

# Class Rules

## International 49erFX Class Association



The 49er Class was designed in 1995 by Julian Bethwaite. The FX rig was designed and added to the 49er hull by Mackay Boats and adopted as a World Sailing International Class in 2013. Cover Page - kind permission Sailing Energy

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## INTRODUCTION

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*This introduction only provides an informal background and the International 49erFX Class Rules proper begin on the next page.*

*The boat comprises of 49er hull, hull appendages, boom and bowsprit equipment with FX mast, rigging and sails Equipment. It is therefore called the 49erFX.*

*49er hulls, hull appendages, booms and bowsprits are manufacture controlled. FX mast and sails are manufacture controlled.*

*Hulls, hull appendages, rigs and sails shall only be manufactured by Licensed Manufacturers – in the class rules referred to as Licensed Manufacturers.*

*49er hull, hull appendages, boom and bowsprit equipment is required to comply with the International 49er Builders Construction Manual and is subject to a World Sailing approved Manufacturer Certification System.*

*FX mast, rigging and sails Equipment is required to comply with the International FX Builders Construction Manual and is subject to a World Sailing approved manufacturing control system.*

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

*Owners and crews shall be aware that compliance with rules in Section C is the responsibility of the competitor. Rules regulating the use of equipment during a race are contained in Section C of these class rules, in ERS Part I and in the Racing Rules of Sailing.*

### PLEASE REMEMBER

**THESE RULES ARE CLOSED CLASS RULES WHERE  
IF IT DOES NOT SPECIFICALLY SAY THAT YOU MAY –  
THEN  
YOU SHALL NOT.**

**COMPONENTS AND THEIR USE, ARE DEFINED BY THEIR  
DESCRIPTION**

## PART I – ADMINISTRATION

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### Section A –General

#### A.1 LANGUAGE

- A.1.1 The official language of the class is English and in case of dispute over the translation, the English text shall prevail.
- A.1.2 The word “shall” is mandatory and the word “may” is permissive.

#### A.2 ABBREVIATIONS

WS World Sailing  
MNA World Sailing Member National Authority  
ICA International Class Association  
NCA National Class Association  
ERS Equipment Rules of Sailing  
RRS Racing Rules of Sailing  
CRH Copyright Holder

#### A.3 AUTHORITIES AND RESPONSIBILITIES

- A.3.1 The class rules authority is WS, which shall cooperate with the ICA in all matters concerning these **class rules**.
- A.3.2 Neither the WS or the ICA is under any legal responsibility in respect of these **class rules**.

#### A.4 ADMINISTRATION OF THE CLASS

- A.4.1 WS has delegated its administrative functions of the class to the ICA.

#### A.5 WORLD SAILING 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 “*italic*” the definition in the RRS applies.

#### A.6 CLASS RULE VARIATIONS

- A.6.1 WS Regulations apply.

#### A.7 CLASS RULE AMENDMENTS

- A.7.1 Amendments to the **class rules** shall be proposed by the ICA and are subject to the approval of WS in accordance with the WS Regulations.

#### A.8 CLASS RULE INTERPRETATIONS

- A.8.1 Interpretation of **class rules** shall be made by WS in consultation with the class and both CRH
- A.8.2 Interpretation of **class rules** at an event shall be carried out in accordance with the RRS. The event organising authority shall, as soon as practical after the event, inform the WS and ICA of any such interpretations.

## **A.9 INTERNATIONAL CLASS FEE AND WS BUILDING PLAQUE**

- A.9.1 Licensed manufacturers of hulls shall pay an International Class Fee for each hull manufactured.
- A.9.2 The ICA shall, after having received the International Class Fee for the hull, send the WS Building Plaque to the Licensed Manufacturer.

## **A10 LICENSED MANUFACTURERS**

- A10.1 Equipment shall only be manufactured by those appointed and licensed by the relevant CRH, in consultation with WS. Such licensees shall be referred to as Licensed Manufacturers within these **class rules**.

## **A.11 SAIL NUMBERS**

- A.11.1 Sail numbers shall be:

- (a) The number shown on the WS International Class Building Plaque; or
- (b) In the International 49erFX Class World Championships, Continental Championship, Trofeo S.A.R Princess Sofia, SOF Semaine Olympique Francaise de Voile, Kieler Woche, Long Beach Olympic Classes Regatta and the Dutch Water Week events, or when invoked by the NoR, an ICA issued personal sail number between 1 – 999, which shall be renewed on an annual basis.
- (c) The number shown on the WS International Class Building Plaque of any hull still owned by them, on any boat owned by them or on any boat loaned or chartered for an event.

- A.11.2 After the sale of the boat, the new owner shall use the sail number as in accordance with the WS hull plaque or his/her own personal sail number on his/her sails. In the event of conflict, hull numbered 1 - 99 shall have the prefix “0” before the sail number.

## **Section B – Equipment Eligibility**

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

### **B.1 CLASS RULES**

B.1.1 The boat shall be in compliance with the **class rules**.

### **B.2 LICENCED MANUFACTURERS MARKS**

B.2.1 **Sails** shall carry a **licenced manufacturer's mark**.

B.2.2 **Wings, mast sections, mast spreaders, bowsprit, daggerboard and rudder blade** shall carry a **licenced manufacturer's mark**.

## PART II – REQUIREMENTS & 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**. Equipment control and **event 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) RRS 42 shall apply as amended below:
  - RRS 42.3 is changed as follows.
  - (i) A boat may be sculled if the sculling does not propel the boat in any direction.
- (b) RRS 49.1 is changed to: ‘The **crew** shall use no device designed to position their body outboard other than a **trapeze**’.

#### C.2 ADVERTISING

- C.2.1 Advertising including competitor advertising is permitted in accordance with WS Regulations – Advertising Code.
- C.2.2 In accordance with WS Regulations the area on the jib below the middle batten pocket is limited to event advertising. Event advertising on the jib shall be displayed only where the event organiser has agreed such advertising with the ICA and the requirement is published in the notice of race.
- C.2.3 For the purpose of WS Advertising Code, the gennaker shall be deemed a spinnaker.
- C.2.4 For the purpose of WS Regulation 20.4.1.4, the *forward part* of each side of the **boom** shall start aft of where the **mainsail** overlaps the **boom**.

#### C.3 CREW

##### C.3.1 LIMITATIONS

- (a) The **crew** shall consist of two persons.
- (b) A **crew** member using a **trapeze** shall be in contact with the **hull** at all times except in the situation of accidental movement and or a manoeuvre.

##### C.3.2 MEMBERSHIP

In all international events each **crew** member shall be a current member of the ICA.

## **C.4 PERSONAL EQUIPMENT**

### **C.4.1 MANDATORY**

- (a) The boat shall be equipped with **personal flotation devices** (PFD) for each **crew** member to the minimum standard ISO 12402-5, or USCG Type III, or AS 4758 Level 50 or equivalent.
- (b) Inflatable vests are not permitted.
- (c) The maximum permitted weight of the trapeze harness shall be 2.4kg. This changes RRS 50.1(b)
- (d) The **trapeze** harness shall have positive buoyancy in fresh water.

### **C.4.2 OPTIONAL**

- (a) A Heart Rate Monitor (HRM)
- (b) Helmets for the **crew** to the minimum standard EN1385, EN1077, EN 966, ASTM 2040, SNELL S98 or equivalent.

## **C.5 PORTABLE EQUIPMENT**

### **C.5.1 MANDATORY**

- (a) Spare tiller extension.

### **C.5.2 OPTIONAL**

- (a) Timing devices, removable for weighing.
- (b) A maximum of two compasses with brackets, removable for weighing.
- (c) Electronic compasses with functions beyond heading, heading memory and timing are prohibited.
- (d) Spare parts and tools, removable for weighing.
- (e) Camera and sound recording equipment, dummy equipment, and attachments and and/or race tracking equipment (GPS) where permitted by the ICA, Notice of Race and/or Sailing instructions and removeable for weighing.

### **C.5.3 ORGANISING AUTHORITY EQUIPMENT**

When equipment provided by the Organising Authority is carried by or worn by the athlete it shall not be accounted for as “competitors” clothing and equipment. This changes RRS 50.1(b).

## **C.6 BOAT**

### **C.6.1 MODIFICATIONS, MAINTENANCE AND REPAIR**

The following is permitted without the approval of the ICA Technical Committee. Unless stated otherwise items mentioned in this section may be obtained from any manufacturer or supplier.

#### **MODIFICATIONS**

- (a) Protective coverings made of any soft material over exposed fittings are permitted. Such coverings shall not alter the function of the fitting.



- (b) The use of shock cord or adhesive tape is in general unrestricted, except that such material shall not be used in such a way as to create a fitting or extend a function of a permitted fitting.
- (c) Any cleat may be replaced with a cleat of any material and substantially of the same size and design.
- (d) Any cleat including integrated fairlead may be replaced with a cleat of any material and of substantially the same size and design.
- (e) Manufacturer drilled control line and trapeze elastic holes in the wings may be fitted with a metal or plastic material insert to protect against chaffing or damage to wings and or lines.

## MAINTENANCE

- (f) Replacement of non-skid tape or paint to the deck moulding and the wings is permitted. Any replacement shall not exceed a thickness of more than 3mm.
- (g) Replacement fittings shall be fitted in the same position as the original fitting, or as close as is structurally possible.
- (h) Any block may be replaced with a block of the same number of sheaves of similar or greater diameter. Ratchet blocks have no sheave diameter restrictions. Ratchet blocks may be used for the gennaker sheets and as the forward mainsheet block on the boom.
- (i) Any attachment of blocks may be replaced. Attachments for blocks shall be of substantially the same size and design.
- (j) Any fitting other than those mentioned in C.6.1 (e), and (f), shall only be replaced by the same model or a replacement model.
- (k) A boom mainsheet block retaining line may be added.
- (l) The use of blocks, thimbles, clips, balls, or similar may be added to control lines and their shocks cord take ups.
- (m) **Cleaning and polishing** the surface of the **hull, appendages** and other equipment is permitted.

## REPAIR

- (n) To facilitate advertising, painting vinyl or similar may be added to the sails, hull and spars for this purpose except that the hull shell below the gunwale shall not be painted.
- (o) Fasteners may be replaced or added, if the function of the fitting or part is not altered and where required to facilitate a repair the fitting maybe modified to accommodate slightly larger fixings.
- (p) Localised repairs to damaged equipment may be undertaken. Any repair shall not be used to reinforce an existing part or add a function. Before any repair is attempted the ICA Technical Committee, or if at an event the event measurer, shall be advised and approval sought to undertake the repair.

## C.7 HULL

### C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

The following is permitted without the approval of the ICA Technical Committee. Unless stated otherwise items mentioned in this section may be obtained from any manufacturer or supplier.

#### MODIFICATIONS

- (a) A maximum of 4 foot straps may be added on each wing for which holes may be drilled.
- (b) A block may be added to the gennaker halyard behind the two floor blocks, with a sheave of not more than 30 mm diameter which may include a swivel and attached with a shock cord, and which may pass through an additional block with a sheave diameter of not more than 20 mm.
- (c) One tie down loop is permitted on each gunwale flange to facilitate securing the hull to a trailer or beach dolly. The loop shall be permanently fastened to the gunwale flange using screws or bolts. Each loop shall be within 800 mm to 1000 mm behind the chain plates.
- (d) Wedges or risers of any material may be fitted under the wing mounted gennaker blocks, jib blocks, boom vang, Cunningham and gennaker halyard cleats and wing mounted control lines.
- (e) Fittings made from flexible material may be added along the rail forward of the chain plates on each side for the hull for the sole purpose of retaining the spinnaker sheets on the boat.
- (f) A bail may be fitted beneath the jib blocks mounted on the gennaker launching ring and a single block added to increase jib sheet purchase.
- (g) The Cunningham purchase may be increased to a maximum of 6:1.
- (h) The rope purchase of the vang system may be increased to a maximum of 4:1.

#### MAINTENANCE

- (j) The **daggerboard** case packing may be replaced with any material. This packing shall not extend for more than 60mm into 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**.
- (k) The watertight integrity of the **hull** shall be maintained.
- (l) The breather hole in the centre plinth shall remain open and unrestricted.
- (m) Fittings may be bedded in provided they can be removed without damage to either the **hull** or fitting.

#### REPAIR

- (n) No holes may be made in the **hull** or deck mouldings except:
  - (i) for fittings specified in C.7.1 (a) and (c)
  - (ii) for the purpose of making repairs.
  - (iii) for the purpose of attaching the compass retaining lines.
- (o) 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.
- (p) In the event of damage to any part of the **hull**, necessary repairs may be made provided repairs are made in such a way that the essential

shape and function is not materially affected. Areas of damage repair may be filled, sanded and polished over.

- (q) Localised repairs to damaged equipment may be undertaken. Any repair shall not be used to reinforce an existing part or add a function. Before any repair is attempted the ICA Technical Committee, or if at an event the event measurer, shall be advised and approval sought to undertake the repair.

## C.7.2 LIMITATIONS

- (a) Only one **hull** shall be used during an event, except when lost or damaged beyond **repair**. Any replacement shall only be made with the approval of the Technical Committee.
- (b) The wings shall be fully extended when racing.

## C.7.3 HULL WEIGHT

- (a) The weight of the **hull** including wings, gennaker sock, **bowsprit**, **rudder** stock including tiller and **rudder** pintle, **rudder** gantry, permanently fixed fittings, foot straps and any **hull corrector weight** (removed for weighing) but excluding **daggerboard**, **rudder** blade, tiller extensions, gennaker blocks, non-permanently fixed fittings, all control lines including shock cord and equipment listed in C.5 shall not be less than 94.0 kg with all items in a dry condition.

## C.7.4 CORRECTOR WEIGHTS

- (a) When the weight of the **hull** as in C.7.3(a) is less than the minimum requirement, **corrector weights** shall be fixed to the side or behind the mast step or within 150mm of the centreline of the **hull** aft of the jib track or along the centreline toe rail.
- (b) The total weight of such **corrector weights** shall not exceed 3.0kg.

## C.8 HULL APPENDAGES

### C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

The following is permitted without the approval of the ICA Technical Committee. Unless stated otherwise items mentioned in this section may be obtained from any manufacturer or supplier.

#### MODIFICATIONS

- (a) The tiller forward of the **rudder** stock may be modified.
- (b) The tiller extensions may be replaced without any restrictions as to design and material.

## MAINTENANCE

- (c) The **rudder** stock packing may be replaced with any material.

## REPAIR

- (d) **Repairs** to chips in the leading and trailing edge may be filled and blended in. (Advisory note: nowhere is re-finishing, fairing of the **daggerboard** and **rudder** blade permitted except to facilitate localised repair in this rule. Painting is not mentioned therefore as these are **closed class rule** it is prohibited.)
- (e) Localised **repairs** to damaged equipment may be undertaken. Any **repair** shall not be used to reinforce an existing part or add a function. Before any **repair** is attempted the ICA Technical Committee, or if at an event the event measurer, shall be advised in writing and approval sought to undertake the **repair**.

### C.8.2 LIMITATIONS

- (a) Only one **daggerboard** and one **rudder** blade shall be used during an event except when an item has been lost or damaged beyond **repair**. Any replacement shall only be made with the approval of the Technical Committee.
- (b) Only the **daggerboard** and **rudder** blade identifiable by the embossed *49er* logo shall be used.

### C.9.1 MODIFICATIONS, MAINTENANCE AND REPAIR

The following is permitted without the approval of the ICA Technical Committee. Unless stated otherwise items mentioned in this section may be obtained from any manufacturer or supplier.

## MODIFICATIONS

- (a) The lower shroud may be fitted with a turnbuckle between the wire end and the hull fixing point.
- (b) The lower part of the **forestay** and shrouds, and their attachment fittings may be covered with protective covering; however, the function of the fittings shall not be changed.
- (c) **Rig** pins may be replaced by quick release pins or any other type of pins.
- (d) Tufts or ribbons in the **rigging** are permitted.
- (e) The cap shroud and primary shroud may be fitted with a turnbuckle between the shroud plate and the hull fixing point.
- (f) The **mast** sections maybe permanently glued together at the top **spreader**.
- (g) The **spreaders** maybe permanently bonded to the middle section on the mast, but the lower section shall always be removable.
- (h) The **spreaders** may be fixed to the shrouds by **bonding**, **fastening** or via the use of tape.
- (i) The **spreaders** may be reinforced with additional composite laminates, and this may include **coating**, **sanding**, **fairing**, and **bonding**. Guidance for a recommended reinforcement is available via the class website.

## MAINTENANCE

- (j) **Standing rigging** may be replaced and shall comply with the following:
- (i) Construction shall be 1 x 7 stainless steel wire rope
  - (ii) The forestay, middle shrouds and lower shrouds shall be of diameter minimum 3.0mm, maximum 3.5mm.
  - (iii) The upper shrouds shall be of diameter 2.3 mm minimum, 2.6 mm maximum.
  - (iv) Up to 5 sail track supports provided by a licenced distributor may be added to the **mast**. Each support shall not be greater than 150mm in length.

## REPAIR

- (k) Localised **repairs** to damaged equipment may be undertaken. Any **repair** shall not be used to reinforce an existing part or add a function. **Mast** sections may be coated with a clear coat lacquer. Before any **repair** is attempted the ICA Technical Committee or if at an event the event measurer shall be advised in writing and approval sought to undertake the **repair**.

## C.9.2 LIMITATIONS

- (a) Only one set of **spars** and **standing rigging** shall be used during an event except when an item has been lost or damaged beyond **repair**. Any replacement shall only be made with the approval of the Technical Committee.
- (b) Only **bowsprit** identified by the white safety banding at each end and at the forward end cap fitting shall be used.
- (c) The following equipment limitations shall apply at the events and fleets listed in this rule:
  - 1. Only **spreaders** manufactured after March 2022, identified by local thickening at the inboard end, shall be used.
  - 2. Only CST **masts** shall be used.

At the following events:

- Olympic Games
- Olympic Games Test Event
- Asian Games
- PanAm Games
- Sea Games

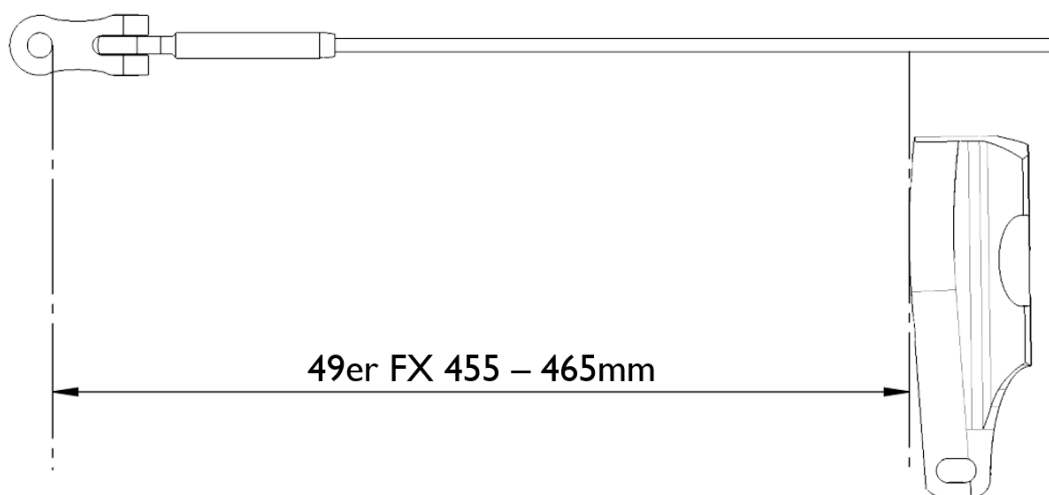
To qualify for Gold Fleet racing in the following events:

- Class World Championship (including Junior World Championships)

- Class European Championships (excluding Junior European Championships)
- Trofeo S.A.R Princess Sofia, SOF Semaine Olympique Francaise de Voile, Kieler Woche, Long Beach Olympic Classes Regatta and the Dutch Water Week, or when invoked by the NoR

### C.9.3 DIMENSIONS

(a) The **forestay** length is controlled by laying the **forestay** along the forward face of the **mast spar** and measuring the extension of the **forestay** beyond 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 455mm and maximum 465mm.



### C.9.4 FITTINGS

(a) Optional mechanical wind indicators.

### C.9.5 STANDING RIGGING

(a) USE

- (1) The **forestay** shall be fitted to the centre hole of the stem head fitting.
- (2) **Standing rigging** shall not be adjusted after the *start*.

### C.9.6 RUNNING RIGGING

(a) MODIFICATIONS, MAINTENANCE AND REPAIR

The following is permitted without the approval of the ICA Technical Committee. Unless stated otherwise items mentioned in this section may be obtained from any manufacturer or supplier.

#### MODIFICATIONS

- (i) The trapeze wires may be replaced with stainless steel wire of not less than 2.0 mm diameter or by lines of any material of not less than 3.0 mm

diameter. Additional safety line(s) may be added at the trapeze attachment point.

- (ii) **Sheets** and lines may be replaced without any restrictions as to length, diameter and taper providing the part is not made of wire.
- (iii) A continuous **main sheet** and jib **sheet** is permitted.
- (iv) A fairlead/eye for the end of the **mainsheet** may be attached to the floor plinth.
- (v) Mainsail, jib and gennaker **halyards** may be led externally
- (vi) Gennaker **halyard** take up system of shock cord, rings, rope blocks with a maximum sheave diameter of not more than 20mm may be added.
- (vii) Shock cord tails may be added to ropes.
- (viii) A clip or shackle may be fitted at the end of the jib sheet attachment line where it attaches to the clew board of the jib.
- (ix) The trapeze arrangement 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.
- (x) A jib downhaul may be lead aft using a single thimble, but no sheaves, or cleats to terminate either at the jib track, the mast foot, or the sheave on the deck that pulls out the pole.

#### MAINTENANCE

- (xi) The mainsail **halyard**, jib **halyard** and gennaker **halyards** may be replaced by lines of any material.

#### REPAIR

- (xii) Localised repairs to damaged equipment may be undertaken. Any repair shall not be used to reinforce an existing part or add a function.

Before any repair is attempted the ICA Technical Committee, or if at an event the event measurer, shall be advised and approval sought to undertake the repair.

#### (b) USE

- (1) **Running rigging** shall be led through and attached to the fittings supplied for the function.
- (2) The boom vang take-off block shall be attached to a mast strop.

### C.10 SAILS

#### C.10.1 MODIFICATIONS, MAINTENANCE AND REPAIR

The following is permitted without the approval of the ICA Technical Committee. Unless stated otherwise items mentioned in this section may be obtained from any manufacturer or supplier.

## MODIFICATIONS

- (a) 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.
- (b) The sail battens identified by a unique identification graphic and as supplied by a licensed manufacturer and shall not be altered in stiffness.
- (c) Tell Tales on the sails are permitted.
- (d) Chaffing patches may be added to **mainsail**.

## MAINTENANCE

- (d) Routine maintenance such as sewing, mending and patching is permitted.

## REPAIR

- (f) **Sails** shall not be recut, except as permitted in C.10.4(a), or otherwise change or affect any aspect of the **sail** or pierce the **sail** for any reason other than effecting necessary repairs (and maintenance) or as permitted by these rules.
- (g) Localised repairs to damaged equipment may be undertaken. Any repair shall not be used to reinforce an existing part or add a function.  
Before any repair is attempted the International Class Technical Committee, or if at an event the event measurer, shall be advised and approval sought to undertake the repair.

## C.10.2 LIMITATIONS

- (a) Not more than 1 **mainsail**, 1 jib and 1 gennaker shall be used during an event except when a **sail** has been lost or damaged beyond **repair**. Any replacement shall only be made with the approval of the ICA Technical Committee.
- (b) The following equipment limitations shall apply at the events and fleets listed in this rule:
  - 1. Only the North 3Di **mainsail** shall be used.
  - 2. Only the North jib **sail** shall be used. Any jib **sail** modified by North Sails and registered with the International Class Association and/or North Sails may be used.
  - 3. Only the North gennaker **sail** shall be used.
  - 4. **Sails** with North Sails serial numbers listed in Appendix A shall not be used.

At the following events:

- Olympic Games
- Olympic Games Test Event



- Asian Games
- PanAm Games
- Sea Games

To qualify at the following Fleets:

- Olympic Games
- Olympic Games Test and Qualifying Events
- Asian Games
- PanAm Games
- SEA Games

To qualify for Gold Fleet racing in the following events:

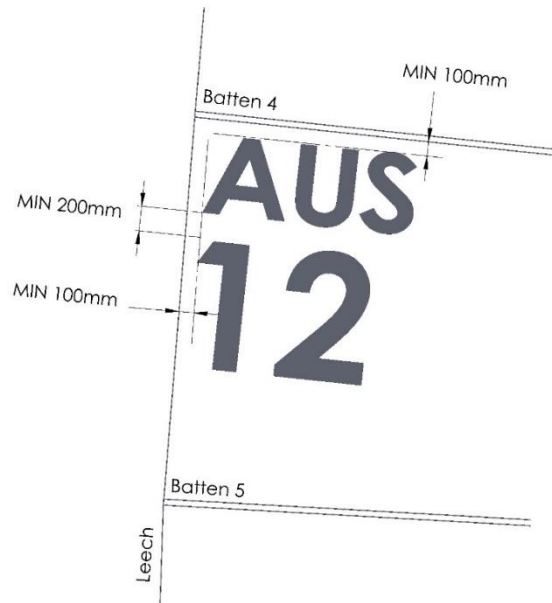
- Class World Championships (including Junior World Championship)
- Class European Championship (excluding Junior European Championship)
- Trofeo S.A.R Princess Sofia, SOF Semaine Olympique Francaise de Voile, Kieler Woche, Long Beach Olympic Classes Regatta and the Dutch Water Week, or when invoked by the NoR

### C.10.3 MAINSAIL

#### (a) IDENTIFICATION

(i) In the International 49erFX Class World Championship, Continental Championships and the Trofeo S.A.R Princess Sofia, SOF Semaine Olympique Francaise de Voile, Kieler Woche, Long Beach Olympic Classes Regatta and the Dutch Water Week events, or when invoked by the NoR, the sail numbers shall be:

1. for North 3Di mainsails, the National Letters and Sail Numbers shall be placed as shown in the Figure “Mainsail Flag Location”, white in colour and applied to the sail, back to back. The top and aft of the National Letters shall be 100-150 mm of the leech and 100-150mm below batten 3. The Sail Numbers shall be the same distance to the leech and 200-250 mm below the National Letters. The National Letter and Sail Numbers shall be purchased from an official licensee of the ICA as listed on the class webpage and shall not be trimmed or cut. This amends RRS Appendix G1.3(a) & (c).
2. The clear film North mainsails may be used, the sail numbers and national letters shall be placed below batten 4 and above batten 5 from the **head point** within 100mm of the **leech**.



- (ii) For other events the clear film North mainsail may be used, the national letters and sail numbers shall be placed between batten 4 and batten 5 and within 100mm of the **leech**.
- (iii) The names of **skipper** and **crew** may be applied on either side of the mainsail, immediately below batten 5 from the **head point** and no closer than 100 mm to the **leech**.



**Mainsail Flag Location**

(b) NATIONAL FLAGS

All teams when racing in the International 49erFX Class World Championship, Continental Championship, Olympic Games Test Event, Regional Games, the Trofeo S.A.R Princess Sofia, SOF Semaine Olympique Francaise de Voile, Kieler Woche, Long Beach Olympic Classes Regatta and the Dutch Water Week events, or when invoked by the NoR, and shall display the national flag of the helmsperson, as shown in the Figure “Mainsail Flag Location”. The flag shall be placed on the port side of the **mainsail** between the 3rd and 4th battens from the **head point** of the sail. For the North 3Di mainsails, an additional national flag shall be placed back-to-back on the starboard side of the **mainsail**. The national flag is optional at all other events. The Country Flags may be trimmed or cut to facilitate batten pocket adhesion. This amends RRS Appendix G1.3(a) & (c).

- (i) Flags shall only be purchased from an official licensee of the ICA as listed on the class webpage.

#### C.10.4 GENNAKER

##### (a) MODIFICATIONS

The gennaker may be modified by having graphics cut in using the same weight fabric, 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**, **leech** or **foot**. Such actions shall not alter the original shape of the **sail**.

## **Section D – Hull**

### **D.1 MANUFACTURERS**

(a) **Hull** and wings shall only be manufactured by Licensed Manufacturers.

### **D.2 PARTS**

(a) **Hull**

(b) Wings

(c) Gennaker sock

### **D.3 IDENTIFICATION**

The **hull** shall display the licensed manufacturer's serial number as embossed on the aft trailing edge of the transom.

The **hull** shall display the WS 49er Class plaque on the transom

The **hull** and wings shall carry a **licenced manufacturer's mark**.

### **D.4 MATERIALS, CONSTRUCTION AND DIMENSIONS**

Shall comply with the WS approved Builders Construction Manual

## Section E – Hull Appendages

### E.1 MANUFACTURERS

(a) **Hull appendages, Rudder** stock and **Rudder** gantry shall only be manufactured by Licensed Manufacturers.

### E.2 PARTS

- (a) **Daggerboard**
- (b) **Rudder** Blade
- (c) **Rudder** stock
- (d) **Rudder** gantry

### E.3 IDENTIFICATION

The **daggerboard** and **rudder** blade shall carry the embossed *49er* logo and/or a **licenced manufacturer's mark** at the head of each appendage.

### E.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the WS approved Builders Construction

## **Section F – Rig**

### **F.1 MANUFACTURER**

- (a) Mast parts shall only be manufactured by a Licensed Manufacturer.
- (b) Boom and **Bowsprit** parts shall only be manufactured by a Licensed Manufacturer.

### **F.2.1 MAST PARTS**

- (a) **Mast**
- (b) Spreaders

### **F.2.1 BOOM AND GENNAKER POLE PARTS**

- (a) **Boom**
- (b) **Bowsprit**
- (c) **Boom** vang lever

### **F.3 IDENTIFICATION**

The **mast** sections, **spreaders**, and **bowsprit** shall carry a **licenced manufacturer's mark**.

### **F.4 MATERIALS, CONSTRUCTION AND DIMENSIONS**

Shall comply with the WS approved Builders Construction Manual.

## **Section G – Sails**

### **G.1 MANUFACTURER**

Sails shall only be manufactured by a Licensed Manufacturer

### **G.2 PARTS**

- (a) **Mainsail**
- (b) **Jib**
- (c) **Gennaker**

### **G.3 IDENTIFICATION**

The **mainsail**, jib and gennaker shall carry the **licenced manufacturer's mark**.

### **G.4 MATERIALS, CONSTRUCTION, AND DIMENSIONS**

Shall comply with the WS approved Builders Construction Manual.

### **G.5 MODIFICATIONS**

- (a) 2 **primary reinforcements** made up of layers of Mylar film may be added to the **mainsail leech**.
- (b) 1 **primary reinforcement** made up of layers of Mylar film may be added to the jib **leech**.
- (c) Added **primary reinforcement** shall not be greater than 230mm long by 20mm wide and 2mm thick.
- (d) Added **primary reinforcements** shall be affixed on starboard side, perpendicular to the leech of the sail, using white Dacron adhesive sail tape which shall not exceed 300mm x 50mm of which the first 50mm is folded over and around the leech.

## Appendix A – Equipment Limitation: Sails

See class rules C.10.2

49er FX Jib <b>Sail</b>	394374-02 394343-01,02,03,04,05,06,08,09,10 394344-01,02,03,04,05,06,07,08,09,10 394345-01,02,04,05 394372-01,02,03,04,05 394373-01,02,04 394374-01,03,4,05 395677-01,02,03,06,07,10 395714-01,03,04,05 400848-01,02,03,04,05,06,07,08,09,10 431103-04,05 431104-04,05,06,07 431105-01,02,03,04,05,08
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Effective Date: 15 April 2025  
Previous Versions: 01 February 2025

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