



## PRIMER ON HOW TO SCULL

Welcome to the sport of rowing or sculling. This is one of the most rewarding and enjoyable of all water sports, as well as being a complete exercise and an efficient means of transportation. However, like any new activity, a little practice is necessary at the start. Perhaps the best way to learn the sport of rowing is to get instructions from an experienced sculler. In the absence of such advice, however, this guide should help you to get started.

There are four sections:

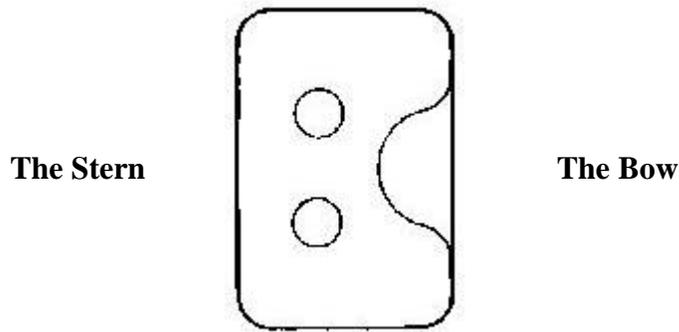
1. [Carrying the equipment and getting in and out of the boat.](#)
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4. [Glossary of terms.](#)

Because they are built for speed, rowing boats are narrow, and until you become used to handling them, can tip over easily. You should start only when the water is warm and it is advisable to have another person present to watch out for you and to help with these instructions. You should be a swimmer or wear an approved life vest. If you should capsize, do not leave the boat but rather stay with it and use the boat and/or the oars as a flotation device with which to swim to shore.

You should read through the entire text first, then concentrate on the first section. Take your time, relax, and enjoy learning to row. Don't try to row too fast at the beginning; it will probably take a couple of outings before you feel comfortable and can fully enjoy the sport.

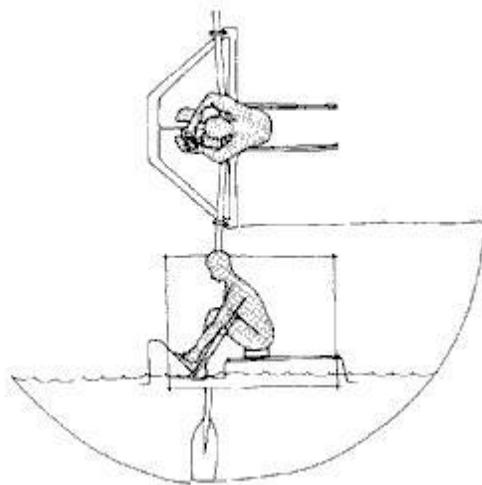
### **Carrying the Equipment and Getting In and Out of the Boat**

The boat is easy to carry. It can be carried by two people, one at each end, or by one person from the side, canoe-fashion. The oar blades are thin and can be broken with little difficulty, so you should always carry them with the blades in front of you to decrease the possibility of hitting anything with them. Use care in putting them down and into the boat. When leaving the dock or shore, be careful not to hit them against anything. The seat will stay in the boat when it is being carried short distances, but if you are going to transport the boat you should remove the seat. Simply pull it off the bow end of the tracks. To put the seat in the boat, set the stern pair of wheels on the tracks at the bow end. Make sure that the retaining clips on the underside of the seat are going under the flange on the track, and push the seat on towards the stern. The straight edge of the seat or the edge with bump is the stern edge.



Once you have the boat, with seat, in the water, either at the dock or next to the shore, put the oars in the locks. This is done by placing the thin part of the oar shaft near the blade into the lock, then sliding the oar out into the lock until the button contacts the lock. It is easiest to push off in a boat that is parallel to a dock or the shore. One should keep the oars relatively perpendicular to the boat while embarking or disembarking, and not try to "ship" the oars as in a fixed-seat rowboat.

To get into the boat, one should hold both oar grips with one hand, buttons out against the locks, oar blades flat, and the oars perpendicular to the boat. Place the other hand on the convenient edge of the boat, place one foot on the non-slip surface between the tracks and step in. As you step in, the oars should be in front of your body (to the stern) and the seat should be behind (to the bow) so that you can sit. Should the seat be out of position, sit on the platform and adjust yourself onto it once in the boat. Once sitting down, place each foot in the shoes or under the respective loop on the foot-board and adjust the strap to be just snug. It is easy to do this if you bring both oar handles into your armpits, blades resting on the surface of the water, extend your arms over the handles and roll forward on the seat so that the oar handle is positioned between your thighs and arms.



**Position to adjust foot strap.**

It is important to maintain control over both oar handles at all times, or you may tip over. The oar blades act as outriggers and prevent you from rolling over as long as you keep your hold on the grips. It is only when you let go of one of the oars or let it turn completely parallel to the boat hull that you can roll over.

If you are embarking from the shore, you can probably just row away, being careful not to let the oar blades hit the bottom. If you get in from a dock, you will now want to reach over with your arm, holding on to both grips with the other hand, and push yourself away as strongly as possible. This may not get you far enough off the dock to begin rowing. Lean away from the dock a little, onto the outside oar blade, and pull the inside oar carefully in towards you until you can place the blade on the edge of the dock and push away.

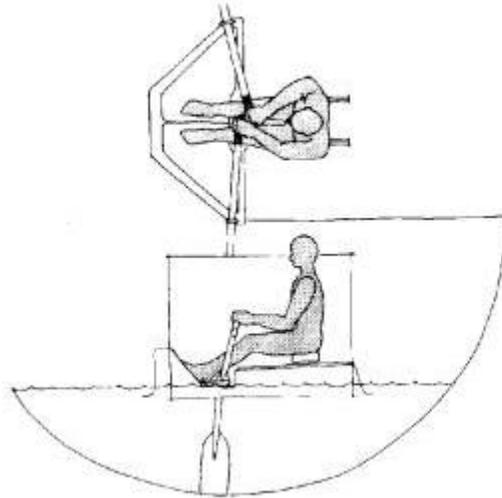
To return to the dock, it is best to approach at an angle slowly. Just as the blade would hit the dock, lean away from the dock onto the outside blade. This will cause the boat to turn parallel to the dock as it comes in and will enable you to get the inside blade raised up onto the dock. You should practice this maneuver a couple of times away from the dock. If out for the first or second time, have your helper/observer pull you in with the oar once you get close enough.

### **Rowing and turning**

There are two elements to sculling which are probably new to you:

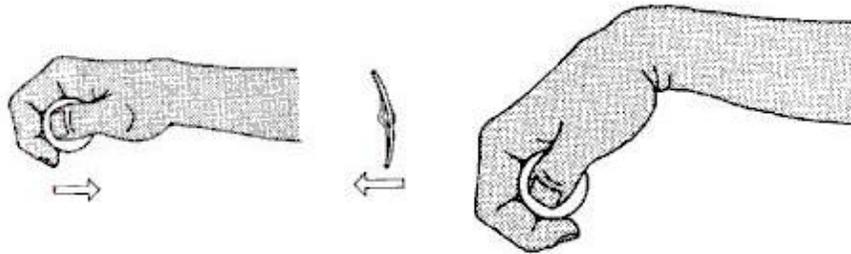
1. Feathering, which is the turning flat of the oar blades as you release them from the water at the end of the stroke and the turning perpendicular again right before the catch, where you put them back in the water. Feathering makes it easier to extract the blades from the water, cuts wind resistance on the recovery, and makes it easier to row in choppy water.
2. The use of the sliding seat, which enables you to use your legs to propel the boat.

Let's start with a basic rest position, the most comfortable position in which to sit when not moving. Sit squarely on the seat, feet under the straps, knees down so that the backs of the calves are touching the boat, one hand on each oar with the handles just in front of the body over the thighs, oar blades flat on the water, concave side up.



**Basic rest position.**

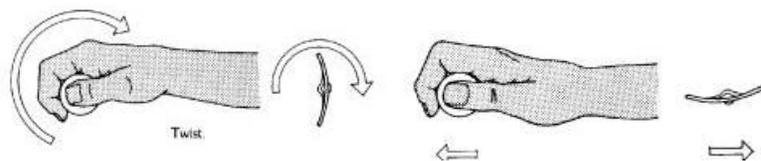
Still sitting in the rest position, position the hands on the grips so that they would be in the proper position for the drive; the blade should be perpendicular and floating at the surface of the water, concave side towards the stern, just covered, your fingers wrapped loosely around the grip with your thumb across the end of the grip. Use the thumbs to press lightly outwards at all times so that the buttons stay in contact with the locks. Your wrist should be relatively flat. If it is particularly arched up or down, you will have trouble with the feathering and your forearm will tire quickly.



**Correct grip for drive. Note flat wrist.**

**Incorrect grip. Note arched wrist.**

To change the oar blade to the flat position, as you will do at the finish of each stroke, one gives a relaxed twist to the grip. Drop the wrist slightly while rolling the top of the grip towards the chest, while at the same time letting the oar shaft drop flat into the oarlock and the grip roll out more under the fingers.



**Twist.**

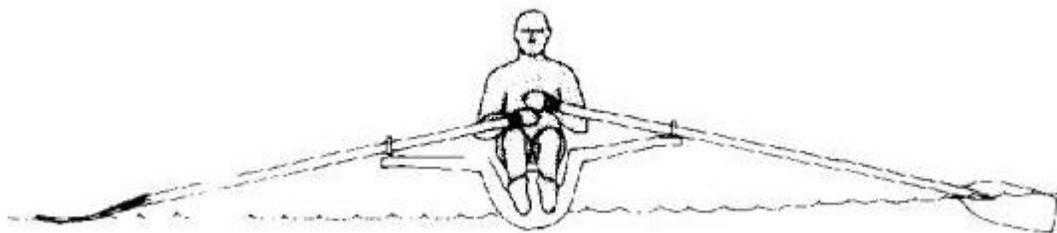
**Correct position of hand  
with oar flat.**

Actually, the blade does not quite go all the way flat; the front edge is slightly higher than the back edge to help keep it from digging into the water on the recovery.

To move the blade back to vertical, merely squeeze the fingers toward the palm, re-closing the grip and bringing the wrist back up to the flat position.

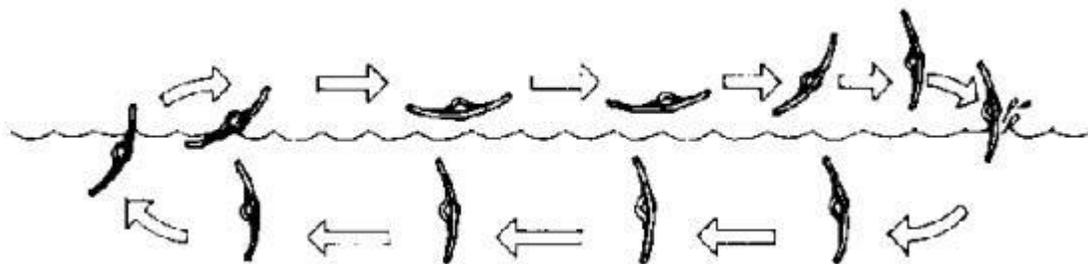
You may find it easier to determine the correct grip and hand movements for feathering by practicing for a minute or two on the shore before you step into the boat. Oar rotation is easier if you use a little grease, such as Crisco or Vaseline, on the button and sleeve of the oar where it moves in the oarlock.

You should now be sitting on the water in the rest position with some idea of how to feather. We will practice a turn and feathering at the same time. This will enable us to practice feathering with one hand at a time, while learning to turn around without tipping over. To turn to port, your right as you sit in the boat, and practice with the left hand, start by slightly lowering the port grip with your right hand and leaning slightly towards the port (your right). You should look like the sketch:



In this position you can row with your left hand without fear of interference with the other hand.

The feathering of the blade is done at the following points in the stroke: The blade is held flat and a couple of inches off the water on the recovery until just before the catch. It is returned to the vertical position in time to be placed in the water for the drive. It is held vertical through the drive (easy to do since the flat on the oar-shaft pulls into the corresponding flat surface on the oar-lock). It is turned flat as it is taken out of the water. If turned too soon, while still pulling on the oar, the blade will knife deeply into the water; if turned too late it is harder to release the blade from the water. The correct path of the blade in air and water is shown in the sketch.

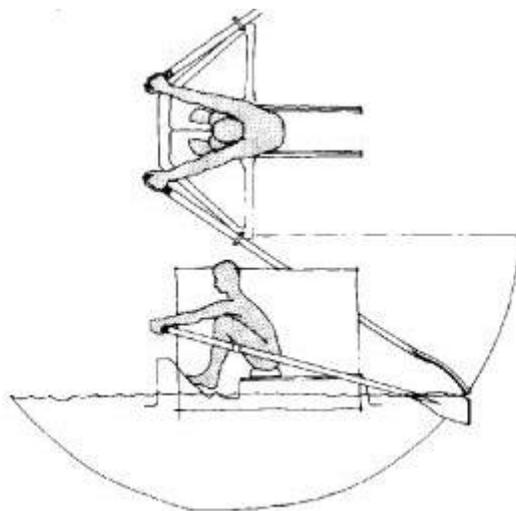


Note that the blade follows a rectangular path with rounded ends.

Now, to row. It may be easiest to start without using the sliding seat; that is, just sitting with the legs down flat and rowing with your arms and upper body swing until you get a little more used to the feathering.

You will notice that the oar handles overlap in the middle of the recovery and drive. The starboard (your left as you sit in the boat,) oarlock is set slightly higher than the port and you will want to row with the left hand slightly higher than the right, so that in the middle of the stroke the starboard grip is directly over the port.

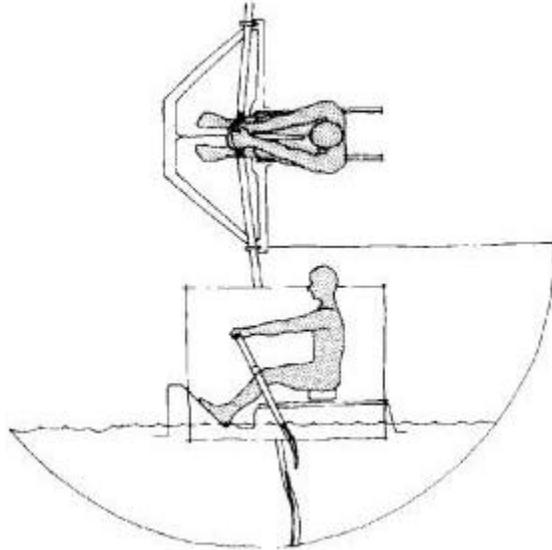
To row using the sliding seat, start at the rest position, extend the arms straight towards the stern, swing your upper body over towards the stern and then roll on the seat as far towards the stern as is comfortable. Feather the blades up towards the vertical position and place them into the water as you get to your full extension.



#### **Position at the catch or beginning of the drive.**

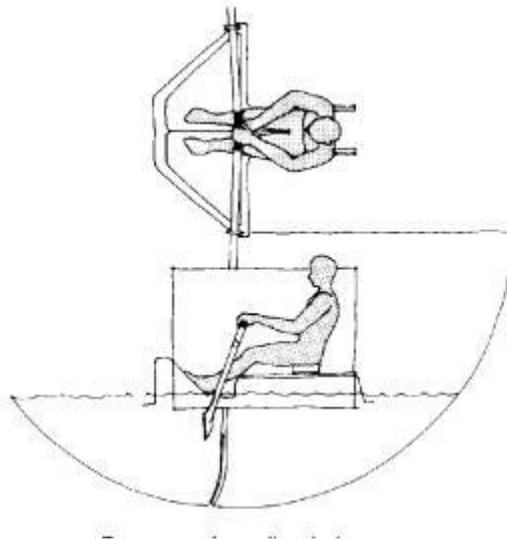
Your knees should stay close together so that they come up either under the armpit or in front of your chest.

The first half of the drive is accomplished by a push of the legs and a simultaneous swing towards the bow with the torso, keeping the arms straight.



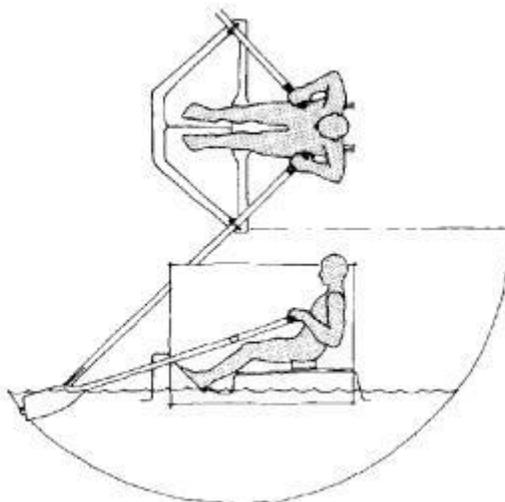
**Midway through the drive.**

Only when the legs are fully extended do you begin to pull in with the arms, at the same time finishing the swing of the upper body to a position about 10 degrees past the vertical.



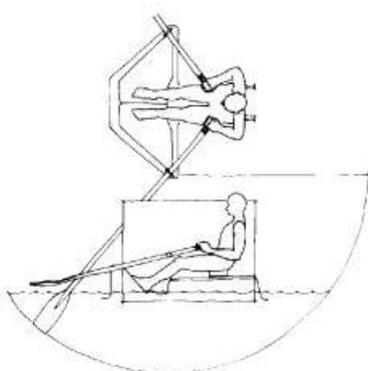
**Beginning the pull with the arms.**

Your elbows should be hanging down in a relaxed position so that they will pass closely by your torso as you finish the stroke.

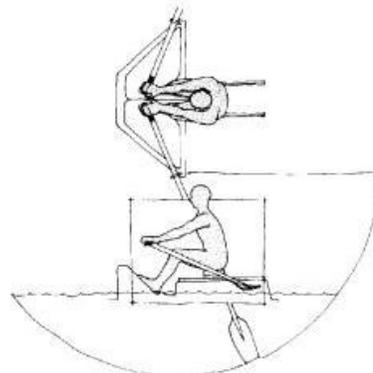


**Position at the finish of the drive.**

As the oars swing through so that the grips point at your sides, lightly press down on the handles and simultaneously turn the blades flat as described earlier.



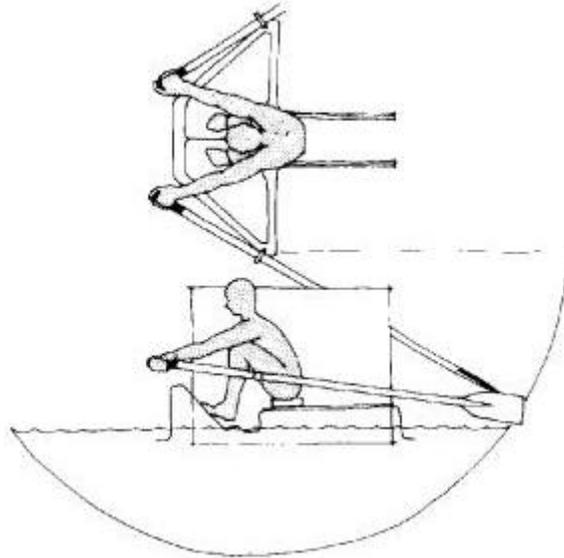
**The release.**



**The recovery.**

Once the blades are out of the water at the finish, you accomplish the recovery by straightening your arms, remembering to keep the left hand over the right, and moving the grips toward the stern on a level path.

As the arms straighten, let the upper body swing over towards the stern. Once the oar handles are past your knees, begin rolling on the slide towards the stern, keeping the arms straight and the upper body reaching for the next catch. Just before getting to your full reach, turn the blades to vertical and prepare to lightly let them drop into the water.



**Position at the end of the recovery.**

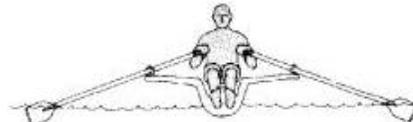
As you stop rolling on the seat and with the blades in, begin pushing off for the next drive.

It may be easier to balance at first if you let the oar blades just touch the water on the recovery, acting as outriggers. However, you will soon find that you can row more smoothly, especially in choppy water, if you keep them a couple of inches off the surface.

**From the stern, two points to note:**



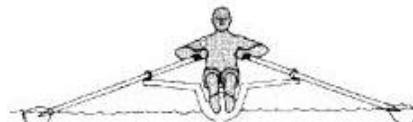
**Correct, knees close together at the catch.**



**Correct, elbows close to the sides at the finish.**



**Incorrect, knees splayed.**



**Incorrect, elbows out.**

## **Problems You May Encounter and How to Correct Them**

### **1. It is hard to release the blades from the water at the finish.**

You may have the blade too deep in the water (it should be just covered) or you may be feathering it too soon or too late. Turn the blade flat just as you release it from the water.

### **2. The oar handles hit my knees on the recovery.**

You should keep your legs extended and knees down until your arms are fully extended and your upper body has swung over towards the stern, at which point the handles are then over your shins, clear of your knees and you can begin to roll towards the stern.

Or, you may be trying to keep the oar blades too high off the water with the handles too low. If this is the case, try keeping the oar blades only a couple of inches off the water with your hands a little higher over the knees.

Or, try raising the height of the oarlocks a little.

### **3. My forearms get tired.**

Try a more relaxed grip on the oar handle.

Or, be sure your wrist is flat as you pull the oar through the water.

Or, be sure you have put Crisco or Vaseline on the button and sleeve to allow the oar to turn more easily in the lock as you feather.

### **4. The seat binds and doesn't roll well**

Be sure you are sitting in the middle of the seat and not twisting as you roll back and forth, or the seat might need oil.

### **5. It is hard to keep the blades from diving deep on the drive.**

You are probably not turning the oar-blade all the way to vertical before putting it in the water at the catch, be sure your grip on the oar handle is relaxed and be sure the oar blade is vertical before catching the water, and relax your grip as you pull so that the flat of the oar shaft can align itself with the flat of the oarlock, which keeps the oar blade in the proper position.

### **6. It is hard to keep the boat level while rowing.**

Be sure to keep your body balanced over the center of the boat.

Work on releasing the water smoothly at the finish so that you start the recovery on an even keel.

Be sure to keep the oar handles moving on a constant level moving the handles up and down affects the balance of the boat.

## **Glossary of Terms**

**Blade:** The flat part of the oar that goes into the water

**Bow:** The front of the boat

**Button:** Plastic collar on the oar shaft, located over the sleeve, and locates the oar against the oarlock when in use

**Catch:** The point in the stroke at which the blades are put into the water at the beginning of the drive, also the end of the recovery

**Drive:** That portion of the stroke when the blades are in the water and the person is pulling on the oar handles

**Feathering:** The act of twisting the oar to position the blade vertically for the drive and horizontally for the recovery

**Grips:** Rubber caps on the inboard (handle) end of the oars

**Oarlock:** Plastic piece that holds the oar and pivots, located on the end of the rigger

**Pin:** Bolt that forms the pivot for the oarlock

**Port:** Left side of the boat facing forward, right side as you sit to row, often marked red.

**Recovery:** That part of the stroke when the blades are out of the water and the person is moving towards the next drive

**Release:** That point at which the oars are taken out of the water at the end of the drive, also the beginning of the recovery

**Rigger:** Arm extending out from the side of the boat, it holds the pin and oarlock

**Sculls:** Another name for the oars, sculling is also another name for the act of rowing

**Sleeve:** Plastic tube on the oar, under the button, that protects against wear in the oarlock

**Starboard:** Right side of the boat facing forward, left side as you sit to row, often marked green

**Stern:** Back of the boat

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