



APPENDIX B

PROPOSED INTERNATIONAL CLASS RULES

JULY 30, 2016

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INTRODUCTION

This introduction only provides an informal background and the International Viper 640 Class Rules proper begin on the next page.

Viper 640 hulls, hull appendages, rigs and sails are manufacturing controlled.

Viper 640 hulls, hull appendages, rigs and sails shall only be manufactured or provided by a Class approved builder, currently Rondar Raceboats. Sail may be manufactured by any Class approved sailmaker.

Viper 640 hulls, hull appendages, rigs and sails may, after having left the manufacturer, only be altered to the extent permitted in Section C of the class rules.

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

Section A – General

A.1 LANGUAGE

- A.1.1 The official language of the class is English and in case of dispute over translation the English text shall prevail.
- A.1.2 The word “shall” is mandatory and the word “may” is permissive.
- A.1.3 Except where used in headings, when a term is printed in “**bold**” the definition in the ERS applies and when a term is printed in “*italics*” the definition in the RRS applies.

A.2 ABBREVIATIONS

- A.2.1 ISAF International Sailing Federation (now World Sailing)
- MNA WS Member National Authority
- ICA International Viper 640 Class Association
- NCA National Viper 640 Class Association
- ERS Equipment Rules of Sailing
- RRS Racing Rules of Sailing
- WS World Sailing (formerly known as ISAF)

A.3 AUTHORITIES

- A.3.1 The international authority of the class is the WS which shall co-operate with the ICA in all matters concerning these **class rules**.
- A.3.2 Notwithstanding anything contained herein, the **certification authority** has the authority to withdraw a **certificate** and shall do so on the request of the WS.

A.3.2 The trademark holder shall be the ICA.

A.4 ADMINISTRATION OF THE CLASS

A.4.1 The administrative functions as stated in these **class rules** shall be carried out by the ICA which may delegate the administration to an NCA.

A.4.2 Neither WS, an MNA, the ICA, an NCA, or an official measurer is under any legal responsibility in respect of these class rules.

A.5 CLASS RULES CHANGES

A.5.1 At Class sanctioned events – see RRS 89.1.d) – ISAF Regulation 10.5(f) applies. At all other events RRS 87 applies.

A.6 CLASS RULES AMENDMENTS

A.6.1 Amendments to these **class rules** shall be made per the ICA Constitution.

A.6.2 Amendments to these **class rules** are subject to the approval of the WS in accordance with the WS Regulations.

A.7 CLASS RULES INTERPRETATION

A.7.1 In any case where the wording or intent of the **class rules** is found to be unclear or in need of clarification, The Technical Committee shall have the power to make official interpretations or clarifications of existing **class rules** in order to resolve any discrepancies. Once the interpretation has been posted via either of the two methods listed below, it shall be considered a part of the **class rules** and in effect pending subsequent WS approval.

Any official interpretations or clarifications that are made during the course of a Class sanctioned regatta will be posted in writing on the regatta notice board by 9:00 AM or two hours before the first warning signal (whichever is earlier) on the day that the interpretation is to take effect.

Any official interpretations or clarifications that are made at any time (including those made during the course of a Class sanctioned regatta) will be added to the posted as soon as possible in the **class rules** following WS approval.

A.8 INTERNATIONAL CLASS FEE AND WS BUILDING PLAQUE

A.8.1 The Class appointed builder shall pay the International Class Fee.

A.8.2 WS shall, after having received the International Class Fee for the hull, send the WS Building Plaque and a measurement form to the Class appointed builder. WS plaques are to be issued for hulls built after the date of ICA membership in WS.

A.9 SAIL NUMBERS

A.9.1 Sail numbers shall be issued by the ICA or its appointed representative.

A.9.2 Sail numbers shall be issued in consecutive order.

A.10 MANUFACTURER DECLARATION

A.10.1 A manufacturer's declaration issued after the date of ICA membership in WS shall record the following information:

- (a) Class
- (b) Sail number issued pursuant to A.9.1
- (c) Owner(s)
- (d) Hull identification

- (e) Builder/Manufacturers details
- (f) Date of issue of initial manufacturer's declaration
- (g) Keel weight
- (h) Complete boat weight, per **class rules**
- (i) Corrector weights

A.11 VALIDITY OF MANUFACTURER DECLARATION

- A.11.1 A manufacturer's declaration becomes invalid upon:
- (a) the change to any items recorded on the manufacturer's declaration
 - (b) withdrawal by WS or ICA
 - (c) the issue of a new manufacturer's declaration

A.12 RE-ISSUE OF MANUFACTURER DECLARATION

- A.12.1 The ICA may re-issue a manufacturer declaration to a **hull**:
- (a) when it is invalidated under A.11.1(a) or (b)
 - (b) when it is invalidated under A.11.1 (c), at its discretion.
 - (c) in the case of loss
 - (d) at the request of WS

A.13 RETENTION OF DOCUMENTATION

- A.13.1 The owner shall retain the original manufacturer declaration.
- A.13.2 A copy of the manufacturer declaration shall be sent to the ICA by the Manufacturer

Section B – Boat Eligibility

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

B.1 CLASS RULES AND CERTIFICATION

- B.1.1 The **boat** shall:
- (a) be in compliance with the **class rules**.
 - (b) have been built by an ICA appointed manufacturer or builder, either Performance Boats for boats built from 1996 to 1999, or Rondar Raceboats for boats built from 2006 until further notice.

B.2 CLASS ASSOCIATION MEMBERSHIP AND MARKINGS

- B.2.1 A **boat** participating in a Class sanctioned regatta must either be owned by an ICA member or the **skipper** on board throughout the regatta must be an ICA member.
- B.2.2 The mainsail shall have the Viper insignia per RRS Appendix G1.3.
- B.2.3 Sails shall carry a ICA sail registration sticker pursuant to the requirements of Section C.10.2.

B.3 EQUIPMENT INSPECTIONS

- B.3.1 Any alleged or suspected change to a **boat** supplied by the builder not covered by these rules, or any alleged non-compliance not covered by these rules may be compared by the Technical Committee or their appointed representative to a sample of 5 boats.
- B.3.2 Spars, sails, rigging and other equipment – (a) Any **boat** that has spars, sails, rigging or other equipment (collectively referred to as equipment) dating from prior

to September 1st 2005 that may not comply with the **class rules** may apply to the Technical Committee for a waiver so that the equipment may be used on that boat to race under the **class rules**. Any boat that has spars, sails, rigging or other equipment that complied with **class rules** at the time they were installed or supplied to the boat but subsequently do not comply with class rules due to a change in the **class rules**, the owner may apply to the Technical Committee for a waiver to allow the equipment to be used on that boat to race under the **class rules**. Any boat that has to effect repairs to (or replace) spars, rigging and other equipment (excluding sails) prior to or during a Class sanctioned regatta that may not comply with the **class rules** may apply to the Technical Committee for permission to use the equipment (excluding sails) to race under the **class rules**. (b) The Technical Committee shall use their discretion to determine whether the equipment conveys any reasonable competitive advantage to the boat. The Technical Committee shall also take into consideration: (i) Has a reasonable attempt been made to comply with **class rules**? (ii) The cost of complying with **class rules** (iii) The availability of replacement equipment and components (iv) The impact on the strict One-Design nature of the Class. (v) Any other factors that they consider relevant. (c) The Technical Committee may use its discretion to grant permission or a waiver for the equipment to be used under the **class rules** for racing. The waiver or permission to use the equipment may be granted for a specific period or for an unlimited period. The permission or waiver to use the equipment may be revoked by the Technical Committee at any time, even if it was previously granted for an unlimited period.

- B.3.3 Any permission or waiver to race with boats or equipment under the provisions of B.3.2 must be approved in writing by the Technical Committee.
- B.3.4 Any decision by the Technical Committee to decline permission or decline a waiver under B.3.2 will not be reviewed by the ICA Executive Committee or any other body. Any permission or waiver granted under B.3.2 may be reviewed by the ICA Executive Committee. The ICA Executive Committee can decide to revoke any waiver or permission issued under B.3.2 but it shall not affect race results prior to that decision.
- B.3.5 Upon written approval from both the Technical Committee and ICA Executive Committee, new modifications and changes to the Viper 640, including but not limited to foils, equipment and sails may be tested at Class sanctioned regattas. The number of boats and the period of testing shall be set by agreement with the Technical Committee and ICA Executive Committee. Such testing shall not occur at World, North American or National championships.

PART II – REQUIREMENTS AND LIMITATIONS

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

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

Section C – Conditions for Racing

C.1 GENERAL

C.1.1 RULES

- (a) The ERS Part I – Use of Equipment shall apply.
- (b) RRS Appendix G1.3 (d) shall not apply.
- (c) ERS A.2.1 is changed in that a manufacturer's declaration is not required for boats built prior the date of ICA membership in WS.

C.2 CREW

C.2.1 LIMITATIONS

- (a) The **crew** shall consist of a minimum of two persons. The same number of persons shall sail throughout an event.
- (b) No **crew** member shall be substituted during at Class Sanctioned regattas without written approval prior to sailing from the Regatta Organizing Committee (designated by the ICA or Regional Executive Committee) posted on the official notice board. This shall not prevent helm and crew within the same constituent team from rotating roles on the **boat**.
- (c) No **skipper** or **crew** may be "paid" to sail in any race aboard a Viper 640. A signed declaration of compliance with this Rule C.2.1(c) by all participants on Viper 640s at a Class Sanctioned regatta may be required at the discretion of the ICA or Regional Executive Committee and in a form it specifies. "Paid" is as defined in WS Regulation 22 and shall additionally include being paid for any goods or services in exchange for agreeing to helm or crew on a Viper 640. It shall exclude being paid to assist any disabled sailor who requires assistance to launch, rig or deliver the **boat**, provided the payee is not a WS Category 3 sailor.
- (d) Use of the shrouds and or mast to promote roll tacking or roll jibing is prohibited.
- (e) Private on the water coaching is not permitted at Class sanctioned events. At Class sanctioned events, no private coach boats shall enter the area where boats are racing from the time of the first warning signal of the day until racing has been concluded for the day. A Viper Class Coach boat, approved by the ICA or Regional Executive Committee or by a Regatta Organizing Committee designated by the ICA or Regional Executive Committee may provide coaching to a wide range of competitors to enhance all competitors' enjoyment of the event.

C.2.2 WEIGHTS

- (a) There are no minimum or maximum **crew** weights.

C.3 PERSONAL EQUIPMENT**C.3.1 MANDATORY**

- (a) The **crew** shall wear a **personal floatation device** at all times from the starting signal until their boat has finished or withdrawn. **Personal floatation devices** shall meet the minimum standard ISO 12402-5 (CE 50 Newtons), or USCG Type III, or AUS PFD 1, or as specified by the local Organizing Authority.

C.4 ADVERTISING**C.4.1 LIMITATIONS**

- (a) Advertising shall only be displayed in accordance the WS Advertising Code. (See WS Regulation 20).

C.5 PORTABLE EQUIPMENT**C.5.1 MANDATORY****(a) FOR USE**

- (1) One paddle
- (2) One compass, conventional or electronic
- (3) One tow line at least 20 meters in length and not less than 6mm in diameter.
- (4) Additional safety equipment as required by local or national laws.

C.5.2 OPTIONAL**(a) FOR USE**

- (1) Self-contained electronic devices that display information which can be calculated based solely on an electronic compass, GPS sensors and internal software.
- (2) Conventional compasses, electronic watches and timers.
- (3) Mast chocks devices are permitted in front of the mast for the purpose of controlling mast bend at the deck: (partner blocks). The aft side of the mast may be secured in the partners with a line and cleat as supplied and positioned by the builder.
- (4) A line or shock cord may be attached between the top of the headstay turnbuckle or swage and the bow of the boat or molding that supports the sprit for the sole purpose of keeping sheets and the spinnaker retrieval line from catching on the bow or headstay.
- (4) Sheet tail bags and water bottle holders
- (5) Wind Indicators
- (6) Outboard engine and bracket
- (7) Additional inspection ports and storage receptacles under the port covers.

(b) NOT FOR USE

- (1) External sensors, transmitters (other than remote controls), wired or wireless data sources, and/or power supplies.
- (2) Devices for controlling the position of the mast in the mast partners below the deck.

C.6 BOAT**C.6.1 MODIFICATIONS, MAINTENANCE AND REPAIR**

- (a) During any period where the Notice of Race or Sailing Instructions require that boats remain in the water, only competitors may clean the bottoms of their **boats**, and then without careening or the use of any breathing apparatus or power equipment. **Keels** must remain lowered during such period, but **rudders** may be removed after sailing.
- (b) Hiking straps may be added for a fourth crew.
- (c) A forward foot rests may be installed provided they are in the same dimension and same location as current boats supplied by an ICA approved builder.
- (d) Lines to assist hiking may be attached to the lifting eye on top of the keel and/or to the lifting padeyes on port and starboard deck floor. A hiking line may assist a crew member hiking only by being held in the hands. The hiking line may not be attached to the crew by any means.
- (e) The main halyard cleats must be at or near the base of the mast and may be of any type.
- (f) The primary jib halyard cleat must be of the same type and in the same place as installed by the builder and an additional jib halyard cleat may be installed on the deck or aft lip of the foredeck to help prevent the jib halyard from slipping under load.
- (g) The spinnaker halyard cleat on masts shall be a Ronstan halyard swivel cam or equivalent in the same location as supplied by builder. Carbon masts may alternatively have a Harken 150 cam cleat or equivalent attached to the mast in line below the spinnaker exit or as supplied by the builder prior to 2009. The material of the attachment bracket is unlimited.
- (h) A pad-eye and single sheave block for the jib halyard may be installed on the port side tank athwartship of the mast.
- (i) An additional single purchase (block) may be added to the head of the jib with the tail of the halyard to terminate at the base of the jib halyard exit sheave.

C.6.2 WEIGHT

	minimum
The weight of the boat in dry condition	340 kg

The weight shall be taken ready to sail including one set of sheets only, but excluding the following equipment: **sails** and battens, paddle, **personal floatation devices**, mooring lines, fenders, lifting slings, tool kit, and all other loose gear and personal effects.

- C.6.3 **Corrector weights** shall be added by permanently fixing lead weight by mechanical fasteners and strapped or encased in fiberglass to either side of the structural girder in the forward bilge sump, such that the combined weight of the complete boat shall exceed 340 kg.
- C.6.4 No changes to the boat supplied by the builder are allowed unless they are specifically permitted by the **class rules**.
- C.6.5 A Viper 640 shall be raced only with equipment and fittings identical to the fittings supplied with the boat by an ICA appointed builder unless:

- (a) The **class rules** specifically allow equipment and fittings that differ from those supplied by the builder,
 - (b) A boat replaces existing fitting or equipment with the current fittings and equipment used by a current builder, subject to rule C.6.7,
 - (c) A boat adds fittings or equipment used by a current builder, subject to C.6.7.
- C.6.6 No addition or alteration may be made to the hull form, construction, equipment, type of equipment, fittings, type of fittings, standing rigging, running rigging, spars and foils as supplied by the builder except when such an alteration or change is specifically authorized by these rules.
- C.6.7 No alteration may be made to the location of; equipment, fittings, standing rigging, running rigging, spars or foils as supplied by the builder except when such an alteration is specifically authorized by these **class rules**.

C.7 HULL

C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) The hull may not be faired or refinished with the intention or effect of lightening the hull, removing hull imperfections, improving the shape or otherwise improving the performance of the hull. Waxing, polishing and sanding of the hull is permitted, provided the intention and effect is to polish the hull only.
- (b) Where a hull needs to be repaired, the repair may be faired into the area immediately surrounding the repair. Where a repair is extensive and where a substantial portion of a hull has been faired as a result of repair, the hull shall be the same shape and finish as originally supplied by the builder.
- (c) If a hull has a substantial imperfection that impedes the competitive performance of the **boat** relative to the average boat produced by the class builder/builders, the owner may apply to the Technical Committee to approve limited fairing to correct that imperfection. If the Technical Committee grants approval for fairing to correct an imperfection, the **boat** shall be inspected both prior to and after the fairing to ensure that the fairing is limited to that necessary to correct the imperfection and that the fairing results in the same shape and finish as an average **boat** supplied by the builder. The owner shall be responsible for conveying the **boat** to a suitable location for inspection.
- (d) A **boat** that has been faired prior to September 1st 2005 and can show that the fairing took place prior to September 1st 2005 may apply to the Technical Committee for the hull and foils to be allowed to race under the class rules. The Technical Committee shall use their discretion to determine whether such fairing conveys a reasonable competitive advantage to the boat in question. The Technical Committee may decide that no reasonable competitive advantage exists and grant the boat a waiver to race under **class rules**. The Technical Committee may specify specific work that needs to be done to rectify some competitive advantage conveyed by the fairing to enable the **boat** to comply with these class rules. The Technical Committee may determine that the **boat** does not comply with the **class rules**.

C.7.2 FITTINGS

(a) USE

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

- (2) All **boats** are required to have crew safety lines installed under the gunwale in the same position as current **boats** supplied by an ICA approved builder.
- (3) A safety line shall be installed in the aft part of the cockpit. The aft safety line shall be a minimum diameter of 4mm.
- (4) The aft spinnaker sheet blocks must be attached to the gunwale 200 cm forward from the corner of the gunwale and the transom.

C.7.3 LIMITATIONS

- (a) Lightening of the hull. No stripping or lightening of the hull by means of cutting holes in the, bulkheads, partial bulkhead or by the removal of material from the hull, deck, bulkheads or partial bulkheads shall be permitted.
- (b) Relocation of hardware, fittings or rigging shall not be permitted without written permission from the ICA.

C.8 HULL APPENDAGES

C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) The hull appendages including the rudder, keel foil and keel bulb, may not be faired or refinished with the intention or effect of improving the shape or otherwise improving the performance of the appendages, with the exception of keel foil fairing as allowed in C.8.1(d). Waxing, polishing and sanding of the appendages is permitted, provided the intention and effect is to polish the appendages only.
- (b) Where an appendage needs to be repaired, the repair may be faired into the area immediately surrounding the repair. Where a repair is extensive and where for example a substantial portion of an appendage has been faired as a result of repair, the appendage shall be the same shape and finish as originally supplied by the builder. However, if a keel foil is extensively repaired, the fairing shall be performed per C.8.1(d).
- (c) If an appendage has a substantial imperfection that impedes the competitive performance of the boat relative to the average boat produced by the class builder/builders, the owner may apply to the Technical Committee to approve limited fairing to correct that imperfection. If the Technical Committee grants approval for fairing to correct an imperfection, the appendage shall be inspected both prior to and after the fairing to ensure that the fairing is limited to that necessary to correct the imperfection and that the fairing results in the same shape and finish as an average boat supplied by the builder. The owner shall be responsible for conveying the appendage to a suitable location for inspection.
- (d) The keel foil may be faired after September 30, 2012, subject to the following. The keel foil may be faired only to match the ICA provided Viper 640 keel template and over the section from 50 mm above the top of the keel bulb to 25 mm below where the keel exits the hull when in the lowered position, must: a) meet that shape within plus 2 mm or minus 1 mm as measured on each side of the keel foil; b) the distance from the keel's leading edge to its trailing edge measured perpendicular to the leading edge and parallel to its centerline shall be between 350 mm and 359 mm; and c) the keel foil trailing edge minimum thickness is 3 mm. The faired keel foil may be subject to inspection at any time after fairing for compliance with these tolerances and dimensions.

KEEL MEASUREMENT PROCEDURE [[link to ICA website](#)]

C.8.2 LIMITATIONS

- (a) The keel shall be made only from ICA approved molds and shall only be supplied by a Class approved builder.
- (b) The bulb shall be of lead cast in the ICA approved mold (version 2) and encased in the Class approved bulb profile (version 2). All version 1 keel bulbs (Hulls up to and including hull #70) shall install a retrofit keel bulb kit supplied by a ICA approved builder.
- (c) Rudder- The rudder shall be made to the original design and shall only be supplied by a ICA approved builder. The tiller must be an aluminum tube of identical diameter to that supplied by an ICA builder but can be of any length. The tiller extension does not have to be identical to equipment supplied by an ICA approved builder

C.8.3 KEEL**(a) DIMENSIONS**

- (1) If faired after September 30, 2012, see C.8.1(d).

(b) WEIGHT

	minimum	maximum
Combined keel fin and keel bulb	115 kg	123 kg

C.8.4 RUDDER**(a) WEIGHT**

	minimum	maximum
Rudder excluding tiller and extension	4.0 kg	

C.9 RIG**C.9.1 MODIFICATIONS, MAINTENANCE AND REPAIR**

- (a) Running rigging may be replaced by rope of any type but shall meet any applicable minimum diameters as stated in C.9.6. Tapered sheets and halyards are prohibited.
- (b) It is permissible to install a composite gooseneck constructed in accordance with ICA specifications and manufactured and distributed by Ben Steinberg.
- (c) The boom gnav system does not have to be identical to that supplied by a ICA approved builder. The boom gnav must be attached to the mast at the Gnav gooseneck installed by Superspar. The tube shall be of the same material and diameter as supplied by a ICA approved builder. The length of the tube (without end caps) shall be 122 cm +/- 6 cm. The base of the tube shall rest on a Gnav car or similar device installed on the top of the boom. The Gnav shall be adjusted by a maximum of 16:1 purchase and a minimum of 8:1 purchase. A maximum of 8:1 purchase and a minimum of 4:1 purchase shall be located on top of the boom (either attached to the front of the boom or to the mast) and a maximum of 4:1 purchase and a minimum of 2:1 purchase shall be located below the boom. No part of the purchase system shall be located inside the boom.
- (d) The Cunningham system does not have to be identical to that supplied by a ICA approved builder. The purchase system shall not exceed 8:1 and shall only be

able to adjust mainsail luff tension. The Cunningham control lines may not be run aft of the mast by more than 20 cm.

C.9.2 FITTINGS

(a) USE

- (1) The handle and lever kit for Ronstan Sealoc turnbuckles are allowed.
- (2) Scar Pins may be used to secure open body turnbuckles in place of clevis pins.
- (3) All boats shall either have a boom vang or a boom gnav. All boats with carbon masts shall have a boom gnav system.
- (4) The boom vang may be mounted with the cam cleat at either the top or the bottom of the vang. The vang shall not otherwise be changed from original configuration. Any addition of any blocks, line or other devices is prohibited.

C.9.3 LIMITATIONS

- (a) Brolga turnbuckles and rig adjusters are prohibited.

C.9.4 MAST

(a) DIMENSIONS

- (1) Two measurement bands 24mm minimum width and of color contrasting with the mast shall be located as follows: The upper edge of the lower band shall be 1190mm +/- 10mm above the cockpit floor. The upper surface of the boom groove projected to the mast shall not extend below this point. The lower edge of the upper band shall not be more than 7810mm above the upper edge of the lower band. No part of the mainsail shall extend beyond the lower edge of the upper band.
- (2) Spreaders, as supplied by an ICA approved builder, after assembly on the mast must be rigidly attached. The length and sweep of the spreaders on carbon masts shall be measured by attaching a line between the upper shrouds at the bearing point with the spreaders. The distance between this line and the aft most point of the track on the mast, measured perpendicular to the mast shall be no less than 280mm. The length and sweep of the spreaders may not be adjusted in any way once a regatta has commenced.

(b) USE

- (1) Mast Heel - Movement of the mast is permitted only in a fore and aft direction. The position of the mast heel shall not be adjusted in any way once a regatta has commenced.

C.9.5 BOOM

(a) DIMENSIONS

	minimum	maximum
Limit mark width	12.5mm	12.5mm
Outer point distance		3050mm
Boom spar curvature		25mm

C.9.6 RETRACTING BOWSPRIT

(a) DIMENSIONS

- (1) The extended length from the center of the headstay pin to the bearing point of the tack line shall not exceed 190 cm.

C.9.7 STANDING RIGGING

(a) DIMENSIONS

	minimum	maximum
Headstay	7512mm	7588mm

(b) USE

- (1) The length of the headstay shall be adjustable only by a turnbuckle attached to the headstay chainplate.
- (2) The length of the headstay shall be measured from the bearing point of the upper tang to the bearing point of the lower attachment point.
- (3) The headstay length shall not be adjusted on a day of racing after the mainsail has been hoisted for the first time.
- (4) Adjustment of shroud length shall be made only by means of open body turnbuckles, Ronstan Sealoc turnbuckles or single or double column shroud adjusters.
- (5) Adjustment of the shroud length while racing is prohibited.

C.9.8 RUNNING RIGGING

(a) USE

- (1) The spinnaker sheets shall be line with a minimum diameter of 7 mm diameter. A pennant (of any diameter) that shall not exceed 45 cm may be attached to the spinnaker sheets for the purpose of attaching the spinnaker sheets to the clew of the spinnaker.
- (2) The jib sheets shall be a minimum diameter of 7 mm
- (3) The main sheet shall be a minimum diameter of 8 mm except that a split end mainsheet may taper to smaller tails of any diameter between the split and the attachment points on the hull. The transition between the split made up of smaller tails to the full diameter of the 8 mm mainsheet shall not exceed 24".
- (4) Halyards and the retrieval line shall be a minimum diameter of 4 mm
- (5) The retrieval line shall be attached to a retrieval cringle on the spinnaker and shall run through the spinnaker throat in the foredeck and through the spinnaker sock to the cockpit. The retrieval line may be a continuous spinnaker halyard/retrieval line system or a separate line from the spinnaker halyard.
- (6) The mainsheet system shall be one of the following four alternatives:
 - (a) A split tail mainsheet where the split ends are attached to the aft pad eyes and shall include 5 sheaves (or turning points) as per Diagram A.
 - (b) A split tail mainsheet where the split ends are attached to the mid bridle pad eyes and shall include 4 turning points as per Diagram B.

- (c) A constant diameter mainsheet where the end is attached to the block on the mid bridle and shall include 4 turning points as per Diagram C.
- (d) A split tail mainsheet where the split ends and a bridle with a turning point are attached to the aft pad eyes and shall include 5 turning points as per Diagram D.

Diagram A. Split tail mainsheet attached to aft pad eyes



Diagram B. Split tail mainsheet and bridle attached to mid-boat pad eyes

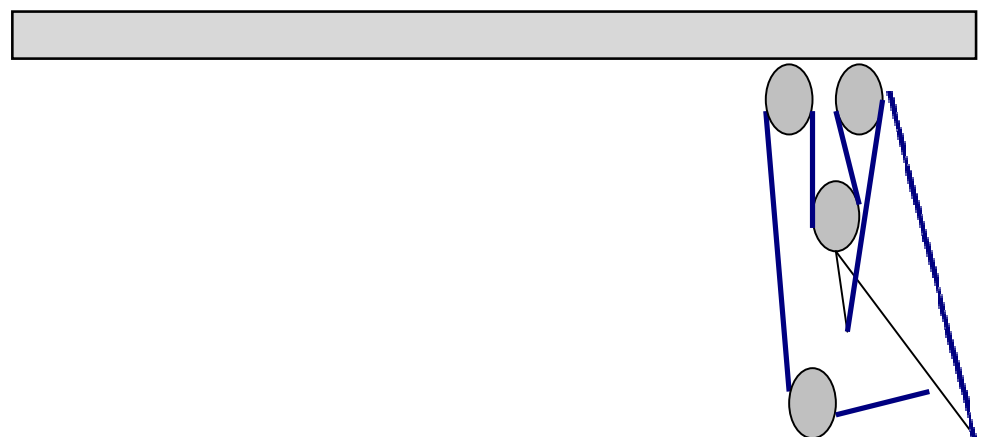
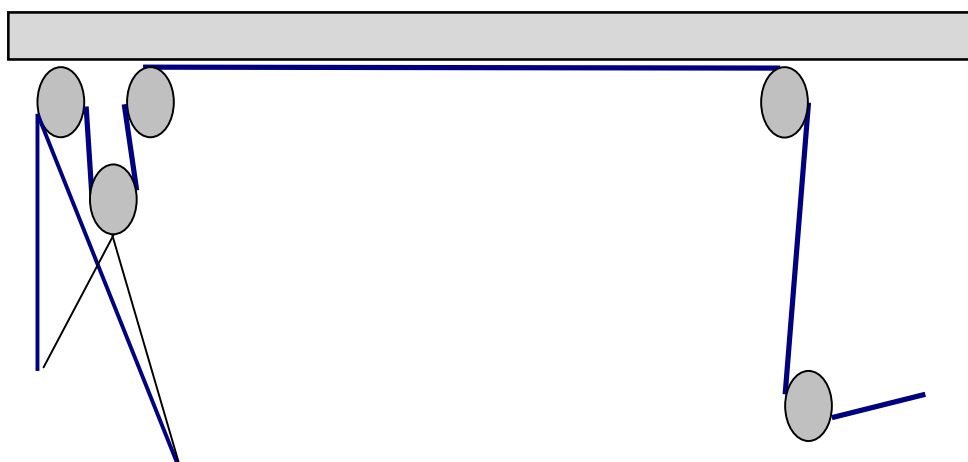


Diagram C. Mainsheet attached to block on mid-boat bridle



Diagram D. Split tail and bridle attached to aft pad eyes



- (7) In all four alternative systems, the mainsheet must run through a turning point attached to a bridle. The bridle may be of any length, but may not be adjustable while racing. The bridle must be attached to the two mid bridle or aft bridle pad eyes installed by the builder. The mainsheet must also pass through at least one turning point located mid-boom, with mid-boom defined as the center of the attachment point and located within a

range of between 1400 mm to 1750 mm as measured aft from the forward face of the boom.

- (8) No other mounting points may be added. The function of the mainsheet system is to allow the angle of the boom from the centerline of the boat to be adjusted solely by means of the mainsheet. No mechanism shall be added that creates a traveler. The addition of blocks, cam, cleats, or other lines and devices to facilitate adjustment of the angle of the boom while racing are specifically prohibited.
- (9) A cockpit swivel cam base with turning point and cleat as located by the builder must be part of the mainsheet system. The swivel cam base may be raised up to 5 cm above the cockpit floor. The mainsheet may only be cleated at the swivel cam base.
- (10) If mainsheet alternative C.9.8(a)(6)(d) is rigged on a boat, the mainsheet must be trimmed through the swivel cam's turning point while sailing to windward.
- (11) Any manufacturer's blocks, ferrules or rings may be used as turning points as long as they are no smaller than 40 mm or larger than 60 mm in outside diameter, except that the small sheave in a fiddle block, if used instead of 2 mid boom turning points, may be smaller than 40 mm.
- (12) Only one turning point in the system may be a ratchet block and that ratchet block may be placed anywhere in the system.
- (13) Shock cord may be used to control slack split tails and bridles.

C.10 SAILS

C.10.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Any **sail** that is re-cut or substantially repaired requires re-measuring. A **sail** that is re-cut and re-measured shall not constitute acquisition of an additional new **sail** unless **sail** is re-cut, repaired or altered in a manner that 33% or more of the material used in the same is new or replaced. **Sails** shall not be altered in any way except as permitted by these **class rules**.

C.10.2 LIMITATIONS

- (a) Sails shall be constructed by ICA approved sail makers.
- (b) No sails other than registered sails built by ICA approved sail makers shall be used in any Viper one-design race.
- (c) Only one of each, mainsail, jib and spinnaker of shall be hoisted at the same time.
- (d) At an ICA sanctioned regatta, no more than two suits of registered sails may be used, and no more than one mainsail, jib and spinnaker may be used on any given day, except if there is irreparable damage that renders a sail unusable.
- (c) Sail Purchase
 - (1) A Viper 640 owner may acquire up to one complete set of new sails per calendar year (one main, one jib, and one spinnaker). A new sail is considered acquired for a boat when it is first used in a race by the owner. The year shown on the registration sticker must be consistent with that date of first use.
 - (2) An owner in their first year of Viper 640 ownership may in addition, choose to purchase and race with one or more of next year's new sails in advance. In this case only, the year on the registration sticker will be

next year. The first year of Viper 640 ownership is the calendar year the boat is first raced by the owner after purchase.

- (3) A boat's overall sail inventory of both new and used sails shall include no more than one sail of each type (main, jib, and/or spinnaker) per year as shown on the registration sticker.
- (4) Used sails may be added to a boat's inventory at any time, provided the owner is in compliance with C.10.2(c)(3).
- (5) A used sail is a previously registered sail. The year on its registration sticker is based on its registration by the original owner.
- (6) Any previously used unregistered sail acquired by a boat owner is considered new for purposes of this Section C.10.2, unless the owner can establish to the satisfaction of the Technical Committee that given the intent of this rule that the sail should be treated as used and registered as such.

(d) Sail Registration

- (1) All sails constructed prior to January 1st 2011 must be numbered and signed by a member of the Technical Committee or a designated measurer appointed by the Technical Committee. From January 1st 2011, any new sail acquired must have a ICA numbered "registration sticker" permanently attached to the sail. Sail registration data will be available to any ICA member for review upon reasonable request.
- (2) If the owners upon discovery that a sail is lost, stolen or destroyed can demonstrate that they are in a noncompetitive position, or if a sail is repaired such that the registration sticker must be replaced, or a sticker is lost, they may apply to the Technical Committee for an exemption and a replacement sticker. Such application shall be in a form and detail as requested by the Technical Committee.
- (3) When a sail's ownership is transferred, the new owner is responsible for registering the sail as part of the new owner's inventory prior to the next Class sanctioned regatta the sail is used in.

(e) Sail Registration Sticker Purchase and Administration

- (1) The sticker fee, method of payment and distribution shall be determined by the ICA Executive Committee. There will be no fee for registration of sails constructed prior to 1/1/2011. The unique numbering sequence for a sail will be Hull No./Sail acquisition year/type. For example, 055/10/J, would indicate hull 55 first race in 2010 a jib. If the sail is later sold, the hull sold to gets added to the front (120/055/10/J). This would track the sail as being sold to hull 120.

(f) Sails for Chartered and Borrowed Boats

- (1) Charters or competitors who do not own a Viper 640 may acquire and register up to three new or used sails per calendar year to use on different charter boats or borrowed boats. If they subsequently purchase a boat, any such sails acquired and retained count towards the owner's inventory.
- (2) If a competitor regularly sails on a borrowed boat or chartered boat with their own sails, then the Technical Committee may at their sole discretion deem that the sails count towards the boat's sail inventory.

(g) Co-owners of boats or Owners with Multiple Viper 640s

- (1) Sails are specific to a boat. If a sail is used on a boat, then the sail counts towards the sail inventory of that boat, unless transferred and approved by the Technical Committee. If an owner uses the same sail on two boats, it counts towards the inventories of both boats.
- (2) Co-owners may not each have their own sail inventory.
- (h) All sails that complied with the sail dimension and material requirements of the **class rules** at the time they were made that were built by any sailmaker prior to December 31st 2006 are deemed to comply with **class rules**.

C.10.3 MAINSAIL

(a) IDENTIFICATION

- (1) The national letters and sail numbers shall comply with the RRS except where prescribed otherwise in these **class rules**.
- (2) The mainsail shall display the sail registration number allotted by the ICA.

(b) USE

- (1) The **sail** shall be hoisted on a **halyard**. The arrangement shall permit hoisting and lowering of the **sail** whilst afloat.
- (2) The highest visible point of the **sail**, projected at 90° to the mast **spar**, shall not be set above the lower edge of the mast **upper limit mark**. The intersection of the **leech** and the top of the boom **spar**, each extended as necessary, shall not be behind the fore side of the boom **outer limit mark**.
- (3) **Luff** bolt ropes shall be in the **spar** grooves or tracks.

C.10.4 JIB

(a) IDENTIFICATION

The sail numbers are not required on the jib.

C.10.6 SPINNAKER

(a) IDENTIFICATION

The sail numbers are not required on the spinnaker.

(b) USE

- (1) The spinnaker shall be launched and retrieved through the spinnaker throat in the foredeck and shall be doused within the spinnaker sock under the foredeck.
- (2) The spinnaker sock shall be a tube made of cloth, canvas, canvas mesh or other flexible material attached at one end to the spinnaker retrieval throat in the foredeck and at the other end to a pad eye on the cockpit floor.

Section D – Hull

D.1 PARTS

D.1.1 MANDATORY

- (a) Hull shell
- (b) Deck

D.2 GENERAL**D.2.1 RULES**

(a) The **hull** shall comply with the **class rules** in force at the time of manufacture.

D.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) The hull shell and deck shall not be altered in any way except as permitted by these **class rules**.

D.2.3 IDENTIFICATION

(a) The hull shall carry the WS Plaque permanently placed on the rudder tower for all hull manufactured after the date of ICA membership in WS.

D.2.4 BUILDERS

(a) The hull shall be built by a ICA approved builder licensed by WS.

(b) All moulds shall be approved by the ICA.

D.3 ASSEMBLED HULL**D.3.1 WEIGHTS**

	minimum	maximum
Hull Weight (Refer to C.6.2 for what is included in complete weight)	340 kg	kg

Section E – Hull Appendages**E.1 PARTS****E.1.1 MANDATORY**

(a) **Keel**

(b) **Rudder**

E.2 GENERAL**E.2.1 RULES**

(a) **Hull appendages** shall comply with the **class rules** in force at the time of manufacture except those rules in Section C where the current rules take precedence.

E.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) **Hull appendages** shall not be altered in any way except as permitted by these **class rules**.

E.2.3 MANUFACTURERS

(a) The **hull appendages** shall only be supplied by ICA approved builders.

E.3 KEEL**E.3.1 MATERIALS**

(a) The **keel** bulb shall be of cast lead in the ICA approved mold (version 2) and encased in the ICA approved bulb profile (version 2). All version 1 keel bulbs

(Hulls up to and including hull #70) shall install a retrofit keel bulb kit supplied by a ICA approved builder.

E.3.2 WEIGHTS

	minimum	maximum
Keel (total weight)	115 kg	123 kg

E.4 RUDDER AND TILLER

E.4.1 MATERIALS

(a) The tiller shall be of an aluminium tube of identical diameter to that supplied by an ICA approved builder.

E.4.2 FITTINGS

(b) OPTIONAL

- (1) Tiller can be any length.
- (2) Tiller extension does not have to be identical to equipment supplied by an ICA approved builder.

E.4.3 WEIGHTS

	minimum	maximum
Rudder (including tiller and extension)	4.0 kg	kg

Section F – Rig

F.1 PARTS

F.1.1 MANDATORY

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

F.2 GENERAL

F.2.1 RULES

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

F.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) **Spars** shall not be altered in any way except as permitted by these **class rules**.

F.3 MAST

F.3.1 MATERIALS

(a) The mast shall either be an aluminum mast manufactured by Proctor (Selden) or a Carbon mast manufactured by Superspar.

F.3.2 CONSTRUCTION

- (a) The aluminum mast extrusion # 3525 shall be fabricated by Proctor (Selden) with an internal sleeve in accordance with the ICA approved spar plan.
- (b) The carbon mast is an ICA specified "Viper" mast fabricated by Superspar.

F.3.3 DIMENSIONS

- (a) Refer to Section C.9.4

F.4 BOOM**F.4.1 MATERIALS**

- (a) The aluminium boom may be supplied by either Proctor (Selden) or Superspar. The Proctor (Selden) boom shall be extrusion #2632. The Superspar boom shall be as supplied by the ICA approved builder.

F.4.2 CONSTRUCTION

- (a) The boom shall be of constant section throughout and shall not be tapered, cut away or drilled except for the attachment of fittings. Removal of the boom end plugs is prohibited. A Proctor (Selden) boom may be stiffened by inserting a boom sleeve and/or a 42" long prave may be inserted in the track on the underside of the boom for additional support.

F.4.3 DIMENSIONS

	minimum	maximum
Outer point distance		3050mm
Boom spar curvature		25mm
Limit mark width	12.5mm	12.5mm

F.5 BOWSPRIT**F.5.1 MATERIALS**

- (a) The **spar** shall be of carbon, complying with ICA approved specifications and supplied by an ICA approved builder.

F.5.2 DIMENSIONS

- (a) The extended length of the bowsprit measured from the center of the headstay pin to the bearing point of the tack line shall not exceed 190 cm.

F.6 STANDING RIGGING**F.6.1 MATERIALS**

- (a) The standing **rigging** shall be of stainless steel and wire type and diameters are as supplied by an ICA approved builder.

F.6.2 DIMENSIONS

	minimum	maximum
Forestay length from the bearing point of the upper tang to the bearing point of the lower attachment point	7512mm	7588 mm

F.7 RUNNING RIGGING**F.7.1 MATERIALS**

- (a) Materials are optional.
- (b) No tapering, except as specifically allowed in a split tail mainsheet in Section C.9.8(3)
- (c) Running rigging minimum diameters are per Section C.9.8.

Section G – Sails**G.1 PARTS****G.1.1 MANDATORY**

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

G.2 GENERAL**G.2.1 RULES**

- (a) **Sails** shall comply with the **class rules**.

G.2.2 DEFINITIONS

- (a) Refer to Section C.10

G.2.3 SAILMAKER

- (a) All sailmakers must be ICA approved.

G.3 MAINSAIL**G.3.1 IDENTIFICATION**

- (a) The mainsail shall have the Viper insignia shown in a prominent position and may have the words "Viper 640" on the sails.
- (b) The mainsail shall display the sail registration number allotted by the ICA.

G.3.2 MATERIALS

- (a) The minimum fabric weight shall not be less than 200 g/sq m. The mainsail shall be constructed from one of the following materials: Woven Dacron or Mylar laminate with a polyester scrim. Pentex is considered a polyester. Polyester fibers in a Mylar laminate may be oriented in different directions but all sets of fibers shall be uniformly spaced and patterned. "String" or load path sails are specifically prohibited. String sails built before December 31, 2011 that can be shown to meet the 200 gr/sq meter minimum fabric weight are eligible to be grandfathered and registered on an individual basis by the Technical Committee working with the respective Viper 640 owners and sailmakers. The Technical Committee may publish from time to time a list of specific sail cloths allowed for the mainsail.

G.3.3 CONSTRUCTION

- (a) The construction shall be **soft sail**.
- (b) Battens
 - (1) Head Batten – A head batten may support the head of the sail provided that the batten does not extend the sail aft of a straight line between a point

measured perpendicular to the luff 310mm aft of the head point, and the upper leech point.

(2) Mainsail Battens - No more than five additional mainsail battens shall be permitted in the main body of the sail. The 2 lower mainsail battens shall not exceed 1400mm. All other battens may be of unlimited length. For all sails constructed after June 30 2009, the distance from the head point to the intersection of the mainsail leech and the middle of the top mainsail batten shall be no less than 900 mm.

(c) No part of the mainsail shall extend above the lower edge of the upper mast measurement band or aft of the forward edge of the boom measurement band.

(d) Windows – up to two windows are permitted.

G.3.4 DIMENSIONS

	minimum	maximum
Leech length	mm	8200 mm
Half width	mm	2120 mm
Three-quarter width	mm	1415 mm
Upper width	mm	785 mm
Head point to upper leech point	900 mm	900 mm
Top width	-	310 mm

G.4 JIB

G.4.1 MATERIALS

(a) The minimum fabric weight shall not be less than 200 g/sq m. The jib shall be constructed from one of the following materials: Woven Dacron or Mylar laminate with a polyester scrim. Pentex is considered a polyester. Polyester fibers in a Mylar laminate may be oriented in different directions but all sets of fibers shall be uniformly spaced and patterned. "String" or load path sails are specifically prohibited. String sails built before December 31, 2011 that can be shown to meet the 200 gr/sq meter minimum fabric weight are eligible to be grandfathered and registered on an individual basis by the Technical Committee working with the respective Viper 640 owners and sailmakers. The Technical Committee may publish from time to time a list of specific sail cloths allowed for the jib.

G.4.2 CONSTRUCTION

- (a) The construction shall be: **soft sail**.
- (b) The jib shall be measured to the outside edge of the cloth including tabling, foot roach, etc. Cringles not included within these edges are to be excluded from measurement.
- (c) Head, clew and tack boards are prohibited.
- (d) Foot roach and leech shall be fair curves.
- (e) The forestay shall not be detached for the attachment of the headsail.

(f) Battens - No more than three battens shall be permitted in the jib. The battens shall divide the leech into equal segments +/- 150 mm. The top batten may be of unlimited length. The lower 2 battens shall not exceed 900 mm.

(g) Windows – up to two windows are permitted.

G.4.3 DIMENSIONS

	minimum	maximum
Luff length	mm	6875 mm
Luff Perpendicular	mm	2200 mm
Half girth (measured as difference between half leech point and half luff point)	mm	1265 mm
Top width	-	50 mm

G.6 SPINNAKER

G.6.1 MATERIALS

- (a) The **ply** fibres shall consist of nylon
- (b) The weight of the finished fabric shall not be less than 40 g/sq m.

G.6.2 CONSTRUCTION

- (a) The construction shall be: **soft sail**.
- (b) The **body of the sail** shall consist of **woven ply** nylon throughout.
- (c) The spinnaker shall be asymmetrical in shape.
- (c) Fittings shall be limited to corner cringles or rings, and retrieval cringles or tabs. Up to 3 retrieval cringles are permitted.

G.6.3 DIMENSIONS

	minimum	maximum
Luff length	mm	9720 mm
Leech length	mm	7600 mm
Foot length	mm	5625 mm
Foot Median	mm	9800 mm
Half width	mm	5500 mm

PART III – APPENDICES

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

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