A Beginner's Guide To Rowing

The boats plus their parts and rowing jargon

It is *not* an instruction manual

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By Michael Dixon
Source material.
Most of the booklet is the author's own work. Some inspiration has come from various websites, particularly that of the Capital Rowing Club of Washington U.S.A., where I borrowed heavily the section "Technique-Related Terms (Mostly things you want to avoid doing)". However the excellent websites of the U.S.A. clubs suffer from the fact that the jargon used in that country differs considerably from the jargon used in Australia.

The illustrations used to show types of boats and boat parts come from the authors own archives, the "net" and the catalogues of various boat builders and oar makers world wide.

The stick manikins in the "Illustrations of the rowing stroke including the crossover" and the drawings in the section on "Fins and Rudders" are by the author.

About the author
I am now 72 years old (in 2012). I am married to Geraldine (for 46 years). She is very tolerant. We have 4 children and 5 grandchildren. Before I retired, I had been a lawyer in the Public Services of the Commonwealth Government, the Senate in Canberra, Norfolk Island Administration and Tasmania. I started rowing at Hawthorn Rowing Club in Victoria, Australia in 1958. I have been coaching schoolboy rowing since 1964 and schoolgirl rowing since 1983. I have coached at:-
- St Kevins College in Melbourne -1964 -6 .
- St Edmunds College in Canberra - 1967 onwards
- Dominic College from 1979 to 1995.
- Fahan School in 1987 and I continued to coach them while I was also coaching at Dominic and later at ST Mary's College.
- Saint Mary's College in 1989 -(the first ever SMC crew) and again at SMC for the last 16 years or so.
- St Virgil's College off and on while coaching at St Mary's.
I have also coached club crews at Hawthorn Rowing Club (Victoria), Canberra Rowing Club (A.C.T.) and Derwent Mercantile Rowing Club (Tasmania).

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A BEGINNER'S GUIDE TO ROWING

Types of Rowing

SWEEP: Rowing where the rower holds one oar on one side of the boat. The length of the oar is from 3.6m to 3.9m long.

SCULLING: Sculling where the rower holds 2 oars one in each hand (i.e. an oar on each side of the boat). The length of each sculling oar is 2.9 to 3m long. Technically the sculling oars are called "SCULLS" hence the name of the sculling boat.

Types of boats - or Shells

As I just noted there are two basic types of boats
- Sculls, where each rower holds two oars i.e. one oar in each hand.
- Sweep oar boats where the rower holds both hands on one oar.

Sculls

In modern times most rowers start off in scull boats. They come in 3 basic formats
- A "single" scull. This is a boat with only one rower and no cox.
- A "double" scull. This is a boat with two rowers and no cox. (In the distant past there were coxed double sculls).
- A "quad" scull. This boat has 4 rowers. There are 2 types of quad sculls.
  - One type has a cox. Most school and junior crews row in a coxed quad scull.
  - The other type is coxless, and is mainly used by senior crews.
- (Occasionally a club will fit out an "eight" with scull riggers so that all eight rowers have two scull oars each. These are not an official style of boat and there are no races for this type of boat. Why is it done? Usually so that one coach can coach 8 scullers with one cox, all at the same time. It has limited practical use and that is why this class of boats has never been accepted as an "official" class of boat.)

Sweep Oared Boats

In past years most rowing used to be undertaken in this style of boat. In Australia since the 1980s, most new rowers have started their rowing in sculls. Nowadays sweep oared and sculls are about equal in popularity, with younger crews dominating in scull style boats and sweep oared rowing being the province of more experienced rowers. It is harder to row sweep oared boats than sculls.

Sweep oared boats mainly come in 3 basic formats.
- A "pair". This is a boat where each rower has only one oar each. So there is only one oar on each side of the boat. It is the most difficult boat to row, as each rower has to be perfectly in time and in balance with the other. Nowadays pairs are all coxless. The coxed pair ceased to be an "official" class of boat in the 1990s. Before that most pairs in Australia were coxed pairs.
- A "four". In this boat each of the four rowers has only one oar each, ie. there are two oars on each side of the boat. Fours can be coxed or coxless. However recently most races are for "coxless" fours. Coxed fours when raced in
competition would be in junior crews. There are now very few senior races for a coxed four.

- An eight: In this boat there are 8 rowers each with one oar, i.e. there are four oars on each side of the boat. Eights are usually considered to be the premier style of rowing. Usually at regattas the senior eights are the last race. This is the case at school Head Of The River regattas. All eights are coxed.

- I am often asked are there any sixes. Logically you would think there should be. As far as the author knows there has never been a six in Australia. There is a photograph taken in about 1900, which shows a couple of sixes on the water outside a New York U.S.A. rowing club. That is the only evidence the author has seen that some existed. Coxed pairs ceased to be used in competition in the 1980s. Coxed fours (sweep) are now only used in school competitions).

Crew Numbering (or position in a boat)

The rower sitting in the bow of the boat is called "Bow". The rower sitting at the other end of the boat is called "Stroke". So in a pair or double scull you only have 2 rowers being "bow" at front and "stroke" to the stern of the boat.

In multi-seat boats "Bow" sits at the front the next rower is called "2", the next "3". If the boat is a four or Quad scull, rower number 4 is called "Stroke". In an eight, rower number 8 is called "Stroke". In other words crew members are numbered from the front or bow of the boat.

"Bow side" and "Stroke side"

In a sweep oared boat "Stroke" holds the oar out to stroke's left hand side. (Now, as stroke is sitting in the boat facing backwards and looking at the coxswain, for the coxswain, or anyone out of the boat, their view would be that the oar is on the right hand side of the boat). "Bow" holds the oar out to "bow's" right side which is of course is on the left side of the boat as the coxswain sees it.

Normally in a sweep oared boat all the rowers with odd numbers (i.e. Bow, 3, 5, and 7) they hold the oars which are out to the left hand side of the boat so the left hand side of the boat is called "Bow Side". So all the rowers with even numbers (i.e. 2, 4, 6 and stroke), hold the oars which go out to the right side of the boat, so the right hand side of the boat is called "Stroke Side".

Confusingly the same terminology is used to describe the sides of a sculling boat even though scullers hold an oar in each hand. So in a sculling boat the left hand side of the boat is also called "Bow Side" and the right hand side of the boat is called "Stroke Side". (In the U.S.A. and Canada for all rowing boats they use the usual nautical term of "port side" and "bow side" which makes more sense). Sadly scullers have to learn which side is bow side and which side is stroke side because at a regatta Boat Race Officials give instructions referring to bow side or stroke side.
Parts of the boat, oars and other rowing things

BACK CHOCK/STOP: A small block on the bow (front) end of the slide, which holds the seat on track.

BLADE: The face of the oar that pushes against the water. (Quite often people refer to their oars as their blades).

BOW: End of the boat closest to the direction of travel. It can also be used to refer to the first/front rower in the boat. In an eight bow-four refers to seats one/bow to four. In an eight or quad bow-pair refers to seats one/bow and two.

BOW BALL: The little white ball stuck to the nose of the bow. It is there to minimize injury to a crew member of another boat in the event that rowing shells collide. Contrary to popular belief it is not there for photo finishes!

BUTTON: The plastic collar around the oar to stop it sliding through the swivel. The button is always mounted on the "sleeve".

CANVASS: The front (or back) flat deck of the boat between the end of the boat and the cockpit where the crew is located. In the days of wooden boats that part of the boat was covered by canvass.

COCKPIT: The open part of the boat containing crew and coxswain.

COX or COXSWAIN: A very important member of the crew. Their primary job is steering but they also provide feedback during races about location on the course, relative position to other crews, and stroke rate per minute. They serve as an in-the-boat coach during races. They call the power or weight to be applied by the crew when rowing and encourage the crew. However, they do not say, "In-out In-out".

COX BOX: A small electronic device which aids the coxswain by amplifying cox's voice. Some cox boxes will give cox a readout of various information, such as stroke ratings.

CROSSOVER: This only occurs in sculling boats. Oars move in an arc around the pin on the rigger. When pulled through the stroke, the handles of the oars come together and this place is called the crossover. To overcome the obvious problem, the stroke side oar (held in the left hand) is mounted 1cm higher than the bow side oar. At the crossover the rower holds the left oar slightly nearer the body and just higher than the right thus avoiding a collision between the two oar handles.

DOUBLE: Is a two seat rowing boat set up sculling style i.e. a rigger on both sides of the rower. (It is more properly called a "double scull").

EIGHT: A boat for 8 rowers and coxswain. They are only rigged as a sweep boat i.e. each rower holds one oar.

ERGO/ERGOMETER: A rowing machine designed to simulate the actual rowing motion; used for training and for testing the rower's stamina and fitness.
FIN (officially a SKEG): Fixed metal piece (sometimes a plastic piece) beneath boat to stabilize it. (Without the fin the boat can drift sidewise across the water). The rudder is often mounted with it. The fin (which can include rudder) can break off in shallow water if it strikes the river or lake bottom. It can also break off by hitting the deck of the "ways" when putting the boat in the water or taking it out. Please be careful!

FOOT STRETCHER: Part of the boat where the rowers put their feet usually in shoes attached to the stretcher. When rowing, the rowers push their legs against the foot stretcher. It is called a "stretcher" because it is adjustable, (i.e. stretched along the boat), to accommodate long or short rowers.

FOUR: Is a four seat sweep boat i.e. the boat has only one rigger for each rower.

FRONT CHOCC/STOP: A small block on the stern (back) end of the slide, which holds the seat in place.

GATE: Is a metal bar with a plastic nut on the end which holds the oar in the U shaped swivel. See below "swivel".

LIGHTWEIGHT: Unlike most other non-combat sports, rowing has a special weight category called lightweight. At international level the limits are:

- Men: Crew average 70 kg (154 lb) no rower over 72.5 kg (160 lb)
- Women: Crew average 57 kilograms (125 lb) no rower over 59 kg (130 lb)

OARS: Pretty obviously the device held by the rower to propel the boat. See earlier the notes about "Types of rowing". The oar has on it the "handle", "sleeve", the "button" and the "blade".

OARLOCK: See "swivel".

PAIR: A two seat sweep oared boat i.e each rower holds only one oar. It is the most difficult boat to row.

PIN: Is the vertical steel rounded bar (a bit like a bolt), mounted on the rigger which holds the plastic swivel onto the rigger. See below "swivel".

QUAD: Is a four seat rowing boat set up sculling style i.e. a rigger on both sides of the rower. (It is more properly called a "quadruple scull").

RATING: The number of complete strokes taken in a minute. (For new young rowers it would be between 28 to 34 in races. For Olympic rowers it can be 36 to 42 strokes per minute).

REGATTA - An organized crew race.

RIGGER: The metal (now sometimes carbon fibre) bar(s) on the side of the boat which hold the oar.
RUDDER: A little fin on the bottom of the boat that the coxswain can control to steer the boat. It can be located directly behind the fin under the boat or at the stern (back) of the boat.

SHELL: Is just another term for a boat, specifically, a boat used in rowing racing.

SEAT: Fairly obviously means the seat that the rower sits on. It rolls up and down the slide. Sometimes people call the seat the slide.

SINGLE: Is a rowing boat for one person. (More properly called a "single scull").

SLEEVE: The plastic sleeve around the oar where it rests on the swivel. The "button" is mounted on the sleeve part of the oar.

SLIDE: The tracks in which the seat rolls.

STERN: The rear or back of the boat. (The term can also refer to rowers in the boat. In an eight stern-four refers to seats five to stroke/eight. Stern-pair refer to stroke/eight and seven).

STROKE: The person in the boat facing the coxswain is called "Stroke". [As noted earlier it also refers to the movement of the rower pulling the oar(s) through the water].

SWIVEL: The moving bracket which holds the oar onto the rigger. Swivels are sometimes called "Oarlocks". The swivel is made up of three parts:
* The first is a U shaped plastic device which holds the oar. This is the actual "swivel".
* Second is a metal bar with a plastic nut on the end which holds the oar in the U shaped swivel. This nut is unscrewed to allow the bar to be raised so the oar can be put into the swivel. This metal bar is called the "gate".
* The third component of the swivel is the "pin" which is a vertical steel rounded bar (a bit like a bolt), mounted on the rigger. It holds the plastic swivel onto the rigger and allows it to swivel around, hence its name.

THUMB SCREW: The bolt which holds the foot stretcher to the frame of the boat. It is called a thumb screw as the rower usually uses their thumbs to tighten it up. There are 3 thumb screws on each foot stretcher. One screw on either side and one in the middle down low attaching the stretcher to the keel of the boat.

WAYS: The Tasmanian term for the pontoon or jetty from which the rowing boat is launched or recovered at the end of a row.

WEIGHT: The pressure exerted (effort) by the crew on the oar.

**The Rowing Movement or- Stroke**

CATCH: The part of the stroke where the oar enters the water.

DRIVE: Part of the stroke where the rower pulls the blade through the water using legs, back and arms to propel the boat.
FEATHER - FEATHERING: Rotating the oar in the oarlock (swivel) so that the blade is parallel to the surface of the water with the face of the blade upwards. (In a sweep oared boat the rower rolls the blade with the rower's inside hand, which is the hand closest to the blade, so the blade is parallel to the water). This is done at the start of the recovery, and the blade is slowly squared again before the taking the next stroke. Feathering makes rowing easier especially in windy, choppy conditions because the blade doesn't slap the waves as much and because air resistance on the blade is decreased.

FINISH: Part of the stroke after the drive where the blades come out of the water. The rower removes the oar from the water, by first pushing the oar handle downward then pushes the oars away from the body with the hands.

LEG DRIVE: Term used for driving the legs against the foot stretchers on the drive.

LAYBACK: Term for how much you lean back at the finish. Too much is bad, too little is, well, bad also.

RELEASE: Another term for finish (i.e. you release the oar from the water!).

RECOVERY: Part of the stroke where the rowers comes back up the slide slowly towards the catch. The oar is pushed away from the body by extending the arms, reaching the body forward and compressing the legs so the shin is vertical, preparing for the next Catch. The oar should not drag on the water.

STROKE: Has two meanings. (1.) One full rower and oar motion to move a boat. Consists of the catch, drive, finish, and recovery. (2.) The person in the boat facing the coxswain is also called "Stroke".

RATE: How fast a stroke is being taken, in terms of strokes per minute see the comments earlier on rating.

Rowing Commands or Terms

"HALF FORWARD" means moving only half way down the slide. (It could be "three quarter slide" being three quarters of the way down the slide).

"OARS, SQUARED AND BURIED" is the command for the rower to hold the oar vertically (perpendicularly) in the water with the blade fully immersed in the water and be ready to start when called.

"ARE YOU READY" (slight pause) "ROW": Coxswain's call to begin rowing.

[ There can be confusion about these first 3 commands. The actual starting call is "are you ready---row". Usually when the crew is at rest or just starting out the coxswain will call the crew to attention by calling "Half forward--oars squared and buried" and if the crew is smart enough to be ready quickly, the coxswain will almost immediately call "are you ready---row". Remember they are 2 commands. A good coxswain will always check to see that every rower is sitting half forward with the rower's oar squared and buried before asking the crew "are you ready" and telling the crew to "row". ]
"EASY OAR": This is the command for the rowers to stop. Usually given a 3-stroke warning, as in, "In three, easy oar." Rowers know that when the coxswain calls "one" (called at the catch), rowers complete one full stroke; then in "two" (called at the second catch), rowers complete this second full stroke and in "three" (called at the third catch), rowers complete the third full stroke and end at arms away, blades feathered, boat balanced. Generally after performing the command, the coxswain will say, "Rest," at which the rowers will rest their blades flat on the water. Saying "easy oar" only means ending the stroke at arms away and not resting the oar on the water until told by the coxswain. Note: In an emergency, the command is "Easy oar-Check!" This means stop whatever you are doing and hold your oar vertically (perpendicularly) in the water in order to stop the boat quickly.

"CHECK": This is the coxswain's call that makes all the rowers drag the blades on the water to slow and/or stop the boat from moving forward. As the boat slows the rowers should move to hold their oar blades in the water perpendicularly. The command is used when the boat is returning to the ways at the end of a row, or in turns, before race starts, etc. Blades must be square and buried, oars held tightly to break the boat's momentum. This can be very important in emergency situations and is usually only called when the coxswain needs to stop the boat to avoid an obstruction or other boat. Rowers should be alert in this situation.

Having only one side check their blades results in a turn to that side. For example the coxswain would say "bow side check", which would turn the boat to bow side. To make the turn tighter (or quicker), the coxswain may also say at the same time "stroke side to row". Having one side checking while the other side rows would turn the boat quite quickly and in a narrower circle.

"LET IT RUN: Rowers to stop rowing at the finish, hands away past their knees without moving forward on the slide and allow the boat to glide (or run) across the water's surface without the blades touching it. This is often used as a as a drill to build balance. Remember do not rest your oar.!

BACK IT DOWN; Means to row backwards. The blades should not be turned around in the swivels as the rower should back it with the back of the oar. The coxswain may only want part of the crew to back it in order to turn the boat, eg "back it down bow side". That would turn the boat to bow side.

TOUCH IT UP: The call for the crew to row gently to align or position the boat better. It may be for the whole crew to gently row or just the rowers in the front of the boat eg. "Bow and 2 touch it up." Sometimes cox will call to touch it up one side only in order to straighten the alignment of the boat eg. "Bow and 2 seat touch it up stroke side".

EARLY: A member of the crew is putting their oar into the water before stroke. eg. Two-seat you are early.

LATE" A part of the stroke is late. Usually the term refers to the timing of the catch meaning a rower is entering the water after stroke. A coxswain would call eg. "Three, you're late".
"POWER 10" (or 20 or 30, etc.): Coxswain call to take a certain number of power strokes. A power stroke is a stroke that musters all the strength the rower can give.

"RUN": The distance the boat moves after a stroke. A long run is very good. Run can be visually measured by the distance between each set of puddles made by the crew.

SIT THE BOAT UP: The command to balance the boat. Generally used when rowers are not rowing but sit relaxed with both hands on the oar as it floats feathered on the water. If the crew is sitting the boat up each rower is actively maintaining a constant oar handle height, thereby keeping the balance of the boat steady and centred. If a rower's body leans to one side this can also affect the side-to-side balance.

SQUARE: The blade is perpendicular to the water. Rowing square blades is rowing without feathering during the recovery.

In a race the starters commands are:-
"ATTENTION "(Equivalent to the coxswain's call "Are you ready". then "ROW" obviously the race is on!!

Technique-Related Terms (Mostly things you want to avoid doing)

CATCHING A CRAB: a slang term meaning getting an unexpected tug or jerk on your blade, sometimes even stopping the boat violently. The blade gets "caught" in the water making the oar handle fly up or towards you or even behind you. Crabs happen usually because of poor technique, often getting the blade in the water at the wrong time, but sometimes one rower's skyling/ruining the set can cause another rower to crab, and crabs are more easily caught in choppy water (including motor boat wakes). Do the best you can to maintain proper control of your blade, especially in race situations, and improve your technique to avoid catching crabs.

CHECK: (Not the coxswain's call), something which impedes or halts the boat's forward momentum. Things that cause check during a race include poor bladework, rushing the slide, and hitting the front stops.

DIGGING: The blade is too deep in the water during the drive. This really affects the balance, and it's hard to get a crisp finish. Sometimes seen with skyling. The blade should not be entirely buried in the water during the drive, but rather remain at the same depth as when the squared blade is just floating (no hands on the handle).

HANGING AT THE CATCH: A pause in a rower's rhythm as the rower is at the front of the slide and is about to drop the blade into the water. This happens when you rush forward on the slide and get to the front before the other rowers, and then while you wait for everyone else your blade just hangs in the air. Hanging at the catch means:-
(1.) you're rushing the slide more than you need to and thus slowing the boat,
(2.) it's inefficient because you're wasting energy hurrying,
(3.) it throws off the "swing" or unified movement of the other rowers, and
(4.) it also makes it very hard to catch the water in time with the other rowers.

MISSING WATER: It means the rower does not go into the water when they
commence the stroke. It happens when you don't raise your hands as you come up to the catch so the oar will not go into the water when it should. When you row correctly, you see water splashing behind your blade. When you do it wrong, the first part of your stroke is actually out of the water, and you lose a lot of power - because it results in missing the effect of your strong leg drive at the start of the stroke and this is why it is important to get it right. Don't worry about slowing the boat with a little backsplash as you enter the water - worry more about not missing water.

RUSHING THE SLIDE: Coming up the slide too quickly. The recovery, (i.e moving forward on the slide to take the next stroke), should be a slow deceleration, and rushing the slide creates momentum in the direction opposite to the where the boat is going. Whether or not you bounce on your legs or hit the front stops at the front of the slide, rushing the slide slows the boat. Use your legs to brake the recovery. Rushing also wastes energy and you're not being efficient. If the stroke rating is fast, bring up the rating in the water by pulling harder, and concentrate on keeping the recovery smooth and decelerating. It's ideal to have the recovery take twice as long as the drive (this is having a good ratio).

SKYING: The blade is too high off the water. This strongly affects the set of the boat, and may lead to digging besides. Usually seen at the end of the recovery, when the rower lowers the hands as s/he comes up to the catch, sometimes in too bent-over a position (when tired). The rowers should instead sit up more, and raise their hands into the catch.

SHOOTING THE SLIDE/TAIL SHOVING: Starting the drive with your rear end first (and not the center of your back), leaving your shoulders behind initially. This ends up being a quick jerk of the seat backwards, a result of a too-explosive leg drive and not moving the blade through the water as your legs push. This is very wasteful of your powerful leg drive, puts your back in a very inefficient position for transferring leg drive to driving the blade, may strain your lower back, and even causes the boat to "check" or jerkily slow down.

[Shooting the slide can have a checking the action/reaction on the boat in the wrong direction resulting from the jerky movement of your butt (and nothing else) in the right direction.] The drive should have a firm start, but be controlled and smoothly accelerating all the way through. Think of the oar handle and the seat being joined by a bar that maintains a constant distance between them during the first part of the drive. If you shoot the slide you will drive the coach crazy!!

"Weight" or Effort

Rowing training consists of many long rows where the crew and coach work on perfecting the rowers' technique. The more efficient the technique the better the rowers can work. In the process the rowers improve their fitness.

If the crew goes for (say) a 12 km row, then it is clear that the rowers cannot row flat out the whole time. The same applies to a race. We measure the effort being applied by the crew by percentages or by a fraction.
So if the coach wants the crew to row with little or no effort and concentrate on style
the coach would call "row light". If the coach wanted more effort the coach would call
"row 25%" or "Quarter weight".

The next amount of effort would be "row 50%" or "half weight". In this case the crew
would be applying considerable effort (weight) but still with some effort in reserve.

The next ranking is just below the rowers total effort is "Three quarter effort". Coaches who call percentages tend to call "row 80%". Rowing as hard as you can is
called "full weight". In racing over a distances of 1,000m to 2,000m much of the race
is rowed at somewhere between "3/4 weight" or "80%" and "full weight", because it is
nearly impossible to row at extreme effort for the whole distance.

Crews are generally instructed to row full weight at the start for 12 or so strokes and to
repeat it at predetermined distances in the racing course. The crew would give full
effort over (say) the last 250m.

How does the rower know what is (say) 50% or half weight? It is a skill that rowers
learn and they usually learn it fairly quickly after they commence rowing.

Rating
As noted earlier "rating" is the number of complete strokes taken in a minute. For
new young rowers it would be between 28 to 34 in races. For senior and Olympic
rowers it can be 36 to 42 strokes per minute.

It is important for new rowers to distinguish between "weight" and "rate". In training
the coach may want the crew to work hard eg. a weight of 80% but rate very slowly
say at 20 strokes per minute. In other words the rower can work hard without rating
very high.

In a race the cox may call for increased weight but keep the rating low. Possibly the
cox will just ask the crew to lift their rating. So it is important in such cases for the
rowers to understand the difference.

Lifting and carrying the boat

For young rowers carrying a quad, stroke and 3 should stand at the coxswain's end of
the boat. Bow and two should stand towards bow end. The rowers must stand next to
the part of the boat in which the crew sits, as that is the only part of the boat where
you can hold onto the boat when it is the right way up. Be careful when lifting a boat-
to bend your knees and not your back.

Lifting the boat
If the crew is lifting the boat off the rack, the boat will be upside down and easy to
hold onto its side (or gunwale as it is properly called). Do not hold the boat by the
riggers.

If the crew is lifting the boat out of the water, or off soft trestles, the boat is right side
up and more difficult to hold. Again do not hold the boat by the riggers. Do not hold it
by the foot stretcher or other adjustable part in the boat as they could come loose or break. All modern boats have hand holds or holes in the structure to assist the rowers hold and lift the boat. They differ from boat to boat but are usually fairly obvious. The rower must learn to find the correct hand holds. Be careful when lifting the boat out of the water so as not to drag the boat against the ways and moat particularly the fin and rudder protruding at the bottom of the boat.

When lifting the boat out of the water all the crew will be on one side. The crew should take a few steps back. Then stroke should give the command for crew members to go under the boat. Now in a quad only one crew member only from EACH end should go under while the others hold the boat resting it on their knees. Take care when going under the boat not to emerge under a rigger as you will hit your head, which will amuse everybody but you!

Turning the boat over
Once the boat is lifted out of the water or off soft trestles the boat should be turned upside down as that is the easiest and safest way to carry it. Be careful when rolling the boat not to stand in the way of a rigger!

Commands when carrying the boat.

Taking the boat from the shed (or regatta storage area) and launching it.

In our tradition the stroke is the captain of the boat and gives all the crew commands not given by the cox or coach. It is stroke’s responsibility to take the boat to the water and launch it safely. However cox has some duties in this activity.

Taking the boat off the rack - quad scull
For junior crews Under 15 and below a minimum of 6 people should carry a quad. It is not the cox’s job to carry the boat. In a quad, stroke and three should stand at the stern of the boat and bow and two at the front (the bow end). For a junior crew the 2 helpers should stand between the 2 and 3 riggers.

Taking the boat off the rack - fours and eights
Assuming the boat is on the rack and upside down, the rower should stand opposite their rigger.

For all boats stroke’s commands should be:

- **HANDS ON THE BOAT** All crew should grab onto the boat and prepare to move it.
- **ARE YOU READY?** Both to make the crew alert to the next command and a question to make shore everybody is ready. If you are not ready call out and then tell stroke when you are ready, at which time stroke should repeat "Are you ready".
- **LIFT** Clearly the moment when the crew lifts the boat
- **REST ON THE EDGE** (If the boat is on a rack at the side of the shed, to enable the crew on the inside to reposition themselves ready to carry the boat out.)
- **LIFT AGAIN** and once clear of the rack
- **WALK FORWARD**
Launching the boat

(1.) The stroke will order the side closest to the water to go under the boat and hold on
the to the other side. While they are doing this the crew members left holding the boat
should hold the boat partly on their knees gto help support the extra weight. Stroke's
commands are:

- ŒSTROKE/BOW SIDE HOLD THE BOATŒ
- Œ(OTHER SIDE) ARROUND or UNDER THE BOATŒ
- ŒALL HOLDŒ

(2.) With all the crew on one side of the boat stroke will order the crew to the edge of
the launching ways and to lower the boat. Stroke's commands are:

- ŒWALK TO THE EDGEŒ
- ŒONE FOOT ON THE EDGEŒ
- ŒLOWER THE BOAT TOGETHERŒ
- "REST"

Removing the boat from the water

In this case all the crew will be on one side of the boat. As noted earlier, in a quad,
stroke and three should stand at the stern of the boat and bow and two at the front
(the bow end). For a junior crew the 2 helpers should stand between the 2 and 3
riggers.

For all boats stroke's commands should be:

- ŒHANDS ON THE BOATŒ
- ŒARE YOU READYŒ
- ŒLIFTŒ
- STEP BACK:- Usually two steps- so the crew is clear enough away from the
edge so that some crew members can safely fit on the water side of the boat.
- STROKE AND 2 HOLD THE BOAT AND BOW AND 3 UNDER THE
BOAT: Even 'though stroke is giving the order it should be called this way so
the crew knows what is going on. In a quad best practice is for stroke to
remain holding the boat and not go under it so that stroke can at all times see
what is going on.
- ROLL THE BOAT TO STROKE: This means to turn the boat upside down to
make it easier to carry but rolling the boat towards stroke. Stroke should
always call it this way, again so that stroke can see what is going on.
- WALK ON: The crew should now move on with the boat towards the shed.

Coxswains job when the boat is being carried

It is not the coxswain's job to help carry the boat, so do not do it.

Now when the crew starts to walk the boat forward everybody looks forward to see
where they are going. So the coxswains must position themselves at that end of the
boat that the crew are not watching. Coxswains should put their hand on the boat and
walk all the way with cox's hand on the boat. Do not carry any weight it is not your
job.
It is cox’s job to ensure that as the crew and boat move from the shed that the crew do not turn the boat and strike the end that cox is guarding against another boat, the door of the shed or any other obstruction. If it seems that the boat will strike something give a very loud command “STOP! WATCH THE BOW (or STERN)” Then Stroke will take over, and with cox’s help will make sure the boat clears the obstruction.

Once the boat clears the door cox should call “CLEAR OF THE DOOR”. Continue walking with the boat with your hand on it. If the boat has to be turned before it is launched, cox then walks to the other end of the boat which the crew are not watching. If the boat is going down a slope make sure that cox’s end does not strike the ground. If necessary call “STOP! WATCH THE BOW (or STERN)”

When the boat is being put in the water or being removed from the water the coxswain must stand where they can see the rudder and the fin to make sure the crew does not strike either the fin or rudder on the ways. Call the crew loudly and urgently if it looks likely to happen. Damage to the fin in particular can cause extensive damage to the hull of the boat. Greater care is needed when the boat has a deep fin or rudder.

Remember it is stroke's duty to call the movements of the boat and not cox. So other than the above calls necessary for the protection of the boat the coxswain should leave all other commands to stroke.

Rowing is the ultimate "team" sport

Most rowing is performed in a crewed boat, with the obvious exception being single sculls. In rowing in the boat every little movement of each individual crew member must be as one. The commitment in rowing is not just to the sheer number hours devoted to training but also to the rower's fellow crew members. A double or a pair cannot row with only one rower. The same goes for any other crewed boat, a four must have four rowers.

When a person takes up rowing they must be prepared to attend all training sessions, as their fellow crew members will be frustrated if a another crew member fails to attend. So attendance at training sessions and punctuality are not just a courtesy for a rower they are an essential part of a rower's commitment to the sport.

COMMITMENT IN ROWING
Illustrations of the types of rowing boats

A Single scull (New price $4,200 to $9,500)

A Double: Most doubles can be re-rigged as pairs. (New price $9,500 to $14,000)

Pair: coxless (New price $9,500 to $14,000) - Pair coxed (Author in bow seat 1958)

Four coxed (New price $17,000 to $22,000) - Four coxless

Quadruple sculls (coxless) (New price $17,000 to $22,000)
Most quads can be re-rigged as fours.

Eights (at 2012 Olympics). (New price $35,000 and upwards).
Illustrations of rowing boat components and oars.

Part names

In the above illustration the "Deck" is often called a "Canvass".

**Foot stretcher** - in a boat

- out of the boat

**Slide** complete with seat - 2 views - Note the **slide rails**.
**Slide rail** components. S14 is the wooden support placed beneath the slide rail. It is thin at the front and thick at the back so the seat has the tendency to roll forward when the rower is not in the boat. S9B and S9A are both anodized aluminium **slide rails**, (just different colours), which form the track for the seat wheels. S9D are the **stops** or **chocks**. On S9A the stops can be seen screwed into the front of the slide rail. They stop the seat from rolling off the end of the slide rail. S9C is the screw which holds the slide rail to the wooden support.

**Seat** on its own (below). **Undercarriage** upon which the seat is placed. Note: the guide [above the "S12(1)"] which fits under the slide rails and stops the seat from lifting off the rails.

**Rigger** -

**Sweep rigger** mounted on the side of the boat. The **swivel** is at the end of the rigger. You can clearly see its component parts. The metal **gate** at its top and the plastic (round) nut at its end which is screwed up as it would be if the oar was in it. You can see the **pin** which is the vertical bolt which holds the swivel to the rigger. Note: In a sweep boat the top of the swivel is supported by an arm. A **scull rigger** looks just like this, but in most sculling boats it does not have the arm supporting the top of the swivel.
Winged riggers: Single scull showing *winged riggers* mounted on top of the boat. Many new boats have this type of rigger as they are usually easier to fix to the boat.

Swivel which in the picture on the left is held at the top and bottom. You can easily see the component parts. The blue washers (*spacers*) at the top and bottom of the swivel are removable and can be placed at the top or bottom of the swivel to raise or lower it. The photo on the right shows the Swivel assembly out of the rigger. The spacer washers are yellow. Swivels are sometimes called "Oarlocks".

Fin underneath the boat. Below (Rigger) Fin on its own
**Trestles** being the stands which hold a boat when the boats are not in the shed.

![Trestles](image1)

**Oar sleeves** (the red and blue things) with **buttons** (the white things).

![Oar sleeves](image2)

Complete **oars**. The oars shown are actually **sculling oars**, (more correctly called "sculls"), being 2.9m to 3m long. **Sweep oars** look just the same, they are just longer 3.6m to 3.9m long. The black parts are the **shafts**. The white parts are the **blades** which go in the water. Notice that the blades are different depending on which side of the boat they are used. The one on the left of the picture is used on the right (or *bow*) side. Remember this will be on the rower's left as the rower faces back looking towards the cox. Similarly the one on the right side of the picture goes on the left (or *stroke*) side, being in the rower's right hand. The pink part is the **sleeve** and the yellow part is the **button**. The blue part is the oar's **handle**.

![Oars](image3)
Fins and Rudders: The *fin* is located under the hull towards the stern of the shell. It has 2 functions. The first is to keep the boat *directionally straight*. Without it, the rowing shell would skid sideways. The second function is less obvious. Without the fin the boat would not be stable on the horizontal plain, or to put it another way, it would become difficult to balance. The fin is a form of drag to the hull. In the 1980s a Sydney N.S.W boat builder conducted both theoretical tests and practical tests with boat hulls and found that it was not possible to dispense with the fin. To overcome the drag of the fin attempts have been made to use composite materials and mould the fin to mimic a shark fin. *Rudders* also cause drag. Boat makers use a number of strategies to limit the drag effect of rudders.

**Figure 1.** In this boat the *rudder* is located next to and behind the *fin* not far behind the coxswain deep under the boat. The rudder post runs through the shell.

**Figure 2.** In this boat the *rudder* is located behind and as part of the *fin* not far behind the coxswain deep under the boat. The surface area of the *rudder* is quite small.

**Figure 3.** This is an aerial view of the above two rudder types. Note that the rudder strings are held in place by a *guide* as it comes through into the cockpit of the boat, past the cox and are held in place on the side of the boat by 2 pulleys.

**Figure 4.** In this boat the *rudder* is located well away from the *fin* at the back of the boat but still under it by the rudder post running through the boat.

**Figure 5.** In this boat the *rudder* is also located away from the *fin*. The rudder post is held at the back of the boat by a *bracket* located on the stern.
Illustrations of the rowing stroke including the crossover

1. **At the catch**: The rower is at the front of the slide, (front chocks*). Rower's arms are outstretched and legs fully coiled up. # Rower now lifts hands which lowers the oar into the water. # Notice as the oar handle moves in an arc, the rowers hands are outside the boat.

2. **Drive**: Rower lifts the shoulders, starts to bend the arms and the rower's legs are pushing hard. The arc of the oar brings into the side of the boat.

3. **Start of the "Cross over"**: As the oars get above the knees, the 2 handles come together, bringing the hands into the same space. Now the left hand should be nearer the body than the right hand.
4. "Crossover", where the handles of the oars overlap (or they cross over each other). The left hand is held just higher than the right and is nearer the body than the right.

5. Finish: At the end of the stroke, rower's arms are bent sliding against the trunk of the body. The hands should be just below the bust/chest. The next move is to lower the handles of the oars to lift the blades out of the water. The rower must not turn the oars while the oar is in the water or while they are being taken out of the water.

6. Recovery. The rower has now lowered the handles of the oars so the blades are out of the water - and not until then - the rower can turn the handles to "feather" the oars. As the hands move forward, the right hand leads the left and lower than the left in the reverse crossover.

7. Preparation. As the rower moves forward towards the catch, the rower starts to turn the oars from the feathered position ready to lift the hand when the rower is at front clefts ready to take the stroke.
SWAMPING DRILL

If your boat swamps and is going down the cox or stroke in a coxless boat must order your crew out of the boat immediately and let them hold on to the side of the boat or riggers until help arrives.

There need be no alarm in the case of your crew swamping. *Remember your BOAT WILL NOT SINK*, therefore . . . DON'T PANIC!

Once in the water a crew should never leave the boat until rescued by another craft or until reaching shore. . . therefore, it is worth repeating . . . NEVER LEAVE THE BOAT.

When a swamping appears certain, a coxswain should steer the crew towards the nearest shore.

If the water finally swamps your boat, quietly ease yourself into the water alongside your rigger.

Don't sit in the boat after a swamping. This makes the boat sink lower in the water and may frighten poor-swimmers and also can cause major damage to the craft.

Once in the water hold on to the rigger, take orders from the stroke of your crew and by kicking your feet, propel your craft towards the shore.

At all times remember, there is no need for panic and for your own safety . . . NEVER LEAVE THE BOAT!

CAPSIZING DRILL

The same basic rules apply.

Once in the water hold on to the rigger, take orders from the stroke of your crew and by kicking your feet, propel your craft towards the shore.

At all times remember the boat will not sink so there is no need for panic and for your own safety . . . NEVER LEAVE THE BOAT!
Don't look out of the boat-
you'll drive the coach crazy!!

SAINTS ROWING

SAINTS ROWING incorporates the rowing activities of St Virgil's College, St Mary's College and Guilford Young College all of Hobart, Tasmania, Australia. While each school maintains its own distinct rowing identity and activity, in Saints Rowing the administration of these activities is conducted in a single cooperative and seamless programme.
St Virgil's College graduate and past rower

**Dr. Scott Brennan**

2 World Championship, 3 Olympic Games

- 2012 Olympic Games
- 2011 World Rowing Championships ᵁ 4th men’s double scull
- 2008 Beijing Olympic Games ᵁ GOLD MEDAL men’s double scull
- 2007 World Rowing Championships ᵁ 8th men’s double scull
- 2004 Athens Olympic Games ᵁ 7th men’s quad scull