HOW TO BE A GOOD COXSWAIN

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Hobart, Tasmania, Australia)
Source material.
The inspiration for this little booklet came from the little book "The Coxswin and Rowing" published by members of the Resting Rowers Consortium in South Australia over 40 years ago. I had hoped to revise that publication, but it was prepared in a time of male rowers and sweep oared boats. Of that booklet the Swamping Drill remains intact as does the occasional paragraph in this publication.

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

The drawings of the types of boats and of 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 Edumunds 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 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).

Published
This little booklet is self published. It is the first edition September 2012.

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Part 1 INTRODUCTION

The Coxswain (usually called the “cox”),

*Put simply the main tasks of a coxswain are:-*

* To steer the boat. Whatever else may be said, this is the coxswain’s primary task. By doing this both in a race and at training the coxswain will keep both the boat and the rowers safe at all times. Obviously this must be done according to the river or regatta rules.
* Subject to the direction of the coach and the stroke, be in command of the boat.
* "Coach" the crew when the coach is not present.
* Provide motivation and encouragement to the crew.
* To provide feedback to the coach on the crew’s performance both in training and in races.
* Subject to the directions of the coach and the stroke, make any necessary tactical decisions, in the course of a race.

*And rowers think the cox’s job is easy!!!*

> **Now if you are new to the sport nobody expects you to do all this at once. Like the rowers, you too must learn.**

Types of oars

*Sweep* 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* 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

*As a result there are two basic types of boats*

* Sculls, where as noted each rower holds two oars i.e. one oar in each hand.
* Sweep oar boats where as we saw above, 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 (two oars) and no cox.
- A double scull. This is a boat with two rowers holding two oars each and no cox. (In the distant past there were coxed double sculls).
- A quad scull. This boat has 4 rowers holding 2 oars each. 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 Tasmania, (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 1980s. Before that most pairs in Australia were coxed pairs.
- A four. In this boat each of the four rowers has only one oar each, i.e. 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.
- A six. 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.)
Cox from the back or front

The traditional place for a cox is at the back (stern) of the boat facing the stroke. Some boats have the cox sitting low in the front of the boat. While most boats have the cox in the traditional place, there are quite a few boats which have the cox in the bow (front) of the boat.

In Australia forward placed coxswains will be found in quads or coxed fours. In past years when pairs were coxed, most had the cox in the front.

There are obvious advantages and disadvantages of coxing in the bow. The advantages are:

- The centre of buoyancy of the boat, cox and crew is lower and therefore more stable.
- There is a reduction of wind resistance.
- The cox has better forward vision.

The disadvantages are:

- The problem of effective communication with the crew. The cox will always require an electronic amplified speaking system to talk to the crew.
- Difficulty in working out how your crew is performing against the other crews in a race, because it is difficult to see crews behind the cox.
- It is impossible for stroke and cox to communicate with each other.
- Difficulty in seeing and communicating with umpires in races.

How is a coxless boat steered?

One of the rowers, (usually bow), has a foot plate which can be turned right and left from centre. Cables are attached to the top of the footplate which is connected to the rudder. The rower simply activates the rudder by twisting their foot right or left. A single scull does not have a rudder. In school rowing in Tasmania, in a double scull for junior crews, the foot controlled rudder is not activated. Where a coxless boat does not have an operating foot controlled rudder, the boat is turned by applying more pressure on the oars on one side.
Part 2 BEFORE YOU ROW

First - In the shed (or at regattas in the storage area)

Obviously the coxswain’s main tasks are carried out when the boat is on the water. However like other members of the crew the coxswain should help inspect the boat in the shed or on the bank at a regatta. This can help avoid problems which can occur during the row. Races should never be lost due to a breakage that could have been prevented by adequate pre-race inspection.

The cox’s “Off water inspection”

A good coxswain should regularly inspect:

- First the parts of the boat used by the cox; the rudder, cox’s seat, the rudder yoke, rudder lines and the cox-box.
- Second two other features seldom checked by other crew members. These are the fin and drainage ports.
- So before any row the coxswain should always check:
  - The rudder;
  - the cox’s seat;
  - the rudder yoke
  - rudder lines and
  - the cox-box

Rudders

Rudders vary in many ways according to the type and age of boats being used. Nowadays the rudders are small and made of metal or of a “composite” material moulded onto the rudder pin. The most common operate either:

- Deep under the stern (back of the boat) or;
- As part of the fin.
- In some older boats the rudder is fixed to the rear of the boat.

The rudder system consists of the following parts:

- Rudder lines i.e. the ropes or wires the cox actually holds to steer the boat. (Sometimes people call the rudder lines: the “rudder strings”.) Most, but not all, rudder lines have a toggle or plastic ball incorporated in them to help the cox hold the rudder line in position.
- The rudder yoke which sits on top of the rudder post above the boat. The rudder lines are attached to the yoke.
- The rudder post, which is the metal pole which runs down through the boat from the top to the actual rudder underneath the boat.
- And finally under the boat, the rudder itself, which is welded or moulded to the rudder pin.
Checking the rudder

- Make sure that the rudder is fixed firmly into position.
- Check that the rudder turns freely. A common problem is that the rudder drags on the underside of the boat. (This is caused either by the rudder striking an underwater object while rowing or most frequently by the rudder striking the launching ways when putting the boat onto or off the water). Get help to fix it.
- That the rudder “yoke” is tight on top of the post. It should be at right angles to the rudder. So if the rudder is centralised the yoke should be straight across the boat. If is not get help.
- The rudder lines should run freely. In most modern boats the rudder lines are fixed in place. The lines run through two small pulleys, or eyelets, which are located on the side of the boat in front of the cox. The lines should run freely through them.
- The rudder lines should not be frayed.
- If there are toggles or plastic balls on the rudder lines, they should be directly opposite each other when the rudder is straight. If they are not, this can be difficult to fix quickly. So if the cox sees this problem and it cannot be fixed, take notice of the place where the toggles or plastic balls are actually placed, so you know when the rudder is straight.
- In the case of older boats with a rudder mounted on the stern usually the lines that operate the rudder are loose in the boat. Make sure that when the boat is launched that these lines are placed so that they do not drag in the water or become fouled in the rudder system itself.

Other checks

1. **The cox’s seat.** Check it for damage. Make sure there are no cracks. If the cox has a foot rest make sure that it is in place.
2. **The cox box.**
   - The cox’s amplification system may be powered by a rechargeable battery or an ordinary battery. Make sure that the battery is not run down.
   - If the boat has a fixed speaker system, plug the cox box in, to make sure the speakers work.
   - If the speakers are portable check that they are working.
3. **Drainage ports** Where the boat is fitted with screw in drain plugs or larger hatch plugs make sure that these are screwed in place. They are often opened after a row to ensure that all water is drained from the boat. So it is important to put them back in place before the boat leaves the shed. These are the cox’s responsibility.
4. **The fin** The fin should not be bent or loose. (A bent or loose fin is caused either by the rudder striking an underwater object while rowing or most frequently by the rudder striking the launching ways when putting the boat onto or off the water). If is bent or loose get help to fix it. If the fin is bent it will affect the boats steering, however the boat can
still be rowed. If the fin is loose, it will let water into the boat, so it should not be put in the water until it is repaired.

<table>
<thead>
<tr>
<th>This is the quick check list before the boat leaves the shed:</th>
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<td>✔ Is the rudder pin loose or firm.</td>
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<tr>
<td>✔ The rudder itself turns freely.</td>
</tr>
<tr>
<td>✔ The rudder yoke is not loose.</td>
</tr>
<tr>
<td>✔ Rudder lines run freely and are not frayed.</td>
</tr>
<tr>
<td>✔ The alignment of the rudder toggles (or plastic balls).</td>
</tr>
<tr>
<td>✔ Is the cox box charged and working.</td>
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<tr>
<td>✔ Is the fin bent or loose.</td>
</tr>
<tr>
<td>✔ Are the drain plugs or hatches in place.</td>
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**Second - Taking the boat from the shed (or regatta storage area).**

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. So do not help carry it. 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
- Are you ready?
- Lift
- Rest on the edge
- Lift
- Lift again
- Walk forward

**Cox’s task when the boat is carried.**

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 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 of the boat that cox is protecting 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 the end cox is protecting does not strike the ground. If necessary call "STOP! WATCH THE BOW (or STERN)"

**Third Launching the boat**

(1.) The stroke will organise to get the crew to one side of the boat, being the side away from the water. It is done in one of two ways.

- For a senior crew (U16 and above) the crew normally "tosses" the boat. With the crew at that point standing on both sides of the boat, stroke will order the crew to lift the boat above their heads. When above their heads, the crew moves so that when they put the boat down, they will all be on one side of the boat ready to put it in the water. Stroke’s commands are:
  - "LIFT THE BOAT". Then when the crew is under the boat.
  - "MOVE TO BOW/STROKE SIDE". Depending on what side will be away from the water.
  - "LOWER THE BOAT"

- For a junior crew stroke will order the side closest to the water to go under the boat and hold on the to the other side. Strokes commands are:
  - "STROKE/BOW SIDE HOLD THE BOAT"
  - "(OTHER SIDE) ARROUND or UNDER THE BOAT"
  - "ALL HOLD"

(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:

- "WALK TO THE EDGE"
- "ONE FOOT ON THE EDGE"
- "LOWER THE BOAT TOGETHER"
- "REST"

(3.) It is the coxswain’s job to watch that the crew do not knock either the fin or the rudder on the edge of the ways. If it looks like this may happen Cox should call "STOP! WATCH THE FIN (or RUDDER)". Then stroke will take over and ensure that the fin or rudder does not strike the edge of the ways.
Four: Setting up and getting into the boat

Fitting oars the boat
Supervising the fitting (or “shipping up”), of the oars is stroke’s responsibility. A good stroke will designate two rowers to hold the boat and the rest to fetch the oars. (It is not cox’s job to do either as you have your own jobs to do).

Cox box and rudder lines
While the crew ship up their oars, cox should:

- If the boat has a fixed speaker system, plug the cox box in, and if you have not already done so, make sure the speakers work.
- If the speakers are portable fit them in and check to see that they are working.
- Check that the rudder lines are free and working.

Getting in the boat
Before anyone gets in the boat, stroke will have ordered that all the oars on the side of the boat next to the have been fitted (shipped up).

- Stroke will then order one or two rowers to hold the boat while the others fit the oars on the side facing the water (often called the “outside” oars). Do not get in the boat until these oars have been fitted by the crew. (Until the “outside” oars are fitted, the boat is unstable and could turn over if nobody is holding the boat - that is why cox should not get in until they are fitted).
- Once most of the outside oars are fitted cox should get in the boat. A good stroke will make sure you can do this safely.
- At this point stroke will direct that all rowers get in the boat.

AT THIS POINT COX STARTS TO GIVE THE COMMANDS TO THE CREW

Check list for setting up and getting in the boat:
- Fit the cox box to the speaker system.
- Check to see it works.
- Check the rudder lines.
- Get in the boat when the “outside” oars are fitted.

The quick check list for taking the boat out and launching it, is:
- Walk behind the boat with your hand on the bow or stern.
- If the boat is turned then walk to the end behind the crew.
- Check that the crew is not about to knock boat into other equipment or the door.
- As the boat is being launched check that the fin or rudder does not strike the “ways”.
Part 3 THE ROW

There are 3 duties of the coxswain on the water.

1. Getting the boat under way and the initial "warm up phase"
   (a) Getting the boat away from the launching area.
   (b) Initial boat drills.

2. Giving crew commands, which in turn has 2 aspects
   (a) Commands necessary for the crew’s routine and steering the boat.
   (b) Commands of a "coaching" kind.

3. Steering the boat and being responsible for the safety of the boat and crew, coxswain's fundamental job.

STARTING AND STOPPING THE CREW

Starting the boat

This involves three commands. Now 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 oar squared and buried before asking the crew "are you ready" and telling the crew to "row".

The starting commands are:

- "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 actually begin rowing.

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

Stopping the boat

"EASY OAR": This is the command for the rowers to stop.

- Usually given with 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 "two" (called at the second catch), rowers complete this second full stroke and "three" (called at the third catch), rowers complete the third full stroke and the end of that stroke the rowers have their arms away, blades feathered, boat balanced but the rowers have not moved up the slide.

- Generally after performing the command, the coxswain will say, "Rest," at which the rowers will rest their blades flat on the water. (The catch is the start of the stroke just as the oar enters into 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. (See just below "Let it run").
- 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.
- Why do you normally give a 3 stroke warning? After the rower has been rowing for a time they will be tired. Studies show that a tired person takes time to think. By giving a 3 stroke warning the rower has time to process the order. So it is good practice to give a 3 stroke warning even when the crew is fresh at the start of a row.

TRAFFIC RULES OF THE WATER

*International law of the sea apply*

Like a road there are traffic rules for boats on the water. These rules are not dissimilar to the road rules except that the rules which apply are the international rules of the sea. In addition

- In a harbour area there will be additional rules giving priority to ocean going ships.
- In Hobart on the Derwent River for both the Tasman Bridge and the Bowen Bridge there are rules about which bridge arch pleasure craft can use. (In both cases the centre arch is forbidden to small craft.)
- In Hobart, where there are several rowing clubs and schools who row in the same waters, there are some necessary agreed rules about moving from the river stream into and out of New Town Bay.

The basic rule of the sea is that you keep to the right, i.e. the opposite side to the road rules in Australia. As to local rules and club rules, coxswains should learn and understand them.

*The basic rule of the sea is that you keep to the right of passing boats. As to local rules and club rules, coxswains should learn and understand them.*
Common sense rules

Larger rowing boats are harder to turn and stop than a smaller boat. So smaller rowing shells allow them room to pass or manoeuvre when close to them.

Coxswains should remember that a single scull, a double scull or pair do not have a cox nor do coxless quad sculls and fours. While these rowers should make sure that they will not collide with other craft on the water courtesy should be shown to these crews.

Other than the few quad fours with a coxswain in front, the cox in coxed quads, coxed fours and eights sits behind the crew usually lower than the rowers. This means that the cox cannot see another craft directly behind the crew. So the cox of these crews should constantly scan the water ahead to make sure they will not hit another crew or other floating obstacle.

The wake or wash from powered craft

On commercial waterways coxswains must keep a very sharp lookout for the “wash” of large ships, motor boats and tugs.

- Remember that the crew and coach are often too interested in their rowing to notice them and you have the crew’s safety and a very valuable boat in your charge.
- If in doubt always stop in plenty of time to allow you to turn the boat (particularly an eight) parallel to the waves so that the entire boat rides up and over the wave at the same time.
- Never straddle the wash or you may find the boat being supported on the top of a wave at the bow and stern. In this situation the boat can break its back. (The author has seen this happen).
- Except for ocean going ships, other powered craft are supposed to keep 500m away from rowing shells. If there is no room to allow this, the powered craft must proceed no more than 5kmh past the rowing shell. Unfortunately too many do not obey the rules, so be wary.
- Sadly often, an inattentive driver of a passing coach’s power boat may also be responsible for putting a wash in front of your crew. So be alert for this when another crew is nearby.

If faced with a large wash from a powered boat:
(1) Turn the boat parallel to the waves so that the entire boat rides up and over the wave at the same time
(2) Never straddle the wash or you may find the boat being supported on the top of a wave at the bow and stern which can damage the boat.
STEERING

For the new coxswain.

Rowing shells are built so that they run in a straight line. (See the note on Rudders and Fins). From the beginning, get into the habit of applying the rudder gently and firmly (not in jerks). As far as possible apply the rudder only when the blades are in the water. Don't apply pressure all the time, except when taking a long gradual bend. On a long bend the rudder can be applied very lightly all the time. This allows the boat to swing around evenly and does not upset a crew if applied correctly.

For the new rower which rudder string to pull can be confusing because the movement is counter intuitive (not the way you would naturally think). To turn to the coxswain's right, cox must pull the right hand rudder string forward! (The natural inclination is to pull it backwards.)

Likewise to turn to the coxswain's left, cox must pull the left hand rudder string forward!

Have a look at the diagrams below and you can see why this is so. Look where the rudder is when the rudder string is pulled forward.

The best way to pull a light pressure on the rudder, pull on one line without slackening the other. For harder or shorter turns, whilst pulling on one, let the other slip back slightly. Keep the hands on the sax-boards (the side of the boat) by sliding them fore and aft, locking them by the thumb and first finger.

Keep both lines just taught. Floppy lines mean a wobbly rudder, which will make the boat roll.

One rudder effect for the beginner cox to learn is that the action of the rudder is not immediate. The rudder takes effect a few moments after the rudder strings are pulled. Note also the effect of the rudder will continue for some time after the rudder is straightened. This delay is accentuated in a light boat.

So if the boat does not at first respond the coxswain must resist the temptation of applying too much pressure. Doing this will cause the boat to over-steer thus requiring additional but unnecessary use of the rudder. So cox has to resist the temptation to apply excessive pressure when nothing appears to happen at the first pull.
If the cox pulls too much pressure, the inevitable will happen; the boat will swing too far and so the rudder must be pulled in the reverse direction in order to bring the boat back. It will slow the run of the boat. With thoughtful and careful practice the new cox will learn how to make a correct turn. It is best for the rowers if coxswain appears to be confident of their judgement.

Learn to look out for signs which may make it necessary for you to pull the rudder strings, e.g. a gust of wind ahead is often noticeable by the ruffle on the water ahead.

The rudder takes effect a few moments after the rudder strings are pulled. The effect of the rudder will continue for some time after the rudder is straightened.

**Cornering**

Because the boat is often slow to respond to the rudder *the golden rule of cornering* is: "*Take your bends carefully and early*". So it is good practice to apply the rudder before reaching the actual corner. Often you will find that once the boat has started turning it will go round by itself.

Note; *when turning from a bay* into the river or tide stream, that the current will push on the Bow (not on the stern), for the obvious reason that the bows are the first part of the boat to meet the force of the current. Once into the flow of the current:

- If the boat is moving with the current, keep the bow directly in line with the current flow.
- If the boat is moving against the current, keep the bow directly in line against the current flow.
- Sometimes if the current is strong and it is difficult to turn against the current flow the cox should call the crew to apply more weight (effort) on the appropriate side of the boat. (The same would apply if turning against the wind).

If you are *late turning into the current*, the bow is forced away from the direction you want to go and so the boat will steer into the opposite bank. Another danger is in *keeping the rudder on too long*. This will have the result that the boat will continue to swing too far making further correction necessary. The exact amount of steerage required will depend on your knowledge of the water course.

**Turning the boat around**

In every training row and at the end of a race it will be necessary to *turn the boat completely in the opposite direction* (i.e. through $180^\circ$). The method of turning the boat will vary with the amount of room available.
There are 4 new rowing techniques a coxswain needs to know here:

- What "touching up" means. This means that the crew should only row together lightly in the fixed seat position, i.e. they do not use their legs.
- "Backing the boat" This means that the rower should sit in the fixed seat position and push the back of the blade against the water. Note: the rowers must not turn their oars around so they are pushing with the face of the blade.
- Normally when turning the boat get bow side to pull the boat around. In a sweep boat, as bow is the seat at the front of the boat, bow has more leverage than stroke. Although this is not the case in a quad scull it is good practice to get in the habit of making this call.
- There is one exception to having bow side pulling around. This will happen if the boat is to be turned against the river current or a strong wind. If the wind or current is moving against stroke side get stroke side to pull the boat around as the initial turning movement will be quicker. Even though eventually the boat will be turning against the wind or current flow, once the boat is turning it is easier to keep it turning.

First - Turning on unrestricted water

This will occur when the boat is in open water and there is unrestricted room to manoeuvre. (In this manoeuvre the cox will ask some of the crew to touch it up).

- The crew should sit in the "finish" position (i.e sitting at back stops with their legs straight). The order should be "Sit at back chocks". Cox should then call "Touch Bowside - rest stroke side- TURN". This means that the crew should only touch it up with bow side oars rowing together lightly in the fixed seat position while the crew should balance the boat by placing the stroke oars flat on the water (and raising or lowering their hands as necessary to balance the boat).
- When approximately half way through the turn then the bowside rowing can be stopped and the order given "Easy oar bowside - Back it down on stroke side TURN". Then the boat is balanced with the bow side oars.

This method produces the least strain on the boat particularly an eight..

Second - Turning on restricted water

Where the space is restricted, (either because there is a smaller area of water to manoeuvre in or because of the presence of other crews), it may be necessary to have part of the crew pulling the boat around while others back it down.

- In a quad, cox would require bow and 2 to touch it up on bow side and have stroke backing it down and if possible leaving 3 to sit with both oars on the water to sit the boat up. The orders given in this method
should be "Bow and 2 touch it up lightly on bow side - 3 sit it up - stroke back it -TURN".

- In a coxed four have bow and 3 touch it around, have stroke backing and if possible have 2 sit balancing the boat. The orders given in this method should be "Bow and 3 touch it up lightly on bow side - 2 sit it up - stroke back it - TURN".

- In an eight require the Bow and 3 rowers to touch it up and at the same time stroke and six to either hold (i.e. check) or back their oars. The orders given in this method should be "Touch up Bow and 3 - back it down stroke and 6 lightly together - TURN".

This will turn the boat in a smaller arc but must be performed lightly as considerable strain is placed on the boat structure.

**Third - Turning around in a confined space**

The boat can be turned in little more than its own length by one side rowing it around and the opposite side backing it down.

- In a quad cox would require the crew to touch it up on bow side at the same time backing it down on stroke side. This is not an easy technique for beginners to perform. Normally the coach will teach the crew how to do it only after they have mastered their basic rowing techniques. The orders given in this method should be "Touch up on bow side and back it down on stroke side - lightly together- TURN".

- In a coxed four have bow and 3 touch it around, have 2 and stroke backing. The orders given in this method should be "Touch up Bow side and back it down stroke side- lightly together- TURN".

- In an eight require (the whole) bowside touch it up and at the same time have stroke side stroke side back their oars. The orders given in this method should be "Touch up Bow side and back it down stroke side lightly together- TURN".

Severe longitudinal strain can be put on the boat so this exercise should be performed extremely lightly.

**Why the boat will not run straight**

As noted earlier rowing shells are built so that they run in a straight line. The reasons why a rowing shell does not run straight in practice are:

- The rowers work is applied unevenly on one side.
- The boat is rolling from one side to the other side or it is leaning to one side.
- The effect of the wind.
- River currents.

Hopefully the first two can be corrected in training. The last 2 are the result of natural forces and the cox must learn how to deal with them.
(a) **Work being applied unevenly.**

This happens when the crew are rowing harder on one side of the boat than the other. This can be a common problem in a sweep oared boat because each crew member holds only one oar. So if the rowers on one side row harder than the other they will pull the boat around to the other side. It can also be a problem in sculling boats because the crew members may pull harder on one side. This can happen due to the fact that the majority of people are right handed, so they may be stronger on their "dominant" (or right) side.

**How is this corrected.** In a sweep boat cox should ask the weaker side to row harder eg. "Stroke side row harder". Sometimes the "stronger" side are just rowing too hard when they are not rowing at full weight (100%). In this case cox should tell that side to reduce weight eg "Bow side reduce weight". If this happened in a sculling boat the commands would be "Row harder on stroke side" or "Reduce weight on bow side".

If the problem persists, cox **must** tell the coach, as it is style fault which must be corrected.

(b) **Rolling or leaning to one side or the other.**

This problem is not as simple. If the boat is constantly leaning to one side whether a sculling boat or a sweep boat it will be due to the oars on one side being held higher than the other. Usually this is an obvious problem to the coach who will take action to correct it.

**How is this corrected.** Assume the boat is leaning to stroke side. First coach/cox works out whether the stroke side oars are being held too low or that the bow side oars are being held too low. Correction is getting both sides' oars being held at the correct height.

If the problem persists, cox **must** tell the coach, as it is style fault which must be corrected. It is a good idea for the coxswain to listen carefully to the coach to hear what correcting action is called by coach so that the coxswain can repeat the instruction later when the coach is not present.

If the **boat is rolling** from one side to the other it is usually due to a number of oar handling problems by the crew. Have a chat to coach about it if the problem persists. The coach will usually tell you what is happening and what to look for in the next row.

(c) **Wind.**

The wind is usually a bigger problem on open waters like the Derwent River Estuary in the Hobart area than in sheltered water. However wind can be a problem in more sheltered conditions like the Lake Barrington International Rowing Course. Obviously it pushes the boat away in the direction of the wind. A strong wind to one side can also have a tendency to push the boat
over to the lee side of the boat. (The side of the boat away from the direction of the boat).

**How is this corrected.** The only way to overcome the pushing effect of a side wind is to use the rudder. Sometimes it is necessary to hold the rudder the whole time until the cross wind problem is over. Sometimes it may even be necessary to tell the crew to row harder one side again until the cross wind problem is over.

**(d) Current or tide.**

The current of a river or the tide flow in estuarine waters is a problem when entering into the stream flow from still waters of a bay. Basically the coxswain would use the same correction methods as for wind effects. The sooner cox steers the boat so it is running with or directly against the stream direction the better.

**OTHER ROWING COMMANDS**

"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.

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. (See "Turning the boat" above).

"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. (See "Turning the boat" above).

"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".
PART 4. AT THE END OF THE ROW

BRINGING THE BOAT INTO THE "WAYS" (OR LAUNCHING RAMP).

Remember that at this part of the row the crew will be tired. Bow can be a help when approaching the ways if you cannot see around the crew at a critical point in the manoeuvre. One of the problems a cox will face at this time is that crew members and well meaning people on the ways will often offer well meaning but often contradictory advice. The crew must be told to keep quiet. As for people on the bank, listen only to the coach or the ways manager if there is one.

Approaching the ways

Important:
- Always approach the ways slowly. Unless there is a strong wind or current it is a good idea to stop the crew rowing some lengths away from the ways. Then you can start the boat recovery process with good control over both the boat and the crew.
- Line the boat up so that the riggers will not strike the ways as they can be damaged by the force of the boat striking the ways.
  - Tell bow end to rest and get stroke end to row the boat in. (It is best if stroke end TOUCHES the boat in. Bow end must watch that their oars do not strike the ways by pushing the HANDLES of their oars low in the boat. This raises the oar blades.
  - If there are people on the ways ask for their help to hold the oars when the boat arrives and pull the boat close into the ways.
  - If there is no one on the ways once the boat is next to the ways you can usually pull the boat in closer by having bow backing it with the oar which is away from the ways. (A really clever cox would have bow backing it while someone at the stoke end pulls it. In time coxswains learn how to do a maneouvre of this kind.)
- If there is a cross wind or current try and bring the boat in on the side of the ways in the direction of the wind or current as it will help to push the boat into the ways.
- If the wind or current is pushing the boat away from the ways then the cox will need to ask the side which is on the other side (the lee side), to row (or TOUCH it), so the bow end of the boat will nose into the ways.

Approaching the ways
- ✔ Always approach the ways slowly.
- ✔ Line the boat up so that the riggers will not strike the ways
- ✔ If there is a cross wind or current try and bring the boat in on the side of the ways in the direction of the wind or current
- ✔ If the wind or current is pushing the boat away from the ways, then get the lee side to row or touch it.
When alongside the ways
At this stage stroke should take over. In a quad stroke should ask two members to get out and hold the boat while the two rowers remaining in the boat unship the oars over the water. The crew must NEVER unship the oars which are over the ways until all crew members get out of the boat.

In a sweep boat the rowers whose oars are over the ways should get out and hold the boat. The others then unship their oars.

At this point the coxswain has a number of duties. Remove the cox-box and related equipment. Secure the rudder lines and leave the rudder in the straight ahead position. It is not the coxswain's job to carry the oars or the crew's clothes, because, as set out below, cox has other duties as the boat is being removed from the water.

REMOVING THE BOAT FROM THE WATER
In this case all the crew will be on one side of the boat. In a quad or four, 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. In an eight the crew should be ranged along the boat in their seating order.

For all boats stroke’s commands should be:
- HANDS ON THE BOAT
- ARE YOU READY?
- LIFT
- "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.

As noted earlier, 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.
AT THE SHED

The boat must be placed on trestles before being put away in the shed. Cox can help by placing the trestles under the boat. The boat must be washed down by the crew.

The boat is then returned into the shed with the coxswain standing behind the crew at the end in the opposite of the boat's direction of travel. Keep a look out in the same way as moving out of the shed. Once the boat clears the door on the way into the shed cox should call “CLEAR OF THE DOOR” Continue walking with the boat with your hand on it. When the boat is being returned to its rack make sure your end is not going knock against another boat or other obstruction.
PART 5. THE COX AS A COACH

THE BEGINNER COX

At first

At first the beginner cox should concentrate on the basic matters:

- Steering.
- Giving in boat commands to start, stop and turn the crew.
- Bringing the boat into the ways.
- The coxswain's jobs when the boat is being moved off the water.

Once these basics have been mastered the cox can then help both crew and coach at first in training and then in a race. At this stage the cox takes on some "coaching" tasks.

Because the cox actually sits in the boat, the coxswain is well placed to see and feel some fundamental rowing faults.

- **The balance of the boat:** Cox will both see and feel that the boat leans to one side or that it is rolling from one side to the other. (This was discussed earlier in "why the boat will not run straight").
- **Oar timing:** In rowing the crew **must move together.** It is important that all the crew commences the stroke at the same time and finishes the stroke at the same time. The person best placed to see the timing is the coxswain.
- **Technique errors:** While balance and timing are quite obvious technical errors are harder to detect. The coach often uses the movement of the blade to diagnose an error of the rower. In time the coxswain by listening to the instructions of the coach will learn to recognise errors by watching the rowers' blades.

Most coaches will designate some training days for the crew in coxless boats being doubles and singles. Never miss this chance to go out with the coach in the powerboat so that you can see your rowers from the coach's viewpoint. With your coach's help you will see and get a better understanding of the rower's technique both good and bad.

**Tips for the coxswain after the beginner stage.**

Be clear about what you are saying. For example if there is a timing problem with a member of the crew late getting the catch do not say "2 timing", because 2 would not know whether that rower is late or early at the catch or at the finish. So the correct call would be "2 you are late at the catch". The second part of being clear is that you should be precise as to which rower you are addressing. So in the case above you should not say "You are late at the catch 2", name the rower at the start.
Always give the order by nominating the seat being given the order. Do not use the rower's name even if the rower is your best friend. Rowers must learn to commands given to their seat number so that when commands are given by substitute coxswains, coaches, boat race officials or a ways manager not familiar with the crew so that the command will be easily understood by the crew.

Do not "nag" a member of the crew. For example if in the case above 2 is late at the catch, do not continually call 2 for doing it. Once you have called 2 a number of times, the coach should realise that there is a problem and deal with it. In this case poor 2 may be doing their best to solve their problem and it is just soul destroying to be called continuously. If the rower does correct their problem but later reverts to the fault, it is OK to call them again just as a reminder that their concentration may be flagging.

"Weight" or Effort

The amount of effort required for a crew to apply is one of the instructions which a coxswain will be required to give to their crew. So what does it mean?

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 tell the cox to call "row light". If the coach wanted more effort the coach would tell cox to 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.

in a race 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**

"Rating" is another matter which the cox will be required to instruct the crew. "Rating" 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. This is something a cox should monitor as there is often a tendency of crews to increase their rating simply because they have increased their weight.

In a race the cox may call for increased weight but want the crew to 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 and coxswains to understand the difference.
PART 6 AT A REGATTA

ON THE DAY OF THE RACE

*Always check the parts of the boat for which cox has responsibility*

Well before the crew has to go on the water the coxswain should make their check of the vital parts of the boat that the crew may not check. Do it early so if repairs have to be made there is time to attend to the repairs.

- Is the rudder pin loose or firm.
- The rudder itself turns freely.
- The rudder yoke is not loose.
- Rudder lines run freely and are not frayed.
- The alignment of the rudder toggles (or plastic balls).
- Is the cox-box charged and working.
- Is the fin bent or loose.
- Are the drain plugs or hatches in place.
- Is the lane number in the bow.

If the boat is to be used by another crew before the cox's crew uses it, check the boat before that other crew takes it, (except for the lane number), especially if your crew will take the boat over while it is still on the water at the ways.

If you are taking over a boat already on the water and if time permits, make as many checks of your equipment as you can before proceeding to the start. Make sure that your lane number has been placed in the bow.

*Lane numbers*

In all regattas the boat must have its lane number placed on the bow in a slot fixed to the boat's bow. Your school or club will have these numbers. Make sure that the number is on the bow before the crew takes the boat to the water. Make sure the lane number does not fall off while the boat.

*While the boat is being carried*

The coxswain should observe the normal drill while the boat is being carried and launched at the ways.

*Coach's instructions on the way to the start*

Make sure you follow the coach's instructions on the way to the start. Most crews are instructed to warm up and practice a few racing starts.
**Rules for rowing to the start**

Each regatta venue has special rules for leaving the launching ramp and proceeding to the start. These are designed to make sure that crews rowing to the start do not collide with crews who are racing. *So coxswains must make sure that they know what these rules are.* Your crew could be disqualified for disobeying these rules!

**AT THE START**

In an international standard course like Lake Barrington, the lanes are marked by buoys so close that from the boat on the water they look as if a line has been drawn on the water. It is easy to see the lane for the whole course.

At other regatta venues other than at the start, there will be no lane markings and the coxswain must exercise skill in steering the boat throughout the race. Before the race ask the coach to show you where your crew will go and ask for directions on how the coach wants you to steer.

*When the crew reaches the starting mark,*

- Row to the place directed by the boat race officials.
- If unpleasant conditions prevail keep your crew in as sheltered a position as possible.
- When the starter calls the crews into line the coxswain gives all the orders to the crew.
- Treat the starter with courtesy, obey the starters instructions *immediately.* Don't try any tricks. Remember, the starter was once an rower or coxswain.
- If you are not ready appeal to the starter by *holding up your hand* and also by voice if possible.
- When the starter's signal goes and a breakage occurs within the allocated time, appeal for a re-start by *holding up your hand* and by voice.
- Finally, aim to have firm discipline in the boat at all times and never lose it.
- If cross winds are experienced at the start use bow end to keep the boat into the wind.
- *Do everything you can while waiting at the start to keep your boat straight down the course as it is difficult to straighten the boat once the race has started and the crew is rowing at full effort.*

**In a race the starters commands are:-**

"**ATTENTION** "(Equivalent to the coxswain's call "Are you ready") - then

"**ROW**"- obviously the race is on!!
AFTER THE RACE

Immediately when the crew stops

Win, loose or draw be courteous to the other crews in your race.

Do not let your crew sit for too long as they will get cold.

Rowing back to the ways

As your boat may be needed for another crew get your boat back to the launching ramp promptly.

Again, each regatta venue has special rules for proceeding back to the launching ramp. These too are designed to make sure that returning crews do not collide with crews who are racing. So again coxswains must make sure that they know what these rules are. Even though you have finished your race your crew can be penalised for disobeying these rules!

COXING "OTHER" CREWS AT A REGATTA

Coxswains are a scarce commodity. Frequently at a regatta you will be asked to cox another crew sometimes for another club or school. Every race for the coxswain is more experience. It is also another chance to do well. It is a good personal policy to take up as many offers as you can, BUT before you do speak to your coach and also make sure that the race does not clash with your own. In making your calculation allow for the time it takes to get to the start and the time taken to return to the ways after the race has finished.
PART 7 SWAMPING DRILL

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!
PART 8 ROWING INFORMATION

TYPES OF BOATS - ILLUSTRATED
Originally all rowing shells were made of wood. In 1980 the one of the first composite fibreglass boat made by an Australian boat builder Geoff Sykes of Geelong Victoria was purchased by Buckingham Rowing Club in Hobart. The crew rowing in it won the prestigious Penrith Cup at the Australian Championships that year. Now all rowing shells are made of modern composite materials including carbon fibre and kevlar.

**Sculls:** boats where each rower holds two oars.
*Single (or Single Scull):* where there is one rower holding 2 oars. They are the smallest boat in the fleet. Obviously they are not coxed.

![Scull Diagram](image)

*Stroke side* (Length 8.2m - Minimum Weight 14kg)

**Double (or Double Scull):** where there are 2 rowers holding 2 oars each. Nowadays like pairs, they are all coxless.

![Double Scull Diagram](image)

*Stroke side* (Length 10.4m - Minimum Weight 27kg)

**Quad (or Quadruple Scull):** with 4 rowers each rower holding 2 oars each. Some are coxed others are coxless. (Illustrated as coxed)

![Quad Scull Diagram](image)

*Coxed* Length 13.7 - Minimum weight 51kg.
*Coxless* 13.4m Minimum weight 52kg.
**Sweep oared boats**: boats where the rower holds one oar.

**Pair** where there are 2 rowers with one oar each. Nowadays they are all coxless.

![Pair Diagram](image)

*Stroke side* (Length 10.4m - Minimum Weight 27kg)

**Four** with 4 rowers with one oar each. Some are coxed others are coxless. (Illustrated as coxed)

![Four Diagram](image)

*Stroke side* 13.4m - Min. weight 50kg  
* Coxed Length 13.7 - Min. weight 51kg.

**Eight** the biggest boat in the fleet with 8 rowers each holding one oar. All eights are coxed.

![Eight Diagram](image)

*Stroke side* (Length 19.9m - Minimum Weight 96kg)

"**Tandem Rigged**" coxless **Four** To overcome the possible extra leverage of the forward bow oar, a four may be "tandem rigged" with Bow’s oar on Stroke side and with both 2 and 3 having their oars on bow side. (Illustrated as coxless).

![Tandem Rigged Diagram](image)

*Stroke side* (Dimensions::same as the coxless Four above)
ROWING BOAT COMPONENTS AND OARS- ILLUSTRATED.

Part names

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

**Foot stretcher**  
**Slide (seat & slide rails)**

**Rigger - 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.
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.

Trestles being the stands which hold a boat when the boats are not in the shed.
Oar sleeves (the red and blue things) with buttons (the white things).

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.
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 plane, 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.
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.