

Checking and setting up fixed seat equipment

© British Rowing 2016

This resource is suitable for Level 2 awards (Session Coach) and certificates (Club Coach).

Last updated May-16

Check boats, oars, lifejackets and other equipment used, before the coaching session to ensure that the equipment complies with RowSafe: A Guide to Good Practice in Rowing.

Task 1 - Boat safety checks and safety equipment

Boat safety check

Check:

No damage to hull and all seals are fully watertight	<input type="checkbox"/>
Boat has sufficient buoyancy and any buoyancy compartments are secure (where applicable)	<input type="checkbox"/>
Footrest/stretcher is secure and 'quick release' straps/heel restraints are effective (where applicable)	<input type="checkbox"/>
All pins, rowlocks and/or swivels are in good working order	<input type="checkbox"/>
Fender or bow ball is suitable and fixed (where applicable)	<input type="checkbox"/>
Outriggers and top nuts are secure (where applicable)	<input type="checkbox"/>
Bungs are in place	<input type="checkbox"/>
Rudder is secure and works	<input type="checkbox"/>
Buttons, handles and leather are secure on oars	<input type="checkbox"/>

Safety equipment (carried in the boat)

Check:

Spare pins/rowlocks (where applicable)	<input type="checkbox"/>
Tow-line	<input type="checkbox"/>
A floating grab line minimum 15m (50ft) with a large knot in one end to assist throwing (ideally a purpose made rescue/heaving line 'throw bag')	<input type="checkbox"/>
A bailer	<input type="checkbox"/>
A sound emitting warning device, capable of attracting attention over 200m (minimum)	<input type="checkbox"/>
Thermal/exposure blankets	<input type="checkbox"/>
Lifebuoys and/or lifejackets (one per crew member)	<input type="checkbox"/>
A basic First Aid kit (contents recorded and checked regularly)	<input type="checkbox"/>
A sharp knife in carrying sheath	<input type="checkbox"/>
Flares	<input type="checkbox"/>
VHF radio	<input type="checkbox"/>

Launch safety equipment (where a launch is used)

Check:

Full First Aid kit (contents checked regularly)	<input type="checkbox"/>
A bailer	<input type="checkbox"/>
An inflation pump and spare valve (for inflatables)	<input type="checkbox"/>
A sound signaling device capable of attracting attention over 200m (minimum)	<input type="checkbox"/>
Handholds on launch	<input type="checkbox"/>
A sharp knife in carrying sheath	<input type="checkbox"/>
A paddle	<input type="checkbox"/>
An anchor and line (appropriate to local conditions)	<input type="checkbox"/>
A kill cord (engine cut out lanyard device)	<input type="checkbox"/>
A throw line (minimum 15m)	<input type="checkbox"/>
Life rings and approved jackets/buoyancy aids	<input type="checkbox"/>
Thermal blankets for crews	<input type="checkbox"/>

Task 2 - Measuring overall oar length, inboard and outboard

Measuring oars

Overall Length - To measure the length of the oar, put the end of the tape measure on the tip of the blade, in line with the shaft of the oar, and measure to the end of the handle.

Inboard - Where collars are used, measure from the oar side of the collar to the end of the handle. If collars are not used, measure from the centre of the leather to the end of the handle.

Outboard - Where collars are used, measure from the oar side of the collar along the shaft, to the tip of the oar. If collars are not used, measure from the centre of the leather along the shaft, to the tip of the oar.



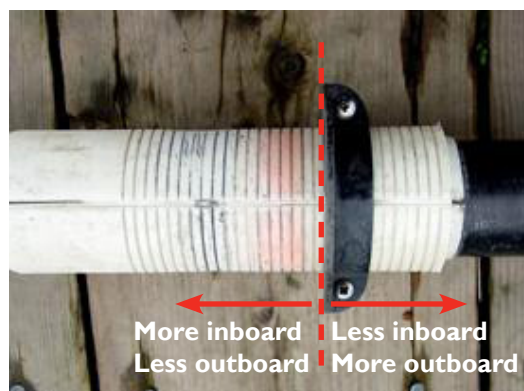
Spoon with a tape measure

Adjusting inboard/outboard

Moving the collar towards the handle reduces the inboard, increasing the outboard.

Moving the collar towards the spoon increases the inboard and reduces the outboard.

Adjusting the overall length of adjustable oars will change the inboard, unless the collar is moved to allow for the change.



Blade collar

Adjusting overall length

You can adjust the overall length of some oars.

Screws on the side of the shaft or in the end of the handle allow the handle to be loosened and moved inwards or outwards to shorten or lengthen the oar.

Don't forget to tighten them again!



Screws on the blade shaft

Task 3 - Adjusting the foot stretcher

Recording and adjusting foot stretcher position

In the majority of boats the foot stretcher can be adjusted towards the bow or stern, and should be positioned relative to the dimensions of each individual rower.

Foot stretcher position should be recorded by counting the number of notches or spare slots from the bow.



Foot stretcher



If the foot stretcher is too close to the rower (above), they may get a better drive, but their legs won't be able to extend fully at the finish, and place them in an unbalanced finish position.



With the foot stretcher set correctly (above) the shins are at a 45° angle to the bottom of the boat, allowing for an efficient leg drive and strong body position. The legs can extend fully at the finish and the rower can lean back sufficiently without becoming unbalanced.



If the foot stretcher is too far away from the rower (above) then the legs will be too straight at the catch, restricting the amount of leg drive, and promoting a weak body position. At the finish the rower may struggle to reach the stretcher and therefore will lose connection.

Measuring and adjusting the foot stretcher height

Stretcher height

Measure and adjust the height of the shoes/clogs (in terms of the number of the hole from the top where the bolts are through).

In the picture (right) the bolts are through the 4th hole from the top.

You can change the number of the hole from the top that the bolts are through by undoing these three nuts and putting the bolts through a different set of holes.

Moving the feet down (fewer holes showing from the top) will increase the height between the heels and the seat, whilst moving the feet up (more holes showing from the top) will reduce this height.



Adjusting the height of the shoes

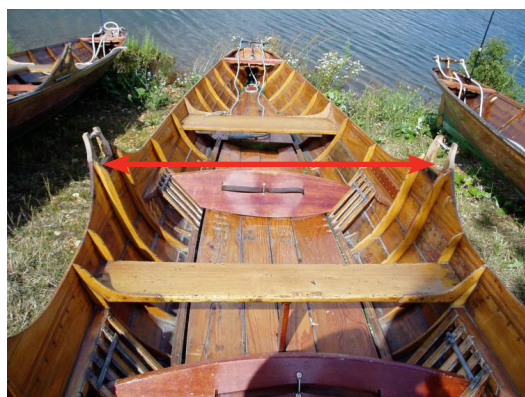
Task 4 - Measuring spread/span

Measuring span

Span is the measurement recorded where two oars are used by each individual, i.e. sculling/pair of paddles. The length of the span affects the length of the rowers' stroke.

To record the span, measure the distance between the base of the rowing pin on one side of the boat, to the base of the opposite rowing pin on the other side of the boat.

The span of a fixed seat boat cannot be adjusted as it is dictated by the width of the boat.



Measuring the distance from pin to pin

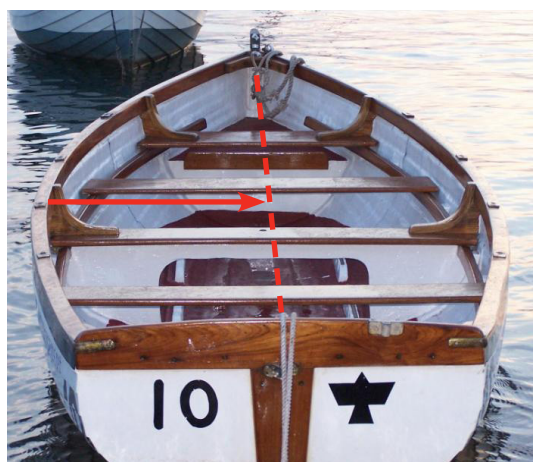
Measuring spread

Spread is the measurement recorded where one oar is used by each individual. The length of the spread affects the length of the rowers' stroke.

To record the spread, measure the distance between the base of the rowing pin and the centre line of the boat.

To find the centre line, the easiest way is to measure the full width of the boat from the base of the rowing pin, and divide this number in half. Bear in mind that the width of the boat varies at different points, so this distance will vary depending on which position in the boat you are measuring.

Unlike the span, in some boats there is the potential to increase or decrease the spread (and therefore the rowers' stroke length) by moving the individual in or out along their seat.



Measuring the distance from pin to the centre line

Although the spread is conventionally measured to the centre line of the boat (where the rower sits), in many fixed seat boats the rowers' position may be staggered on opposite sides of the boat, and therefore deviate from the centre line (see right).

In this instance, measure the distance from the base of the rowing pin to the centre line, the rower's seat. If cushions are used, measure from the centre of the cushion (assuming that the cushion isn't moved once you've taken the measurement!).



Measuring the distance from pin to the centre line



Centre line in a staggered boat

Adjusting spread

In some fixed seat boats the rowers' position may vary as they slide in and along the seat. This movement has the potential to increase or decrease the spread and the rowers' stroke length.

Moving the rowers in towards the centre line of the boat will reduce their spread and have the following effects:

- Increased length of stroke
- The crew being closer to centre line has less negative effect on balance

So why not move the whole crew to the centre of the boat?

Firstly, in some fixed seat boats there isn't enough room to allow for this, and if the rowers are too close to the centre their oar handle will hit the person in front at the catch or they will hinder the reach of the person behind (you can see in the photo to the right that the rowers are already quite close to hitting the rower in front).



Secondly, moving the rower closer to the centre will cause the oar handle to overlap the body. Therefore the inboard of the oar will need to be shortened. A shorter inboard, means less leverage, so although the stroke length will be longer, the rower may not have enough leverage to make the most of this.

So what is the answer? As a general rule, tall people, who will naturally have a longer stroke, should be positioned further away from the centre line, with a longer inboard. Shorter people should sit closer to the

centre of the boat (as close as possible before they hit the person in front with their handle) and should be given a shorter inboard.

Pick two or three people of varying heights, and examine for yourself the effect of altering the spread in different positions in the boat by moving people in and out along their seat, and also experiment with different length inboards.

Task 5 - Measuring height / sill height

Measuring height

To record the height, measure the distance between the sill (where the oar rests, which will be on the gunwale, rowlock or swivel, depending on the boat type) to the front edge of the thwart (seat).

To measure, place a straight edge across the boat, level with the sill being measured from, and measure from the base of the straight edge to the front edge of the thwart

The height of a fixed seat boat generally cannot be adjusted, as it is dictated by the dimensions of the boat. However some fixed seat boats using swivels may allow some height adjustment.



Measuring the height in a fixed seat boat

Sill height

Compare two people of different heights;

- What is the effect at the catch?
- What is the effect at the finish?
- What is the effect on the height and angle of the oar to the water?

Task 6 - Measuring stern pitch (where applicable)

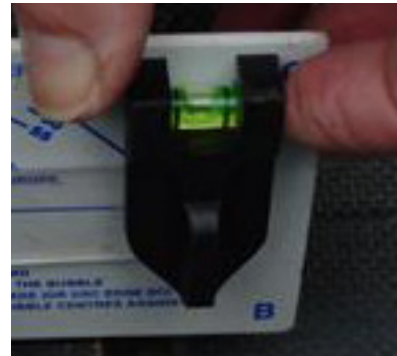
Measuring stern pitch

Stern pitch is how much the swivel or “gate” leans towards the stern. It is a combination of (a) whether the pin leans and (b) the adjustment on the swivel or “gate”.



1. Zero the pitch gauge.

Make sure that the line on the pointer points to zero.



2. Centre the bubble.

Place the bottom of the pitch gauge flat on the keel of the boat. Whilst holding the pointer, adjust the spirit level so that the bubble is centred.

Stern pin pitch can be positive, where the pin leans towards the stern, or negative, where the pin leans towards the bow.

You should set your stern pin pitch to zero, so that the pin is vertical and not leaning to the bow or the stern.



3. Extend the arm of the pitch gauge and hold it firmly against the swivel or “gate”.
4. Move the plastic pointer until the bubble is level again.
5. Then read off the value of pitch.
6. The pitch here is four degrees towards the stern.



To measure stern pin pitch;

1. Remove the backstay, washers and the swivel to leave just the pin.
2. Hold the arm of the pitch gauge firmly against the pin.
3. Move the plastic pointer until the bubble is level again.
4. Then read off the value of pitch.
5. The pitch here is zero.

Adjusting stern swivel pitch using inserts

Do you?

- Know how to adjust total stern pitch using inserts?

Inserts can be used to adjust total stern pitch, by affecting the pitch on the swivel.

These fit in the swivel or “gate” and the pin goes through the middle.

Inserts have two numbers on them, which always add up to eight! The blue insert in the picture on the right has the numbers six and two on it.



In this example the insert is set to give six degrees of pitch to the swivel



There are different inserts to fit different diameters of rowing and sculling pins. Inserts for different diameter pins are colour coded.

Which way round do the inserts go?

On the top insert the number nearest the swivel or ‘gate’ indicates the value of pitch.

On the bottom the insert should be the other way round. As shown in the diagram to the right.

