

SONAR CLASS ASSOCIATION

CLASS RULES v1.12

Effective March 1, 2010



The Sonar was designed in 1979 by Bruce Kirby and was adopted as an ISAF Recognized class in 2000.

NOTE: Rules preceded by a *** indicate changes from the previously adopted rules.

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PART I – ADMINISTRATION

Section A – General

A.1 TYPE OF CLASS RULES

A.1.1 These are **closed class rules**. The Constitution, By-Laws and **class rules** shall be interpreted to insure continued competition between **boats** of identical design and construction.

A.2 LANGUAGE

A.2.1 The official language of the class is English and in case of dispute over translation the English text shall prevail.

A.2.2 The word “shall” is mandatory and the word “may” is permissive.

A.2.3 The term “secured” shall mean held in place by positive means.

A.2.4 The term “fastened” shall mean held in place with bolts or screws.

A.2.5 The term “permanent” shall mean unable to be removed with simple tools.

A.2.6 The term “alteration” shall mean a substantial change from the original condition.

A.3 ABBREVIATIONS

A.3.1 ISAF International Sailing Federation
MNA ISAF Member National Authority
SCA Sonar Class Association
NCA National Class Association
ERS Equipment Rules of Sailing
RRS Racing Rules of Sailing
IFDS International Foundation Disabled Sailing

A.4 AUTHORITIES AND RESPONSIBILITIES

A.4.1 The international authority of the class is the ISAF, which shall co-operate with the SCA in all matters concerning these **class rules**.

A.4.2 Unless otherwise designated by the SCA, the **certification authority** shall be the SCA.

A.4.3 The SCA shall appoint **official measurers** or shall authorize a **certification authority** or an NCA to do so.

A.4.4 Neither the ISAF, the MNA, the SCA, an NCA, the IFDS, the **certification authority** nor an **official measurer** is under any legal responsibility in respect to these **class rules** or accuracy of measurement and no claim arising from them can be entertained.

A.4.5 Notwithstanding anything contained herein, the **certification authority** has the authority to withdraw a **certificate** and shall do so on the request of the ISAF.

A.5 ADMINISTRATION OF THE CLASS

A.5.1 ISAF has delegated its administrative functions of the class to SCA. The SCA may delegate part or all of its functions, as stated in these **class rules**, to an NCA.

A.6 ISAF AND SCA RULES

A.6.1 These **class rules** shall be read in conjunction with the ERS and the RRS. Where a term is used in its defined sense, it is printed in “**bold**” type if defined in the ERS, in “*italic*” type if defined in the RRS and underlined if defined by the SCA.

A.7 SAILING INSTRUCTIONS

A.7.1 Sailing instructions shall not vary these **class rules** except with the consent of the SCA.

A.8 AMENDMENTS TO CLASS RULES

A.8.1 Amendments to these **class rules** shall require approval by the Executive Committee and the ISAF.

A.8.2 Proposed amendments may be made in writing to the Executive Committee of the SCA by the Technical Committee of the SCA.

A.9 INTERPRETATION OF CLASS RULES

A.9.1 GENERAL

Interpretation of **class rules**, except as provided by A.9.2, shall be made in accordance with the ISAF Regulations.

A.9.2 AT A REGATTA

A jury may make any interpretation of **class rules** required at a regatta. Such interpretation shall only be valid during the regatta and the organising authority shall, as soon as practical after the regatta, inform the ISAF and the SCA of such interpretation.

A.10 INTERNATIONAL CLASS FEE(S) AND ISAF PLAQUE

A.10.1 Builders shall be licensed with the approval of the SCA and ISAF.

A.10.2 The International Class Fee(s) shall be paid by the licensed builder.

A.10.2 ISAF shall, after having received the International Class Fee for the **hull**, send the ISAF Building Plaque and a measurement form to the licensed builder and forward the appropriate portion of the Class Fee(s) to the SCA.

A.11 SAIL NUMBERS.

A.11.1 Sail numbers shall be issued by the SCA and shall be sequential.

A.11.2 A **boat's** official sail number shall be the same as the **hull**.

A.11.3 An owner shall possess an SCA assigned sail number.

A.12 INITIAL CERTIFICATION

A.12.1 For a **hull** not previously **certified**, all items required to be measured by the measurement form shall be measured by an **official measurer** and the details entered onto the form.

- A.12.2 The measurement form, together with any **certification** fee, shall be sent to the **certification authority** within two weeks after completion of measurement.
- A.12.3 Upon receipt of a satisfactorily completed measurement form, the **certification authority** shall issue a **certificate**. The **certification authority** shall retain the original measurement form.
- A.12.4 If a licensed builder has been determined by the Executive Committee of the SCA to have signed a measurement form for a **hull** that did not measure correctly, it shall be required to rectify the error to the satisfaction of the **certification authority**, and may have its license as a builder withdrawn.

A.13 VALIDITY OF CERTIFICATES

- A.13.1 A **certificate** becomes invalid upon:
- (a) invalidation or revocation by the **certification authority**, or;
 - (b) any alteration or repair to items required to be measured by the measurement form, other than permitted routine maintenance.

A.14 RE-CERTIFICATION

- A.14.1 Upon invalidation the owner shall apply to the **certification authority** for a new **certificate** together with any re-**certification** fee that may be required. A new **certificate** shall then be issued to the owner.
- A.14.2 Upon alteration or repair to an item required to be measured by the measurement form, the relevant item shall be re-measured by an **official measurer** and the details entered on a new form. The new form and any re-**certification** fee that may be required shall be sent to the **certification authority** within 4 weeks after completion. A new **certificate**, showing the dates of initial and new **fundamental measurement**, shall then be issued to the owner.
- A.14.3 Upon alteration to corrector weights the **boat** shall be re-weighed by an **official measurer** and the details entered on the **hull certification mark** and the changes registered with the **certification authority**.

Section B – Boat Eligibility

For a **boat** to be eligible to *race*, she shall comply with the SCA By-Laws and the rules in this section.

B.1 CERTIFICATE

- B.1.1 No **Boat** shall be entitled to *race* as a bona-fide Sonar unless:
- (a) an owner holds a valid **certificate** in his own name for the yacht concerned and;
 - (b) the annual dues have been paid to the SCA and;
 - (c) a current SCA Membership Sticker and **hull certification mark** are affixed to the **hull** in accordance with rule C.5.1.

B.2 RESPONSIBILITY

- B.2.1 An owner shall agree to the one-design principle of the class and shall do nothing during the course of ownership to cause this principle to be violated.

B.3 CLASS MEMBERSHIP

B.3.1 An owner shall be a current Active Member of the SCA.

PART II – REQUIREMENTS AND LIMITATIONS

- A **boat** and its crew shall comply with the rules in this Part when *racing*.
- Measurement required by these rules, except for Section C, is part of **fundamental measurement** that shall only be carried out by an **official measurer**.

Section C – Conditions for Racing

C.1 ADVERTISING

C.1.1 LIMITATIONS

- (a) Advertising shall only be displayed in accordance with category C of the ISAF Advertising Code (See ISAF Regulation 20).

C.2 CREW

C.2.1 LIMITATIONS

- (a) During a regatta the **crew** shall consist of a minimum of three persons and the number shall not change.
- (b) A **crew** member shall not be substituted during a sanctioned event without the prior consent of the jury.
- (c) A **crew** member shall be seated inboard of the toe rail (including legs) but the upper body may lean outboard.
- (d) A **crew** member shall not use **standing rigging** for the purpose of accentuating a tack or jibe.
- (e) A **crew** member shall not be permitted below decks except to temporarily retrieve or stow equipment or to facilitate repairs.

C.3 EQUIPMENT

C.3.1 FOR USE

- (a) Mandatory
 - (i) **Personal buoyancy** for each crewmember, each having positive buoyancy of not less than 6 kg.
 - (ii) One throwable flotation device such as a cushion or ring with positive buoyancy of not less than 3 kg.
 - (iii) One hand bailer or bucket of not less than 6 liters capacity.
 - (iv) One hand bilge pump.
 - (v) One anchor of not less than 3.6 kg in weight and with not less than 30 m of continuous line of not less than 8 mm in diameter.
 - (vi) Hatch covers for the companionway opening with a removable lower cover not less than 15 cm in height.
- (b) Optional
 - (i) Electronic or mechanical timing devices.
 - (ii) Analog or digital compasses.

- (iii) Except at sanctioned events, electronic navigational device without chart capability.
- (iv) **Spinnaker pole.**
- (v) **Spinnaker** boxes, buckets or turtles.
- (vi) **Whisker pole.**
- (vii) Flares.
- (viii) Fog horn.
- (ix) Running lights.
- (x) Mast head fly or telltales.
- (xii) VHF or marine band radio.
- (xiii) First aid kit.
- (xiv) Mast partner blocks.
- (xv) Adaptations for disabled sailors as in accordance with Appendix B of these **class rules**.
- (xvi) Any additional equipment as required to be carried aboard by local or national governmental authority, not limited to safety equipment.
- (xvii) Permanently mounted, manual bilge pump and associated fittings shall have its lowest discharge point not more than 150mm below the top of the toe rail.
- (xviii) Mast partner adjustment shall be block and tackle located below the deck and may be cleated only for the purpose of moving partner blocks.

C.3.2 NOT FOR USE

(a) Mandatory

One paddle or oar extendable to at least 1.5 m in length.

(b) Optional

- (i) Mooring lines and towing ropes.
- (ii) One outboard engine and bracket.

C.4 BOAT

C.4.1 WEIGHT

The dry weight of the complete **hull** and **rig** as raced including the following, shall not be less than 950 kg:

- (a) One set of sheets only.
- (b) Hatch covers.
- (c) Mast partner blocks.
- (d) Fastened or permanent equipment including:
 - (i) Compasses (excluding batteries).
 - (ii) Running lights.
 - (iii) Bilge pump.
 - (iv) Mast head fly and telltales.
 - (v) Lifting slings

C.4.2 CORRECTOR WEIGHTS

Corrector weights shall be added to the **hull** as prescribed below when the **boat** weight is less than the amount specified in section C.4.1. Corrector weights shall be noted on the **hull certification mark**.

- (a) **Boats** weighing between 940 kg and 950 kg: Corrector weights shall be placed in the keel sump.
- (b) **Boats** weighing between 922 kg and 940 kg: Corrector weights in the amount of 9 kg shall be placed in the keel sump. The balance shall be divided equally and secured in the aft lazarette and forward of the aft face of the **mast**.
- (c) **Boats** weighing between 897 kg and 922 kg: The total corrector weight shall be divided into three equal portions. One portion shall be placed in the keel sump. The balance shall be divided equally and secured in the aft lazarette and forward of the aft face of the **mast**.

C.5 HULL AND DECK

C.5.1 MARKINGS

- (a) A current SCA Membership Sticker shall be affixed on the **hull** on the starboard side, at the aft starboard corner within 25 mm of the toe rail.
- (b) The **hull** shall have a valid **hull certification mark** including corrector weight details, affixed to the aft, forward facing seat back, on the starboard side, within 50 mm of the deck.

C.5.2 MAINTENANCE

Routine maintenance such as painting and polishing is permitted without re-measurement and re-**certification**.

C.5.3 FITTINGS

Fittings type, quantity and placement shall be in conformance with Section D.

C.5.4 LIMITATIONS

- (a) Application of fillers to the **hull** for fairing is prohibited, except within 70 mm of the bailers.
- (b) Sanding on the **hull** is permitted to the extent that the laminates shall not be exposed.
- (c) The **hull** may be repaired provided that the shape, structure and characteristics of the original are not altered.

C.6 HULL APPENDAGES

C.6.1 DIMENSIONS

The **keel** and **rudder** dimensions shall be in compliance with Section E.

C.6.2 MAINTENANCE

Routine maintenance such as painting and polishing is permitted without re-measurement and re-**certification**.

C.6.3 KEEL SUMP REPAIR

The sump may be reinforced by the two following methods:

- (a) Two panels of either marine plywood or glass fiber may be fitted into the base of the keel sump and extending up to within 25 mm of the cockpit floor. The panels may span completely across space available running

awartships. The panels may be attached with glass fiber to the sides. Final panel thickness shall not exceed 18 mm. Holes or spaces shall be left in the panels to allow any water to flow from one side to the other so that bailing may be unimpeded. The panels shall not interfere with access to the keel bolts or cause chafe on lifting slings.

- (b) Layers of glass fiber may be laid up on the port and starboard sides of the keel sump. The additional layers shall not exceed 5 mm in thickness.

C.6.4 LIMITATIONS

- (a) The **rudder** blade and **keel** may be faired to the limits of the measurements specified in section E. The application of fillers is permitted.
- (b) Sanding the **keel** for fairing is permitted to the extent that the lead shall not be exposed.
- (c) Sanding the **rudder** for fairing is permitted to the extent that the laminate shall not be exposed.
- (d) Only one **rudder** blade shall be used during a regatta, except when a **rudder** has been lost or damaged beyond repair. Such replacement may be made only with the consent of the jury.

C.7 RIG

C.7.1 DIMENSIONS

The **rig** dimensions shall be in compliance with Section F.

C.7.2 MAINTENANCE

Routine maintenance such as cleaning, polishing, painting, repairs and the replacement of stays is permitted without re-measurement or re-**certification**.

C.7.3 LIMITATIONS

- (a) Only one set of **spars** and standing **rigging** shall be used during a regatta, except when an item has been lost or damaged beyond repair. Such replacement may be made only with the consent of the jury.
- (b) Rigging links, rigging screws and turnbuckles shall not be adjusted while racing.

C. 7.4 RUNNING RIGGING

The running **rigging** shall be in compliance with section F.

C.8 SAILS

C.8.1 IDENTIFICATION

- (a) **Sails** shall carry identification as prescribed in section G.
- (b) Except to the extent permitted in By-Laws B 12.01, the sail number shall comply with rule A.11.2.

C.8.2 DIMENSIONS

The **sail** dimensions shall be in compliance with section G.

C.8.3 MAINTENANCE

Routine maintenance such as cleaning or repair of damaged panels is permitted without re-measurement or re-**certification**.

C.8.4 LIMITATIONS

- (a) Not more than one mainsail, two jibs and two spinnakers shall be carried aboard while *racing*.
- (b) Not more than one mainsail, two jibs and two spinnakers shall be used during a sanctioned event, except when a sail has been lost or damaged beyond repair. Such replacement may be made only with the consent of the jury.
- (c) A boat shall not purchase more than five individual sails in a calendar year

C.8.5 SETTING

Sails shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the **sails** at sea.

(a) **Mainsail**

- (i) The highest visible point of the **sail**, projected at 90° to the **mast spar**, shall not be set above the **upper point**. The intersection of the leech and the top of the **boom spar**, each extended as necessary, shall not be aft of the **outer point**.
- (ii) **Luff** and **foot** boltropes shall be in the **spar** grooves or tracks.

(b) **Spinnaker**

Only one **sail** shall be set at any time.

Section D – Hull and Deck

D.1 PARTS

D.1.1 MANDATORY

- (a) **Hull** shell
- (b) Deck
- (c) Berth shell
- (d) Toe rail
- (e) Positive flotation consisting closed cell foam or sealed air tanks.
- (f) Bulkheads

D.1.2 OPTIONAL

No holes through the **hull** or deck shall be allowed except as noted below or otherwise allowed in these **class rules**.

- (a) Up to four drain holes on each side of the deck or toe rail, located at the sheerline.
- (b) Up to four drain holes in each seat lazarette, each not more than 7 mm in diameter.
- (c) Up to four holes in each toe rail through which fittings may be attached, each not more than 10 mm in diameter.
- ***- (d) A hole in the foredeck of 10mm maximum diameter, on the centreline and not more than 330mm forward of the forward most point of the mast opening that may only be used for the spinnaker pole downhaul.
- (e) Up to seven holes for running rigging, located in the aft face of the cabin above the companionway, each not more than 20 mm in diameter.
- (f) Two self-bailers installed in the aft corners of the cockpit floor.

(g) One keel sump drainage fitting.

D.2 CONSTRUCTION

D.2.1 Construction shall be in accordance with the Sonar Construction Plans.

D.3 MEASUREMENT

D.3.1 Measurement shall be carried out in accordance with the ERS.

D.4 CERTIFICATION

D.4.1 The **hull** shall comply with the **class rules** in force at the time of initial **fundamental measurement**.

D.4.2 **Certification** of the **hull** shall be in accordance with Section A of the **class rules**.

D.5 IDENTIFICATION

D.5.1 **Hulls** manufactured on or after March 1, 2000 shall carry the ISAF Plaque and the builder's plaque permanently affixed to the center of the aft face of the cockpit between the top of the seat and the deck.

D.6 BUILDERS

D.6.1 The **hull** builder shall be approved by the ISAF.

D.6.2 All moulds shall be approved by the ISAF.

D.7 ASSEMBLED HULL

D.7.1 FITTINGS

(a) Mandatory

- (i) Forestay fitting.
- (ii) Backstay fitting.
- (iii) Shroud plates.
- (iv) Maximum two headsail tracks with one car per track.
- (v) Mainsheet traveller track shall be located in the traveller track seat recess and shall have no curvature.
- (vi) Maximum two mainsheet traveller cars.
- (vii) Mast step that shall not be adjustable.
- (viii) One or two bow chock(s) or eye(s) capable of accepting a 22mm line.
- (ix) One foredeck mooring cleat or eye capable of accepting a 22mm line.

(b) Optional

- (i) Two stern cleat(s) or eye(s).
- (ii) Headsail halyard winch or tensioner.
- (iii) Mainsail sheet blocks, fairleads and cleats.
- (iv) Mainsail Cunningham blocks, fairleads and cleats.
- (v) Maximum two headsail sheet winches.
- (vi) Headsail sheet blocks, fairleads and cleats.
- (vii) Headsail barber-hauler fairleads, blocks and cleats.

- (viii) Spinnaker sheet and guy fairleads, blocks and cleats.
- (ix) Spinnaker barber-hauler fairleads, blocks and cleats.
- (x) Up to four hand holds on each upright (backrest) surface of the deck.
- (xi) Stowage clips for paddle(s), **spinnaker pole**, sail bags and other equipment.
- (xii) Bilge pump(s) which may discharge through **hull** shell or deck.
- (xiii) Analog or digital compass.
- (xiv) Deck clips for cockpit cover and/or tent.
- (xv) Headsail roller furling device mounted above the deck.

D.7.2 DIMENSIONS

	minimum	maximum
(a) Center of forestay pin hole to bow 100 mm below the deck.....	135 mm	155 mm
(b) Center of forestay pin hole to center of outboard shroud hole	2946 mm	2997 mm
(c) Center of outboard shroud hole to sheerline	152 mm	178 mm
(d) Fore and aft dimension of mast spar hole measured 10 mm below the top surface		206 mm
(e) Combined mast step thickness from gel coat surface to mast datum point		17 mm
(f) Aft side of mast datum point to center of companion opening sill measured at the gel coat surface	717 mm	740 mm
(g) Mainsheet traveller track length.....		1042 mm
(h) Top of traveller track to highest point of seat, measured at points 100mm forward and 100mm aft of the centerline of the track.....		20mm

Section E – Hull Appendages

E.1 PARTS

E.1.1 MANDATORY

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

E.2 MEASUREMENT

E.2.1 Measurement shall be carried out in accordance with the ERS.

E.3 KEEL

E.3.1 CERTIFICATION

The **keel** shall comply with the **class rules** in force at the time of the initial **fundamental measurement** of the **hull** in accordance with E.3.3.

- E.3.2 MANUFACTURERS
Manufacturer shall be an approved **hull** builder.
- E.3.3 CONSTRUCTION
(a) The **keel** shall be manufactured in accordance with the Sonar Construction Plans.
(b) Moulds shall be approved by the ISAF.
- E.3.4 FITTINGS
(a) Lifting eye(s)/strap(s) shall be attached to the keel bolts.
(b) Lifting eye(s)/strap(s) as included in the weight in section C.4 shall weigh not more than a total of 3 kg.
- E.3.5 DIMENSIONS
(a) **Keels** manufactured prior to March 1, 2000:
The **keel** shall conform to the tolerances in force at the time of manufacture.
(b) **Keels** manufactured or altered on or after March 1, 2000:
The **keel** shall conform to the tolerances of Section H.
- E.4 RUDDER BLADE, RUDDER STOCK AND TILLER**
- E.4.1 CERTIFICATION
The **rudder** shall comply with the **class rules** in force at the time of **fundamental measurement** of the **hull**.
- E.4.2 MANUFACTURERS
Manufacturer shall be an approved **hull** builder.
- E.4.3 MATERIALS
The tiller shall be made of wood or metal.
- E.4.4 CONSTRUCTION
(a) The **rudder** shall be manufactured in accordance with the Sonar Construction Plans.
(b) Moulds shall be approved by the ISAF.
- E.4.5 FITTINGS
(a) Mandatory
(i) Rudder cap.
(ii) Tiller of optional design.
(b) Optional
Hiking stick of optional design.
- E.4.6 DIMENSIONS
(a) **Rudders** manufactured prior to March 1, 2000:
The **rudder** blade shall conform to the tolerances in force at the time of manufacture.
(b) **Rudders** manufactured or altered on or after March 1, 2000:
The **rudder** shall conform to the tolerances of Section H.
- E.4.7 WEIGHTS
(a) Tiller less fittings shall not weigh less than 1.4 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

- (a) **Spinnaker pole**
- (b) **Whisker pole**
- (c) A flexible device that holds the slack of the backstay off the leech of the mainsail. This shall not be adjustable while racing and shall not change the attachment points of the backstay, nor alter the line of the backstay under load between the attachment points.

F.2 GENERAL

F.2.1 MEASUREMENT

- (a) Measurement shall be carried out in accordance with the ERS.

F.2.2 DEFINITION

The **mast datum point** shall be the lowest point on the mast extrusion.

F.3 MAST

F.3.1 CERTIFICATION

- (a) The **spar** and its fittings shall comply with the **class rules** in force at the time of **fundamental measurement** of the **spar**.
- (b) The **spar** shall be **certified** by either;
 - (i) the original manufacturer at time of manufacture, or;
 - (ii) an **official measurer**.
- (c) The **spar** shall carry an SCA **certification mark** with the date of **fundamental measurement**. It shall be affixed to the starboard side of the **spar**, above and within 100 mm of the **lower limit mark**.

F.3.2 MANUFACTURER

Manufacturer shall be approved by the SCA.

F.3.3 MATERIALS

The **spar** shall be of aluminium alloy. It may be anodised.

F.3.4 CONSTRUCTION

- (a) The **spar** extrusion shall include a fixed sail groove that shall be integral with the **spar** extrusion.
- (b) Holes may be made in the **spar** only for fittings or **rigging**.
- (c) The gooseneck fitting shall be fixed in location.

F.3.5 FITTINGS

- (a) Mandatory
 - (i) Mast head fitting.

- (ii) Forestay and shroud T-ball backing plates.
 - (iii) A set of fixed **spreaders** of non-tapered aluminium extrusion.
 - (iv) Mainsail halyard sheave box.
 - (v) Headsail halyard sheave box.
 - (vi) Spinnaker halyard sheave box.
 - (vii) Two **spinnaker pole fittings**.
 - (viii) **Spinnaker pole** or whisker pole lift block.
 - (ix) Gooseneck.
 - (x) Kicking strap attachment.
- (b) Optional
- (i) One mechanical wind indicator.
 - (ii) Compass bracket.
 - (iii) Slots for halyards, pole lifts and Cunningham.

F.3.6 DIMENSIONS

	minimum	maximum
(a) Mast Length	10275 mm	10315 mm
(b) Mast Spar Curvature at 6100 mm from the mast datum point		50 mm
(c) Mast Spar Cross Section at 8458 mm from the mast datum point :		
(i) Fore and aft.....	100 mm	103 mm
(ii) Transverse	66 mm	72 mm
(d) Limit Mark Width	25 mm	
(e) Lower Point Height	1727 mm	
(f) Upper Point Height		10110 mm
(g) Forestay Height	8223 mm	8236 mm
(h) Shroud Height :		
(i) Lower.....	4438 mm	4451 mm
(ii) Upper	8223 mm	8236 mm
(i) Spinnaker Pole Fitting height:		
(i) Lower.....	2042 mm	2064 mm
(ii) Upper	2432 mm	2445 mm
(j) Spinnaker Pole Fitting Projection		60 mm
(k) Spinnaker Hoist Height		8389 mm
(l) Spreader :		
(i) Transverse length measured as the distance between the inner edge of both upper shrouds on the upper edge of each spreader	1426 mm	1486 mm
(ii) Fore and aft length measured as the distance from the aft face of the spar to a		

	line intersecting the aft edge of both shrouds.....	71 mm	135 mm
(iii)	Height	4555 mm	4570 mm
(m)	Spreader Cross Section:		
(i)	Fore and aft.....	45 mm	
(ii)	Vertical	18 mm	

F.3.7 WEIGHTS

		minimum
	Mast Tip Weight	10 kg

F.4 BOOM

F.4.1 CERTIFICATION

- (a) The **spar** and its fittings shall comply with the **class rules** in force at the time of **fundamental measurement** of the **spar**.
- (b) The **spar** shall be **certified** by either;
 - (i) the original manufacturer at time of manufacture, or;
 - (ii) an **official measurer**.
- (c) The **spar** shall carry an SCA **certification mark** with the date of **fundamental measurement**. It shall be affixed to the starboard side of the **spar**, forward and within 100 mm of the **outer point**.

F.4.2 MANUFACTURER

Manufacturer shall be approved by the SCA.

F.4.3 MATERIALS

The **spar** shall be of aluminium alloy. It may be anodised.

F.4.4 CONSTRUCTION

- (a) The **spar** extrusion shall include a fixed sail groove that shall be integral with the **spar** extrusion.
- (b) The **spar** groove may be cut away or modified for a distance not exceeding 400 mm from the aft face of the **mast**.
- (c) Holes may be made in the **spar** only for fittings or **rigging**.
- (d) The **spar** shall not be tapered at any point on its length.
- (e) The extension of the top of the **boom** measured at 90 degrees to the **mast spar** shall not be below the **lower point**.

F.4.5 FITTINGS

- (a) Mandatory
 - (i) One or two mainsheet block attachment(s).
 - (ii) **Clew** outhaul blocks and attachments.
 - (iii) Kicking strap fitting.
 - (iv) Gooseneck attachment.
- (b) Optional
 - (i) **Spinnaker pole** or whisker pole stowage fittings.
 - (ii) Elastic material and blocks for absorbing excess outhaul rope.

F.4.6 DIMENSIONS

	minimum	maximum
(a) Boom Spar Curvature		25 mm
(b) Boom Spar Cross Section:		
(i) Vertical	88 mm	98 mm
(ii) Transverse	55 mm	65 mm
(c) Limit Mark Width	25 mm	
(d) Outer Point Distance		3404 mm

F.5 SPINNAKER POLE

F.5.1 CERTIFICATION

Certification is not required.

F.5.2 MANUFACTURER

Manufacturer is optional.

F.5.3 MATERIALS

The **spar** shall be of aluminium alloy. It may be anodised.

F.5.4 CONSTRUCTION

The **spar** may be tapered for a maximum of 400mm from either end.

F.5.5 FITTINGS

Fittings are optional.

F.5.6 DIMENSIONS

	minimum	maximum
(a) Length		2610 mm
(b) Diameter	50 mm	

F.6 WHISKER POLE

F.6.1 CERTIFICATION

Certification is not required.

F.6.2 MANUFACTURER

Manufacturer is optional.

F.6.3 MATERIALS

The **spar** shall be of Glass Reinforced Plastic (GRP) or aluminium alloy. It may be anodised.

F.6.4 CONSTRUCTION

Construction is optional.

F.6.5 FITTINGS

Fittings are optional.

F.6.6 DIMENSIONS

	minimum	maximum
(a) Length.....	3000mm	3100 mm

(b) Diameter 35 mm 64 mm

F.6.7 PROHIBITED
The use of a **Whisker pole** while a spinnaker is set.

F.7 STANDING RIGGING

F.7.1 CERTIFICATION
Certification is not required.

F.7.2 MANUFACTURER
Manufacturer is optional.

F.7.3 MATERIALS
The standing **rigging** shall be of stainless steel.

F.7.4 CONSTRUCTION
(a) Mandatory
(i) Forestay of 1 x 19 x constant cross section wire.
(ii) Shrouds of 1 x 19 x constant cross section wire.
(iii) Backstay of 1 x 19 x constant cross section wire.

F.7.5 FITTINGS
(a) Mandatory
(i) Forestay **rigging** link or **rigging** screw of non quick release design.
(ii) Shroud **rigging** screws of non quick release design.
(iii) Backstay checkstay of wire or rope between the lower end of the backstay and the backstay fitting on the **hull**.

(b) Optional
Boom preventer

F.7.6 DIMENSIONS		minimum	maximum
(a) Forestay length from center of lower rigging link or rigging screw pin to rigging point	7848 mm		8001 mm
(b) Forestay diameter	3.8 mm		
(c) Shroud diameter	3.8 mm		
(d) Backstay diameter	3.0 mm		

F.8 RUNNING RIGGING

F.8.1 CERTIFICATION
Certification is not required.

F.8.2 MANUFACTURER
Manufacturer is optional.

F.8.3 MATERIALS
Materials are optional unless specified in section F.8.4.

F.8.4 CONSTRUCTION
(a) Mandatory
(i) Mainsail halyard shall be wire, rope or a combination of both.
(ii) Mainsail sheet shall be rope.

- (iii) Backstay and traveller control lines shall be rope.
- (iv) Kicking strap shall be wire, rope or a combination of both.
- (v) Headsail halyard shall be wire, rope or a combination of both.
- (vi) Headsail sheets shall be rope.
- (vii) Spinnaker halyard shall be rope.
- (viii) Spinnaker sheet and guy shall be rope.
- (ix) **Spinnaker pole** or whisker pole lift shall be wire, rope or a combination of both.

(b) Optional

- (i) Mainsail Cunningham line shall be wire, rope or a combination of both.
- (ii) Mainsail outhaul shall be wire, rope or a combination of both.
- (iii) **Spinnaker pole** or whisker pole downhaul shall be rope.
- (iv) Spinnaker barber-haulers shall be rope.
- (v) **Whisker pole** launching or retrieval device shall be rope, elastic cord or a combination of both.

F.8.5 FITTINGS

(a) Mandatory

None.

(b) Optional

Spinnaker sheet barber-haulers to run on spinnaker sheet or guy.

F.8.6 LIMITATIONS

Rules of this section may be modified for a Paralympic Team in accordance with Appendix B.

- (a) Main halyard shall be single part and may have up to two cleat locations below the **lower point**.
- (b) Headsail halyard shall be single part and shall have not more than two cleat locations.
- (c) Headsail halyard fine tune shall be of block and tackle construction.
- (d) Mainsheet shall be single ended with one cleat location.
- (e) Headsail sheets may have up to two cleat locations per side.
- (f) Headsail sheets may have a fine tune of block and tackle construction.
- (g) Headsail downhaul of not more than one to one mechanical advantage, attached to the **head** and led back to the cockpit. It shall not be cleated.
- (h) The **spinnaker pole** or **whisker pole** downhaul and lift shall each have one cleat location.
- (i) Traveller control line shall have not more than two cleat locations per side.
- (j) Cunningham shall have one cleat location.
- (k) Mainsail outhaul shall be of block and tackle construction and shall have one cleat location.
- (l) Kicking strap shall be of block and tackle construction and shall have one cleat location.
- (m) Mainsheet traveller track shall be located in traveller track seat recess.

- (n) Headsail sheet car position adjustment may use a spring pin type locking device or a block and tackle located on the deck that may have up to two cleat locations per side.

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

- (a) Mainsail
- (b) Headsail

G.1.2 OPTIONAL

Spinnaker

G.2 MEASUREMENT

G.2.1 Measurement shall be carried out in accordance with the ERS.

G.3 CERTIFICATION

G.3.1 **Sails** shall comply with the **class rules** in force at the time of initial **fundamental measurement**.

G.3.2 **Sails** shall carry a **certification mark** near the **tack point**. The mark shall be signed and dated by an **official measurer**.

G.4 SAILMAKERS

G.4.1 Sailmaker is optional.

G.5 MAINSAIL

G.5.1 IDENTIFICATION

(a) Insignia

- (i) The class insignia shall conform to the dimensions in Section H.1.3 and be positioned in conformance to the RRS.
- (ii) The color shall be red.

(b) Numbers and national letters

- (i) Numbers and national letters shall conform to the RRS except as modified in G.5.1 (b) (ii).
- (ii) Mainsails constructed prior to March 1, 2000 shall not require national letters.
- (iii) The color shall be black.

G.5.2 CONSTRUCTION

- (a) The construction shall be: **soft sail, single-ply sail**.
- (b) The **body of the sail** shall consist of **woven ply** throughout. The **ply** fibres shall be of polyester.
- (c) The **sail** shall have four **batten pockets** in the **leech**.
- (d) The **leech** shall not extend beyond a straight line from the **clew point** to the intersection of the **leech** and the lower edge of the lower **batten pocket**.

- (e) The **sail** may include slab reefing with up to four points in the **body of the sail**.
- (f) The sail shall include **luff** and **foot** boltropes.
- (g) The following are permitted: Stitching, glues, tapes, corner eyes, reef eyes, headboard with fixings, cunningham eye or pulley, **reinforcements**, batten pocket elastic, **batten pocket patches**, **flutter patches**, **chafing patches**, batten pocket end caps, **Mast** and boom slides, leech line with cleat, two **windows**, tell tales, sail shape indicator stripes, sail numbers, national letters and class insignia, sailmaker labels, class royalty label, **certification mark**.

G.5.3 DIMENSIONS

	minimum	maximum
(a) Leech Length		8892 mm
(b) Upper Width 483 mm from head point		375 mm
(c) Half Width		2282 mm
(d) Three-Quarter Width		1396 mm
(e) Weight of the Ply of the body of the sail	192 gr/m ²	
(f) Window area.....		0.3 m ²
(g) Outside Batten Pocket Length :		
(i) Uppermost and lowermost pockets		805 mm
(ii) Intermediate pockets.....		960 mm
(h) Head Point to intersection of leech and centerline of uppermost batten pocket	1740 mm	
(i) Clew Point to intersection of leech and centerline of lowermost batten pocket	1740 mm	
(j) Tack Point to center of reef grommet parallel to the luff	900 mm	1100 mm
(k) Clew Point to center of reef grommet parallel to the leech	900 mm	1100 mm

G.6 HEADSAIL

G.6.1 CONSTRUCTION

- (a) The construction shall be: **soft sail, single-ply sail**.
- (b) The **body of the sail** shall consist of **woven ply** throughout. The **ply** fibres shall be of polyester.
- (c) The headsail shall have two or three **batten pockets** in the **leech**.
- (d) The following are permitted: Stitching, glues, tapes, corner eyes, hanks, **reinforcements**, batten pocket elastic, **batten pocket patches**, **flutter patches**, batten pocket end caps, leech line with cleat, foot line with cleat, two **windows**, tell tales, sail shape indicator stripes, sheeting blocks, sailmaker labels, class royalty label, **certification mark**.

G.6.2 DIMENSIONS

	minimum	maximum
(a) Luff Length		7240 mm
(b) Leech Length		6477 mm

(c) Luff Perpendicular	2515 mm
(d) Foot Median	7000 mm
(e) Half Width	1285 mm
(f) Three Quarter Width	650 mm
(g) Upper Width 183 mm from head point	102 mm
(h) Weight of the ply of the body of the sail	188 gr/m ²
(i) Window area.....	0.2 m ²
(j) Outside Batten Pocket Length :	
(i) Top.....	335 mm
(ii) Intermediate and/or bottom	430 mm
(k) Head Point to intersection of leech and centreline of uppermost batten pocket	1580 mm
(l) Clew Point to intersection of leech and centreline of lowermost batten pocket	1580 mm

G.7 SPINNAKERS

G.7.1 IDENTIFICATION

- (a) Numbers and national letters
 - (i) Numbers and national letters shall conform to the RRS.
 - (ii) The color shall be contrasting with the background.

G.7.2 CONSTRUCTION

- (a) The construction shall be **soft sail, single-ply sail**.
- (b) The **body of the sail** shall consist of **woven ply** throughout. The **ply** fibres shall be of polyamide.
- (c) The following are permitted: Stitching, glues, tapes, corner eyes, eyes, **reinforcements**, tell tales, sailmaker labels, class royalty label, sail identification, **certification mark**.

G.7.3 DIMENSIONS

	minimum	maximum
(a) Leech Lengths	7467 mm	7620 mm
(b) Foot Length	4700 mm	4800 mm
(c) Foot Median		8850 mm
(d) Difference between diagonals		50 mm
(e) Half Width	4565 mm	4715 mm
(f) Weight of the ply of the body of the sail	32 gr/m ²	

PART III – APPENDICES

Appendix A – Documents

Section H – Official Plans and Forms

- H.1.1 Keel Plan designated KEEL-1
- H.1.2 Rudder Plan designated RUDDER-1
- H.1.3 Insignia Plan designated INSIGNIA-1
- H.1.4 Certification Marks designated MARKS-1
- H.1.5 Hull Measurement Form designated HMF-1

Appendix B – Alternative Rules

Rules or modifications within this appendix apply to SCA, IFDS or Disabled Sailing National Authority sanctioned events designated as an “SCA Appendix B – Alternative Rules” event.

Section I – Conditions for Racing

I.1 GENERAL

- I.1.1 The Notice of Race shall state that “This is an SCA Appendix B – Alternative Rules event.”
- I.1.2 Except as modified or amended in this appendix, the requirements of Parts I and II shall apply.
- I.1.3 Adaptations specifically permitted in this appendix must be easily removed so that the **boat** conforms to Part II of the **class rules**.

I.2 DEFINITIONS

- I.2.1 Disabled Sailor: A person who is eligible, under the IFDS Functional Classification System, to compete in IFDS sanctioned or disabled sailing National Authority events and possesses a current Classification Number issued by an IFDS International or National Classifier or by an MNA.
- I.2.2 Paralympic Team: A team whose helmsman is a Disabled Sailor who has obtained Paralympic eligibility status by the IFDS, or an MNA.
- I.2.3 Adaptation: Temporary equipment and/or modification such as a chair or transfer bench designed to assist the Disabled Sailor while in the boat, as opposed to a personal device such as a prosthesis.

I.3 ADVERTISING

- I.3.1 Advertising shall be in accordance with class rules C.1.

I.4 ELIGIBILITY

- I.4.1 A Paralympic Team shall provide the organising authority of a sanctioned event with a current valid letter from the IFDS or his/her MNA verifying that it has obtained Paralympic Team status. Such letter shall be delivered electronically or otherwise to the organizing authority and the SCA with the entry form for the event.

I.5 CREW

Rules of this section are in addition to or modify the rules of section C.2.

I.5.1 LIMITATIONS

- (a) A crew shall consist of three persons.

- (b) One member of the crew shall remain seated in the cockpit at all times, except:
 - (i) during manoeuvres,
 - (ii) when the safety of the **boat** or the crew are at risk,
 - (iii) when it is necessary to repair damage to the **boat** or its fittings while on the water.
- (c) The options of hiking/sitting out and the use of the fittings to do this, shall be in accordance with the SCA **class rules**.

I.6 EQUIPMENT

I.6.1 OPTIONAL

IFDS approved Adaptations shall be used by Disabled Sailors only and shall comply with the requirements as specified in the ISAF/IFDS Race Management Manual, Notice of Regatta or Sailing Instructions.

I.6.2 Electrically operated seat tilt and steering joystick devices.

I.6.3 PROHIBITED

Spinnakers

I.6.4 LIMITATIONS

As a modification to Rule C.8.4 (c), the number of sails purchased in a calendar year for a Paralympics Team is unlimited.

I.7 BOAT

Rules of this section are in addition to or modify the rules of section C.4.

I.7.1 WEIGHT

- (a) A **boat** shall be weighed and corrector weights installed in accordance with **class rule** C.4.
- (b) Following compliance with I.7.1 (a), a **boat** may compensate for the additional weight of secured Adaptations by removing corrector weights only and shall be re-weighed accordingly.
- (c) When removing correctors in compliance with I.7.1 (b), correctors shall be removed from the sump first.

I.7.2 PROHIBITED

The drilling of holes, fastening of or permanent installation of additional fittings in a chartered **boat**.

I.8 RUNNING RIGGING

The rules of this section modify the rules of section F.8.6.

I.8.1 LIMITATIONS

- (a) Mainsheet may have up to two running ends and two cleat locations.
- (b) Mainsheet may have a fine tune of not more than 3 to 1 mechanical advantage.
- (c) Traveller control lines may have up to two running ends and four cleat locations per side.