



NATIONAL
SWALLOW
CLASS RULES

2009



The Swallow was designed in 1946 by Tom Thornycroft.

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INTRODUCTION

*The National Swallow Class Rules are **closed class rules** (previously known as one-design class rules) where anything not specifically permitted by the class rules is prohibited. The rules are intended to ensure that boats in the National Swallow Class are as nearly as possible the same as regards shape and weight of hull, the deck, keel, rudder, spars and sails, and in all respects affecting performance.*

Swallow hulls and hull appendages shall be manufactured and assembled by a RYA licensed manufacturer, using moulds approved by the RYA. A building fee is payable to the RYA and a mould fee is payable to the NSCA; current fees may be obtained from the NSCA Secretary.

Compliance with these class rules is demonstrated using certification control, a term defined in the Equipment Rules of Sailing, meaning that control is undertaken by an official RYA measurer. Equipment and manufacturing methods must comply with the relevant specifications approved by the RYA. However, provision is made for In-House Certification (IHC) of sails in accordance with ISAF guidelines.

Swallow hulls, hull appendages, rigs and sails may, after having left the manufacturer, only be altered to the extent permitted in Section C of the class rules.

*Owners and crews should be aware that compliance with rules in Section C is **NOT** checked as part of the certification process.*

Rules regulating the use of equipment during a race are contained in Section C of these class rules, in the Equipment Rules of Sailing Part I and in the Racing Rules of Sailing.

This introduction only provides an informal background and the National Swallow Class Rules proper begin on the next page.

Changes made since the previous version of these rules are underlined.

**PLEASE REMEMBER:
IF THESE RULES DO NOT SAY THAT YOU
CAN – THEN YOU CAN NOT.**

PART I – ADMINISTRATION

Section A – General

A.1 LANGUAGE

- A.1.1 The official language of the class is English.
- A.1.2 The word “shall” is mandatory and the word “may” is permissive.

A.2 ABBREVIATIONS

- A.2.1 ISAF International Sailing Federation
- RYA Royal Yachting Association
- NSCA National Swallow Class Association
- ERS ISAF Equipment Rules of Sailing
- RRS ISAF Racing Rules of Sailing

A.3 AUTHORITIES

- A.3.1 The authority of the class is the RYA, which will co-operate with the NSCA in all matters concerning these **class rules**.
- A.3.2 Notwithstanding anything contained herein, the **certification authority** has the authority to withdraw a **certificate**.
- A.3.3 The ISAF, RYA, NSCA and **official measurers** are under no legal responsibility in respect of these rules, plans or accuracy of measurement and no claim arising from these **class rules** can be entertained.

A.4 ADMINISTRATION OF THE CLASS

- A.4.1 The class shall be administered by the RYA in conjunction with the NSCA.

A.5 ISAF RULES

- A.5.1 These **class rules** shall be read in conjunction with the ERS.
- A.5.2 Except where used in headings, when a term is printed in “**bold**” the definition in the ERS applies and when a term is printed in “*italics*” the definition in the RRS applies.

A.6 CLASS RULES VARIATIONS

- A.6.1 Safety requirements in notices of race or sailing instructions may vary these **class rules**.

A.7 CLASS RULES AMENDMENTS

- A.7.1 Amendments to these **class rules** shall be approved by the RYA.

A.8 CLASS RULES INTERPRETATION

- A.8.1 Interpretation of the **class rules** shall be made by the RYA.

A.9 BUILDING FEE AND MOULD FEE

- A.9.1 A building fee shall be paid by the manufacturer on each hull as building or moulding commences whether or not the boat is subsequently measured and certificated. The Building Fee shall be paid to the RYA, which shall issue a Building Fee Receipt and sail number.
- A.9.2 A mould fee shall be paid by the boat owner on each hull manufactured for use of the moulds owned by the NSCA. The mould fee shall be paid to the NSCA, which shall issue a receipt for the fee.

A.10 SAIL NUMBERS

- A.10.1 Sail numbers shall be issued by the RYA.

A.11 HULL CERTIFICATION

- A.11.1 A **certificate** shall record the following information:
- (a) Class
 - (b) **Certification authority**
 - (c) Sail number issued by the **certification authority**
 - (d) Owner(s), but not necessarily all owners.
 - (e) Hull identification
 - (f) Builder/Manufacturer details
 - (g) Date of issue of initial **certificate**
 - (h) Date of issue of **certificate**
 - (i) Weight of correctors

A.12 INITIAL HULL CERTIFICATION

- A.12.1 For a **certificate** to be issued to a hull not previously **certified**:
- (a) **Certification control** shall be carried out by an **official measurer** who shall complete the appropriate documentation.
 - (b) The documentation and **certification** fee, if required, shall be sent to the **certification authority**.
 - (c) The documentation shall include receipts for the building fee and the mould fee.
 - (d) Upon receipt of satisfactorily completed documentation and **certification** fee, if required, the **certification authority** may issue a **certificate**.

A.13 VALIDITY OF CERTIFICATE

- A.13.1 A hull **certificate** becomes invalid upon:
- (a) the change to any items recorded on the hull **certificate** as required under A.11.
 - (b) withdrawal by the **certification authority**,
 - (c) the issue of a new **certificate**,

A.14 HULL RE-CERTIFICATION

- A.14.1 The **certification authority** may issue a **certificate** to a previously certified **hull**:
- (a) when it is invalidated under A.13.1(a) or (b), after receipt of the old **certificate** when available, and **certification** fee if required.
 - (b) when it is invalidated under A.13.1 (c), at its discretion.
 - (c) in other cases, by application of the procedure in A.12.

A.15 RETENTION OF CERTIFICATION DOCUMENTATION

- A.15.1 The **certification authority** shall:
- (a) retain the original documentation upon which the current **certificate** is based.

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:
- (a) be in compliance with the **class rules** (except as B.1.4 below).
 - (b) have a valid hull **certificate**.
 - (c) have valid **certification marks** as required
- B1.2 (a) For boats for which the sail number was issued by the RYA prior to 1 July 1986, the hull, fin and keel, rudder, spars, sails and equipment shall comply with the class rules in force at the date of their original certification, the current class rules or the class rules effective 1 March 1982.
- (b) For all other boats the hull, fin and keel, rudder, spars, sails and equipment shall comply with the class rules in force at the date of their original certification or the current class rules.
- (c) Any alterations, replacements or repairs shall comply with the current class rules or those applying at the original **certification**.
- B.1.3 All owners of the **boat** shall be current members of the NSCA as prescribed in the rules of the NSCA.
- B.1.4 The NSCA committee may grant permission for the use, whilst racing, of a practice and/or device not otherwise specifically permitted by **class rules**. Such permission shall be granted solely for the purpose of undertaking evaluation trials and shall be restricted to a maximum period of 1 year. Such permission shall be granted in writing to each boat involved. A copy of the written permission, giving the date of effectiveness, shall be attached to the boat's Measurement Certificate and a copy passed to the RYA. Such permission shall not be granted retrospectively. Such permission may be withdrawn either by the NSCA committee, after consultation with its members, or by the RYA at any time.

PART II – REQUIREMENTS AND LIMITATIONS

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

The rules in Part II are **closed class rules**. **Certification control** and **equipment inspection** shall be carried out in accordance with the ERS except where varied in this Part.

Section C – Conditions for Racing

C.1 GENERAL

C.1.1 RULES

- (a) The ERS Part I – Use of Equipment shall apply.

C.2 CREW

C.2.1 LIMITATIONS

- (a) The **crew** shall consist of not more than 3 persons unless stated otherwise in the Notice of Race.
- (b) At major events, as defined in the rules of the NSCA, the person helming the boat shall be a full member of the NSCA.

C.3 PERSONAL EQUIPMENT

C.3.1 MANDATORY

- (a) The boat shall be equipped with **personal buoyancy** for each adult crew member to the minimum standard ISO 12402/5 (CE 50 Newtons) or to the appropriate EN standard for younger crew.

C.4 ADVERTISING

C.4.1 LIMITATIONS

Advertising shall only be displayed in accordance with Category A of the ISAF Regulation 20 Advertising Code.

C.5 PORTABLE EQUIPMENT

C.5.1 FOR USE WHEN RACING

- (a) MANDATORY
 - (1) One or more bucket or hand bailer or both
 - (2) One anchor of not less than 7kg and not more than 9kg in weight.
 - (3) Anchor line not less than 36m long with a minimum breaking strain of 1200kg.
- (b) OPTIONAL
 - (1) Electronic or mechanical timing devices

- (2) Magnetic compasses
- (3) A radio receiver for public broadcast radio stations
- (4) Electronic or mechanical devices correlating data relating to magnetic north and the boat's heading. Devices must be entirely self-contained with either an internal battery and/or solar powered and may include a chronograph (time and/or clock). Devices receiving or correlating data relative to true wind, position or speed are prohibited.
- (5) Electronic depth sounder with unidirectional signal directed vertically down to within 10 degrees.
- (6) Wireless transmitters and receivers for communication between permitted devices.
- (7) Bamboo or wooden sounding rods of maximum diameter 19mm.
- (8) Kedge anchor not exceeding 4.5kg.
- (9) Mechanical wind direction indicators.
- (10) Manual water pumps.

C.5.2 NOT FOR USE WHEN RACING

(a) MANDATORY

- (1) Minimum 2 paddles.

(b) OPTIONAL

- (1) Mooring and towing lines and fenders.
- (2) Electronic navigation devices.
- (3) Mobile Phone.

C.6 BOAT

C.6.1 WEIGHT

minimum

The weight of the **boat** in dry condition 1022 kg

The weight shall be taken excluding **sails** and all portable equipment as listed in C.5.

C.6.2 CORRECTOR WEIGHTS

- (a) **Corrector weights** of lead shall be permanently fastened in 4 equal amounts to the under-side of the deck at its junction with the hull shell opposite each corner of the cockpit opening and shall be easily visible to a measurer, when the **boat** weight is less than the minimum requirement. They shall each be marked with their weight
- (b) The total weight of such **corrector weights** shall not exceed 20 kg. See also rules A.11.1 and B.1.1.

C.6.4 FLOTATION

- (a) The **hull** shall have flotation elements as per Section D5.

C.7 HULL

C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Routine maintenance such as cleaning, painting and polishing is permitted.
- (b) Non-slip material with maximum thickness 5mm may be added anywhere on the deck or cockpit floor.
- (c) One hole may be made for the fitting of a transducer for a depth sounder.
- (d) Holes not bigger than necessary for the installation fittings and passage of lines may be made in the decks.
- (e) Reinforcement for items permitted in these rules may be fitted. It shall comply with D.4.1(a) or be of wood and as with D.4.2(a) there shall be no concentration of weight in reinforcement.

C.7.2 FITTINGS

(a) USE

- (1) Hand hole covers and drainage plugs shall be kept in place at all times.

C.7.3 LIMITATIONS

- (a) The external surface of the **hull** shell below DL shall be painted with an anti-fouling paint which conforms to the requirements of UK Environmental Regulations.

C.8 HULL APPENDAGES

C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

Routine maintenance such as cleaning, painting and polishing is permitted, but fairings between the **fin** and **rudder** are not permitted.

C.8.2 LIMITATIONS

The external surfaces of the **hull appendages** shall be painted with an anti-fouling paint which conforms to the requirements of UK Environmental Regulations.

C.9 RIG

C.9.1 MODIFICATIONS, MAINTENANCE AND REPAIR

Routine maintenance is permitted including the replacement of standing and running rigging.

C.9.2 FITTINGS

USE

- (1) A method of controlling the mast bend at deck level is permitted.
- (2) Rigging screws and other fittings are optional. However, any means of main shroud adjustment and/or operation of adjustment shall be above deck level

C.9.3 DEFINITIONS

MAST DATUM POINT

The **mast datum point** is at the **sheer**.

C.9.4 MAST

USE

- (1) The **spar** shall be stepped in the mast step in such a way that the heel is not capable of moving more than 5 mm.
- (2) A mast-jack is permitted but, if fitted, the dimensions of the **limit marks** shall be measured with the mast-jack fully extended. However, it shall not allow the mast to rotate, or the position of the **heel point** to be able to be altered.

DIMENSIONS

| | |
|---|---------|
| Mast limit mark width | 10 mm |
| Lower point height | 762 mm |
| Lower point to upper point | 8230 mm |
| Forestay height | 6400 mm |
| Spinnaker hoist height | 6460 mm |
| Distance from mast datum point as defined in C.9.3 to centre of gravity in measurement condition as described in ERS H.4.6 | 3400 mm |

C.9.5 BOOM

(a) DIMENSIONS

| | minimum | maximum |
|-----------------------------------|---------|---------|
| Limit mark width | 10 mm | |
| Outer point distance | | 3261mm |

(b) USE

- (1) The intersection of the aft edge of the mast **spar** and the top of the boom **spar**, each extended as necessary, shall not be below the upper edge of the mast **lower limit mark** when the boom **spar** is at 90° to the mast **spar**.

C.9.6 STANDING RIGGING

(a) DIMENSIONS

(1) The design of the standing **rigging** is optional, except as below:

| | minimum | maximum |
|---|---------|---------|
| Foretriangle base | 2169 mm | 2219 mm |
| Foretriangle height | | 6400 mm |
| Intersection of main shrouds and deck forward of section 6 | | 460 mm |

(b) USE

The effective length of the main shrouds shall not be altered when *racing*.

C.9.7 RUNNING RIGGING

- (a) USE – The materials and construction are optional. See F.7.

Only 1 of each of the following are permitted:

Mainsail halyard

Headsail halyard

Spinnaker halyard

Spinnaker pole lift and downhaul

Backstay adjuster

- (b) NOT PERMITTED

(1) Runners

(2) Headsail Furling Devices

- (c) OPTIONAL

Other running rigging and associated fittings.

C.10 SAILS

C.10.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) **Sails** shall not be altered in any way except as permitted by these **class rules**.
- (b) Routine maintenance such as cleaning, sewing, mending and patching is permitted without re-measurement and re-**certification**.

C.10.2 LIMITATIONS

- (a) Not more than 1 mainsail, 1 headsail and 2 spinnakers shall be carried aboard.
- (b) The second spinnaker shall be used only if the first is lost or damaged beyond repair.

C.10.3 MAINSAIL

USE

- (1) A halyard shall be used to hoist the **sail**. The arrangement shall permit hoisting and lowering of the **sail** at sea.
- (2) The highest visible point of the **sail**, projected at 90° to the **mast spar**, shall not be set above the lower edge of the **mast upper limit mark**. The intersection of the **leech** and the top of the boom **spar**, each extended as necessary, shall not be behind the fore side of the boom **outer limit mark**.
- (3) A **foot** bolt rope may be in the **boom spar** groove or track.
- (4) Not less than 75% of the **luff** bolt rope shall be in the **mast spar** groove

C.10.4 HEADSAIL

USE

- (1) A halyard shall be used to hoist the **sail**. The arrangement shall permit hoisting and lowering of the **sail** at sea.

Section D – Hull

D.1 PARTS

D.1.1 MANDATORY

- (a) Hull shell
- (b) Deck
- (c) Buoyancy

D.1.2 OPTIONAL

- (a) Bulkheads
- (b) Thwarts
- (c) Washboards
- (d) Gunwale Rubbing Strakes

D.2 GENERAL

D.2.1 RULES

- (a) The **hull** shall comply with the **class rules** in force at the time of initial **certification**.
- (b) Where a measurement is permitted to have a dimension within a range, the dimension shall be uniform within the range and shall not exploit the range as a tolerance.
- (c) The **class rules** are to be read in conjunction with the Official Drawings – where there is a conflict between the drawings and these **class rules** the matter shall be referred to the RYA..

The Official Drawings are those issued by the RYA and titled:

Hull sections and transom profile

Fin and keel sections and profile

Rudder sections and profile

D.2.2 CERTIFICATION

- (a) See Rule A.12.
- (b) The builder shall offer the un-decked hull shell to the **official measurer** for measurement.
- (c) The fin and keel shall not be fitted during the initial hull measurement.

D.2.3 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) The hull shell, deck, and bulkheads shall not be altered in any way except as permitted by these **class rules**.
- (b) Repairs and preventative maintenance may be carried out without re-measurement and re-**certification** provided that they are completed in such a way that the essential shape and characteristics or function of the original are not affected.
- (c) If any hull moulding is repaired in any other way than described in D.2.3(b), an **official measurer** shall verify that the items are still within the class rules and that no advantage has been gained.

D.2.4 DEFINITIONS

(a) HULL DATUM POINT

The **hull datum point** is the point on the longitudinal centreline midway between the outside of the **hull** at stemhead and the outside of the **hull** at the top of the transom (excluding fittings, decks, decks overhang, strakes etc.).

(b) AFT MEASUREMENT POINT (AMP)

The aft measurement point (AMP) is the point on the longitudinal centreline where the extension of the aft face of the transom intersects the extension of the outside surface of the **hull**.

(c) SECTION 6

Section 6 shall be the athwartships vertical plane 76mm aft of a plane passing through the **hull** at the **hull datum point**.

(d) DEFINED WATER LEVEL (DL)

The defined water level (DL) is a horizontal plane passing through the outside surface of the **hull** on longitudinal centreline at sections 0 and 12.

(e) BASE LINE (BL)

The base line (BL) is a horizontal plane 300mm below the DL.

(f) KEEL LINE (KL)

The keel line (KL) is the line on the outside surface of the **hull** on the longitudinal centreline except in way of the fin where it shall be taken to be the fair extension of the KL through the fin.

D.2.5 IDENTIFICATION

The sail number as issued by the RYA shall be cut or moulded into the cockpit in Arabic numerals of not less than 25mm in height.

D.2.6 BUILDERS

(a) The **hull** shall be built by a builder licensed by the RYA.

(b) All plugs and production moulds shall be approved by the RYA.

(c) **Hulls** and **hull appendages** shall be assembled by a builder licensed by the RYA.

(d) Assembled hulls may be finished off and fitted out by any person or organisation

D.3 HULL SHELL

D.3.1 MATERIALS

(a) The hull shell shall be built primarily of FRP and/or FRP sandwich construction.

(b) The materials of the hull shall be in accordance with a materials specification submitted by the manufacturer to, and approved by, the RYA prior to the commencement of construction.

D.3.2 CONSTRUCTION

- (a) The weight per unit area of the hull shell, before fitting the fin and keel, shall be uniform throughout. There shall be no concentration of weight in the hull shell.
- (b) Measurement marks consisting of raised head screws shall be positioned on the outside surface of the hull so that the centre of their heads are 38mm below the **sheerline** to port and starboard and, except for section 6, on longitudinal centreline at sections 0, 1, 6, 11 and 12.
- (c) The outside shape of the hull shell in way of the fin and hull junction is optional provided that it is not more than 15mm below nor more than 185mm above BL and provided that when assembled, the outside shape of the combined hull and fin is in accordance with the dimensions contained in these rules and in parts with no specific dimension in these rules, is fair and in accordance with the Official Drawings to within the same limits of tolerance as similar dimensions contained in these rules.
- (d) Subject to (c) above, the outside shape of the hull shell shall be in accordance with the dimensions contained in these rules and in parts of the hull with no specific dimension in these rules, shall be fair and in accordance with the Official Drawings to within the same limits of tolerance as similar dimensions contained in these rules.
- (e) There shall be no holes passing through the outside surface of the hull except for:
 - (1) not more than 2 leg fixing holes
 - (2) suction bailer holes
 - (3) rudder stock hole
 - (4) keel bolt holes
 - (5) one hole for depth transducer
- (f) The inside surface of the hull shell in way of the hull to fin junction shall be fair and not below the KL. If the outside surface of the hull shell in this area is below the KL then, with the exception for the hull skin, the volume shall be filled with waterproof material with a density of not more than 0.5 g/cm³.
- (g) Reinforcement for items permitted in these rules may be fitted. It shall comply with D.3.1(a) or be of wood and as with D.3.2(a) there shall be no concentration of weight in reinforcement.

D.4 DECK

D.4.1 MATERIALS

- (a) The deck shall be built primarily of FRP and/or FRP sandwich construction.
- (b) The materials of the deck shall be in accordance with a materials specification submitted by the manufacturer to, and approved by, the RYA prior to the commencement of construction

D.4.2 CONSTRUCTION

- (a) The weight per unit area of the deck, before fitting to the hull shell, shall be uniform throughout. There shall be no concentration of weight in the deck.
- (b) A breakwater may be fitted to the upper surface of the deck forward of section 6.
- (c) There shall be a cockpit opening in the deck.
- (d) The upper edges of the cockpit opening shall be the inner limits of the deck. (i.e. where the deck falls below the **sheer**).
- (e) The lower edges of the cockpit opening shall be determined as lines joining the outer points on the cockpit sole which when projected vertically do not pass through any hull structures except cockpit coamings, if fitted.
- (f) Cockpit coamings may be fitted but, if fitted, shall be included within the measurement of both the deck or cockpit limits.
- (g) There shall be a mast slot opening in the deck.
- (h) The edges of the mast slot opening shall be the inner limits of the deck (i.e. where the deck falls below the **sheer**).
- (i) A cockpit sole shall be fitted.
- (j) Holes not bigger than necessary for the installation fittings and passage of lines may be made in the decks.
- (k) Reinforcement for items permitted in these rules may be fitted. It shall comply with D.4.1(a) or be of wood and as with D.4.2(a) there shall be no concentration of weight in reinforcement.
- (l) Cockpit dimensions shall apply to within 100mm from the actual projected corners of the cockpit to allow for a radius to be fitted.

D.5 BUOYANCY

D.5.1 CONSTRUCTION

- (a) In boats of wooden construction, approved buoyancy apparatus shall have the capacity of not less than 0.71m^3 secured under the deck in such a way that approximately half the capacity is forward and half aft of the cockpit.
- (b) In boats of construction other than wood, the buoyancy apparatus shall have a capacity of not less than 1.42m^3 and certified by the builder to have a minimum positive buoyancy of 1270kg. Such apparatus may be built in permanently or may be provided by means of separate equipment firmly fixed within the hull. The buoyancy capacity shall be divided approximately equally fore and aft of the cockpit and shall be so arranged that local penetration of the hull shall leave effective not less than 1.06m^3 of the buoyancy. Watertight pipes or conduits passing through the buoyancy compartments are permitted.
- (c) If buoyancy material is used it shall be foamed polyurethane or similar material approved by the RYA, or inflatable apparatus.
- (d) The buoyancy system shall be constructed such that:

- (1) The buoyancy system conforms to this rule and that adequate access is provided for inspection.
- (2) Where air tanks or bags are used the materials and any fastenings required are of appropriate strength.
- (3) For non-wooden boats only, the RYA may complete the initial buoyancy endorsement upon receipt of the builder's buoyancy certification.

D.6 GUNWALE RUBBING STRAKES

D.6.1 MATERIALS

The material for rubbing strakes is optional

D.6.2 CONSTRUCTION

A deck overhang or rubbing strake may be fitted outside of the sheerline and aft of the transom.

D.7 BULKHEADS

D.7.1 MATERIALS

The material for bulkheads is optional.

D.7.2 CONSTRUCTION

Bulkheads may be fitted, but, if fitted, shall not be between section 6 and section 8, or within the plan area or the upper cockpit opening or mast slot and shall be subject to D.5.

D.8 THWARTS

D.8.1 MATERIALS

The materials for thwarts are optional.

D.8.2 CONSTRUCTION

Thwarts may be fitted at any section or level.

D.9 ASSEMBLED HULL

D.9.1 FITTINGS

(a) MANDATORY

- (1) Not less than 1 fitting for the attachment of a mooring line shall be fitted to the deck forward of the mast.

(b) OPTIONAL

- (1) Subject to other rules, all hull fittings are optional.

D.9.2 DIMENSIONS

All hull dimensions shall be taken with the DL horizontal.

The keel line shall be taken as the intersection line from transom to stem of the hull shell and the **hull** centreplane.

The sections shall be taken as vertical, transverse planes at the following positions measured horizontally from Section 6 as defined in D.2.4:

| | |
|-------------------|---------|
| Section 0: | 2896 mm |
| Section 1: | 2413 mm |
| Section 2: | 1930 mm |
| Section 3: | 1448 mm |
| Section 4: | 965 mm |
| Section 5: | 483 mm |
| Section 6: | 0 mm |
| Section 7: | 483 mm |
| Section 8: | 965 mm |
| Section 9: | 1448 mm |
| Section 10: | 1930 mm |
| Section 11: | 2413 mm |
| Section 12: | 2896 mm |
| Section B: | 3379 mm |

The baseline shall be a horizontal plane 300mm below the DL. See D.2.4

| | minimum | maximum |
|---|---------|-------------|
| Hull length | 7760 mm | .. 7785 mm |
| Hull shell length | 7760 mm | .. 7785 mm |
| Hull shell surface above BL | -15 mm | 185 mm |
| Vertical distance from BL to KL; | | |
| at section 0 | 300 mm | 300 mm |
| at section 1 | 171 mm | 191 mm |
| at section 3 | 30 mm | 50 mm |
| at section 11 | 231 mm | 251 mm |
| at section 12 | 300 mm | 300 mm |
| Vertical distance from BL to hull surface, 100mm athwartships from centreline | | |
| at section 6 | 18 mm | 45 mm |
| at section 9 | 126 mm | 146 mm |
| Vertical distance from BL to hull surface, 203mm athwartships from centreline | | |
| at section 0 | 466 mm | 498 mm |
| at section 1 | 297 mm | 325 mm |
| at section 3 | 115 mm | 137 mm |
| at section 6 | 41 mm | 66 mm |
| at section 9 | 143 mm | 163 mm |
| at section 11 | 267 mm | 287 mm |
| at section 12 | 331 mm | 351 mm |
| Vertical distance from BL to hull surface, 406mm athwartships from centreline | | |
| at section 1 | 517 mm | 553 mm |
| at section 3 | 224 mm | 250 mm |
| at section 6 | 96 mm | 121 mm |
| at section 9 | 189 mm | 209 mm |
| at section 11 | 310 mm | 332 mm |
| at section 12 | 380 mm | 402 mm |

| | | |
|---|---------|-------------|
| Vertical distance from BL to hull surface, 610mm athwartships from centreline | | |
| at section 3 | 423 mm | 457 mm |
| at section 6 | 189 mm | 214 mm |
| at section 9 | 264 mm | 290 mm |
| at section 11 | 422 mm | 454 mm |
| Vertical distance from BL to sheerline | | |
| at section 0 | 816 mm | 836 mm |
| at section 1 | 808 mm | 828 mm |
| at section 3 | 759 mm | 779 mm |
| at section 6 | 705 mm | 725 mm |
| at section 9 | 676 mm | 696 mm |
| at section 11 | 658 mm | 678 mm |
| at section 12 | 649 mm | 669 mm |
| Vertical distance from BL to sheer in way of AMP | | |
| at section | 645 mm | 665 mm |
| Vertical distance from BL to sheerline at stemhead | | |
| at section | 905 mm | 930 mm |
| Beam of hull , excluding rubbing strakes and fittings, at sheerline; | | |
| at section 0 | 760 mm | 800 mm |
| at section 1 | 1035 mm | .. 1070 mm |
| at section 3 | 1435 mm | .. 1460 mm |
| at section 6 | 1700 mm | .. 1720 mm |
| at section 9 | 1575 mm | .. 1595 mm |
| at section 11 | 1345 mm | .. 1365 mm |
| at section 12 | 1195 mm | .. 1215 mm |
| Fore side of mast spar slot forward of section 6 | 844 mm | 894 mm |
| Gunwale rubbing strakes from sheerline or sheer at transom; | | |
| depth | | 30 mm |
| width | | 25 mm |
| Upper fore edge of cockpit on centreline (bridging mast slot athwartships) | | |
| forward of section 6 | 762 mm | 812 mm |
| Upper fore edge of cockpit opening | | |
| forward of section 6 | 482 mm | 812 mm |
| Upper aft edge of cockpit opening | | |
| aft of section 6 | 1094 mm | .. 1144 mm |
| Upper longitudinal edges (sides) of cockpit opening | | |
| from fore and aft centreline | 454 mm | 510 mm |
| Lower fore edge of cockpit opening | | |
| forward of section 6 | 482 mm | 812 mm |
| Lower aft edge of cockpit opening | | |
| aft of section 6 | 1094 mm | .. 1144 mm |
| Lower longitudinal edges (sides) of cockpit opening | | |
| from fore and aft centreline | 440 mm | 470 mm |
| Cockpit sole above DL | | 10 mm |

| | |
|---|----------------------|
| Cockpit sole below DL | 40 mm |
| Fore edge of cockpit sole | |
| forward of section 6 | 812 mm |
| Aft edge of cockpit sole | |
| aft of section 6 | 1144 mm |
| Longitudinal edges (sides) of cockpit sole | |
| from fore and aft centreline | 465 mm |
| Upper surface of deck above sheerline | 0 mm..... 51 mm |
| Holes in deck for rudder stock and control lines | |
| Total area | 1000 mm ² |
| Suction bailer holes, total area on each side | 1700 mm ² |
| Diameter of leg fixing holes | 20 mm |
| Longitudinal length of thwarts, if fitted, in total | 400 mm |
| Breakwater height above deck | 200 mm |
| Breakwater width on any fore and aft line | 200 mm |

D.9.3 WEIGHTS

- | | minimum | maximum |
|---|---------|---------|
| (a) Hull weight | 358 kg | |
| The weight of the hull in a dry condition, but subject to below. | | |
| (b) If the outside surface of the hull shell on centreline in way of the hull to fin junction is below KL then the minimum weight of the hull as referred to in D.9.3(a) shall be increased by 2kg for every 50mm or part of 50mm the outside surface of the hull shell on centreline is below from KL measured vertically. | | |
| (c) If the outside surface of the hull shell on centreline in way of the hull to fin junction is above KL then the minimum weight of the hull as referred to in D.9.3(a) shall be increased by 2kg for every 50mm or part of 50mm the outside surface of the hull shell on centreline is above from KL measured vertically. | | |

D.9.4 HULL CORRECTOR WEIGHTS

- (a) Corrector weights may be fitted, but, if fitted shall be not more than 20kg in total weight, shall be four in number, shall each be of the same weight, shall be of lead, shall be marked with their weight, shall be fixed to the under-side of the deck at its junction with the hull shell opposite each corner of the cockpit opening and shall be easily visible to a measurer.

Section E – Hull Appendages

E.1 PARTS

E.1.1 MANDATORY

- (a) **Keel**
- (b) **Rudder**

E.2 GENERAL

E.2.1 RULES

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

E.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) **Hull appendages** shall not be altered in any way except as permitted by these class rules.
- (b) Repairs and preventative maintenance may be carried out without re-measurement and re-**certification** provided that they are completed in such a way that the essential shape and characteristics or function of the original are not affected.

E.2.3 CERTIFICATION

The **official measurer** shall **certify hull appendages** as part of **certification control**.

E.2.4 MANUFACTURERS

The **hull appendages** shall be made and assembled to the hull by a manufacturer licensed by the RYA.

E.3 KEEL

E.3.1 RULES

The **keel** shall comply with the **class rules** in force at the time of the initial **certification** of the **hull**.

E.3.2 DEFINITIONS

- (a) The **keel** includes ballast keel, the fin and the keel bolts.
- (b) All dimensions are to be taken with the DL horizontal.
- (c) Except in connection with measurement of weight and of the position of centre of gravity, all **keel** dimensions are to be taken with the **keel** fitted to the hull in its normal positions.
- (d) All measurements on the **keel** to the intersections of the **keel** base and the fore or aft edge of the **keel** shall be taken on the centreline.

E.3.3 MANUFACTURERS

- (a) **Keels** shall be built only by builders licensed to do so by the RYA.
- (b) **Keels** may be finished off by licensed or non-licensed builders.

E.3.4 MATERIALS

- (a) The ballast keel shall be of lead.
- (b) The fin shall be built primarily of FRP and/or FRP sandwich construction. The materials of the fin and ballast keel shall be in accordance with a materials specification submitted by the builder to, and approved by, the RYA prior to the commencement of construction.

E.3.5 CONSTRUCTION

- (a) The ballast keel and fin shall be moulded or cast from production moulds or cast from patterns approved by the RYA.
- (b) The fin and ballast keel may be constructed as one unit or as two separate units. If of one unit the unit shall be watertight. If of two units the ballast keel shall be of lead and the fin watertight.
- (c) A measurement mark consisting of a raised head screw shall be positioned on the port outside surface of the fin so that the centre of its head is on the vertical and longitudinal centre of gravity of the **keel** as referred to in E.3.8.
- (d) The **keel** shall be fixed to the **hull** by bolts in such a way as that at any time they can be removed by undoing the nuts inside the hull.
- (e) The shape of the fin above a level 15mm below the BL is optional provided that when assembled, the outside shape of the combined hull and fin is in accordance with the dimensions contained in these Rules and in parts with no specific dimension in these Rules, is fair and in accordance with the Official Drawings to within the same limits of tolerance as similar dimensions contained in these Rules.
- (f) Subject to (e), the outside shape of the **keel** shall be in accordance with the dimensions contained in these Rules and in areas not specifically covered by these Rules, shall be in accordance with the Official Drawings to within limits of tolerance of $\pm 10\text{mm}$.

E.3.6 FITTINGS

MANDATORY

- (1) Lifting eyes shall be attached to the **keel** bolts to suit the longitudinal C of G of the completed **boat**.

E.3.7 DIMENSIONS

| | minimum | maximum |
|--|---------|-------------|
| Number of keel bolts (E.3.6(d))..... | 6 | |
| Number of keel bolts through ballast keel | | |
| if a separate unit to the fin..... | 5 | |
| Keel bolts through ballast keel if separate to fin, dia ... | 19 mm | mm |
| Athwartships width of keel | | |
| to within 20mm of keel base at section 6..... | 180 mm | 192 mm |
| Athwartships width fin at section 5, | | |
| 203mm below BL | 134 mm | 146 mm |
| BL to intersection of keel base & fore edge | | ... 765 mm |

| | | |
|--|--------|--------------|
| BL to 1448mm aft of keel base & fore edge intersection..... | ... | 720 mm |
| Section 6 to keel base and fore edge intersection | 80 mm | 100 mm |
| Section 9 to keel base and aft edge intersection | 25 mm | 45 mm |
| Intersection of fin fore edge and outside surface of | | |
| hull on centreline forward of section 6 | 890 mm | 915 mm |
| Intersection of fin aft edge and outside surface of | | |
| hull on centreline aft of section 9 | 254 mm | 274 mm |
| Vertical distance: BL to keel CofG mark SEE BELOW..... | | 510 mm |
| Horizontal distance: section 6 to keel CofG mark | 190 mm | 240 mm |

E.3.8 KEEL CENTRE OF GRAVITY

- (a) The centre of gravity of the **keel** when combined in the configuration as fitted to the hull including all fin and ballast keel bolts shall be marked on the **keel** in accordance with E.3.6(c).
- (b) If, when fitted to the hull, the upper surface of the fin on centreline is below KL then the distance between BL and the mark referred to in E.3.9(a) shall be increased by one twentieth the maximum distance between the top of the fin on centreline and KL, measured vertically.
- (c) If, when fitted to the hull, the upper surface of the fin on centreline is above KL then the distance between BL and the mark referred to in E.3.9(a) shall be decreased by one twentieth the maximum distance between the top of the fin on centreline and KL, measured vertically.

E.3.9 WEIGHTS

- | | minimum | maximum |
|---------------------------------|---------|---------|
| (a) Weight of keel | | 608 kg |
- (b) If, when fitted to the hull, the upper surface of the fin on centreline is below KL then the maximum weight of the fin and keel as referred to in E.3.10(a) shall be decreased by 2kg for every 50mm or part of 50mm the upper surface of the fin on centreline is below KL, measured vertically.
 - (c) If, when fitted to the hull, the upper surface of the fin on centreline is above KL then the maximum weight of the fin and keel as referred to in E.3.10(a) shall be increased by 2kg for every 50mm or part of 50mm the upper surface of the fin on centreline is above KL, measured vertically.

E.4 RUDDER BLADE, RUDDER STOCK AND TILLER

E.4.1 RULES

The **rudder** blade shall comply with the **class rules** in force at the time of **certification**.

E.4.2 DEFINITIONS

- (a) All dimensions shall be taken with the DL horizontal.
- (b) Except for weight, all **rudder** and rudder stock dimensions are to be taken with the **rudder** and rudder stock fitted to the hull in their normal position.

E.4.3 MANUFACTURERS

- (a) **Rudders** shall be made only by builders licensed to do so by the RYA.
- (b) Rudder stocks may be made by licensed or non-licensed builders.
- (c) **Rudders** and rudder stocks may be finished off by licensed or non-licensed builders

E.4.4 MATERIALS

- (a) The **rudder** blade shall be of materials to a specification submitted by the builder, and approved by, the RYA prior to commencement of construction.
- (b) The rudder stock material is optional.
- (c) The tiller material is optional.
- (d) The tiller extension material is optional

E.4.5 CONSTRUCTION

- (a) If moulded, the **rudder** shall be manufactured from plugs and/or production moulds approved by the RYA.
- (b) The outside shape of the **rudder** shall be in accordance with the dimensions contained in these Rules and in areas not specifically covered by these Rules, shall be in accordance with the Official Drawings to within limits of tolerance of ± 10 mm.
- (c) The **rudder** shall be fitted to the hull by means of the rudder stock.

E.4.6 FITTINGS

- (a) MANDATORY
 - (1) Tiller
- (b) OPTIONAL
 - (1) Tiller extension

E.4.7 DIMENSIONS

| | minimum | maximum |
|---|---------|-------------|
| Intersection of line of fore edge of rudder including rudder stock and outside surface of the hull on the centreline, aft of section 9 | 260 mm | 280 mm |

E.4.8 WEIGHTS

| | minimum | maximum |
|-------------------------------------|---------|-------------|
| Rudder and rudder stock..... | | 20 kg |

Section F – Rig

F.1 PARTS

F.1.1 MANDATORY

- (a) **Mast**
- (b) **Boom**
- (c) Standing **rigging**
- (d) Running **rigging**

F.1.2 OPTIONAL

Spinnaker pole

F.2 GENERAL

F.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 the **class rules**.

F.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) **Spars** shall not be altered in any way except as permitted by these **class rules**.
- (b) Routine maintenance such as replacement of **rigging** and fittings is permitted without re-measurement and re-**certification**.

F.2.3 CERTIFICATION

- (a) The **official measurer** shall **certify spars** and shall sign and date the **certification mark**.
- (b) No **certification** of standing and running **rigging** is required.

F.2.4 DEFINITIONS

MAST DATUM POINT

See C.9.3.

F.2.5 MANUFACTURER

No licence is required.

F.3 MAST

F.3.1 MATERIALS

The **spar** shall be of aluminium alloy extrusion (90% aluminium content).

F.3.2 CONSTRUCTION

The **spar** construction is optional.

F.3.3 FITTINGS

Fittings are optional.

F.3.4 DIMENSIONS

Where no limit(s) for a particular dimension is given then the item is not controlled

and need not be measured.

minimum maximum

Mast spar curvature 25 mm

Spinnaker pole fitting:

projection 60 mm

Distance from forward face of spinnaker sheave or bearing
point of the fairlead to the forward face of the **mast**..... 100 mm

F.3.5 WEIGHTS

minimum maximum

Mast weight 24.5 kg

F.4 BOOM

F.4.1 MATERIALS

The material of the **spar** is optional.

F.4.2 CONSTRUCTION

The construction of the **spar** is optional.

F.4.3 FITTINGS

Fittings are optional.

F.4.5 DIMENSIONS

minimum maximum

Boom spar curvature 15 mm

Circle diameter through which boom ex fittings must pass 152 mm

F.5 SPINNAKER POLE

F.5.1 MANUFACTURER

Manufacturer is optional.

F.5.2 MATERIALS

The material of the **spar** is optional

F.5.3 CONSTRUCTION

The construction of the **spar** is optional.

F.5.4 FITTINGS

Fittings are optional.

F.5.5 DIMENSIONS

minimum maximum

Spinnaker pole length 2500 mm

F.6 STANDING RIGGING

F.6.1 MATERIALS

The material of the standing **rigging** is optional.

F.6.2 CONSTRUCTION

The design and construction of the standing **rigging** is optional.

F.7 RUNNING RIGGING

F.7.1 MATERIALS

Materials are optional.

F.7.2 CONSTRUCTION

- (a) The design and construction of running **rigging** is optional.
- (b) See C.9.6

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

- (a) Mainsail
- (b) Headsail

G.1.2 OPTIONAL

- (a) Spinnaker

G.2 GENERAL

G.2.1 RULES

Sails shall comply with the **class rules** in force at the time of **certification**.

G.2.2 CERTIFICATION

- (a) The **official measurer** shall **certify** mainsails and headsails in the **tack** and spinnakers in the **head** and shall sign and date the **certification mark**.
- (b) The RYA may appoint one or more persons at a sailmaker to measure and **certify sails** produced by that manufacturer in accordance with the ISAF In-house Certification Guidelines.

G.2.3 SAILMAKER

- (a) No licence is required.
- (b) The weight in g/m^2 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.

G.3 MAINSAIL

G.3.1 IDENTIFICATION

- (a) The class insignia and sail numbers shall comply with the RRS.
- (b) The class insignia shall be the letter S.
- (c) National letters are not required.

G.3.2 MATERIALS

- (a) The **ply** fibres shall consist of Polyester.
- (b) **Stiffening** shall consist of:
 - (1) Cornerboards of plastic or aluminium.
 - (2) Battens of wood or fibreglass.
- (c) **Sail reinforcement** shall consist of the same materials permitted in the **body of the sail**.
- (d) **Windows**, if fitted, shall consist of a single **ply** of transparent material.

G.3.3 CONSTRUCTION

- (a) The construction shall be: **soft sail, single ply sail**.
- (b) The **body of the sail** shall consist of **woven ply** throughout.
- (c) The **sail** shall have 3 batten **pockets** in the **leech**.
- (c) The following are permitted: Stitching, glues, woven and PTFE tapes, bolt ropes, corner eyes, Velcro or other fastenings, headboard with fixings, Cunningham eye or pulley, **batten pocket patches**, batten pocket elastic, batten pocket end caps, batten retaining devices, mast and boom slides, leech line and foot line with cleats, not more than two **windows**, tack and clew strap and buckle, luff cut-away for top-action type kicking-strap, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable *rules*.
- (e) The **sail** may have a loose foot.

G.3.4 DIMENSIONS

Where no limit(s) for a particular dimension is given then the item is not controlled and need not be measured.

| | minimum | maximum |
|---|---------|------------------|
| Leech length | . 8610 | mm |
| Foot median | . 8560 | mm |
| Quarter width | . 2655 | mm |
| Half width | . 1890 | mm |
| Three-quarter width | . 1029 | mm |
| Top width | . 130 | mm |
| Weight of ply of the body of the sail | 210 | g/m ² |
| Primary reinforcement | . 400 | mm |
| Secondary reinforcement: | | |
| from sail corner measurement points | . 900 | mm |
| for flutter patches | . 140 | mm |
| for chafing patches | . 750 | mm |
| for batten pocket patches | . 200 | mm |
| for top action kicking strap | . 600 | mm |
| Tabling width | | |
| at luff and foot | . 40 | mm |

| | |
|---|--------------------|
| elsewhere | 35 mm |
| Seam width | 20 mm |
| Total Window area | 0.3 m ² |
| Window to sail edge | 150 mm |
| Batten pocket length: | |
| uppermost pocket: | |
| inside | 650 mm |
| other pockets: | |
| inside | 790 mm |
| Batten pocket width: | |
| inside | 40 mm |
| Head point to intersection of leech and centreline of | |
| uppermost batten pocket | 2100 mm |
| Clew point to intersection of leech and centreline of | |
| lowermost batten pocket | 2100 mm |

G.4 HEADSAIL

G.4.1 MATERIALS

- (a) The **ply** fibres shall consist of Polyester
- (b) **Stiffening** shall consist of:
 - (1) Battens: Wood or fibreglass
- (c) **Sail reinforcement** shall consist of the same materials permitted in the **body of the sail**.
- (d) **Windows**, if fitted, shall consist of a single **ply** of transparent material.

G.4.2 CONSTRUCTION

- (a) The construction shall be: **soft sail, single ply sail**.
- (b) The **body of the sail** shall consist of **woven ply** throughout.
- (c) The headsail may have 2 **batten pockets** in the **leech**.
- (e) The following are permitted: Stitching, glues, woven and PTFE tapes, luff rope, luff wire, corner eyes, hanks, batten pocket elastic, **batten pocket patches**, batten pocket end caps, leech line with cleat, not more than 2 **windows**, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable *rules*.

G.4.3 DIMENSIONS

Where no limit(s) for a particular dimension is given then the item is not controlled and need not be measured.

| | minimum | maximum |
|---------------------------|---------|---------|
| Luff length | 5490 mm | 5566 mm |
| Leech length | | 4651 mm |
| Foot length | | 2288 mm |
| Foot median | | 5125 mm |
| Half width | | 1020 mm |
| Top width | | 50 mm |

| | |
|---|----------------------|
| Luff perpendicular | 1861 mm |
| Weight of ply of the body of the sail | 210 g/m ² |
| Primary reinforcement | 350 mm |
| Secondary reinforcement: | |
| from sail corner measurement points | 900 mm |
| for flutter patches | 140 mm |
| for chafing patches | 750 mm |
| for batten pocket patches | 150 mm |
| Tabling width | 40 mm |
| Seam width | 30 mm |
| Total Window area | 0.3 m ² |
| Window to sail edge | 150 mm |
| Batten pocket length: | |
| inside | 230 mm |
| Batten pocket width: | |
| inside | 40 mm |
| Head point to intersection of leech and centreline of uppermost batten pocket | 1500 mm |
| Clew point to intersection of leech and centreline of lowermost batten pocket | 1500 mm |

G.5 SPINNAKER

G.5.1 MATERIALS

- The **ply** fibres shall consist of polyester or nylon.
- Sail reinforcement** shall consist of the same materials as permitted in the **body of the sail**.

G.5.2 CONSTRUCTION

- The construction shall be: **soft sail, single ply sail**.
- The **body of the sail** shall consist of the same **woven ply** throughout.
- The following are permitted: Stitching, glues, tapes, corner eyes, tell tales and items as permitted or prescribed by other applicable *rules*.

G.5.3 DIMENSIONS

Where no limit(s) for a particular dimension is given then the item is not controlled and need not be measured.

| | minimum | maximum |
|---|---------------------|---------|
| Leech lengths | 6390 mm | 6540 mm |
| Difference between leech lengths | | 75 mm |
| Foot length | 4270 mm | 4570 mm |
| Foot Median | 6600 mm | 6800 mm |
| Half width | 4170 mm | 4470 mm |
| Three-quarter width | 2150 mm | 2700 mm |
| Weight of ply of the body of the sail | 32 g/m ² | |
| Primary reinforcement | | 350 mm |

Secondary reinforcement:

| | |
|--|---------|
| from sail corner measurement points | 1050 mm |
| Tabling width | 25 mm |
| Seam width | 20 mm |

PART III – APPENDICES

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 H

H.1 MEASUREMENT FORM DATA

| | |
|-------------------------|---------------------|
| Effective: | 1 March 2009 |
| Previous issues: | 1 February 2008 |
| | 1 April 2005 |
| | 1 March 2004 |
| | 1 March 2003 |
| | 1 March 2001 |
| | 1 March 1997 |
| | 1 March 1989 |
| | 1 March 1988 |
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| | 1 March 1982 |
| | 1 March 1981 |
| | 1 March 1980 |
| | 1 March 1979 |
| | 1 March 1978 |
| | 1 March 1976 |
| | 1 March 1975 |
| | 1 March 1974 |
| | 1 March 1973 |
| | 1 March 1972 |
| | 1 March 1971 |
| | 1 March 1969 |
| | 1 January 1967 |

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