

Custom Step-by-Step Victoria R/C Sailing Yachts by OMSA
revision April 2, 2005, Chapter I

Okanagan Model Sailboat Association, Kelowna, B.C. Canada



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Chapter I: The Competitive Edge

I-1: Tuning the R/C Sailboat

["How to sail Fast"... Tuning for speed.](#)

by the renowned Canadian R/C boat builder, Mr. Bob Sterne
of the Canadian Radio Yachting Assn.

[Tips On Sail Settings](#)

by Alec Newald of BlackMagick Sails in New Zealand
plus [Finding that extra click of Speed](#)

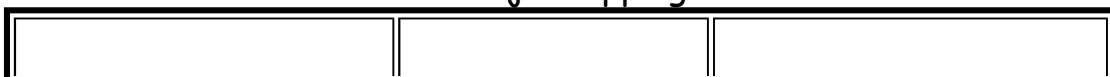
I-2: Improved Goose-neck pin



Here is an easy improvement that you can make in a few minutes to reduce the friction in the goose-neck for very light air. Solder a washer of any sort on top of a short piece of 3/32" brass tubing to replace the stock plastic pin in your main boom goose-neck.



I-3: The jib topping-lift





Once your Victoria has had a taste of the racing experience, there is another control line that can be added to increase the amount of power that your sails generate. It is called a jib topping-lift. This line connects the extreme aft end of the jib boom to the fore-stay attachment point high on the mast 37.5" above the deck of the Victoria and may continue to the mast-head crane if desired where there is room for an adjustable bowsie section.

Without a jib topping-lift in place, the aft edge of the jib (the leech) is under too much tension by the force of the fore-stay acting through the jib boom.

Note that this particular, well-experienced Victoria has the upper shroud lines connected to the mast at a lower point than is perhaps optimum..

The object of the topping-lift is to raise the aft end of the jib-boom slightly, allowing the leech of the jib to take on more twist than would be otherwise possible. Ideally, when sailing, the leech of jib sail should have the same general shape as the leech of the main-sail. This allows the two sails to work together more efficiently.

When the topping-lift is tightened at the bowsie, the other lines connected to the mast will have to be adjusted to compensate. This takes a bit of experimentation that you can do when you sail at your favourite pond or lake.

It will take some practice to sail your Victoria at it's best.

Have fun and don't take your racing too seriously... It is only a really great game...

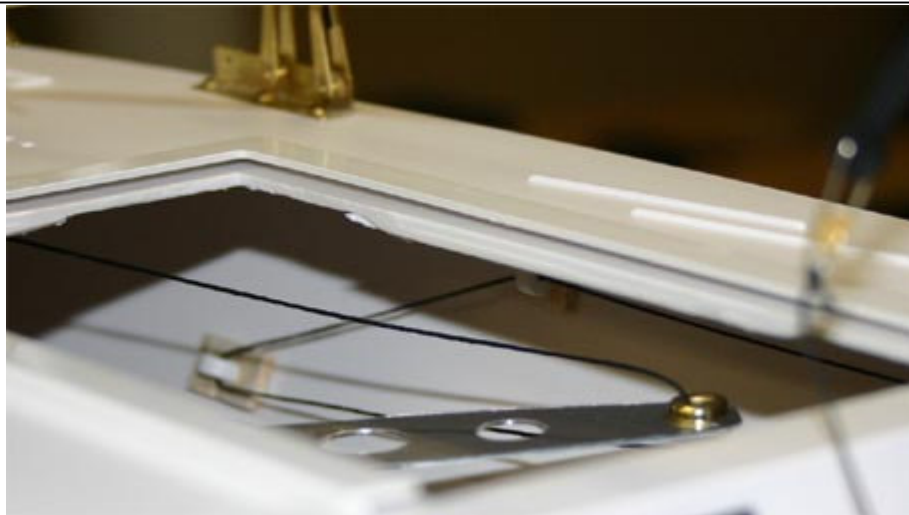
Fastening the ends of the sail sheet lines under a deck cleat is very secure, but it does require that you have a small screwdriver to make the adjustments and you may not have much time between races.



Note the quick-release safety pin on this rudder shaft to allow for the removal of the rudder for transport to the next regatta.

Bringing the sheets back into the cockpit and installing a bowsie on each sheet allows for a quick adjustment of the length of both sheets without the need for any tools. The jib sheet will need to be supported inside the hull as it runs aft to this adjustment.

The sheets are terminated in the cockpit at a couple of eyelets from your kit mounted in 5/64" holes with c/a glue.



The quick-adjusting sheet option requires the jib sheet to run forward and down to a turning block made from spare eyelets and plywood pieces from your kit and then run up along the side of the hull, back to the starboard cockpit where the jib bowsie is installed. A drop or two of c/a glue holds these supports in place. Enlarge the holes in the plastic eyelets to 3/32" prior to glueing in place in order to easily install and replace the sheets.

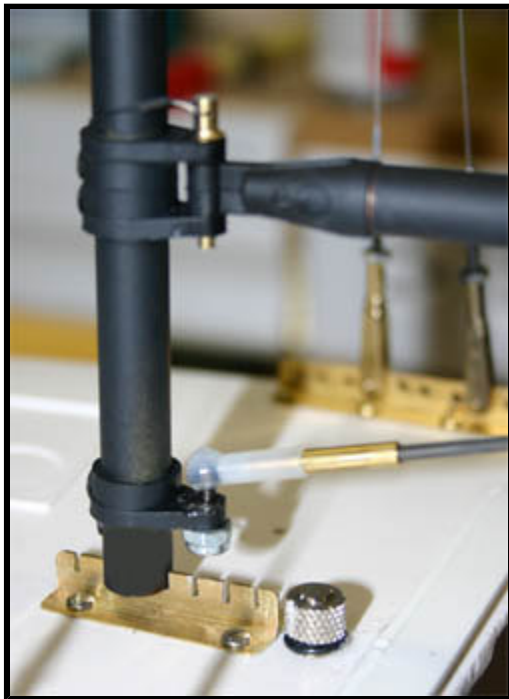
An inexpensive forceps tool is worth its weight in frustration to make the sheet guide installation and sheet replacement really easy.

Since the stationary end of the main sheet already runs aft of the sail servo, there are no complications getting that end of the main sheet to exit at the port side of the cockpit.

The photo below shows a detail of the jib sheet running aft to the starboard cockpit.



I-5: Adjustable mast step



In strong winds, the Victoria tends to have a lot of "weather helm", meaning that the boat wants to turn up into the wind, which then requires more rudder to prevent the boat from turning up. Any use of the rudder is detrimental to boat speed due to the increased drag.

To decrease the amount of "weather helm" in strong winds, your Victoria can benefit from an adjustable mast step. Moving the mast forward will decrease the amount of weather helm.

Here is an example of the [LONGBOW adjustable mast step](#).

Included in the [LONGBOW mast step kit](#) is a unique insert for the base of the mast which prevents the mast from moving side-to-side or rotating.

This design allow the mast to be moved into four closely spaced positions, depending upon the strength of the prevailing wind.

I-6: Taking the Weight Off

If you think that your sailboat is considerably heavier than the minimum class weight of 4 1/2 pounds (2042 grams) and would like to make it more competitive, here are a few suggestions for you.

Check your actual Victoria weight by persuading your neighbourhood post office to weigh your boat... Chocolates and roses can assist your case. Actually, the post office staff are very helpful and deserve a break from their many arduous duties handling the nation's mail. Once you determine that your Vic is indeed a bit plump you can work out a plan of attack.

1. Replace the stock hatch cover. The hatch cover that comes with the kit weighs as much as 24 grams which can be discarded and replaced with a much lighter cover weighing as little as 9 or 10 grams.
2. Sand off your attractive, but heavy paint job that you may have sprayed on your boat.. Paint is heavy and doesn't make the Victoria go any faster.
3. Replace the sail servo with a lighter one.. The Hi-Tec 645-MG works almost as well as the Futaba S3802 and is 17 grams lighter.
4. Replace the stock mast (18.3 grams per foot) and booms with Easton archery arrows (see the [LONGBOW mast kit](#) at 8.1 grams per ft.) or carbon fiber components.
5. Replace the stock rudder servo with a smaller, lighter one. It doesn't take much of a servo to control the rudder on a Victoria. The Hi-Tec HS-81 microservo is a good choice at only 17 grams compared to 37 grams for the Futaba 3003 servo. 20 grams of weight loss is the better part of an ounce.
6. If you are using NiMH rechargeable batteries, you can save 8-10 grams in total by using easily available and inexpensive alkaline batteries.
7. If all else fails, donate your Victoria to a family member and start a new Victoria project that will be light-weight, look great *and* sail fast.

(1 ounce = 28.35 grams)

Good sailing: James Anderson

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