

Aft mainsheet bridle attachment experiment

Suggested installation instructions

September 25, 2018

“Many Viper owners have re-rigged their mainsheets by moving the bridle from amidships to the stern, immediately in front of the split tails of the mainsheet—using the same deck pad eyes. Over half of the boats at the 2018 NAs used this aft bridle/aft split tail set up. While this makes trimming the mainsheet much easier, the size of the triangle created by the two sides of the bridle (through which the tiller passes) can reduce the range of side-to-side tiller movement, and accordingly, the ability to make sharp turns. This has been raised to the Technical Committee (TC) as a concern by several owners.

The TC has gotten approval under Rule 10.13 for all owners to test a new aft bridle configuration to address the issue and lead to a possible rule change in the next rules cycle. We welcome your feedback.”

Rule 6.3.2 currently includes the sentence; “The bridle must be attached to the two mid bridle or aft bridle pad eyes installed by the builder.” During this testing period, an aft bridle (if used) may be attached to each gunwale at points directly across the cockpit and in line with the aft bridle pad eyes (within +/- 5mm fore-aft). Holes may only be drilled in the outer angled gunwale face, and no additional hardware or fittings may be added to the boat. Photos show a test setup. Bridle lines are not specified in our rules, but low stretch 12-strand Dyneema is a good choice.

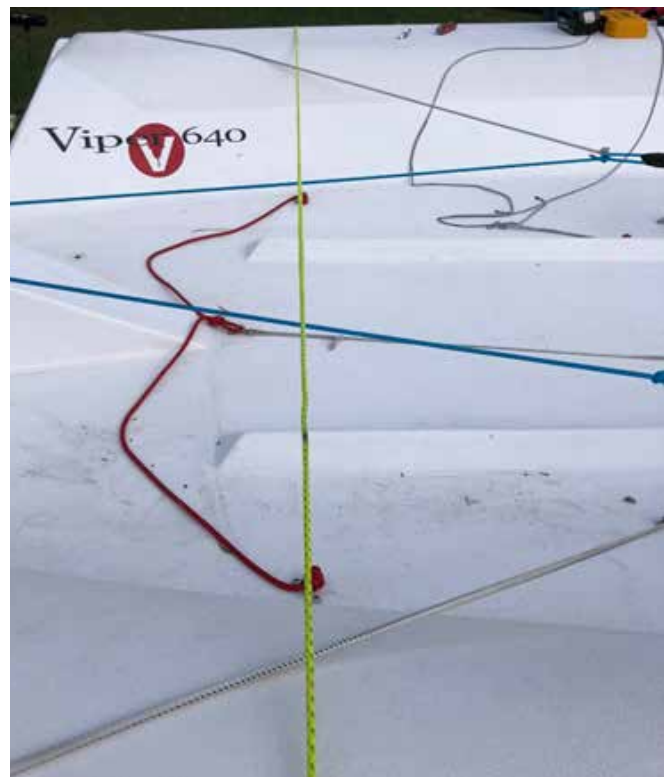
This configuration is allowed for all boats through the later of June 30, 2019 or the start of the next North American or World championship.

Please note that only holes can be drilled in the angled gunwale surface and no additional hardware can be attached like eye straps. The test only applies to the aft bridle and block if used and does not apply to the aft split tail. Installation is relatively easy and should take about 10 to 15 minutes.

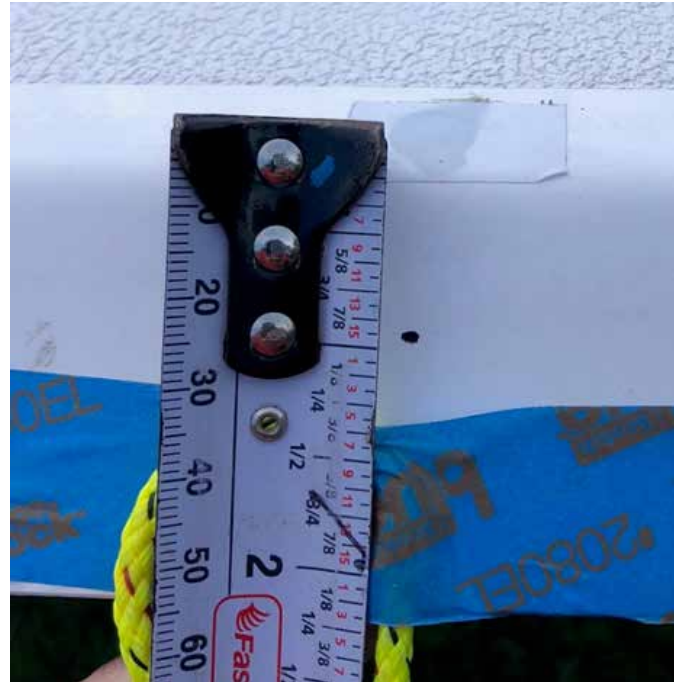
Step 1. Locate points on the gunwale in line with the center of the aft mainsheet eye straps on the cockpit floor.

A thin line can be taped to the gunwale sides and moved until when looking straight down on the line, it visually lines-up with the two eye straps.

This seems more accurate than a measurement from the stern quarters as they have been repaired on many boats and there is not a consistent measurement point there.



Step 2. Mark where to drill through the solid fiberglass gunwale. Shown here is a point about an inch down to get a clean hole all the way through.



Step 3. Drill where the line will exit. Bevel the hole with a countersink or a larger bit turning in reverse. The hole here is $\frac{1}{4}$ ". Use what makes sense for the line you are using. Sometimes starting with a smaller bit results in less gelcoat chipping.

This is a single hole set-up. Two holes equidistant from the center mark could also be drilled and a loop attachment like for the spinnaker sheet blocks used.

The gunwale is sufficiently thick here. Rondar was not concerned about any loads or stresses on the boat from this bridle configuration.

(Taped-over hole was an initial TC experiment. For the approved test, only the sloped side of the gunwale can be used as shown here.)





Step 4. Attach a loop to which the aft bridle will connect. Shown here is 3/16's 12-strand spectra.

Step 5. Attach and center the after bridle. Knots or splices can be used as desired. Shown are Chinese finger traps splices to allow easy adjustment and centering.



Measuring from the cockpit floor to where the mainsheet turns on the bottom of the block, a height of about 25.5" seems to be a good starting place assuming max headstay length, max aft in the mast step, and North or Doyle sails. Of course other sails and mast setups may require a different dimension.

No bungee or shock cord is needed to keep the aft bridle out of the way while sailing, but can be added if desired.

Here is a photo that shows how the gunwale-to-gunwale bridle does not impact tiller movement. Please note the lines attached to the aft split tail and pulling it out to the side was another TC experiment and are not allowed under this approved test. This bridle is 1/8" 12-strand spectra. Use whatever you are comfortable with.

