



## Record of Changes

Date	Description	Version
14 <sup>th</sup> Sept 2020	Added C.6.2	1.7.6
12 <sup>th</sup> Sept 2020	C.5.1 (4) Mandatory radio requirements	1.7.5
2 <sup>nd</sup> Sept 2020	Further refinement to K4.2	1.7.4
1 <sup>st</sup> Sept 2020	Added K4.2	1.7.3
1 <sup>st</sup> Sept 2020	Incorporated feedback / corrections from RW	1.7.2
24 <sup>th</sup> Aug 2020	E5.2: Split 5.2 into 5.2 and 5.3 as the original 5.2 spoke of 'No restrictions to....' And the maximum length <i>is</i> a restriction  E3.1: Reordered allowed construction materials and added Carbon Fibre (CF)	1.7.0
8 <sup>th</sup> April 2019	Moved compass from optional to mandatory equipment. Updated A.6.2 to clarify different number sequence of new traditional and grp boats.	V1.6.3
31 <sup>st</sup> Mar 2019	Principle measurement metric with Imperial in brackets.  Updated C.5.1(b).2 to include electronic flares as per AGM.  Updated C.7.5 to clarify spring or gas vang so as to avoid . making either unintentionally illegal.	V1.6.2
24 <sup>th</sup> Mar 2019	Copied Appendix B from existing rules document into section F  Added C.8.2.c Changed A.5 to include a £1 fee. Added E.4.3.b(2) Changed E.4.3.b(4) to include the word jammer	V1.6
14 <sup>th</sup> March 2019	Inserted rule that specifies the maximum height of the spinnaker hoist as E.3.5 and adjusted the number of the existing E3.x numbers to accommodate.	V1.5
Mar 2019	Modified E.7.2 to require cap shrouds and lower shrouds to be of stainless steel. C.5.1(3) Removed breaking strain requirement from anchor line. Reinstated missing page numbers.	V1.4
	Minor formatting and edits	V1.3
	Updated with feedback from RW	V1.2
	Updated with feedback from AR	V1.1
Jan 2019	V1 – port from Falmouth Sunbeam Rules written by Neil Andrew.	V1

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# INTRODUCTION

This new edition of class rules follows the World Sailing template for Standard Class Rules (SCR) and is closely aligned with the Falmouth Sunbeam class rules.

The rules comprise three Parts: Part I – Administration, Part II – Requirements and Limitations, and Part III – Appendices.

## Part I - Administration

This part is divided into two Sections.

- Section A - General covers how the rules are administered by the rule authority (which is the Class Association), and how the rules are applied to new boats.
- Section B - Boat Eligibility sets out the top-level requirements for a boat to be eligible to take part in racing.

## Part II – Requirements and Limitations

This part is divided into four sections:

- Section C - Conditions for Racing covers rules that are not part of fundamental measurement, for example portable equipment that does not determine whether or not a boat is a *bona fide* Solent Sunbeam and that can only be checked on an ad-hoc basis and not certified.
- Section D - Hull covers fundamental rules that do determine whether a boat is a Solent Sunbeam.
- Section E - Rig
- Section F - Sails contain fundamental rules for those aspects of the design.

## Part III - Appendices

This part contains five sections

- Section G - Hull Specification contains detailed rules on the construction of a Solent Sunbeam.
- Section H -Use of Epoxy for splining and/or coating –
- Section I - GRP construction
- Section J - Sail and Rigging Plans contain schematic diagrams of the two permitted configurations of sails and rigging.
- Section K – Sail measurement

## GLOSSARY OF TERMS

Arch Board	The vertical, flat, solid block of timber that closes the aft end of the hull
Bollard	A sturdy, short vertical post above the foredeck for securing a mooring rope or tow rope.
Breasthook	Shaped, flat timber located beneath the deck, and securing together the shelves, deck and stem.
Cleat	Any device for securing the end of a rope or line under tension, e.g. horned cleat, cam cleat, clam cleat, clutch.
Counter	The shaped solid block of timber on the aft face of the arch board, that completes the lines of the boat.
Covering Board	A finishing plank, either sawn to shape or edge bent, that creates the join between the outer edge of the deck planking and the top strake.
Deadwood	A tertiary structural member formed from a solid block of timber usually binding together named items of the structure, e.g. filling the triangular gap between the keel and the horn timber
ERS sail measurements	MTW – Mainsail Three Quarter Width (called G1 in 2013 rules) MHW – Mainsail Half Width (called G2 in 2013 rules) MQW – Mainsail Quarter Width (called G3 in 2013 rules) HLU – Headsail Luff Length (called L in 2013 rules) HLP – Headsail Luff Perpendicular (called LC in 2013 rules)
Fore Gripe	The centreline timber connecting the keel to the stem.
Frame Clamp	A longitudinal timber fitted beneath the shelf and on the inside of the bent timbers to give support to the hull structure against the loads on the chainplates.
Horn Timber	The centreline timber connecting the keel to the arch board.
Mainpiece	The metal fabrication comprising the curved straps either side of the rudder and the round bar passing through the tube to the tiller.
Mast Bed	The flat timber on top of the deck in way of the mast opening.
Mast Opening	The opening through which the mast passes downwards to the mast step.
Platform	The horizontal surface within the cockpit on which the crew stand.
Rack Chainplate	A longitudinal, vertical piece of stainless steel with multiple holes, either bolted to the original chainplates or part of an inverted-T welded fabrication replacing the original chainplates.
Shelf	The longitudinal timber fitted on the inside of the bent timbers from stem to stern to support the outer ends of the deck beams.
Sprung Deck	Where the deck planks are bent to the curvature of the side of the boat rather than laid fore and aft.
Station Moulds	Cross-sectional formers corresponding to the inside surface of the hull at specified locations along its length, around which longitudinal battens are fixed to create the three-dimensional shape to which the bent timbers fitted during building.
Stem	The centreline timber connecting the fore gripe to the bow.
Taffrail	The flat timber that completes the deck edge across the top of the counter.
Toerail	Vertical timber at either side of the fore deck.
Top Strake	The topmost plank of the hull.

# PART I – ADMINISTRATION

## Section A - General

### A.1 LANGUAGE

A.1.1 The word “shall” is mandatory and the word “may” is permissive.

A.1.2 Except where used in headings, when a term is printed in “**bold**” the definition in the Equipment Rules of Sailing (ERS) applies and when a term is printed in “*italics*” the definition in the Racing Rules of Sailing (RRS) applies.

A.1.3 Use of the term “**class rules**” everywhere refers to **closed class rules**, where the default is that anything not specifically permitted is prohibited. Note, however, that the rules are structured in such a way that different degrees of control can be applied to different aspects of the design. Whilst core components such as the **hull**, **spars**, **standing rigging**, and **sails** are subject to control, the rules permit extensive customisation of **rig** adjustment systems.

### A.2 AUTHORITY AND ADMINISTRATION

A.2.1 The authority for **class rules** is the Class Association acting in accordance with the Solent Sunbeam Class History and Constitution.

A.2.2 Amendment to these **class rules** shall be approved by the Class Association.

A.2.3 Interpretation of **class rules** shall be made by the Class Association.

### A.3 POLICY

A.3.1 It is the policy of the **class rules authority** that **class rules** underpin close, fair, competitive and safe racing between **boats** and **crews** of all ages and control the pursuit of performance advantage through unnecessary expenditure. The rules protect the competitiveness of existing **boats** and sustain this historic and iconic local class for future generations.

### A.4 NEW BOATS

A.4.1 Anyone wishing to build, or have built, a new **boat** shall apply to the Class Association for permission.

### A.5 CLASS FEE

A.5.1 The approved **hull** builder shall pay the Class Association a fee of £1.

### A.6 SAIL NUMBERS

A.6.1 **Sail** numbers shall be issued by the Class Association.

A.6.2 **Sail** numbers shall be issued in consecutive order starting at the next unallocated number, within hull type (i.e. traditional wood construction or GRP)

### A.7 HULL CERTIFICATION AND RE-CERTIFICATION

A.7.1 **Hulls** shall be built under the supervision of the Class Measurer in conjunction with any person, or persons, appointed by the Class Association.

## Section B - Boat Eligibility

For a **boat** to be eligible for *racing*, it shall comply with the rules in this section.

### B.1 CLASS RULES AND CERTIFICATION

B.1.1 The **boat** shall be in compliance with **class rules**, except that:

- (a) From time to time the **class rules authority** may authorise a **boat** temporarily to depart from **class rules** on a trial basis to investigate the pros and cons of a possible rule change.

B.1.2 The **boat's** owner, or owners, shall be members of the Class Association, and shall have paid such subscriptions due under the rules of the Class Association.

B.1.3 A **boat** that has been owned for 12 consecutive months by anyone who for any reason has not been admitted to membership of the Class Association or has not paid subscriptions due under the rules of the association, shall be “out of class”. Any **boat** that is “out of class”

shall only be re-admitted if the Class Captain is satisfied that it complies with **class rules**.

## PART II – REQUIREMENTS AND LIMITATIONS

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The **crew** and **boat** shall comply with the rules in Part II when *racing*. In case of conflict Section C shall prevail.

### Section C - Conditions for Racing

#### C.1 GENERAL

##### C.1.1 Rules

- (a) RRS 54 shall not apply.
- (b) The ERS Part I - Use of Equipment shall apply.
  - (1) ERS B.1.1(a), B.1.2 and B1.1.3 do not apply.

##### C.1.2 Paid Hands

- (a) One paid hand is permitted but is not permitted to take the helm when racing, save to accommodate minor indisposition of the helm.

C.1.3 The Class Captain or his deputy may inspect a boat at any time.

#### C.2 CREW

C.2.1 The helm shall be a Full, Associate or Honorary Life Member of the Class Association. This **class rule** may be waived by the Class Captain, or another officer of the association in his absence, by prior request.

- (a) The helm shall not be a paid hand in the employ of the owner in any **boat**.

C.2.2 With the single exception of the Nim Ellam race, all **boats** shall have a minimum of two **crew**.

#### C.3 PERSONAL EQUIPMENT

##### C.3.1 MANDATORY

- (a) The **boat** shall be equipped with:
  - (1) One **personal flotation device** for each **crew** member to the minimum standard ISO 12402-3 (CE 150 Newtons) or equivalent.

#### C.4 ADVERTISING

C.4.1 Maker's marks on **hull**, **spars**, equipment and **sails**, and advertising required by event organisers, are permitted.

#### C.5 PORTABLE EQUIPMENT

##### C.5.1 MANDATORY

###### (a) FOR USE WHEN RACING

- (1) Internal ballast weighing 113.4kg (250lbs) (+/-2%). Each item of ballast shall be stamped, or legibly and permanently marked, with its own weight and the sail number of the **boat**.
- (2) Two buckets of minimum capacity 9L with robust handles and lanyards.
- (3) One anchor, or anchor and chain, weighing a maximum of 15.9kg and a minimum of 9.1kg (Fisherman type) or 6.4kg (Stockless type), and with not less than 50m of line.
- (4) A serviceable marine VHF radio shall be carried for use in accordance with relevant Sailing Instructions or in an emergency.
- (5) One non-inflatable lifebuoy ready for immediate use.
- (6) Heaving line not less than 6mm diameter, 15-25m long, readily accessible from the cockpit.

- (7) Strong, sharp knife, sheathed and restrained, and readily accessible from the cockpit.
- (8) Each boat shall carry a waterproof first aid pack with instructions.
- (9) Electronic or mechanical magnetic compass displaying solely the **boat's** heading.

(b) NOT FOR USE WHEN RACING

- (1) At least one oar and rowlock, or at least two paddles, capable of propelling the **boat** adequately.
- (2) Except where the Racing Instructions require otherwise, for example Cowes Week, each boat shall carry at least two in-date red hand flares and two orange smoke flares. Alternatively, one or more electronic flares shall be carried.
- (3) A suitable tow rope.

## C.5.2 OPTIONAL

(a) FOR USE WHEN RACING

- (1) One sounding rod of maximum diameter 13mm (½ins) and maximum length 1083mm (6ft).
- (2) One electronic depth sounder not capable of forward sounding together with a small battery and a spare.
- (3) Electronic or mechanical timing devices.
- (4) Tool box with tools.
- (5) Bailer.
- (6) Electric bilge pump with a small battery and spare small battery.
- (7) A boom crutch, paddle or strut that may be used to hold out the boom on a **run**.

(b) NOT FOR USE WHEN RACING

- (1) Electronic navigation devices.
- (2) One outboard engine and necessary mounting arrangements, the total weight of which shall be included in the weight of **inside ballast** (see **class rule C.5.1(a)(1)**). This does not apply to an outboard that is stowed, along with a battery if applicable, at waterline height on purpose made cradles.
- (3) Mobile telephones and other mobile communication devices.
- (4) Boat hook.
- (5) Scrubbing brush.
- (6) One pair of legs complete with fittings.

## C.6 HULL

### C.6.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) The **hull** may be altered only as permitted by these **class rules**.

### C.6.2 LIMITATION

- (a) The underwater hull may only be cleaned (scrubbed) in accordance with a program laid down by the Class. This limitation does not restrict the cleaning of the hull at any time by means of a brush hand operated from the deck or cockpit of the boat.
- (b) No boat shall be taken ashore within 14 days of a major regatta (as determined from time to time by the Class Captain) save for the purpose of carrying out necessary repair work authorised by the Class Captain or for cleaning of the underwater hull and/or antifouling in accordance with the program laid down by the Class.

## C.7 RIG

### C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) The **rig** may be altered only as permitted by these **class rules**.

### C.7.2 LIMITATION

- (a) Only a mast for which a valid measurement certificate has been issued shall be used.

### C.7.3 MAST

- (a) The intersection of the fore side of the **spar** and the upper surface of the deck to the fore side of the stem at deck level shall not be less than 2591mm (8ft 6ins).
- (b) The intersection of the aft side of the **spar** and the upper surface of the deck shall not be aft of the fore end of the cockpit coaming.
- (c) The position of the **mast** heel shall not be moved.

### C.7.4 STANDING RIGGING

- (a) Rigging screws on cap and lower **shrouds** shall not be adjusted.
- (b) **Spreader** angle and length shall not be adjusted.

### C.7.5 RUNNING RIGGING

- (a) A solid gas or spring VANG may be used to support the boom when sailing.

## C.8 SAILS

### C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) **Sails** may be altered only as permitted by these **class rules**.

### C.8.2 LIMITATION

- (a) Only **sails** for which a valid measurement certificate has been issued shall be used.
- (b) One spare **mainsail**, one spare **headsail** and one spare **spinnaker** may be carried aboard.
- (c) No more than one **spinnaker** may be used in any one race unless necessary due to damage to the first **spinnaker** to be set.
- (d) Except as provided below a **boat** shall not buy or acquire more than one **mainsail** and one **headsail** per calendar year, but no more than two **mainsails** in every three-year period.
  - (1) Newly built **boats** may buy or acquire two sets of **sails** in the first year.
  - (2) The Class Captain may allow additional purchases or acquisitions in exceptional circumstances.
  - (3) The relevant date shall be the Class Measurer's date as first marked on the sail.
  - (4) An owner or syndicate may acquire an additional **mainsail** or **headsail** for every eighty races recorded after the date of measurement of the most recent **sail** of that type.

## Section D - Hull

### D.1 CONSTRUCTION

D.1.1 All **boats** shall be built using either:

- (a) Traditional techniques in accordance with the original design of Alfred Westmacott conforming with the specification at Section G and Class Association official drawings. The shapes of station moulds for building new boats shall be traced from Polyester or Mylar film official patterns issued by the Class Association, except that Mylor Yacht Harbour may continue to use its existing moulds until they need replacing.
- (b) As per (a) but splined and/or epoxy coated in accordance with Section H
- (c) GRP in accordance with the specification at Section I.

### D.2 MODIFICATIONS, MAINTENANCE AND REPAIR

D.2.1 Internal strengthening approved in writing by the Class Captain and carried out under the supervision of the Class Measurer, is permitted. Re-arrangement of benches, seats and platform are not considered to be structural alterations. The following alterations have been previously approved:

- (d) Frame clamps of Pine, sized to strengthen chainplate area, efficiently secured to bent timbers and hull planking.
- (e) Crew side seats or thwart that are not rigidly fixed so as to cause hull strengthening or stiffening.
- (f) A single, solid, centreline plate made of stainless steel located fixed between the underside of the breasthook and the top of the stem beneath, efficiently secured to the headsail tack fitting above deck.
- (g) Beam, of Teak or Iroko, to support mainsheet traveller track, efficiently secured to the primary hull structure.
- (h) Battens, of Teak or Iroko, attached to bent timbers on either side of the platform.
- (i) Internal doubling to maintain the watertight integrity of the hull.
- (j) Frame clamps beneath the side deck at both sides of the cockpit, efficiently secured to bent timbers and hull planking, to carry below-deck **running backstay** adjustment systems for boats wishing to compete in Falmouth
- (k) Stainless steel struts below deck between the chain plates to take out the compression load imposed by the mast shrouds.

D.2.2 Structural repairs, due to accident or otherwise, shall be carried out under the supervision of the Class Measurer, and shall, as far as possible conform to the original design and specification as amended by **class rules**.

D.2.3 Glues may only be used for:

- (a) Re-establishing the integrity of individual timbers, except that it is not permissible to glue together separate timbers that were not so joined in the original design, nor is it permissible to apply glue to the outside surface of re-established timbers other than such as may arise from (d) below.
- (b) Permanently repairing plank edges using good quality Pitch Pine. The abutting edges of the plank and replacement timber may be glued together using a waterproof glue. An epoxy resin type glue may be used for this purpose. Any such glue shall not be left on the outer or inner surfaces of the repaired plank. Where the edges of the two adjoining planks both need repair over the entire length of each plank, the edge of each plank may be cut back uniformly along its length. In such case, only the edge of one plank need have new timber added to reduce the gap between the planks to a caulkable width, so long as the overall number of planks is not reduced. Any seam so reformed shall be caulked in accordance with the caulking specification as stated in Part III, Section G.

- (c) Scarphing together sections of hull plank where replacement of the plank over its entire length is not appropriate.
- (d) Small scale repairs as a temporary expedient during a sailing season, provided the glue is removed before the start of the subsequent season.
- (e) Construction of laminated wood components as stated in Part III, Section G.
- (f) Fitting a permitted covering to the upper surface of the deck.

D.2.4 Seams may be re-caulked in accordance with the specifications as stated in Part III, Section G.

D.2.5 With the written agreement of the Class Captain in conjunction with the Class Measurer, the seams between the planks may be filled by a Spruce spline glued on both sides.

- (a) The spline shall have a maximum thickness of 8mm (5/16ins) and a maximum depth of 9mm (23/64ins).
- (b) The glue used shall be a single-pack polyurethane type.
- (c) Permission for splining shall be conditional upon the submission to the Class Captain of a current written structural survey by a professionally qualified marine surveyor. Surveys dated more than 12 months prior to submission will not be considered current.
- (d) Recommendations made by the surveyor concerning the integrity of the hull and deck structure shall either have been previously carried out to the satisfaction of the Class Measurer or shall form part of the work programme to include splining.
- (e) The owner shall provide written assurance of the work programme to be commissioned.
- (f) The work programme shall be supervised and approved upon completion by the Class Measurer. The written approval will be copied to the Class Captain for inclusion in class records.

D.2.6 Fillers may be used to make good cosmetic defects before re-painting.

### D.3 FITTINGS

#### D.3.1 MANDATORY

- (a) **Forestay** attachment.
- (b) Chainplates.
  - (1) Rack chainplates are permitted.
- (c) **Mast** step.
- (d) **Backstay** attachment.
- (e) One or more bilge pumps with associated overboard discharge hoses shall be fitted. At least one pump shall be manually operated.

#### D.3.2 OPTIONAL

- (a) Bow fairlead for mooring.
- (b) Mooring cleats on fore deck and after deck.
- (c) Ensign staff holder.
- (d) Fastening points for a cover.
- (e) Tensioned, flexible wires and/or rods to tie the **mast** step to the chainplates and to the **headsail tack** fitting.

## Section E - Rig

### E.1 ARRANGEMENT

E.1.1 The Sunbeam is a **Sloop**. The rig comprises a **mast**, **mainsail boom**, spinnaker pole, **standing rigging** and **running rigging**.

(a) The **mainsail boom** shall swivel independently of the **mast**.

E.1.2 Except as amended by these **class rules**, the **rig** shall conform to either the original or 1997 rigging plans (see Part III, Section J) but not a mixture of both.

E.1.3 The running **backstays** as shown on the 1997 Rigging Plan are not permitted.

### E.2 GENERAL

#### E.2.1 RULES

(a) The **spars** and their fittings shall comply with the **class rules** in force at the time of **certification** of the **spar**.

(b) The **standing** and **running rigging** shall comply with **class rules**.

#### E.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) **Spars** may be altered only as permitted by these **class rules**.

(b) Routine maintenance such as repairing wear and tear and damage, and replacing fittings is permitted without re-measurement and re-**certification**.

#### E.2.3 CERTIFICATION

(a) The measurer appointed by the Class Association shall **certify spars** as required by **class rules**.

(b) No **certification** of standing and running **rigging** is required.

#### E.2.4 DEFINITIONS

(a) The **mast datum point** is the vertical position on the **mast** level with the upper surface of the deck described in **class rule** G19.1.

(1) The position of the **mast datum point** shall be indicated by the bottom edge of a contrasting colour band permanently marked on the **mast**.

#### E.2.5 MANUFACTURER

(a) No licence is required.

### E.3 MAST

E.3.1 The **mast** shall be constructed from either wood, aluminium alloy or carbon fibre.

(a) No restriction is placed upon the cross-section of the **mast**, except that an aluminium alloy extrusion shall include an integral sail groove.

(b) A permanently bent **mast** is not permitted.

E.3.2 The distance from the centre of the **mainsail halyard** sheave pin to the **mast datum point** shall not exceed 9906mm (32ft 6ins).

#### E.3.3 FITTINGS

(a) MANDATORY

(1) **Backstay** crane (except if following the original rigging plan).

(2) **Forestay** attachment.

(3) **Topmast forestay** attachment (if following the original rigging plan).

(4) **Shroud** hook terminals or tangs.

(5) One set of fixed **spreaders**.

(6) Jumper stay struts and hook terminals or tangs (except if following the original rigging plan or where mast is constructed from carbon fibre).

(7) **Mainsail halyard** sheave.

(8) **Headsail halyard** sheave.

(9) **Boom** gooseneck.

- (10) **Spinnaker halyard** sheave.
- (11) **Spinnaker halyard** fairlead
- (12) **Spinnaker pole** attachment.
- (13) **Spinnaker pole** uphaul and downhaul sheaves.
- (14) Heel fitting with sheaves for **mainsail** and **headsail halyards**.
- (15) Vang fitting
- (b) OPTIONAL
  - (1) Mechanical wind indicator.
  - (2) Compass bracket.
  - (3) Attachment(s) for jumper stay tension adjustment system.
  - (4) Attachments, sheaves and blocks for cleating and adjusting the
    - i **Mainsail** and **foresail halyards**.
    - ii **Spinnaker pole** uphaul and downhaul.
  - (5) **Mast** ram attachment.
  - (6) Kitty pole attachment for boats wishing to compete in Falmouth.
  - (7) **Running backstay** tangs for boats wishing to compete in Falmouth.

E.3.4 The distance from the **mast datum point** to the **forestay rigging point** shall not exceed 7125mm (23ft 4½ins) or 7190mm where the **mast** is constructed from carbon fibre.

E.3.5 It shall not be possible to hoist the **spinnaker** to a point higher than 7239mm (23ft 9ins) from the **mast datum point**.

E.3.6 New **masts** shall be weighed prior to shortening for individual bury and shall be a length of 10800mm (35ft 5ins) or 10533mm when the **mast** is constructed from carbon fibre, measured from the centre of the **mainsail halyard** sheave pin to the lower end of the aluminium extrusion or carbon fibre tube with the heel fitting removed.

- (a) Only the following items and fittings shall be fixed in their positions:
  - (1) Jumper struts (except if following the original rigging plan or the mast is constructed from carbon fibre)
  - (2) **Spreader** root fittings and **spreaders**
  - (3) **Halyard** sheaves and pins, including integral **forestay** attachment
  - (4) **Running backstay** attachments
  - (5) Messenger cords not exceeding 2mm diameter
  - (6) Spinnaker halyard fairleads

E.3.7 The total weight of the **mast**, in the condition specified above, shall not be less than 25.42kg (56lbs) for aluminium alloy and wood construction or 26kg where mast is constructed from carbon fibre. The centre of gravity shall not be lower than 4300mm (14ft 1¾ins) above the **mast datum point** for aluminium alloy and wood construction, or 4380mm where the mast is constructed from carbon fibre.

E.3.8 In the event of a **mast** requiring correction, corrector weights shall be applied either at the masthead inside the **backstay** crane or inside the **spreaders**.

#### E.3.9 MEASUREMENT CERTIFICATE

- (a) All check points and measurements taken for the purpose of certification shall be stated on the **mast** measurement certificate. All measurements shall be shown, including if 'zero'.
- (b) The Class Measurer or appointed representative of a class approved supplier shall check and measure all new **masts** and shall sign and date all new **mast** measurement certificates. The Class Measurer shall from time to time check any mast certified by the appointed representative and if any material discrepancies are found the Class may withdraw the right of the supplier and appointed representative to certify new masts.

The appointed representative shall issue the certificate to the owner and copy it electronically to the Class Measurer.

- (c) If any **mast** is subsequently altered or repaired, whereby a check point or measurement is changed, then a new **mast** measurement certificate is required.

#### **E.4 BOOM**

E.4.1 The **boom** shall be constructed from either aluminium alloy or wood.

E.4.2 No restriction is placed upon the length, weight or cross-section of the **boom**, except that it shall be able to pass through a 254mm (10ins) diameter ring, and that an aluminium alloy extrusion shall include an integral sail groove.

#### **E.4.3 FITTINGS**

##### **(a) MANDATORY**

- (1) Attachments for mainsheet blocks.
- (2) **Clew** outhaul attachment and sheaves/blocks.
- (3) Vang attachment.
- (4) Gooseneck attachment.

##### **(b) OPTIONAL**

- (1) Wire or rope strops, or webbing straps, for mainsheet blocks.
- (2) Attachments for supporting the **spinnaker** pole.
- (3) **Clew** outhaul cleat.
- (4) Reefing line attachments, sheaves/blocks and jammers.
- (5) Vang cleat(s).

#### **E.5 SPINNAKER POLE**

E5.1 The spinnaker pole shall be constructed from either aluminium alloy, or wood or synthetic fibre and resin.

E5.2 The length of the spinnaker pole and fittings shall not exceed 3124mm (10ft 3ins).

E5.3 There is no restriction on:

- (a) The weight or cross-section of the spinnaker pole.
- (b) The methods of attaching the spinnaker pole to the mast and to the spinnaker.

#### **E.6 JOCKEY POLE**

E6.1 The use of a jockey pole as a boom for the Spinnaker guy is permitted.

E6.2 The inboard end of the jockey pole must be attached to the mast.

E6.3 The length of the jockey pole shall not exceed 1422mm (4ft 8ins)

#### **E.7 STANDING RIGGING**

E.7.1 Standing rigging comprises forestay, cap shrouds, lower shrouds, and backstay (except that a backstay is not permitted if following the original rigging plan).

E.7.2 The cap **shrouds** and lower **shrouds** shall be of stainless-steel wire. The **forestay** and **backstay** may be either stainless steel wire or synthetic rope.

#### **E.7.3 FITTINGS**

##### **(a) MANDATORY**

- (1) **Shroud** rigging screw.
- (2) **Forestay/backstay** rope tails, sheaves/blocks and cleats for adjusting tension.  
The backstay may be led below deck.

#### **E.8 RUNNING RIGGING**

E.8.1 **Running rigging** shall be manually controlled using lines/ropes/wires, levers, winches and/or block and tackle, including "muscle boxes", and cleats

E.8.2 There is no restriction on line/rope materials and the arrangement of pulleys, sheaves, blocks, levers, winches, cleats, and mounting and backing pads.

### E.8.3 ELEMENTS

#### (a) MANDATORY

- (1) Jumper stays (except not permitted if following the original rigging plan).
- (2) **Mainsail halyard.**
- (3) **Mainsail sheet.**
- (4) Vang.
- (5) **Headsail halyard.**
- (6) **Headsail sheets.**
- (7) **Headsail tack** downhaul, which may be led below deck.
- (8) Spinnaker pole sheets and guys.
- (9) Spinnaker pole downhaul and uphaul.

#### (b) OPTIONAL

- (1) **Mainsail outhaul** adjustment.
- (2) **Mainsail** Cunningham adjustment.
- (3) **Mainsail sheet** traveller car adjustment.
- (4) **Mainsail halyard** adjustment.
- (5) **Mainsail** reefing line(s).
- (6) **Headsail halyard** adjustment.
- (7) **Headsail luff** tension adjustment.
- (8) **Headsail** Barber hauler adjustments.
- (9) **Headsail** sheet traveller car adjustment.
- (10) **Headsail** furler and control line.
- (11) **Mast** ram to control movement of the **mast** in the **mast** opening.
- (12) **Headsail** and **mainsail leech** adjustment control lines.

## Section F - Sails

### F.1 GENERAL

#### F.1.1 RULES

- (a) **Sails** shall comply with the **class rules** in force at the time of **certification**.

#### F.1.2 CERTIFICATION

- (a) The measurer appointed by the Class Association or the appointed representative of an approved sailmaker shall **certify sails** in the port side of the **clew** as required by **class rules**.

#### F.1.3 SAILMAKER

- (a) No licence is required.
- (b) The weight in g/m<sup>2</sup> of the **body of the sail** shall be indelibly marked near the **head point** by the sailmaker together with the date and his signature or stamp.

### F.2 SAIL AREA

F.2.1 The combined area of **mainsail** and **headsail** together shall not exceed 300ft<sup>2</sup> (27.87m<sup>2</sup>).

F.2.2 The area of the **headsail** shall not exceed 100ft<sup>2</sup> (9.29m<sup>2</sup>).

F.2.3 The area of the **Spinnaker** shall not exceed 155 ft<sup>2</sup> (14.40m<sup>2</sup>).

### F.3 SAIL COLOUR

- (a) The **mainsail** and headsail shall be white.
- (b) There is no restriction on the colour(s) of the **Spinnaker**.
- (c) There is no restriction on the colours of identification markings, stitching, **sail** shape indicator stripes, and tell tales.

### F.4 MAINSAIL

#### F.4.1 IDENTIFICATION

- (a) The class insignia is the letter "V".
- (b) The class insignia and sail number allocated by the Class Association shall be carried on the **mainsail** conforming with the requirements of Appendix G of the RRS. The class insignia shall be the same size as the sail number.

#### F.4.2 MATERIALS

- (a) The **woven ply** fibres shall consist of Polyester or Cotton.
- (b) **Stiffening** shall consist of:
- (1) A headboard that shall not exceed 152mm measured perpendicular to the **luff**.
  - (2) Four battens that shall divide the **leech** into five equal parts with a tolerance of + or 152mm. The top and lower battens shall not exceed 914mm in length and the intermediate battens shall not exceed 1219mm in length. Battens shall not exceed 51mm in width. The top and intermediate battens shall be perpendicular to the **leech** of the sail.
- (c) **Sail** reinforcement is permitted at the corners of the sail and at Cunningham and reefing eyes adjacent to the **luff** and **leech**.
- (1) This reinforcement shall be within 457mm of the relevant corner point, Cunningham eye or reefing eye.
  - (2) Other reinforcement, as a continuation of the **stiffening** as specified above, comprising not more than two additional layers of the same cloth as the **body of the sail** is permitted, provided that it can be folded flat in any direction without damaging the fibres, and that it does not extend more than 1295mm measured from the relevant corner point, Cunningham eye or reefing eye, and is not stiffened by the addition of bonding agents or close stitching consisting of parallel, or nearly

parallel, lines of stitching, closer than 38mm apart, or other stiffening. (However, stitching for the purpose of sewing the edges of reinforcing patches is permitted).

#### F.4.3 CONSTRUCTION

- (a) The construction shall be **soft sail, single ply sail**.
- (b) The **body of the sail** shall consist of the same **woven ply** throughout. The weight of the **woven ply** shall not exceed 310g/m<sup>2</sup> nor be less than 215g/m<sup>2</sup>.
- (c) The **sail** shall have four **batten pockets** in the **leech**.
- (d) The **sail** shall be attached to the **boom** by a **foot** bolt rope.
  - (1) The **foot** bolt rope shall be continuous and shall end not further than 175mm from the **tack point** and 200mm from the **clew point** respectively.
- (e) The following are permitted: stitching, glues, tapes, bolt ropes, corner eyes, headboard with fixings, Cunningham eye or pulley, **batten pocket patches**, **batten pocket** elastic, **batten pocket** end caps, **clew** boom slide, **leech** line with cleat, **windows**, tell tales, **sail** shape indicator stripes, slits near the **boom** for webbing straps, and items as permitted or prescribed by other **class rules**.
  - (1) The total area of **windows** in a **mainsail** shall not exceed 0.28m<sup>2</sup>. **Windows** shall not be placed closer than 152mm to the **luff**, **leech**, or **foot** of the **sail** and the material shall be a single thickness of clear film of a weight to suit the weight of cloth of the **sail**. The **window** material may have an internal opaque reinforcement spaced so as not to impair visibility.
- (f) The **sail** may have one row of slab/jiffy reefing lines at a minimum height of 914mm above the centres of the **tack and clew** cringles measured to the centres of the said reefing cringles.

#### F.4.4 PROFILE

- (a) The **leech length** shall not exceed 77% of the sum of the **luff length** and the **foot length**.

### F.5 HEADSAIL

#### F.5.1 MATERIALS

- (a) The **woven ply** fibres shall consist of Polyester or Cotton.
- (b) **Stiffening** shall consist of not more than 3 battens which shall be positioned at any of the points that divide the **leech** into four equal parts with a tolerance of + or - 152mm. Battens shall not exceed 305mm horizontally into the sail from the **leech**, but, if roller furling is fitted, may be up to 990mm in length measured parallel to the **luff**. Battens shall not exceed 51mm in width.
- (c) **Sail** reinforcement is permitted at the corners of the sail and at a Cunningham eye adjacent to the **luff**.
  - (1) This reinforcement shall be within 381mm of the relevant corner point or Cunningham eye.
  - (2) Other reinforcement, as a continuation of the stiffening as specified above, comprising not more than two additional layers of the same cloth as the **body of the sail** is permitted, provided that it can be folded flat in any direction without damaging the fibres, and that it does not extend more than 1117mm measured from the relevant corner point or Cunningham eye, and is not stiffened by the addition of bonding agents or close stitching consisting of parallel, or nearly parallel, lines of stitching, closer than 38mm apart, or other stiffening. (However, stitching for the purpose of sewing the edges of reinforcing patches is permitted).

## F.5.2 CONSTRUCTION

- (a) The construction shall be **soft sail, single woven ply** sail.
- (b) The **body of the sail** shall consist of the same **woven ply** throughout. The weight of the **woven ply** shall not exceed 310g/m<sup>2</sup> nor be less than 215g/m<sup>2</sup>.
- (c) The width of the cloth at the head of the sail shall not exceed 51mm measured perpendicular to the line of the luff.
- (d) The **sail** shall have one **batten pocket** in the **leech** for each batten.
- (e) The **leech** shall not extend beyond a straight line from the **aft head point** to the **clew point**.
  - (1) When checking the **leech** shape the **sail** shall be flat in the area being checked.
- (f) The **foot** round of the sail shall either be straight or a fair curve about its centre point extended through the **tack point** and **clew point**.
- (g) The following are permitted: luff wire/rope, stitching, glues, tapes, corner eyes, **Cunningham eye, batten pocket patches, batten pocket elastic, batten pocket end caps**, leech line with cleat, **windows**, tell tales, **sail** shape indicator stripes, and items as permitted or prescribed by other **class rules**.
  - (1) Corner eyes used in the foresail shall not exceed an outside diameter of 64mm.
  - (2) The total area of **windows** in a **headsail** shall not exceed 0.28m<sup>2</sup>. **Windows** shall not be placed closer than 152mm to the **luff, leech, or foot** of the sail and the material shall be a single thickness of clear film of a weight to suit the weight of cloth of the **sail**. The **window** material may have an internal opaque reinforcement spaced so as not to impair visibility.

## F.6 SPINNAKER

### F.6.1 IDENTIFICATION

- (a) The sail number allocated by the Class Association shall be carried on the **spinnaker** conforming with the requirements of Appendix G of the RRS.

### F.6.2 MATERIALS

- (a) Construction shall be of nylon or Polyester of weight not less than 32 grams per sq. metre

### F.6.3 CONSTRUCTION

- (a) The construction shall be: **Soft sail, single ply sail**.
- (b) The **body of the sail, primary reinforcement, and secondary reinforcement** shall consist of **woven ply**. The **ply** fibres shall be of polyester or polyamide.
- (c) The **sail** shall be symmetrical.
- (d) The following are permitted: Stitching, glues, tapes, corner eyes, recovery line eyes, tell tales, sailmaker labels, sail identification

## PART III – APPENDICES

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The rules in Part III are **closed class rules**. Measurement shall be carried out in accordance with the ERS except where varied in this Part.

### Section G - Hull Specification

#### G.1 Principal Dimensions

<b>Hull Length</b>	8.05m (26ft 5ins)
<b>Hull Waterline Length</b>	5.33m (17ft 6ins)
<b>Hull Beam</b>	1.83m (6ft 0ins)
<b>Hull Draft</b>	1.14m (3ft 9ins)

#### G.2 Official Drawings

G.2.1 The following official drawings shall be used:

- (a) Construction Plan, reference number SC 1B, December 1966.  
(drawn up by M J Wraight from lines and information taken from published plans dated March 1923)
- (b) Lofted Lines Plan, unreferenced, November 2005.  
(drawn up by N J Adams using CAD and the un-lofted table of offsets lifted by W J Wraight in 1966 from a representative Solent Sunbeam)

#### G.3 Laminations

G.3.1 Laminated Afrormosia, Iroko or Oak may be used as an alternative in all cases where grown Oak or Oak grown to form is specified.

#### G.4 Stainless Steel

G.4.1 Stainless Steel is acceptable as an alternative where Galvanised Steel or Gunmetal is specified.

#### G.5 Keel

G.5.1 To be of English Elm, moulded 102mm (4ins) to 140mm (5½ins) and sided as required to lines of boat.

#### G.6 Fore Gripe

G.6.1 To be of Oak, sided 102mm (4ins) to 127mm (5ins), and efficiently fastened to the main keel.

#### G.7 Stem

G.7.1 To be of Oak, grown to form, sided 76mm (3ins) at head to 102mm (4ins) at heel and moulded as required, efficiently fastened to fore gripe.

#### G.8 Horn Timber

G.8.1 To be of Oak, sided 102mm (4ins), moulded as required and efficiently fastened to main keel.

#### G.9 Arch Board

G.9.1 To be of well-seasoned Mahogany.

#### G.10 Counter

G.10.1 To be of well-seasoned Mahogany, efficiently constructed on horn timber and arch board.

#### G.11 Deadwoods

G.11.1 To be of Oak, sided as required and securely fastened through keel and stem, long enough to take mast step and bollard.

#### G.12 Floors

G.12.1 To be of English grown Oak, sided 63mm (2½ins), moulded as required to take keel bolts and efficiently fastened to planking.

### **G.13 Bent Timbers**

G.13.1 To be of American Elm (or Oak), moulded 19mm ( $\frac{3}{4}$  ins) and sided 32mm ( $1\frac{1}{4}$  ins), spaced 152mm (6 ins) centre to centre, and fastened to planking with clenched nails.

### **G.14 Shelf**

G.14.1 To be of Pitch Pine, 83mm ( $3\frac{1}{4}$  ins) by 38mm ( $1\frac{1}{2}$  ins). Finished, tapered at ends, worked fore and aft and through-fastened to frames and planking.

### **G.15 Planking**

G.15.1 To be of Pitch Pine 16mm ( $\frac{5}{8}$  ins) thickness, finished in one length where possible. Hollow to be worked round top strake for gold line or other suitable finish.

### **G.16 Knees**

G.16.1 To be of Oak, hanging and lodging knees to main beams and arch board.

### **G.17 Breasthook**

G.17.1 To be of Oak, grown to form.

### **G.18 Beams**

G.18.1 To be of Pine, 76mm (3 ins) x 38mm ( $1\frac{1}{2}$  ins) and spaced about 380mm (1ft 3ins), efficiently secured to shelf at ends and with necessary fore and aft carlines and mast partners.

### **G.19 Deck**

G.19.1 The following alternative deck constructions are permitted:

- (a) Of best Pine 16mm ( $\frac{5}{8}$  ins) "finished" thickness, tongued and grooved, securely fastened to beams.
  - (1) The tongued and grooved shall not be edge-glued or glued to the beams.
  - (2) The deck shall be covered with canvas or other suitable material, including FRP.
- (b) Sprung laid decks in Yellow Pine or Teak securely fastened to the beams.
  - (1) The strips of timber making up the sprung deck may be tongued and grooved, but shall not be edge-glued or glued to the beams.
  - (2) These strips shall be at least 19mm ( $\frac{3}{4}$  ins) "finished" thickness.
  - (3) The weight of the deck shall be equal to or greater than the original deck specified in (a) above.
- (c) Laid deck on tongued and grooved best Pine.
  - (1) The tongued and grooved shall be 16mm ( $\frac{5}{8}$  ins) "finished" thickness, securely fastened to the beams.
  - (2) The tongued and grooved shall not be edge-glued or glued to the beams.
  - (3) The strips of timber making up the laid deck shall be Yellow Pine or Teak at least 6.5mm ( $\frac{1}{4}$  ins) "finished" thickness and may be face-glued but not edge-glued.
  - (4) The total weight of the deck must be equal to or greater than the original deck.

G.19.2 Other existing deck constructions will remain "In Class" for the duration of the life of the deck. Replacement decks must be in accordance with one of the approved constructions given above.

### **G.20 Covering Board, Taffrail, Toe Rails and Mast Bed**

G.20.1 To be of Teak.

### **G.21 Coamings, Beading, Benches, Aft Bulkhead and Hatch**

G.21.1 To be of Teak

### **G.22 Platform**

G.22.1 To be of Teak with gratings

### **G.23 External Ballast Keel**

G.23.1 To be of lead, of nominal weight 864kg (17cwt), efficiently bolted to the underside of the keel with bolts of sufficient strength.

## **G.24 Rudder and Tube**

G.24.1 Mainpiece of rudder to be of Galvanised Steel or Gunmetal, blade to be of English Elm or Mahogany 38mm (1½ ins) thick tapered to 19mm (¾ ins) measured maximum 51mm (2 ins) from the trailing edge, and well bolted to mainpiece; tube of Galvanised Steel, well finished with metal flange and Teak chock on deck. The blade may be laminated from solid wood, the section of which before tapering must not be less than 38mm (1½ ins) square, glued vertically fore and aft.

## **G.25 Tiller**

G.25.1 To be of Ash, fitted with Galvanised Steel or Gunmetal straps.

G.25.2 Existing tillers not of Ash will remain "In Class" for the duration of the life of the tiller. Replacement tillers shall be of Ash as specified.

## **G.26 Fastenings**

G.26.1 To be of copper and metal throughout.

## **G.27 Caulking**

G.27.1 All seams to be caulked with best cotton and stopped with red lead putty or equivalent flexible waterproof stopping such as Sikaflex.

## **G.28 Painting**

G.28.1 Topsides and bottom to be well rubbed down and cleaned off to receive sufficient priming and flattening, and to be finished in enamel and anti-fouling, the hollow worked round the top strake to be gilded or finished in another suitable manner.

G.28.2 The colours of the boats shall be optional. Painting shall be in a traditional style to preserve the dignity of the class and shall be subject to the approval of the Class Captain.

G.28.3 Inside, below platform to have three coats of suitable bilge paint. All deck work and inside above platform to be well rubbed down and receive three coats of varnish or paint.

G.28.4 Teak oil may be used on platform and benches.

## **G.29 Sling Bolts (optional)**

G.29.1 One pair of metal sling bolts securely fastened.

## **Section H – Use of epoxy for splining and / or coating**

### **H.1 General**

- H.1.1 Epoxy can be used as an external water proof coating to the hull only when the boat's planking seams have been fully splined.
- H.1.2 The external epoxy waterproof coating shall not include a glass scrim layer.
- H.1.3 Epoxy coating to the interior of the hull is not permitted.
- H.1.4 Epoxy caulking in place of wooden splines is not permitted.
- H.1.5 "Coppercoat" or similar copper impregnated epoxy antifouling protection is permitted on hulls that have been fully splined.

## **Section I – GRP Construction**

### **I.1 General**

- I.1.1 New Solent Fleet boats may be constructed with a GRP hull, deck, cockpit platform, helmsman seat boxes, rudder, and bulkheads by a Solent Sunbeam Class approved builder using only the hull, deck, keel, rudder and bulkhead moulds made by A M Structures Ltd of Sandown, IOW in 2010 that have been approved by the Class Measurer.
- I.1.2 The GRP lay-up specification and structural and other detailing shall be in accordance with naval architect Theo Rye's 2010 plans and specifications revision 6. Except as specified therein all lay-up weight shall be evenly distributed throughout the hull and the deck.
- I.1.3 Constructors of GRP boats shall observe both the letter and the spirit of the Sunbeam Class Rules supported by reference to established good practice, for example as with the recently constructed V46 Spray and V61 Betty. The teak cockpit coaming, covering boards, mast pad, taffrail, ash tiller, sheerline and gold cove line shall be key visual features.
- I.1.4 When well maintained, both on the mooring and when sailing, the traditional and GRP boats shall be indistinguishable. Departure from this code shall be grounds for the Class disqualifying a boat as a member of the Solent Fleet of the Sunbeam Class. It is a fundamental principle that well maintained and rigged traditional boats and GRP boats shall on average race equally together when sailed to the same standard.
- I.1.5 From 2020 onwards it shall be permitted to fit out new GRP boats with "Lignia", a factory treated plantation grown Radiata Pine, in place of teak.

### **I.2 Hull Weight**

- I.2.1 The hull weight out of the mould shall be 480kg + or - 20kg.
- I.2.2 The deck weight out of the mould shall be 125kg + or - 10kg. The keel weight shall be 850kg + or - 10kg.
- I.2.3 The completed boat weight including internal ballast but without rig or loose gear shall be adjusted on completion by the addition of corrector weights located in positions required by the Class Measurer to 1870kg + or - 10kg.
- I.2.4 Corrector weights shall not be moved, removed, or added to except as required by the Class Measurer.

### **I.3 Permitted GRP details**

- I.3.1 Permitted details on the GRP hulled boat are:
  - (a) A bronze shoe fitting that both protects the deadwood aft of the keel and locates the lower end of the rudder shaft.
  - (b) Two substantial tangs built into the rudder and welded to the rudder shaft control the rudder, in place of the wishbone on existing wooden Sunbeams.
  - (c) The use of copper epoxy anti-fouling.
  - (d) Fore and aft bulkheads and helmsman seat boxes, which if openings in them are locked off are designed to allow the boat to float for a while in a swamped condition.

### **I.4 Required elements of Section G**

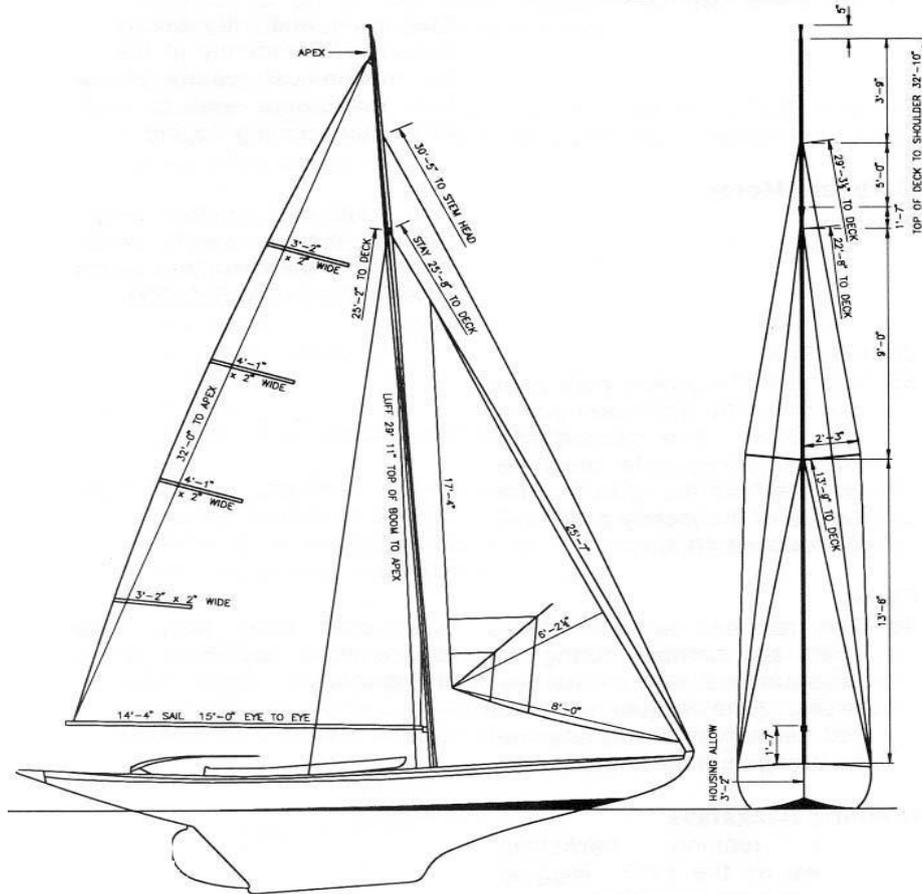
- I.4.1 The following sub-headings of Section G still apply:
  - (a) Rudder (taper only)
  - (b) Platform (gratings only)
  - (c) Stainless Steel
  - (d) Tiller
  - (e) Ballast Keel
  - (f) Coamings and Benches (not aft Bulkhead)

- (g) Fairleads Cleats Belaying Pins etc.
- (h) Sling Bolts optional
- (i) Spars
- (j) Rigging
- (k) Sails
- (l) Materials and Workmanship
- (a) Outfit, and Boom.

## Section J - Sail and Rigging Plans

### J.1 Original Sail and Rigging Plan

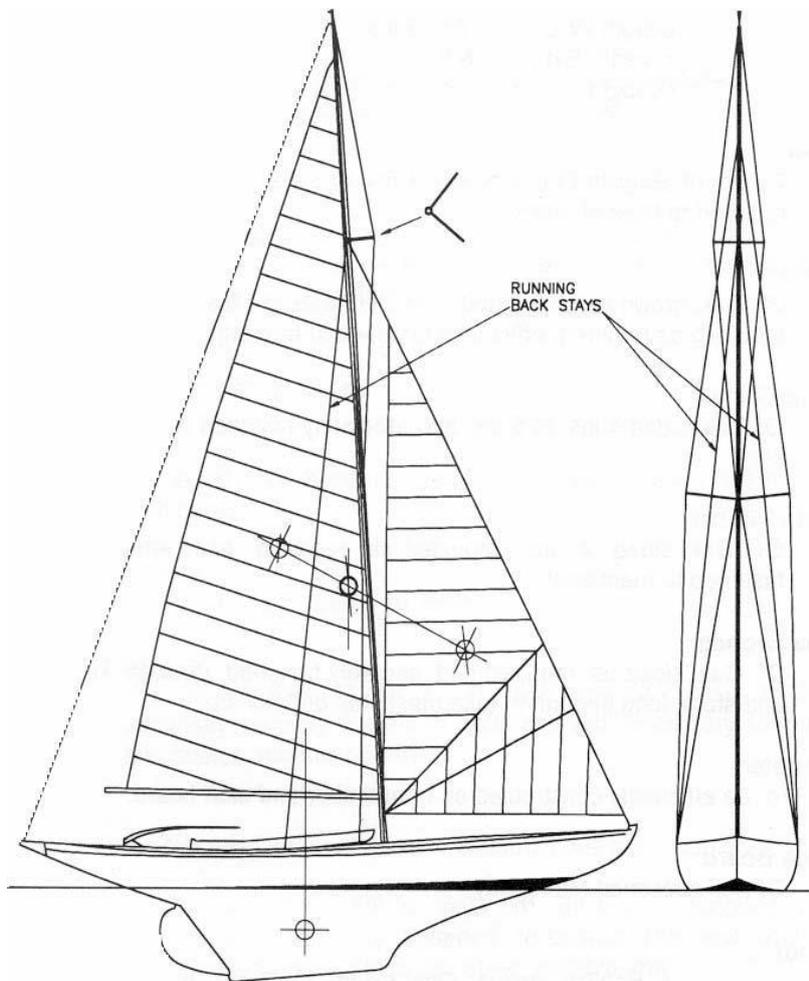
(Tracing made from one of Messrs Woodnutt's original Works Copies)



#### Components:

- Upper shrouds
- Lower shrouds
- Running backstays
- Forestay
- Fore topmast stay

## J.2 1997 Modified Sail and Rigging Plan



### Components:

- Upper shrouds
- Lower shrouds
- Running backstays (not permitted)
- Forestay
- Backstay
- Jumper stays

## Section K - Sail Measurement

### K.1 General

- K.1.1 All measurements shall be taken over the full width of the **sail**, including **tabling** and roping with the battens in position.
- K.1.2 Linear dimensions shall be measured in millimetres. Areas shall be rounded up to the nearest 0.01 sq. m.
- K.1.3 All owners shall be directly responsible for the fees due to the Class Measurer for sail measurement, these fees being as agreed from time to time between the Class Captain and the Class Measurer.

### K.2 Mainsail

- K.2.1 The area shall be calculated using the following formula:

$$0.25 \times A \times (\mathbf{MTW} + \mathbf{MHW} + \mathbf{MQW} + 0.5B) + 0.66 \times (B \times D)$$

where A is the **luff length**;

B is the **foot length**;

D is the greatest distance to the **foot** from a straight line drawn from the **tack point** to the **clew point**;

- K.2.2 When measuring the **foot** round, D, the **sail** shall be flat in the area being measured.
- K.2.3 The **leech length** shall not exceed 77% of the total of the **luff length** plus the **foot length**.

### K.3 Headsail

- K.3.1 The area shall be calculated using the following formula:

$0.5 \times \mathbf{HLU} \times \mathbf{HLP} + 0.66 \times (R \times F)$  where R is the greatest distance to the **foot** from a straight line drawn from the **tack point** to the **clew point** (see I.3.2); F is the **foot length**.

- K.3.2 When measuring the **foot** round, R, the **sail** shall be flat in the area being measured.

### K.4 Spinnaker

- K4.1 The area will calculated using the following formula:

$$\mathbf{Area} = \mathbf{F} \times \mathbf{L} + \mathbf{2/3rds} (\mathbf{G-F}) \times \mathbf{L}$$

Where L is the **leech**: F is half the **foot**: and G is the distance across the **sail** between the mid points on the two **leeches**. F and L are measured around the taped edges of the **sail** and G is measured across the smoothed out **sail** from mid **leech** to mid **leech**.

- K4.2 As an exception to ERS it shall be measured as a spinnaker even if the half width does not exceed 75% of the foot length.

### K.5 Measurement Certificates

- K.5.1 All measurements taken for the purpose of certification, and the weight and type of material of the cloth from which the sails are made, shall be stated on the **sail measurement certificate**. All measurements shall be shown, including if 'zero'.
- K.5.2 The Class Measurer or an appointed representative of an approved sailmaker shall check and measure all new **sails** and shall sign and date all new **sail measurement certificates**.
  - (a) The Class Measurer or appointed representative shall also stencil the measured area – in square feet rounded up to the nearest 0.1 sq. ft - on the port side of the **sail** near the **clew** and add his signature and the date nearby. The measured area in square feet shall be converted from the area in square metres calculated before rounding up.

- (b) The appointed representative shall issue the respective owner with the certificate upon delivery of the sail and copy it electronically to the Class Measurer.
- (c) Sailmakers appointed and approved by the Class are permitted to nominate an AR to certify that sails made by them (a) comply with Class Rules and (b) self-measure them. Class approval is subject to an agreed checking protocol which may be changed by the Class Committee. [note - currently this protocol has been set so that each year one randomly selected new sail produced by the sailmaker will be checked by the Class Measurer. Should the Class Measurer's measurement of this sail differ materially from the sailmaker's measurement then two randomly selected sails out of the next five produced by the sailmaker will be checked. Should these fail to measure correctly the Class will withdraw approval for that sailmaker to self-measure.]

K.5.3 If any **sail** is subsequently altered or repaired, whereby a check point or measurement has been affected, then a new **sail** measurement **certificate** is required.