

Oars and Rigging Definitions

This article was adapted from Concept2's Dreissigacker Oar Assembly & Use Manual (July 2005) and lists some important rigging definitions and some basic principals to follow when setting up your boat and oars.

C.L.A.M.: Clip-on Load Adjusting Mechanism: The C.L.A.M. slides on and off the shaft and fits over the sleeve to quickly adjust the inboard of an oar or scull. Adding one C.L.A.M increases the inboard by 1 cm, thereby the load you feel on the oar(s).

Oarlock Height: Vertical distance from the lowest point on the front edge of the seat at the front stop position to the midpoint of the oarlock shelf. This determines the level of your hands during the pull phase of the stroke, when the blade is just buried. If your hand level is too low, you will not have room to maneuver and feather your oar. If it is too high, you will feel uncomfortable as you pull through the water, and your oars may tend to wash out (come out of the water prematurely) during the stroke. An indicative oarlock height is for your when set at the catch position, the rowers arms slope downwards slightly at approximately 6 degrees.

Inboard: The distance from the end of the handle to the blade side face of the collar or C.L.A.M. The greater the inboard, the lighter the oar will feel in your hands, and the lighter your load will be when pulling through the water.

Load: Also called gearing or leverage. Just as the gearing on a bicycle determines the force felt at the pedal, the load defined by certain rigging measurements determines the force felt at the oar handle. For example, you can increase the load by doing any of the following: decreasing the inboard; increasing the outboard; increasing your reach; using a longer oar without changing inboard or spread. You can also increase load by using a larger blade area.

Outboard: The distance between the tip of the blade and the blade-side face of the collar of C.L.A.M. The greater the outboard, the heavier the oar will feel and the greater the load will be.

Overlap: The amount by which the hands cross each other at the midpoint of the sculling stroke. The overlap is a function of the inboard and the spread and is generally described as half of the difference between the spread and twice the inboard. Increasing the inboard will increase the overlap, unless you increase the spread accordingly at the same time. Overlap is a matter of personal preference, but is generally recommended to keep it between 12 - 20 cm. In general, taller people row with more overlap and shorter people row with less.

Pin: The vertical axle extending up from the end of the rigger around which the oarlock rotates. The expression "through the work" refers to the relative position of the pins and your seat at the beginning of the stroke. If the seat passes to the stern of the pins, you are said to be rowing "through the pin".

Pitch: The angle of the blade away from perpendicular during the pull phase of the stroke. This is the net result of the pitch in the oar itself and the pitch in the oarlock and the pitch on the pin. Too much pitch makes it hard to bury the blade; too little pitch makes it too easy to pull too deep through the water. When the total pitch is correct (about 5 degrees), the blade will balance in the water at a comfortable level, allowing the rower or sculler to concentrate on effort to propel the boat, rather than on blade depth in the water.

Spread: The distance between the two pins on a sculling boat; or the distance between the pin and the center line of a sweep boat. Spread interacts with the inboard setting to determine the overlap of your hands when the oars are perpendicular to the boat. Also, the greater the spread, the smaller the arc that your oar blades sweep through the water.

Oars and Rigging General Concepts

You will want to adjust the rig of your boat such that:

The height of your hands is comfortable.

- If your hands feel too high, lower the height of your oarlocks. In most boats, this can be done by removing the nut at the top of the pin, and transferring washers from below the oarlock to above the oarlock. Then be sure to replace the nut at the top of the pin. Alternatively, you can add a seat packer, or if you are not able to adjust the boat, you can raise yourself higher, by using a seat pad of the desired thickness on top of the seat in your boat.

- If your hands feel too low, raise the height of your oarlocks, by reversing the directions given above.

Sculling - There is differential in the height of your oarlocks so you can row with your left hand over your right hand, as is customary throughout the rowing community.

- If your hands tend to collide at the middle of the stroke, or if your boat is constantly down to the stroke side, you may need to increase the height differential between your right and left hands.

Sculling - You have a comfortable amount of handle overlap through the middle of the stroke.

- If it feels like you have too much overlap, you can decrease it either by decreasing the inboard dimension or increasing the spread. Remember that decreasing the inboard will also increase your load. Increasing the spread will slightly decrease the arc that your oars sweep through the water.

You have an inch or two (2 - 5 cms) of clearance between your hands and your body at the finish of the stroke.

- If you do not have this clearance, try moving your foot stretchers further toward the bow of the boat. You can also decrease the inboard, but be aware that this will increase the load you feel on the oars.
- If you have too much clearance at the finish, move your feet closer to the stern of the boat.

Your oars come through the water at a comfortable speed given the force that you are able to apply.

- If it feels uncomfortably heavy and slow pulling your oars through the water, you can lighten the load by increasing the inboard. You may also need to increase the spread in order to accommodate the change in inboard. If you have adjustable length oars, you can also lighten the load by shortening your oars.

If you would like more load on your oars, either decrease inboard, or increase oar length.

The oars maintain a consistent and appropriate depth throughout the stroke and release the water well at the finish.

- If the oar blades seem to dive too deep during the stroke: First, check to be sure that you are not pulling up on the oar. Pull evenly and horizontally. If it is not comfortable to pull at that level, adjust the height of your oarlocks to make it comfortable. If the oar continues to dig too deep, you may need to add a degree of pitch to your oarlocks.

Your seat does not hit either end of the track during the stroke.

- If your seat hits front chocks at the catch of the stroke, check to be sure that your shins are not moving past vertical and that you are not rushing too fast to the catch. If you still hit the end, you should move your foot stretchers closer to the bow of the boat.

- If your seat hits back chocks at the finish of the stroke, you will need to move your feet further towards the stern of the boat.