EFFECTIVE 15th June 2000

INTERNATIONAL 49er CLASS RULES

The 49er is a strict one design, designed in 1995 by Julian Bethwaite.

Section A – Fundamental Rules

A.1 Type of Class Rules

A.1.1. These are **closed class rules**.

A.1.2 The 49er shall be manufactured in accordance with the construction manual by builders licensed by IRS with the approval of ISAF.

A.1.3. Any alteration of the form or construction of the hull, equipment, fittings, spars, sails or running rigging, as supplied by the builder, unless specifically approved by these rules, is prohibited.

A.2 Abbreviations

A.2.1
ISAF	International Sailing Federation
MNA	ISAF Member National Authority
ICA	International 49er Class Association
NCA	National Class Association
ERS	Equipment Rules of Sailing
RRS	Racing Rules of Sailing
IRS	International Racing Sailboats Pty Ltd

A.3 Authority

A.3.1 The international authority of the class is the ISAF which shall cooperate with the ICA in all matters concerning these **class rules**.

A.3.2 The ISAF, an MNA, the ICA, an NCA, or an **official measurer** is under no legal responsibility in respect of these **class rules**.

A.4 Language

A.4.1 The official language of the class is English and in case of dispute over the translation, the English text shall prevail.

A.4.2 The word “shall” is mandatory and the word “may” is permissive.

A.5 ISAF Rules

A.5.1 These **class rules** shall be read with ERS and measurements shall be taken in accordance with these unless specified. Where a term is used in its defined sense, it is printed in “**bold**” type is defined in ERS and in “*italic*” type is defined in RRA.6.

A.6 Interpretation of Class Rules.

A.6.1 Any interpretation of the **class rules**, except as provided in A.7, shall be made by ICA Chairman of Technical Committee, subject to ratification by ISAF in cooperation with the ICA.

A.7 Interpretation of the Class Rules at an Event

A.7.1 Interpretations of the **class rules** at an event shall be made in accordance with the RRS and the race organising authority shall, as soon as practical after the event, inform the ISAF and the ICA of such a ruling.

A.8 Event Measurement

A.8.1 In the case of a measurement dispute on any part or item of the **boat**, the following procedure shall be adopted:

A sample of 5 other boats, shall be taken and measured using identical techniques. The dimensions of the disputed boat shall be equal to, or between, the maximum and minimum dimensions obtained from these 5 boats. If the boat in question is outside these dimensions the matter, together with any relevant information, shall be referred to the ICA, which shall give a final ruling. If any of the dimensions of the sample are considered to be unusual, all relevant information shall be referred by the ICA to the ISAF.

Section B – Organisation

B.1 Administration of the Class

B.1.1 The class is administered by the International 49er Class Association.

B.2 International Class Fee and ISAF Plaque

B.2.1 The international Class Fee shall be paid by the licensed hull builder to the ISAF.

B.2.2 All hulls shall bear the ISAF class plaque.

B.3 Measurement Certificate

B.3.1 **Measurement certificates** are not issued.

B.4 Amendment to Class Rules

B.4.1 Amendments to the **class rules** shall be proposed by the ICA in accordance with its constitution and submitted for approval by ISAF.

Section C – Conditions for Racing

The crew and the **boat** shall comply with the rules in this section when racing.

C.1 Identification of Sails

C.1.1 The national letters and the sail numbers shall be black and shall comply with the RRS except where specified otherwise.

C.1.2 The national letters and the sail numbers shall be wholly between the 2nd and 3rd **batten pockets** from the **head point**.

C.1.3 The sail number shall be either:

(i) If either of the crew have finished in the top 50 in the preceding 49er world championship their sail number shall be that place, 1st to 9th single digit, otherwise two digits.

(ii) Otherwise, the sail number shall be that shown on the ISAF plaque and shall be the last three digits. Boat # 15 = 015 or Boat # 2345 = 345

(iii) Should there be multiplicity in numbers due to C.1.4. (i) or (ii), a race committee may make an arrangement suitable for the duration of the event involved

C.1.4 The base of the national letters and the sail numbers shall be approximately parallel to the **batten pockets**.

C.2 Equipment

C.2.1 LIMITATIONS

(a) Apart from what is permitted by C.2.2-4, only equipment listed in the part list Appendix 1 shall be used.

(b) Apart from what is permitted by C.2.2-5, no function may be extended or added.

(c) No part of a **boat** shall be replaced during an event, other than to replace equipment damaged beyond repair before the next race. Such replacements may be made only with the approval of the race committee, and no re-substitutions of the original equipment may then be made, except with the approval of the race committee.

(d) Standing **rigging** shall not be adjusted when *racing*.

(e) The forestay shall be fitted to the center hole of the stern head fitting.

(f) Mast spar rake controlled by lying the forestay along the forward face of the mast spar and measuring the extension of the forestay behond the mast heel. This distance shall be taken between the forward extension of the bottom of heel tenon and the upper bearing surface of the forestay pin and shall be minimum 424mm and maximum 434mm.

(g) With the exception of C.2.2(l), no holes may be made in the hull or deck mouldings, except for the purpose of making repairs – see C2.5.

(h) The weight of the hull including wings, gennaker sock, bowsprit, rudder stock, rudder frame and any hull corrector weight, but excluding daggerboard and rudder blade shall not be less than 94kg with all items in dry condition.

(i) A corrector weight with a minimum thickness of 10mm shall be permanently fastened to the top surface of the deck beside the mast step on the starboard side when the hull weight as in C.2.1(h) is less than the minimum requirement.

(j) The total weight of such hull corrector weights shall not exceed 2kg.

(k) The distance between the forward side of the daggerboard slot below the radius at the deck and the forward face of the mast spar, measured along the deck, shall be minimum 285 mm, maximum 295 mm.

(l) The dimension between the centre of the centre hole in the stemhead fitting and the front face of the mast spar at the top of the heel plug, measured in a straight line between these two points shall be minimum 2118 mm, maximum 2128 mm.

(m) The Sail Battens as supplied by IRS may not be altered in stiffness. The length of the battens may be altered to adjust the tension in the batten pocket, provided the batten fits within the original pocket and the sail is not altered other than by cutting and renewing the batten pocket stitching at either end.

(n) The aft sweep of the spreaders, shall be measured with the mast under tension (caps 15, primaries 30, lowers 25, + / - 2, as measured on a new Loos gauge) as follows:

(i) By the measurement of a straight line joining the two outside edges of the shroud wires:
Upper spreaders: minimum: 910mm, maximum 920mm
Lower spreaders: minimum: 895mm, maximum 905mm

(ii) The minimum dimension from the inside of the mast sail track to a straight edge joining the aft face of the shrouds:
Lower spreaders: minimum 180mm, maximum 190mm.
Upper spreaders: minimum 150mm, maximum 160mm.

The spreaders as supplied may be adjusted by filing or fitting packing between the band and the mast to achieve these dimensions.

C.2.2 OPTIONAL

(a) Timing devices, removable for weighing.

(b) Mechanical wind indicators.

(c) Tuffs or ribbons in the **sails** and **rigging**.

(d) Maximum two compasses with brackets, removable for weighing. Electronic compasses with functions beyond heading and timing are prohibited."

(e) A non-rachet block for the gennaker sheet with a sheave diameter of 30-40 mm attached to each front inside wing bolt.

(f) Shockcord tails in ropes.

(g) A non-ratchet block, in the gennaker halyard between the **sail** and the mast **spar**, with a sheave of not more than 20 mm diameter and attached with a shockcord tail to the mast.

(h) A non-ratchet block, in the gennaker halyard behind the two floor blocks, with a sheave of not more than 20 mm diameter and attached with a shockcord, which may pass through an additional block of not more than 20 mm in diameter.

(i) Maximum 4 foot loops on each wing for which holes may be drilled.

(j) Storage devices within the cockpit.

(k) Non-skid tape or patches provided they are not more than 3 mm thick, made from a flexible material and attached to the deck moulding or the wings.

(l) One tie down loop, bolted through the gunwale flange on each side to be totally within 800 mm to 1000 mm behind the chainplates, to facilitate securing the hull to a trailer or dolly.

(m) A tube of not more than 25 mm in diameter and less than 1000 mm in length may be fitted over the lower part of the forestay.

(n) Wedges and springs may be fitted under jib sheet blocks, vang and cunningham cleats and gennaker halyard cleat.

(o) Safety equipment, tools and spare parts may be carried.

(p) A clip or shackle may be fitted at the end of the jib sheet where it attaches to the clewboard of the jib.

(q) An external elastic gennaker halyard take away on the mast is permitted.

(r) The use of shock cord or adhesive tape is in general unrestricted, except that such material must not be used in such a way as to create a fitting or extend a function which is otherwise prohibited in these rules.

(s) Fittings made from flexible material may be added along the rail forward of the chainplates on each side for the hull for the sole purpose of retaining the spinnaker sheets on the boat.

(t) The removal of the bottom jib hank is permitted.

(u) Main and Jib halyards may not be fitted with more than 1/1 purchase.

C.2.3 MODIFICATIONS

(a) The tiller may be modified.

(b) The **hull,** wings, **daggerboard** and **rudder** blade may be sanded and painted and polished, except that the shape or weight distribution of the items as originally supplied shall not be altered.
That the trailing edges of the **daggerboard** and **rudder** must be between 1.5mm and 3mm thickness, 1mm forward of the aft edge of the foils, for their entire length.

(c) The trapeze arrangment may be modified to include a continuous system and/or adjustable hook height provided that the attachment methods to the mast **spar** and the wings are not changed.

(d) The mainsheet shall be rigged either:

(i) with a ratchet block as the last block shackled to the boom **spar,** in which case a fairlead may be attached to the floor plinth; or

(ii) with a block with a 30-40 mm sheave as the last block shackled to the boom **spar** and block attached to the floor plinth via a shackle or a swivel base, which may include a cleat.

(e) The centreboard and rudder trunk packing may be replaced by any compressible material, defined as being capable of conforming to the pressure of a thumb nail. This packing shall not extend for more than 60mminto the trunk from the top or bottom, or beyond the surface defined by straight edge held perpendicular to the centreline and dragged along the bottom of the hull or rudder trunk."

(f) Fittings can be bedded in provided they can be removed without damage

C.2.4 REPLACEMENTS FROM OPTIONAL SUPPLIERS

(a) Replacements shall be fitted in the same position as the standard fitting, or as close as is structurally possible.

(b) Any cleat may be replaced with a cleat of any material and of substantially the same size and design.

(c) Any block may be replaced with a block of the same number of sheaves of similar or greater diameter. Ratchet block have no sheave diameter restrictions provided they do not alter the weight distribution of the boat.

(d) The tiller extensions may be replaced without any restrictions as to design and material.

(e) Standing **rigging** may be replaced and shall then comply with the following:

(i) The forestay, middle shrouds and lower shrouds shall be 3.0mm - 3.5mm diameter 1 x 7 stainless steel wire.

(ii) The upper shrouds shall be 2.3 mm – 2.6 mm diameter 1 x 7 stainless steel wire.

(iii) Only single shroud plates shall be used and may be replaced by Ronstan part no. RF2331 or Holt Allen part no. HA4772

(f) The trapeze wires may be replaced with stainless steel wire of not less than 2.3 mm diameter or by lines of any material of not less than 3.0 mm diameter.

(g) Sheets and lines may be replaced without any restrictions as to length, diameter and taper providing the part is not made of wire. . A continuous main and jib sheet is permitted.

(h) Main/jib halyards may be replaced by line wires of any material.

(i) Rig pins may be replaced by quick pins or any other type of pins.

(j) The existing holes in the jib sheet track may be increased in diameter up to a maximum of 6.5mm. Additional holes are not permitted.

C.2.5 REPAIRS

In the event of damage to any part of the boat, necessary repairs may be made provided repairs are made in such a way that the essential shape and function is not materially affected. Fittings shall be attached in the same position as before the repair, or as close as is structurally possible.

C.3 Buoyancy

C.3.1 The watertight integrity of the **hull** must be maintained.

C.3.2 The breather hole in the centre plinth must remain open and unrestricted.

C.4 Location of Hull Appendages

C.4.1 The **daggerboard** and **rudder** blade shall each be secured by shockcord which may have a snap hook. The shockcords may be attached to any existing fitting and it is permitted to drill a hole through the rudder stock flange for this purpose.

C.4.2 The holes in the **daggerboard** and **rudder** blade for the lifting handles shall not be below the case top edge.

C.5 Crew

C.5.1 The crew shall consist of two persons.

C.6 Crew Weight Equalisation

C.6.1

(a) The crew weight shall be determined at registration as the combined weight of the crew members wearing shirts and shorts, swimwear, or the equivalent. The crew members and the clothes shall be dry when weighing.

(b) The **hull** shall carry crew corrector weights and have its wing widths adjusted as follows:

Crew weight	Corrector weight	Wing width per side
- 148 kg	5.0 kg	maximum
148 to < 160 kg	2.5 kg	- 50 mm
> 160 kg	nil	- 100 mm

(c) Official crew corrrector weights shall be attached to the rudder gantry.

C.7 Membership

C.7.1 At least one crew member shall be a current memeber of the ICA or a member of a regional, national, or district class association duly established in accordance with the class constitution.

Section D – Hull

D.1 Measurement

D.1.1 The **hull** and wings shall comply with the **class rules** in force at the time of manufacture. **Hull** fittings shall comply with the current **class rules**.

D.2 Builders

D.2.1 **Hull** and wing builders shall be licensed in accordance withh A.1.2.

Section E – Hull Appendages

E.1 Measurement

E.1.1 The **hull appendages** shall comply with the **class rules** in force at the time of manufacture.

E.2 Manufacturers

E.2.1 Manufacturers shall be licensed in accordance with A.1.2

Section F - Rig

F.1 Measurement

F.1.1 **Spars** shall comply with the **class rules** in force at the time of manufacture. **Rigging** shall comply with the current **class rules**.

F.2. Manufacturers

F.2.1 Manufacturers shal be licensed in accordance with A.1.2

Section G – Sails

G.1 Measurement

G.1.1 **Sails** shall comply with the **class rules** in force at the time of manufacture.

G.2 Sailmakers

G.2.1 Maunfacturers shall be licensed in accordance with A.1.2.

G.2.2 No person may re-cut any sail, except as permitted in G.5.1, or otherwise change or effect any aspect of the sail or pierce the sail for any reason other than effecting necessary reparis or as permitted by these rules.

G.3 Mainsail

G.3.1 CLASS INSIGNIA

The class insignia shall be silk-screened, glued, or sewn onto the **sail** within 1st and 2nd **batten pockets** from the **head point**.

G.3.2 TACK AND FOOT

For the purpose of advertising, the **tack** shall be taken as the lowest point of the forward edge of the mast sleeve and the length of the **foot** shall be taken to be 3000 mm.

G.4 Jib

G.4.1 RRS 50.4 – Headsails, shall not apply.

G.5 Gennaker

G.5.1 The gennaker may be modified by having graphics cut in, which shall not extend within 1000 mm of the **head point** or **tack** and shall not extend into the two outer panels or the **luff, leach** or **foot**. Such actions may not alter the original shape of the sail.

G.5.2 RRS 50.4 – Headsails, shall not apply, except that for the purposes of Appendix G – Advertising, the gennaker shall be deemed a spinnaker.

APPENDIX 1 – PART LIST

	Standard fittings list	Part No.	Options or restrictions (Where no comment as per class rules.)
Mast			
	Top Spreader	49er/LowSpr	IRS Licensed supplier only
	Bottom Spreader	49er/TopSpr	IRS Licensed supplier only
	Spin Halyard block (top)	RM 830 / RF 892HL	Min 26mm dia sheave
	Main Halyard exit box	RF 1985	Min 17mm dia sheave
	Jib Halyard exit box	RF 1985	Min 17mm dia sheave
	Spin Halyard block	RF 1017	Min 26mm dia sheave(base)
	Large Exit Box	RF 1017	Min 26mm dia sheave
	Vang Pivot/Gooseneck	RM680(m)	IRS Licensed supplier only
	Vang lever	49er/Vang	IRS Licensed supplier only
	HA Halyard Hook	HA345	
	Mast Plug	49er/Plug	IRS Licensed supplier only
Wires/Boom			
	1/8 Swage Toggle	RF 1506-04	
	Shrouds Chainplate	RF 2331/HA4772	
	Boom section	49er/Boom	IRS Licensed supplier only
	Boom Gooseneck	RM678(m)	IRS Licensed supplier only
	Vang Plates	RMT 30	IRS Licensed supplier only
	Vang Arms	49er/Vang,Arms	IRS Licensed supplier only
	Exit Box (outhaul)	RF 1985	Min 17mm dia sheave
	Outhaul hook block	RM 421	
	Single block (ourhaul)	RF666	Min 17mm dia sheave
	Cleat (outhaul)	RF5106	
	Bullet blocks	RF892	Min 26mm dia sheave
Bowsprit			
	Bowsprit	49er/Bowsprit	IRS Licensed supplier only
	Small Exit Box	RF 1985	Min 17mm dia sheave

Extension Block	RF 9611043	Min 26mm & 36mm dia sheave
Forestay		
Forestay fitting	49er/FS,Chain	IRS Licensed supplier only
Aft bearing	49er/Aft,Bearing	IRS Licensed supplier only
Jib Sheet		
Micro cheek block	RF 1978	Min 17mm dia sheave
Micro block with Becket	RF 1951	Min 1mm dia sheave
Jib System		
Cleat and Swivel	RF 9508033	
Chainplates		
Chainplates hull	RF 314M	IRS Licensed supplier only
Alloy Bar	49er/Chainplate	IRS Licensed supplier only
Mast Step		
Mast Step Channel	49er/MastStep	IRS Licensed supplier only
Other		
Small Fairlead saddle	RF 5003	
Small cleat and guide	RF 5001 p/y	
Stand up blocks	RF 1014	Min 26mm dia sheave
Spinnakeer Sock	49er/SpinSock	IRS Licensed supplier only
Micro Cheek Blocks	RF 1978	Min 17mm dia sheave
Single block with hook	RM 421	Min 17mm dia sheave
Rudder		
Rudder Gudgeon/Pin	49er/RudderPin	IRS Licensed supplier only
Rudder Frame	49er/RudFrame	IRS Licensed supplier only
Anchor Gudgeons	RF254	
Wings		
Wing Slides	RF9506046	IRS Licensed supplier only
Wing Slides with Stopper	RF9506045	IRS Licensed supplier only
Guides (set for 1 slide)	RF 987	IRS Licensed supplier only
T Tracks	RF 9506003	IRS Licensed supplier only
Track End	RF 982	IRS Licensed supplier only
Ratchet Block	RF 1720	
V Cleat	RF 5106	
Replacement		
Gromets	PNP 54A	

APPENDIX 2 – EVENT RULES

1.1 The minimum wind speed for starting will be that in which the race committee considers the boats have sufficient capability for pre-start manoeuvres.

1.2 Races should not start, or races in progress should be abandoned when:

(a) wind gusts exceed 25 knots for more than 30 seconds.

(b) Wind gusts exceed 30 knots for any duration.

(c) The race committee considers conditions are unsafe for sailing.

SPECIFICATION CHANGES

1. Additional air bung. Effective, March 1999.

   A sailor may modify his boat to include an additional air bung to assist airflow though out the hull cavity. The bung must be within 450-550mm of the forestay pin and within 150-250mm of the gunwale on the port side. Further the hole in the deck laminate may not exceed 50mm in diameter.

2. Outhaul Cleat Effective June 15th 2000

   The outhaul cleat may be move from the bottom of the boom to a position on the starboard side of the boom, in the same position for and aft and within 50mm of the bottom.

3. 49er Sails Effective 1st January 2002 in the Olympics plus World, Continental and Grand Prix racing for the Gold fleet.

   Following the decision of the 1999 World Council, and in accordance with the recommendations of the class working party, the Class will adopt the Neil Pryde/Ian MacDairmid sail design and supply option as official class legal sails.
   And that these become class legal from 1st October 2000 until the end of the 2004 Athens Olympics.

   Further that only these sails will be class legal in Gold fleet racing after 1st January 2002 in the Olympics plus World, Continental and Grand Prix racing.

4. Alloy Rudder Stocks. Effective 1st January 2002 in the Olympics plus World, Continental and Grand Prix racing for the Gold fleet.
   The class allows the introduction of 29er type cast alloy rudder stocks.

   Further that only these rudder stocks will be class legal in Gold fleet racing after 1st January 2002 in the Olympics plus World, Continental and Grand Prix racing for the Gold fleet.

STATEMENT OF POSITION

For clarification, in regard to Spinnaker Socks,

IRS specifies that the Australian made “Big Foot” type Spinnaker sock is the only equipment that has met the IRS specification and therefore can be the only Spinnaker sock that can be supplied as “IRS Licensed supplier only”