



# RYA Logbook Theory Notes

## Seamanship Skills

### Using These Theory Notes

These notes are not intended to totally cover the theory in each stage but instead to provide a guide for students of the RYA Youth Sailing Scheme to supplement their learning from courses and activities.

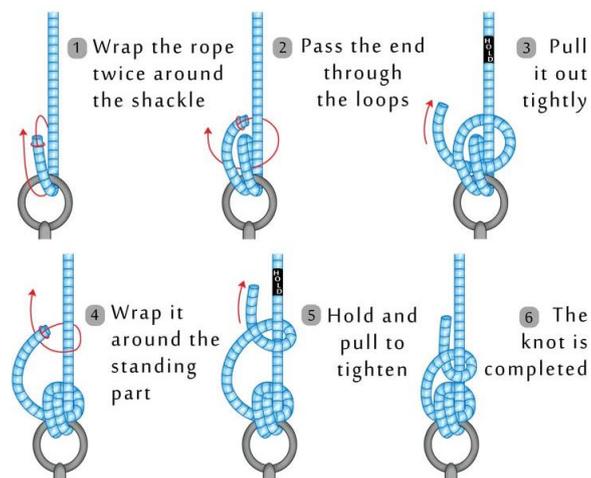


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## Ropework

### Fisherman's Bend

The Fisherman's Bend can be used to tie a rope to a ring or bar, like a round turn and two half hitches but can be more resilient.



### Sheet Bend

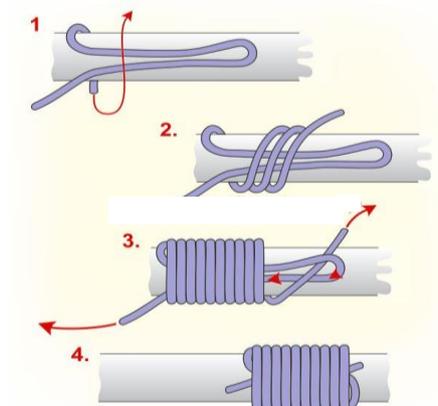
Students undertaking the Seamanship Skills syllabus should be able to tie a sheet bend, taught in the stage 4 syllabus.

### Heat Sealing

This is a method of ensuring a rope that has been cut does not fray. provided that the rope is made of a material that will melt it can be cut with a hot knife which will heat seal the rope while it is being cut.

### Common Whipping

This is another method of ensuring a rope does not fray. A thin whipping twine is used to tightly wrap around the end of a rope to keep it together. Below is a basic method of whipping a rope.



### Ropework Videos



[Check out our common whipping video tutorials here...](#)

### Leaving and Returning to A Windward Shore

- A **windward shore** is a shore where the wind is blowing off the shore towards the water.
- when leaving a windward shore, hold the boat head to wind and allow the crew to get in the boat, and prepare to sail. leaving the sail all the way out the helm turns the boat so that it would be on a reach. the helm then gets in the boat and pulls in the sail, before bearing away.
- when returning to a windward shore, we approach it in a slow manner by filling and spilling. until we are stopped over shallow water. The crew and helm can then get off the boat and if necessary, drop the sails before putting the boat on a trailer.

### Leaving and Returning to Leeward Shore

- A **leeward shore** is where the shore is leeward of the water.
- With the wind behind, it is an easy approach to a lee shore, but stopping is difficult.

#### Strong Winds

Arriving at a lee shore in strong winds can be dangerous with steep or breaking waves. Keep to the windward side of the boat when disembarking, as breaking waves or a gust of wind can push the sailboat on top of you. Get the sailing dinghy ashore quickly.

#### Experience Level Counts

- Experienced sailors may choose to the shore at full speed, round up in the shallows to face the wind, disembark and back their sailing dinghy facing the wind up to the recovery area.
- Less experienced sailors should heave-to some way off shore, lower and stow the mainsail, then sail in under jib only. When reaching the shallows the crew jumps out and holds the bow to windward while the jib is lowered.

#### Shallow Water

- In shallow water, approach on a broad reach under full sail.
- When the water is about 1m deep, turn into the wind to stop.
- The crew steps out on the windward side to hold the bow
- The helm lowers the sails and removes the rudder.

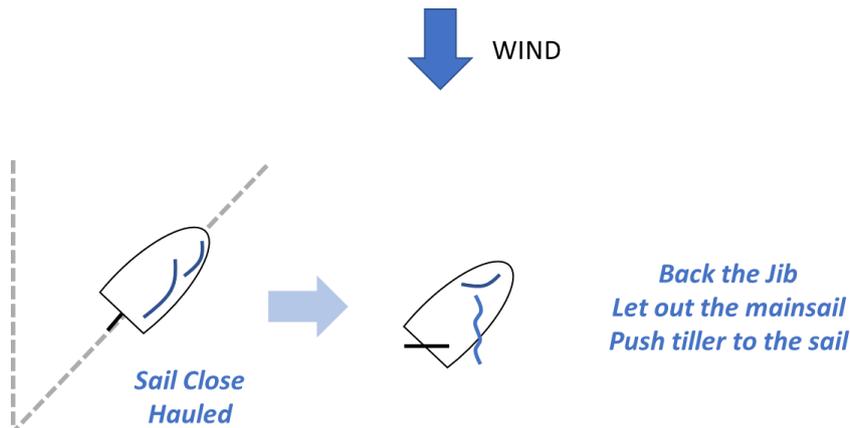
#### Safe Approach (can also be used in deeper water where getting out is not possible) (Double handers only)

- Some way offshore, turn head-to-wind and lower the mainsail.
- Approach the shore under jib alone on a run or broad reach.
- Close to the shore, let the jib flap and drift in.
- Helm and crew jump out when the water is shallow enough.

## Sailing Techniques & Manoeuvres

### Heaving To

- This is a method you can use to stall a boat in winds.
- Sail Close Hauled to the wind, and back the Jib while letting out the mainsail and pushing the rudder towards the mainsail.
- The boat will move, but much more slowly while maintaining the same angle to the wind.



### Reefing Afloat

This manoeuvre will be covered on the water, the aim is to be able to reef without coming ashore, securing to a mooring or tying onto a pontoon or safety boat.

### Man Overboard Recovery

See stage 3 and 4 notes for more.

### Preparing for a Tow

See stage 3 and 4 notes for more.

### Anchoring

You'll need to be able to:

- Select the correct anchor
- Select a location to anchor
- Understand swinging room
- Effect of tide
- Taking transits

Students must be able to fully understand, explain and apply the information provided in our anchoring notes.



[Watch the video and download the full notes...](#)

## Sailing Backwards

You can use this skill to sail off a pontoon after a coming alongside.

- Walk forward in the boat while holding the tiller.
- If you're in a crewed boat, the crew holds the mainsail outwards, while leaving the jib flap.
- Steering is the opposite way around, and you should take care to use as little rudder as possible.

**If you're leaving a pontoon after coming alongside, then:**

- Push the tiller away from the side that you are going to push the boom to.
- Push the boom away from you, the boat should start moving backwards
- As you start to pick up speed, straighten up the tiller.

## Sailing in Adverse Circumstances

During the programme it is hoped that we'll get sailing in more challenging conditions. This does not necessarily mean windier conditions. We would also expect to cover sailing without mainsails, jibs, rudders and set up challenges to complete such as what to do if something breaks while afloat!

## Prepare a Road Trailer

- The road trailer must be in roadworthy condition. This includes tyres inflated and not bald, wheels spin freely, hitch working and not rusted through anywhere on the frame.
- The dinghy and trailer must be suitable for each other. This includes size and weight. Dinghy launching trolleys are generally designed to fit and lock onto a road base trailer.
- When running straps over the boat always try put some padding (old carpet scraps, foam matt) under the strap where its sitting on the sides of the dinghy and try to run the straps over the boat at point the trolley in contact with the boat this means all the load on the strap runs straight through the boat, onto the trolley and back into the road base. This way there is not extra pressure put on the dinghy bending or twisting it.
- If putting on roof racks you can try leave the dinghy on the launching trolley. If that's not suitable, some dinghies (for example RS Revas, RS Aeros, lasers and oppies) will sit flat upside down on the roof racks of a car. Keep in mind max weights for your roof racks!

### Dinghy Transport – Advanced Level

Two RS Aeros with padding to ensure no damage

Masts and Spare Trolleys secured to roof racks

Breakaway Cable and secure hitch



**MARINE**  
SERVICES

*RS*  
Sailing

Ratchet Straps with padding at each point they contact boats

Ratchet Straps secure to strong points on trailer

Well serviced trailer, spare wheel in vehicle

Lightboard extending beyond back of load

# Sailing Background & Theory

## Terminology

### Sailing Terms you must know

- **Windward:** the direction from which the wind is coming
- **Leeward:** away from the wind, i.e. the side of the boat the wind is not coming from is the leeward side
- **Abeam:** at right angles to the line of the boat
- **Forward:** towards the bow of the vessel
- **Aft:** towards the stern of the vessel
- **Ahead:** directly in front of the vessel
- **Astern:** directly behind the vessel
- **To weather:** this means there's pressure on the rudder to windward which moves the boat to windward as it's sailing
- **Downwind:** any direction away from the wind
- **Amidship:** the centre part of the vessel
- **Quarter:** standing at the rear of the boat looking forward on either port or starboard is where the quarters are, i.e. the stern right-hand side is the starboard quarter
- **Pinching:** sailing too close to the wind where your sail starts losing driving power
- **Sailing by the lee:** wind coming over the same side of the boat the sail is on, any flutter in the top of the mainsail means it is not being pushed by the wind and is sailing by the lee
- **Luff:** to change the vessels direction towards the wind
- **Bear away:** to alter course away from the wind
- **Planing:** when the weight of a waterborne craft is supported by hydrodynamic lift, rather than buoyancy
- **Sternway:** backward movement of a ship
- **Broaching:** Heeling over to the point where control is lost, the boom hits the water and you can no longer let out the mainsail.

### Extra Terminology you will find useful to know...

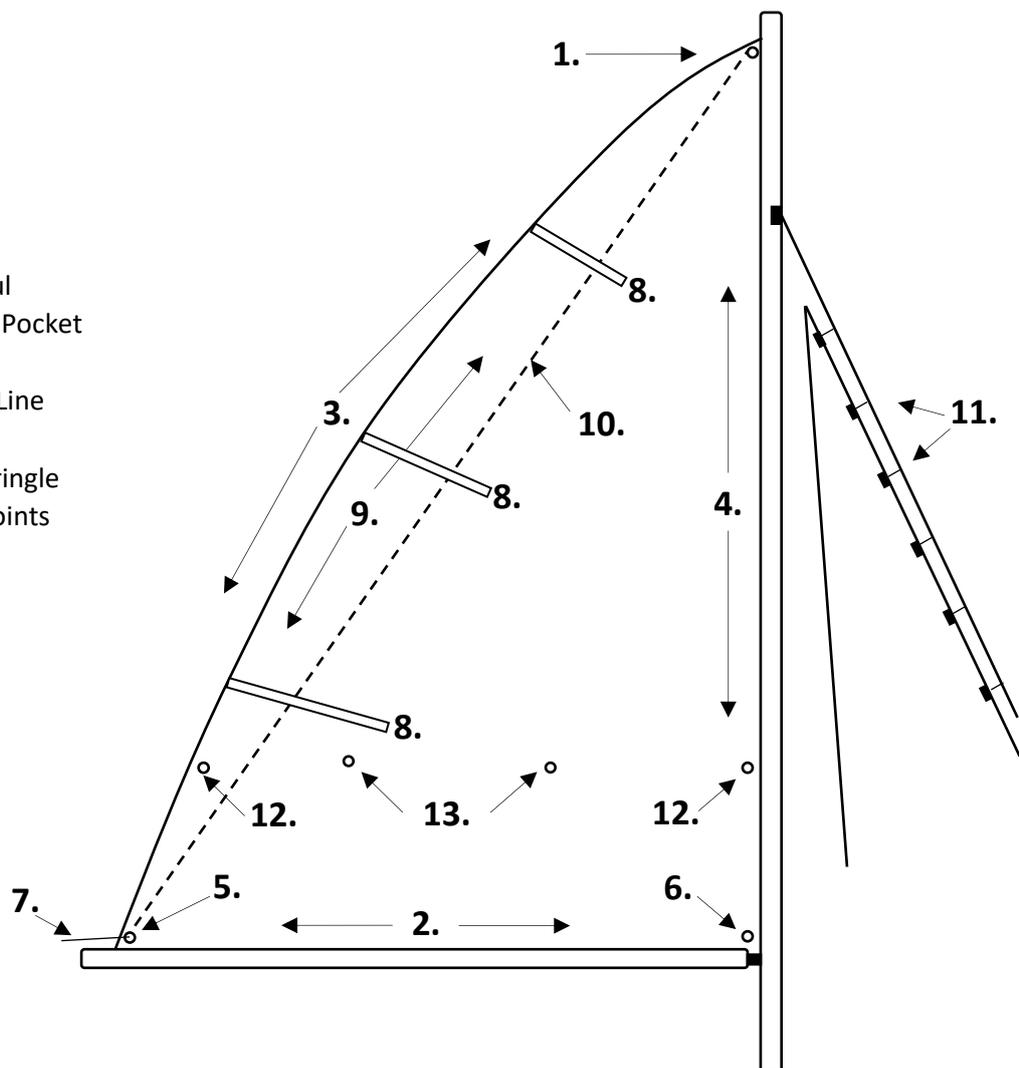
#### Deck Fittings

BLOCK	A pulley through which a rope can run smoothly while under load.
BOOM	A horizontal pole used to hold the foot of the sail.
GOOSENECK	A fitting which attaches the Boom to the Mast allowing it to pivot freely.
HALYARD	A rope used to hoist a sail.
HANKS	Fittings that attach the Luff of the Jib to the Forestay.
JAM CLEAT	A ridged sprung slot into which a rope can be jammed & held, Rope can be easily released.

THUMB CLEAT	A fitting with two horns, which a rope is hitched into and made secure.
MAST	A vertical pole held up by rigging which supports the sail.
SHEET	A rope which controls the position of a sail.
SIDE STAYS	Rigging lines from the Mast to the sides of the boat, which supports the mast in lateral position.
PINTLE & GRUDGEON	Fittings that attach the Rudder to the Transom of the boat.
THWART	A seat across the boat
SHROUDS	Collective name for the Forestays and Side Stays

#### Parts of a Sail

1. Head
2. Foot
3. Leech
4. Luff
5. Clew
6. Tack
7. Outhaul
8. Batten Pocket
9. Roach
10. Roach Line
11. Hanks
12. Reef Cringle
13. Reef Points



## Can Apply IRPCS Afloat

When sailing, students on the seamanship skills level must be able to do what would be required of them while out sailing. Students must carry out each interaction correctly to successfully complete this portion of the course.

- **Meeting other sailing vessels:**
  - You should apply the rules of the road taught in earlier levels here such as the starboard rule, windward and overtaking boat
- **Meeting power driven vessels:** power driven vessels are more manoeuvrable than a vessel under sail. This means the sailing vessel is the stand-on vessel and the power driven vessel should keep clear of the sailing vessel (they only time this is not the case when the power driven vessel is towing, then they are the stand-on vessel, or in the case of encountering commercial vessels like fishing boats)
- **Following or crossing narrow channels:** keep to starboard when entering and leaving a channel if you must sail up a channel. If crossing, do so quickly, at a right angle, and never cross if you see a ship coming, no matter how far away. Always go behind commercial shipping.
- **Action by stand-on vessel:** although the stand-on vessel need not give way initially, if the other vessel on its course is heading for collision the stand-on vessel MUST manoeuvre to try and avoid a collision at all costs

## Capsize Recovery

Students on Seamanship Skills need to be able to recover from capsize without instructor's assistance.

- You will need to be able to recover from total inversion. This is when the boat flips 180° and is upside down in the water with the spars and rigging underwater and the foils above water.
- First, you have to get on the hull of the upturned boat
- The daggerboard or centerboard must be still in the boat in the "fully down" position to complete this
- You then stand on the edge of the boat while pulling down the daggerboard/centreboard with you. Always lean with your back to the windward side.
- This will get the boat to a 90° angle.
- From here it'll be easiest to recover the boat if you get onto the daggerboard/centreboard
- From here stand on the edge of the board and pull the edge of the boat that is out of the water down towards you by leaning out
- This should start the boat moving back into the upright position
- Once the boat is upright, climb back in and begin sailing again

**NOTE:** For doublehanders, make sure the jib is un-cleated when the boat gets to 90° angle or else it won't stay upright long enough for you to get back into it.

## Meteorology

### **Knows sources of information on weather patterns for day**

- Knowing where to get the forecast: radio, online, the news, a newspaper, apps, the VHF on a boat
- Using these resources you can compare the forecasts to get an idea of what weather to expect for the day
- Don't rely on just one forecast

### **Can interpret forecasts and understand local effect**

- Understanding what the forecast is telling you and know if it will be suitable to go out sailing, for example, if reefs are required or if it's not suitable at all.
- Local effect is how the weather affects the area which you plan to sail in, i.e. how different wind directions affect sea state etc.

### **Aware of Beaufort Scale and changing weather conditions**

- You should know the Beaufort Scale already from stage 3
- Using this scale you should be able to figure out roughly what number on the scale the wind is at and be able to tell if it's changing during the day
- Similarly to knowing the weather forecast and what that means you should be able to judge the sea state and make an informed decision on whether you need to put in reefs, or if it's suitable to go sailing at all