

2016 Proposed Viper 640 Class Rule Changes

Overview

The Class has received proposed rule changes from Class members in accordance with the rule change process in the Class Constitution. In the first section the proposer outlines the rationale for the proposed change and Constitution provides Class Association committees an opportunity to provide their respective recommendations. The second section presents the actual rule language of the proposed change, including an effective date.

Please note that if the Class decides to join World Sailing as proposed, any Class approved rule changes goes to World Sailing for approval before being added to our rules (in the World Sailing rule format).

1) Hiking Lines - Amends Rule 8.3 in the Equipment and Fittings Section

This proposal would allow additional places to attach hiking lines. The current rule allows hiking lines to be attached only to the lifting eyes on the top of the keel or the sides on the floor.

The proposed change would allow hiking lines to be attached the hiking straps and to the hiking strapped eyes on the cockpit floor. The change allows a more direct line of support to the person hiking and can help pull the strap up so feet can get under more easily. It also better accommodates the needs of teams sailing 4 up. There is no financial impact – and the use of these hiking lines is voluntary.

The Technical Committee recommends voting in favor, the Executive Committee recommends voting in favor, and the Governors recommend voting in favor.

2) GYA Sail Numbering – Amends Rule 11.1 in the Registration Section

This proposed rule changes is designed to address the unique needs of the Gulf Yachting Association (GYA) that recently selected our Viper 640 for their inter-club racing. The GYA has an important ongoing inter-club racing series called the Capdevielle. Competing club owned boats have been assigned sail numbers based on when they joined GYA. Racing with these numbers dates back almost 100 years, well before Viper 640s (and fiberglass) existed. And now those assigned sail GYA numbers are moving over to Viper sails and directly overlap with Viper hull numbers.

There is a possibility of Viper sails from GYA with duplicate sail numbers showing up at Viper one design events, though this is unlikely for two reasons. First, Capdevielle sailing is extremely competitive and the chances of that pristine club-owned boat venturing out to the rough and tumble world of traveling Viper racing is somewhat limited. Second, same story with the sails, they are likely to be saved for Capdevielle racing.

If these GYA sails do happen to show up at a Viper one design event, and duplicate numbers exist, the TC, EC and GYA officers have agreed on a visually unique scheme to make it clear to race committees and competitors which boat is which.

Here is a representation of what the main of GYA Viper would look like. The vertical GYA letters are 10" tall and the numbers are 12' tall.



No National letters are going on these sails. The World Sailing (ISAF) minimum number height for our size boat is 300mm (11.81") which the numbers comply with. There are no World Sailing specifications that apply to the GYA lettering as it is unique. No changes are proposed to Section 7.8.1 Sail Purchase or 7.8.2 Registration.

The Technical Committee recommends voting in favor, the Executive Committee recommends voting in favor, and the Governors recommend voting in favor.

3) Vertical rudders— Amends Rule 2.2 in the Hull, Deck, Foils and Weight Section

This proposal would allow the existing swept rudder configuration to be changed to one with a vertical leading edge and vertical axis of rotation- while still using the existing rudder blade. This configuration is common on other sportboats and the proposed change is in the Viper tradition of ongoing incremental improvements and updates.

The vertical rudder concept has been tested extensively for a full season by 6 boats in big-breeze Western Australia and for 3 months in the US by the Technical Committee chair Dave Nickerson. On the water the vertical foil provides more control, particularly in breezy conditions where it stalls less and with more notice. Some comments from the Aussie testing:

- The rudder had a more "solid feel" to it. It was not prone to sudden stalls as the current rudder can.
- The boat was able to be pushed harder before the rudder stalled.
- The boat was able to handle more heel before a stall occurred.
- The boat was able to be sailed out of a broach situation more easily.

A detailed report and analysis by Jon Stubbs and Rod Beurteaux is included with this email and is also available from Buttons Padin. It has excellent photos of the parts and technical references. Note that they also tested a new "modern" square-tip rudder design with 505 design roots, but results were inconclusive and the costs to change would be significantly higher. Dave Nickerson tested the current rudder blade and considers the vertical mod to be a major improvement and in the "no-brainer" category. Use at Viper New England's showed it to be no faster or slower around the track. Both the Australians and Dave report no change to balance of the boat (windward or leeward helm). As you would expect, there is less "feel" to the helm as the boat heels.

Proposed is a single source, bolt-on rudder tower wedge solution that is easy to install and maintains the minimal measurement philosophy of the class. Simply, the existing Rondar gudgeon plate gets unbolted and the pre-drilled wedge is bolted through the same holes in the rudder tower. The back, vertical face of the wedge is pre-drilled and the gudgeon plate bolts back on there.

Rod and Jon have a proven design made from aluminum, but the final production part may be made from a fiberglass composite. While the materials have not been finalized, what is important is the dimensions, geometry, fitting hole placement and rugged build. We expect that Rondar will eventually modify the deck mold to the same geometry.

The current rudder needs an adapter to get the tiller back to a horizontal plane when the angled rudder is moved to a vertical orientation. A bend aluminum tube with the right end adapters works well. Pictures are in the Stubbs/Beurteaux report. It does extend the tiller which must be shortened to maintain the same length. Rondar may in the future also modify and “square off” the rudder head for new boats to eliminate the need for the tiller adapter.



The bolt on rudder tower wedge and tiller adapter will be made by a single Class-approved vendor. Discussions are underway with Rondar as one possible source and we expect that the two parts will total less than \$250. The mods take about an hour to install and are an easy retrofit.

In the interest of maintaining to single one design configuration, the vertical rudder will be optional at first, but becomes mandatory 3 years following the March 31, 2017 effective date. This is similar to the Class’s approach when the keel bulb was modified. Once the change is made, you can’t revert back to the swept design. Note that the small, narrow rudder towers on Mark II (up to hull 102) and earlier boats can use the rudder tower wedge, but it works better if these boats convert to the retrofit the much more robust Mark III rudder tower design, which many have already done.

Finally, a handful of “kinked” rudders on early Vipers built by Performance Boats are still in use. These are rudders where the blade is angled at the waterline to almost vertical, but the axis of rotation is fully swept. These rudders are currently legal as they were supplied by the Class builder at the time. This very small number of rudders cannot use the new rudder tower wedge and will need to be replaced sometime within the 3 year implementation window.

The Technical Committee recommends voting in favor, the Executive Committee recommends voting in favor, and the Governors recommend voting in favor.

4) Bottom Cleaning – Amends Rule 10.4 in Prohibitions, Restrictions and ExemptionsSection

Background: In 2014, the class introduced some rules to govern regattas when the Notice of Race or Sailing Instructions require the boat is left in the water.

The rule had two components. One component specified that the keel must be left down but the rudder can be removed. The proposed rule leaves this component is unchanged.

The second component introduced restrictions about who can clean the hull and how they clean the hull. Only competitors can clean the hull and they cannot use breathing apparatus such as snorkels etc. and cannot careen the boat. This proposal removes the second component for the following reasons.

(i) The Class has a thriving masters division and we anticipate launching a grand masters division which would include our three 70 year young skippers and several over 60s. With all due respect to the young bucks in the class who can free dive on their hulls and hold their breath for 90 seconds, the masters would like to have the same opportunity as everyone else to have a clean hull in regattas where hull cleaning is allowed.

(ii) Provisions regarding hull cleaning at certain regattas should be a local decision and not part of the “Class rules”. Regatta organizers should be free to determine the appropriate provisions such as; an NOR and SI that prohibits any hull cleaning during the regatta, or allows hull cleaning with a brush and no diving, or that allows unlimited hull cleaning or any variation. For example, at the Long Beach North Americans, with weed and warm water, the hosts provided a diver service, available to all competitors for the princely sum of \$5. It was very popular and typified the warm welcome that ABYC extended to the Viper fleet. This would be illegal under the current class rule.

(iii) In sum, the correct place for restrictions regarding hull cleaning is in the NOR and SIs rather than the Class rules. What is right for North East USA may not be right for Australia and this should be a local restriction designed to be fair to all ages of participants.

The Technical Committee recommends voting in favor, the Executive Committee recommends voting in favor, and the Governors recommend voting in favor.

The Details – Specific New Rule Language

1) Hiking Lines - Amends Rule 8.3 in the Equipment and Fittings Section

Current language with proposed changes marked:

8.3 Lines to assist hiking may be attached to the **hiking straps, hiking strap pad eyes**, lifting eye on top of the keel and/or to the lifting pad eyes 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.

(Effective Date: March 1, 2017)

2) GYA Numbering – Adds new Rule 8.7 to the Equipment and Fittings Section

New Rule 11.4 is added as follows:

11.4 The Gulf Yachting Association (GYA) is appointed by the Class Association to provide sail numbers for Viper 640s competing in Gulf Yachting Association (GYA) Capdevielle and other GYA specified events only open to GYA member clubs. Viper 640 mainsails with GYA sail numbers shall also have the letters GYA, such letters being contrasting in color to the numbers and 10" high, vertically aligned near the leech on each side of the sail and aft of the numbers. The vertical alignment of the letters shall be perpendicular to the alignment of the numbers. On the starboard side the numbers and letters shall be higher than any on the port side and the bottom of the "A" shall be aligned with the bottom of the numbers. On the port side, the top of the "G" shall be aligned with the top of the numbers. Minimum spacing between characters and the edge of the mainsail shall be 60mm. No national letters shall be applied to Viper mainsails with GYA numbers. GYA sails must carry sail registration stickers per 7.8.2 which shall include the actual hull number.

(Effective Date: March 1, 2017)

3) Vertical rudders – Amends Rule 2.2 in the Hull, Deck, Foils and Weight Section

Current language with proposed changes marked.

2.2 Rudder- The rudder shall be made to the original design and shall only be supplied by a Class approved builder. **A rudder tower wedge, as supplied by a Class appointed part supplier, may be installed to make a swept rudder blade vertical. The rudder tower wedge may not be installed with older "forward kinked" rudders. A vertical rudder blade and vertical axis of rotation becomes mandatory after March 31, 2020. Once a rudder tower wedge is installed, a boat shall not switch between swept and vertical rudder**

configurations except with Technical Committee approval. When a swept rudder is converted to vertical, a tiller adapter from the Class appointed part supplier shall also be installed to make the tiller approximately horizontal if needed. The rudder as supplied must weigh no less than 4.0 kg including tiller and extension. The tiller must be an aluminum tube of identical diameter to that supplied by a class builder but can be of any length. The tiller extension does not have to be identical to equipment supplied by a Class approved builder

(Effective Date: March 31, 2017)

4) Bottom Cleaning – Amends Rule 10.14 in the in the Prohibitions, Restrictions and Exemptions Section:

Rule 10.14 is amended as follows.

10.14 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.

(Effective Date: March 1, 2017)