

## Ideas. What if...

✓ ...you use simple “gadgetry” to give feedback on some biomechanical parameters and to correct them in a desired direction? Below are three examples of some “gadgetry”:

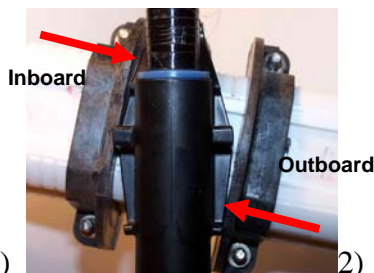
1. You can use small plastic straw mounted on the stern of the boat to monitor instantaneous boat speed. The straw should be bent around the stern and fixed with some tape in such a way that under-water end is horizontal and above-water end is vertical.

The height of the water jet is proportional to the square of instantaneous boat velocity. This means that the height increases four times, when the boat speed increases twice. It is difficult to give a table of corresponding values because they depend on geometry of the straw. You can calibrate the jet, when towing the boat, if you need.

You can make the straw longer and place its vertical end on a rigger, which allows it to be seen by all crew members. A small colorful ruler can help to evaluate the boat speed.

The best crews have increasing boat speed during the drive phase, as we shown it in the RBN 2/2004. Therefore, it is important to see the increasing of the height of the water jet during the drive, instead of maintaining it at a constant level.

The picture of the straw-jet below was kindly supplied by Australian coach Nick Garratt, who successfully uses this gadget.



2. You can use the second button on the oar sleeve to control depth of the blade in the water and make the drive more horizontal. The second button should be mounted on the outboard part of the sleeve:

When the oar blade goes down during the drive, the top of the original button pushes the gate from inside and the bottom of the sleeve slides inward the gate. The second button prevents this sliding at certain point and, therefore, limits the maximal depth of the blade in the water.

Position the second button in the following way: Level the boat with rowers on water and put

at the blade at desired depth, then contact the second button with the gate and tighten it. Because of the big leverage, the force at the second button is quite high, so it makes sense to fix it with screws to the sleeve, when you find its optimal position.

As a positive side effect, the second button will prevent pulling the oar inward, which happens in some rowers at the end of the drive.

3. Another very simple gadget is a piece of string, which can be used for synchronization of the rowers' movements in crew boats.

You can connect sliding seats of two or more rowers with the string, which will give you synchronization of the legs movements. Obviously, the length of the string must be equal to the distance between riggers. You can attach a small rigger to the side of the seat, which prevents catching the string on the stretcher or the rower's legs.

You can connect the rowers' trunks at shoulder level, which helps to synchronize the body swing. The simplest way is to use just safety pin to attach the string to the rower's cloth. In this case, subtract the trunk depth from the length of the rope.

With some creativity you can do it even with oars! Connect them together at the middle of inboard or outboard and you will see synchronization at the oar angles. You can attach a little wire loops to the oar shaft with a tape. Then hook the string to one oar, wrap it around the shaft and hook to the other one.

*General recommendations for using these gadgets are:*

- ✓ The main target is giving feedback to the athletes and coach and correction of the rowers technique that assume changes in motor pattern in the brain;
- ✓ Coach and rowers must clearly understand what they use a gadget for, what problems it'll help to fix and what can be the side effects;
- ✓ Quite often you can fix one thing, but break another one (or two, or more);
- ✓ Do not try to replace the rowers' motor pattern with their habit to use the gadget, i.e. rowers should maintain achieved improvements after the gadgets removal.

We would greatly appreciate any information about other gadgets, which you use in rowing.

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