizontal centreline of the boom and the continuation of the centreline of the vang tackle. The boom attachment point, as so defined, shall be 600mm +/- 25mm as measured from the aft edge of the mast, with the boom in its normal position, except as provided in Rule 12.2 (see Figure 7).

- 8.5.4 The attachment fittings shall be as approved by the Association Measurer, in keeping with rule 1.1 (see Appendix C for list).
- 8.5.5 The vang shall not be cleated on the deck or lead to any fitting on the deck before passing through the cleat.

## **8.6 CUNNINGHAM LINE**

- 8.6.1 The Cunningham line shall be led to the deck and shall pass through no more than one turning point and lead to one cleat positioned within an area bounded by the front edge of the mast aperture and the front edge of the cock pit and within 55 mm of the centreline.
- 8.6.2 A maximum purchase of 8:1 may be rigged.
- 8.6.3 No purchase may be gained using any deck fitting.

## **9. SAILS**

### **9.1 REGISTRATION AND LIMITATIONS**

- 9.1.1 After satisfactory measurement and marking by the Association Measurer or his delegate, a sail shall be deemed to be registered.
- 9.1.2 Each boat may have any number of sails registered at any point in time.
- 9.1.3 Except in case of loss or damage beyond repair, only one new sail can be registered in any one season. A season is defined, for the purpose of the measurement rules as commencing on the 1st October and ending on 30th April in the next calendar year. It is the intention of this rule to contain costs by limiting the purchase of sails to no more than one per season and to prevent any skipper from obtaining a potential advantage for a racing series. In cases where this rule may cause hardship and/or the Association Measurer is satisfied that there is no intent to breach the principle of the rule, special dispensation may be granted, after suitable application has been made to the Association Measurer, in writing.
- 9.1.4 All registered sails are usable in Association events, but only one registered sail can be used in each State or National Title series, except in case of loss or damage beyond repair.
- 9.1.5 Where a previously registered sail has its number changed for use on another boat it must be re-registered before it can be used in any Spiral State or National title series.
- 9.1.6 Replacement through damage/loss may be accepted at the discretion of the Association Measurer or his delegate who will require that the damaged item be made available for inspection or that a detailed, written report be presented in cases where, because of the nature of the damage (including total loss), the sail cannot be produced for inspection. The Measurer shall require details of the circumstances under which the damage and/or loss occurred to be included in the written report.
- 9.1.7 Re-cutting and repair of the registered sail is permitted provided that the sail remains within the overall measurements outlined in Sections 9.4 and 9.5 and that the sail is submitted to the Association Measurer or his delegate for checking after recut/repair, before the sail is used in further Association recognised events.
- 9.1.8 An approved list of sailmakers shall be retained by the Association Measurer (see Appendix B for list). An approved Sailmaker must construct all sails. Any sailmaker may apply to be approved by the Measurer from time to time. Such approval will be subject to strict adherence to the one design principle outlined in section 1.1 of the rules, the concept of good sportsmanship and the restrictions outlined in sections 9.2 to 9.5.
- 9.1.9 Each sail conforming to the Class Restrictions shall be marked at the tack, starboard side, by the Association Measurer or his delegate. The markings shall include the boat number, a letter suffix uniquely identifying the sail, the date of measurement and the Measurer's signature.

### **9.2 MATERIAL**

- 9.2.1 It is recommended that the sail should be white with the exception of the gold panel and class emblem covered in section 9.3, however panel colours in place of white are permitted.
- 9.2.2 The mainsail including the luff pocket shall be of single ply woven polyester (Dacron) cloth of uniform weave. The body of the sail shall have a minimum weight of 3.8oz and maximum weight 5.6oz The luff pocket shall have a minimum weight of 3.8oz but need not be of the same weight

as the main sail area. Exotic cloths and ripstop style cloths are prohibited. For material to be considered woven, it should be possible to separate the fibres without leaving evidence of a film when it is torn. The acceptance of any material will be at the discretion of the Association Measurer.

- 9.2.3 Bolt ropes, leech lines and foot ropes are not permitted. Folding of the mainsail material shall only reinforce the leech and foot. Such folds shall not extend more than 20mm into the body of the sail.
- 9.2.4 Corner reinforcing at the head, tack and clew shall fall within a 650mm arc centred on the respective Measuring Point, as defined in rule 9.5.1.
- 9.2.5 A window (s) may be installed. The total area of the window (s) shall be no greater than 0.3 square metres and no edge of any window can exceed 750 millimetres in length. No part of any window can extend more than 700mm measured vertically from the lowest part of the foot of the sail.

### **9.3 CLASS EMBLEM AND SAIL NUMBERS**

- 9.3.1 The class emblem and sail numbers shall be red in colour.
- 9.3.2 The class emblem and sail numbers shall be glued, sewn or silk screened to each side of the sail.
- 9.3.3 The class emblems shall be back to back on either side of the sail with their centres located in the centre of the panel in a fore and aft direction and vertically.
- 9.3.4 The class emblem shall conform to the Spiral Association of Australia pattern. It shall have a vertical overall height of 290mm +/- 10mm and a horizontal overall length of 360mm +/- 10mm. The 'tail' shall face aft.
- 9.3.5 Sail numbers are to be located on the sail as defined by the AYF rules.
- 9.3.6 The Class emblem shall be located in a gold coloured sail panel. The panel shall extend at approximately right angles to the leech, fore and aft across the sail from luff to leech but excluding the luff pocket. It shall have a panel width of 900mm +/- 30mm measured at right angles to the broad seam. The top edge of the panel shall be located 1500mm +/- 20mm below the head measurement point. The bottom edge shall be located 2400mm +/- 20mm below the head measurement point as measured along a straight line from the head measurement point to the principal outside edge of the leech.
- 9.3.7 With the exception of the emblems, sail numbers, the Association Measurer's mark and the AYF prescribed sailmaker's logo, no other markings are permitted.

### **9.4 BATTENS**

- 9.4.1 There shall be three untapered, fibreglass battens.
- 9.4.2 The top batten pocket is to be located with its centreline on the leech at the 1/4 girth measurement point as defined in 9.5.10 (+/- 50mm) .
- 9.4.3 The centre batten pocket is to be located with its centreline on the leech at the 1/2 girth measurement point as defined in 9.5.10 (+/- 50mm) .
- 9.4.4 The bottom batten pocket is to be located with its centreline on the leech at the 3/4 girth measurement point as defined in 9.5.10 (+/- 50mm) .
- 9.4.5 Battens shall not extend beyond the leech of the sail.
- 9.4.6 A headboard is not permitted.
- 9.4.7 The length of the battens shall be:
  - Top: 350mm +/- 20mm overall
  - Centre: 500mm +/- 20mm overall
  - Bottom: 500mm +/- 20mm overall
- 9.4.8 Batten pockets shall be constructed to allow battens to be readily fitted and removed, however, over and above these requirements, the pockets shall not be constructed with the intention of providing additional support, padding or reinforcement to the sail cloth other than that reasonably required to restrain the battens and as covered below.
- 9.4.9 A circular reinforcing patch that shall not exceed 150mm diameter may be fitted to the sail at the forward end of each batten with the centre of the reinforcing patch not more than 40mm forward of the forward edge of the batten. The reinforcing patch must be fitted to one side only and shall be of a similar weight material as the remainder of the sail. Sticky-back material is permitted.

## **9.5 MEASUREMENTS ( See figure 4 for diagram)**

- 9.5.1 Measuring Points: The principal outside edges of the sail shall be taken along the outside edge of the leech, foot and the forward edge of the luff pocket, with the sail laid flat. The clew and the tack shall be defined as the intersection of the continuation of the principal outside edges of the sail converging at these corners. The head shall be defined by the intersection of the principal outside edge of the luff pocket and a line projected at right angles from this edge to the point of intersection of the continuation of the principal outside leech edge with the forward edge of the body of the sail (the forward edge of the stitching forms the aft edge of the luff pocket).
- 9.5.2 All measurement points including the girth measurement points shall be clearly and indelibly marked on the sail.
- 9.5.3 Laying out of sails: For measurement purposes, including the luff pocket dimensions, the sail must be laid flat with the battens removed. It is mandatory that all wrinkles be pulled out along the line of measurement by the application of reasonable force at the time of measurement.
- 9.5.4 The luff pocket, excluding the webbing at the top, is to extend continuously from the head to the tack. It shall have a length no greater than the head to tack measurement + 100mm overall. It shall have a maximum width of 120mm measured at right angles from principal outside luff edge to the forward edge of the stitching forming the aft edge of the pocket. Other than a reasonable allowance for stitching to fix the pocket to the main sailcloth area, the luff pocket shall not be constructed to advantage the performance of the sail by providing additional support to the main sailcloth or an improvement of the airfoil section.
- 9.5.5 The leech measurement shall be a straight line taken between the head and the clew as defined in 9.5.1. It shall not exceed 5130mm.
- 9.5.6 The principal outside edge of the leech shall at any point along its length not extend more than 250mm past the leech measurement line (9.5.5), as measured at right angles to the leech measurement line.
- 9.5.7 The foot measurement shall be a straight line taken between the clew and the tack as defined in 9.5.1. It shall not exceed 2535mm.
- 9.5.8 The luff measurement shall be a straight line taken between the head and the tack as defined in 9.5.1. It shall not exceed 4680mm.
- 9.5.9 The half foot measurement shall be a straight line taken between the head as defined in 9.5.1 and a point located on the principal outside edge of the foot midway between the tack and the clew (as defined in 9.5.1). The midway point shall be obtained by folding the sail so that the tack measurement point overlies the clew measurement point. The half foot measurement shall not exceed 4920mm.
- 9.5.10 Girth Measurement: The 1/4, 1/2 and 3/4 girth measurement points are located on the principal outside edge of the leech. They are to be obtained as follows: fold the leech in half from the head measurement point to the clew measurement point and mark the 1/2 girth position on the leech. Fold each half in half again (head to 1/2 girth point and clew to 1/2 girth point) and mark. The 1/4 girth measurement point lies halfway between the 1/2 girth measurement point and the head whilst the 3/4 girth measurement point lays half way between the 1/2 girth measurement point and the clew. The girth measurements are taken as the shortest distance from the principal outside edge of the leech to the principal outside edge of the luff (that is, the luff pocket is included). Use a measuring tape to find the shortest distance to the luff by swinging an arc about the marked points.
- Maximum 1/4 girth measurement is 890mm  
Maximum 1/2 girth measurement is 1575mm  
Maximum 3/4 girth measurement is 2165mm
- 9.5.11 Attachment to mast shall be by means of the luff pocket only with the exception of the head restraint (9.5.12).
- 9.5.12 Head restraint: The head of the sail shall be held at the top of the mast by means of a strap that shall be sewn to the luff pocket sides and shall pass across the head of the mast. The strap may be of sail cloth or webbing. It shall have a maximum width of 55mm and, when laid flat with the sail



in its normal measuring position with the mast removed, shall not extend more than 40mm above the extension of the luff pocket.

- 9.5.13 The tack shall be attached by means of the Cunningham line only. One eyelet, not to exceed 20mm internal diameter, is permitted for this purpose.
- 9.5.14 One eyelet, not to exceed 20mm internal diameter, is permitted for the attachment of the clew to the boom.
- 9.5.15 No other attachment points are permitted. No reef points are allowed.

## **9.6 SMALL SAIL.**

The Association has determined a set of measurement restrictions for a small-area Sail. The intention is to allow an alternative sail size (of approximately 5.6 m<sup>2</sup>) for use in training fleets or for use by sailors of lower weight/strength. The sail must be measured and registered by an association measurer and marked as described in 9.1.6. The sizing of the “5.6” m<sup>2</sup> sail is based on the removal of 550mm from the height of the Spiral sail plan as shown in Figure 8.1. In practice an existing Spiral sail can be converted into a registrable “5.6” sail by removing the luff pocket, cutting 550mm off from the bottom of the sail and reattaching the luff pocket so that it extends 620+/- 30mm above the head measurement point. The overall luff pocket length shall be compatible with the use of a normal Spiral mast assembly. Sections **9.2 –Materials**, **9.3 –Class emblem and Sail Numbers** and **9.4 – Battens** shall apply to the “5.6” sail.

The measurement principles described in section **9.5 –Measurements** shall apply to the “5.6” sail with revisions noted as follows:

- 9.6.1 measurement points are defined similarly to 9.5.1
- 9.6.2 marking of measurements points is identical to 9.5.2
- 9.6.3 laying out of sails for measuring is identical to 9.5.3
- 9.6.4 The luff pocket, excluding the webbing at the top, is to have a length equal to the head-to-tack measurement plus 650mm +/-30mm. The luff pocket is to be continuous along its entire length. It shall have a maximum width of 120mm measured at right angles from the principal outside luff edge to the forward edge of the stitching forming the aft edge of the pocket. Other than a reasonable allowance for stitching to fix the pocket to the main sail cloth area, the luff pocket shall not be constructed to advantage the performance of the sail by providing additional support to the main sailcloth or an improvement of the airfoil section.
- 9.6.5 The leech measurement shall be a straight line taken between the head and the clew as defined in 9.5.1. It shall not exceed 4570mm.
- 9.6.6 Extension of the leech (roach) beyond the leech measurement line is identical to 9.5.6
- 9.5.7 The foot measurement shall be a straight line taken between the clew and the tack as defined in 9.5.1. It shall not exceed 2400mm
- 9.6.8 The luff measurement shall be a straight line taken between the head and the tack as defined in 9.5.1. It shall not exceed 4130mm
- 9.6.9 The half foot measurement shall be a straight line taken between the head as defined in 9.5.1 and a point located on the principal outside edge of the foot midway between the tack and the clew (as defined in 9.5.1). The midway point shall be obtained by folding the sail so that the tack measurement point overlies the clew measurement point. The half foot measurement shall not exceed 4370 mm.
- 9.6.10 Girth Measurement: The 1/4, 1/2 and 3/4 girth measurement points are located on the principal outside edge of the leech.  
The 1/4 girth measurement position is to be obtained by marking where a straight line measured 1285mm from the head intersects with the leech.  
The 1/2 girth measurement position is to be obtained by marking where a straight line measured 2565mm from the head intersects with the leech.  
The 3/4 girth measurement position is to be obtained by marking where a straight line measured 3845mm from the head intersects with the leech. The girth measurements are taken as the shortest distance from the principal outside edge of the leech to the principal outside edge of the luff (that is, the luff pocket is included). Use a measuring tape to find the shortest distance to the luff by swinging an arc about the marked points.  
Maximum 1/4 girth measurement is 890mm

Maximum 1/2 girth measurement is 1575mm  
Maximum 3/4 girth measurement is 2165mm

9.6.11 Attachment to mast is identical to 9.5.11

9.6.12 Head restraint is identical to 9.5.12

9.6.13 Tack attachment is identical to 9.5.13.

9.6.14 Clew attachment is identical to 9.5.14

9.6.15 other attachments is identical to 9.5.15

## **10 MAST**

### **10.1 MATERIAL**

10.1.1 The mast shall be of aluminium. It shall be constructed of two sections; an upper and a lower. The cross sectional shape of both sections shall be circular. The upper section shall have an outside diameter of 50mm +/- 0.2mm. The lower section shall have an outside diameter of 60mm +/- 0.2mm. The wall thickness of both sections shall be between 1.5 and 2.0 mm

10.1.2 A reinforcing sleeve may be fitted inside the lower section. This section shall have a wall thickness of between 1.5 and 2.0mm +/- 0.2mm, shall be continuous, without lightening holes and shall extend not more than 1300mm above the base of the lower section.

10.1.3 It is not permissible to use a mast that has a permanent pre-bend where the prebend has been artificially induced with the intention of gaining an advantage.

### **10.2 LENGTH**

10.2.1 Notwithstanding the individual lengths and tolerances given here-under, the overall length of the assembled mast, excluding the end plugs, shall not exceed 5780mm. This shall be the overriding dimension.

10.2.2 The length of the lower section, excluding end plug shall be 2725mm +/- 10mm. It shall be fitted with an end plug at its base. This plug shall not extend more than 7mm below the lower section.

10.2.3 The overall length of the upper section, excluding end plugs but including the jointing section shall be 3385mm +/- 10mm. It shall be fitted with the following sleeves:

At its base, a sleeve extending up the section from the base, 40mm +/- 5mm;

A second sleeve of the same dimension shall be fitted to the top mast, to achieve the dimension of 3040 +/- 5mm from the top of the mast (excluding plug) to the underside of collar.

### **10.3 ATTACHMENTS**

10.3.1 A collar, 20mm +/- 5mm long, shall be fitted around the upper sleeve such that its upper edge is at the same level as the upper edge of the sleeve (+/- 2mm). The overall outside diameter of the collar, as fitted to the mast, shall be 60mm +/- 2mm, excluding rivets. The sleeves and the collar are to be of aluminium but do not have to be continuous around the mast. They are to be securely riveted to the upper mast section. Association supplied plastic collars may be used as an option.

10.3.2 Both ends of the upper mast shall be fitted with end plugs. These plugs shall not individually extend more than 7mm past the ends of the mast.

10.3.3 No attachments, fittings or devices may be used which affect or may affect the position or rake of the mast and nothing may be placed or wedged in the mast cavity other than the mast, except that:

\* to prevent abrasion, a permanently attached collar of uniform thickness not exceeding 3.0mm and not wider than 25mm may be placed around the entire circumference once of either the mast or the mast cavity;

\* the mast or mast cavity may be lubricated;

\* tape or other bushing material may be applied to both the plastic end cap and/or the collar of the upper mast section to ensure a snug fit. The tape or bushing material may only be used on that

portion of the plastic parts that actually slide into the lower section. Taping above the collar to fair the collar into the mast is prohibited.

#### **10.4 GOOSENECK**

10.4.1 The gooseneck shall be as approved by the Association Measurer, in keeping with rule 1.1 (see Appendix C for list).

10.4.2 The gooseneck shall be fitted to the mast such that the centreline of the spigot, when extended at right angles to the mast, is 910mm +/- 10mm above the base of the mast, excluding the mast plug, except as provided in rule 12.2

#### **10.5 FLOTATION**

The upper section of the mast shall float for a minimum of 10 minutes.

#### **10.6 MARKINGS**

10.6.1 Both the upper and lower sections of the mast are to be individually and clearly engraved with the boat number and an alphabetic suffix that shall indicate the latest version of the section.

10.6.2 Replacement sections, when measured, shall be engraved with the next letter of the alphabet.

10.6.3 In Association events, all boats will race with the latest measured sections, unless special dispensation has been obtained, in writing, from the Association Measurer or his delegate.

#### **FOR VANG ATTACHMENT SEE SECTION 8.5**

### **11 BOOM**

#### **11.1 MATERIAL**

11.1.1 The boom shall be of aluminium. The cross sectional shape shall be circular. It shall have an outside diameter of 50mm +/- 0.2mm and a wall thickness of between 1.5mm and 2.0mm.

11.1.2 A reinforcing sleeve may be fitted inside the boom, at the end nearest the mast. This sleeve shall be of circular cross section and shall have a wall thickness of between 1.5 and 2.0 mm +/- 0.2mm. It shall be continuous, without lightening holes, and shall extend not more than 800mm along the boom, from the gooseneck end.

#### **11.2 LENGTH**

The overall length of the boom, measured from the aft face of the mast with the boom in its normal position attached to the gooseneck, shall be 2580mm +/- 10mm; excluding end plug.

#### **11.3 ATTACHMENTS**

11.3.1 The boom shall be fitted with an end plug at the outboard end. This plug shall not extend more than 7mm past the end of the boom.

11.3.2 At the inboard end a plug shall be fitted which shall not extend more than 7mm past the end of the boom. This plug shall be drilled with a hole at its centre. This hole shall accept the gooseneck fitting, approved by the Association Measurer, in keeping with rule 1.1 (see Appendix C for list). No other attachment is permissible.

#### **11.4 MARKINGS**

11.4.1 The boom is to be clearly engraved on its starboard side with the boat's number and an alphabetic suffix that shall indicate the latest version of the boom.

11.4.2 Any replacement boom shall, at the time of measurement be marked with the next letter of the alphabet.

11.4.3 In Association events, all boats will race with the latest measured boom, unless the Association Measurer or his delegate has granted special dispensation.

#### **FOR MAINSHEET BLOCKS ATTACHMENTS SEE SECTION 8.2**

#### **FOR CLEW OUTHAUL ATTACHMENT SEE SECTION 8.4**

#### **FOR VANG ATTACHMENT SEE SECTION 8.5**

## **12 REPAIRS AND REPLACEMENTS**

- 12.1 In the event of damage to hull, deck, centreboard, rudder, mast or boom, necessary repairs may be made thereto without violation of these Rules provided such repairs are made in such a way that the essential shape or other characteristics are not materially affected in keeping with rule 1.1.
- 12.2 In the event of the failure of any fitting, or the replacement of fittings as authorised by these Rules, the same or a replacement thereof shall be replaced in the same position as the fitting which failed, or as close to the same position as is structurally feasible.
- 12.3 No treatment may be applied to the hull of a boat for the intended purpose of improving its performance, but nothing shall prohibit the repainting of a hull which requires refinishing.

## **13 CLOTHING AND EQUIPMENT**

- 13.1 For the purpose of the current IYRU Racing Rules, the total weight of clothing and equipment worn or carried by a helmsman shall not exceed 11 kilograms (24.211 lbs) when wet. In accordance with these rules The Association may:
- a) define the method of weighing clothing or equipment;
  - b) specify the nature of any clothing or equipment that may be used for the purposes of adding weight (herein called “wadding”);
  - c) restrict the weight of clothing that may be worn or carried for the purposes of protection from the elements;
  - d) restrict the use of wadding by competitors of any age or weight or any other circumstances which in the interest of safety or the welfare of the Class it shall consider appropriate.
- 13.2 In the event that a Spiral shall carry a crew, such crew may not carry clothing or equipment (other than a life jacket) except for the purpose of protection from the elements, and any by-law passed pursuant to clause (c) of section 13.1 (a) shall apply.

### **APPENDICES:**

#### **A: ASSOCIATION RECOGNISED SPIRAL BUILDER**

For new boat information contact Simon Hill 02 9449 7183 (office hours)

#### **B: ASSOCIATION RECOGNISED SPIRAL SAILMAKERS**

(Listed in alphabetical order)

BREWER, ROB  
90 Prince Charles Road  
FRENCHS FOREST 2086  
(02)9975 5955

LEE SAILS  
1 Bradley Ave  
MILSONS POINT 2061  
(02)9925 0722

NORTH SAILS (AUST)  
12 Polo Avenue,  
MONA VALE 2103  
(02) 9997-5966

OLYMPIC SAILS  
224 Harbord Road,  
BROOKVALE 2100  
(02)9938 2474

QUANTUM SAIL DESIGN  
5/2 By The Sea Road  
MONA VALE 2103  
(02)9997 3779

SCOTT SAILS (Bret Scott)  
1 Nyrang Road,  
ALLAMBIE HEIGHTS 2100  
(02) 9938-3570

SOUTH COAST SAILS ( Bill Jauncey)  
147 Stafford St.  
GERROA 2534  
(02) 4234 1583

WEBSTER SAILS  
36 Batow Court  
BANKS 2906 (ACT)  
(02 6294 2121

**C: ASSOCIATION RECOGNISED FITTINGS (1/2004)**  
(Order of fittings is not intended to imply preference)

SELF BAILER: RM 179, RF250

BOW FAIRLEAD: WHITE OR BLACK, e,g RF374

RUDDER PINTLES: Association Design  
RUDDER HEAD: Maricat cast alloy

CLEATS: MAINSHEET - CL201, CL219

**BLOCKS:**

Mainsheet: Plain bearing block with sheave diameter between  
30mm and 50mm and plain bearing block with sheave diameter between  
30mm and 50mm with becket.

Traveller: HA278 and HA178 (both with hooks), HA74 or similar  
plain bearing block.

Vang blocks to suit set up  
Outhaul and Downhaul blocks to suit set up

**ATTACHMENT FITTINGS:**

Boom: 2 saddle fittings (RF174) for mainsheet blocks  
1 saddle fitting (RF174) for Vang block attachment  
Outhaul block/saddle fitting to suit set up

**BOTTOM MAST:**

Saddle for Vang block attachment  
Laser gooseneck fitting

**LIST OF FIGURES (these are available as separate files on the Spiral Website)**

- FIGURE 1: Hull layout diagram
- FIGURE 2: Rudder pintles diagram
- FIGURE 3: Rudder measurement diagram
- FIGURE 4: Centreboard measurement diagram
- FIGURE 5: Mast measurement diagram
- FIGURE 6: Boom measurement diagram
- FIGURE 7: Boom Vang diagram
- FIGURE 8: Sail measurement diagram
- FIGURE 9: Small Sail measurement diagram