A Guide to Yacht Racing

Congratulations on choosing to go racing with Equinox Sailing.

Yacht racing is one of the most exciting team sports around, requiring skill and team work. One-design yacht racing offers some of the closest racing all boats are identical, so it is the skill, cooperation and communication between the crew which makes the difference to the boats ability to be competitive.

We hope you enjoy racing with us and to make your time on the water more enjoyable we have put together some of the basics that we hope you will find useful.

The Boat

RHO is a Sigma 38 Ocean One Design and is a modern one design racer cruiser. She is a fast and comfortable cruiser capable of serious offshore racing, and is fitted out to MCA Cat 2 coding. Sigma 38's are exceptional all round yachts, easy to handle, while still offering fast sprightly performance and excellent ability under sail.

Positions on a Sigma 38

Unlike cruising, racing requires crew members to be responsible for a particular area of the boat. Some positions require physical strength, while others require coordination and concentration. The boat is ideally raced with nine people, some positions are only required going upwind, while the whole crew is required to hoist, gybe and drop the spinnaker.

From the aft of the boat the positions are:

Helmsman
Steers the boat and works closely with the trimmers and tactician to maximise the speed of the boat, calls the tacks and gybes.

Mainsheet trimmer
Trims the mainsail and is responsible for the runners, works closely with the helm to maintain boat speed.

Pit / Crew Boss
Responsible for all lines leading to the cockpit. A crucial role when hoisting and dropping the spinnaker, coordinates between cockpit and foredeck.

Jib trimmer
Crucial to get the boat back up to speed after tacking, works very closely with main sheet trimmer, helm and trimmers mate.

Trimmers mate
Works with jib trimmer during tacks, and controls the spinnaker guys under spinnaker, and works closely with the pit to control the spinnaker pole.

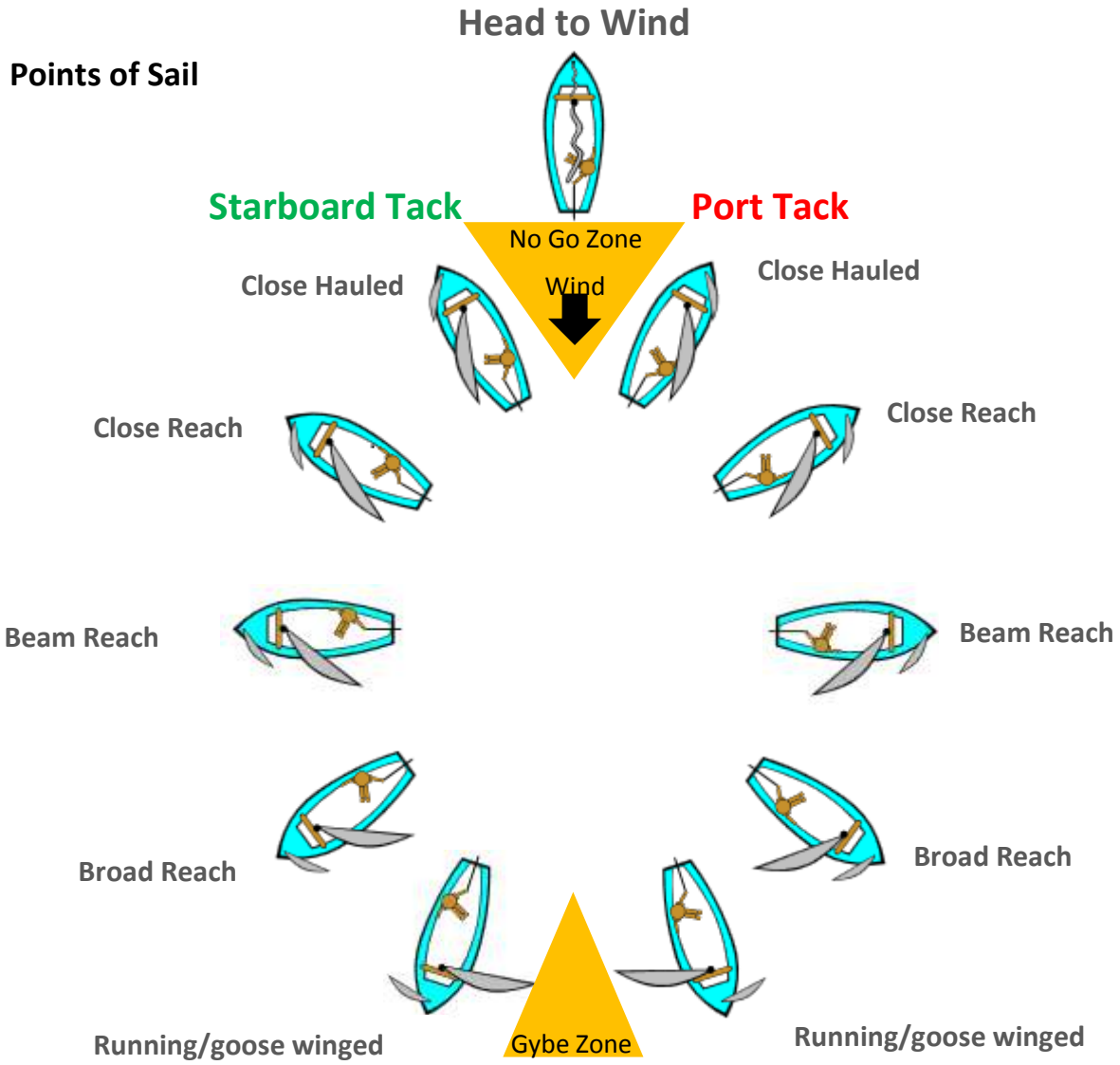
Spinnaker trimmer
Works closely with the trimmers mate to make sure the spinnaker is flying correctly.

Navigation / Tactics
Responsible for getting the boat around the course, using the wind and tide to best advantage, works closely with helm and trimmers to find the fastest way around the course.

Mastman
Works with foredeck to hoist, gybe and drop spinnaker and helps hoist and drop genoa on demand, works closely with pit and helps retrieve the spinnaker.

Foredeck
Responsible for calling the line during starts and identifying overlaps. Prepares the spinnaker before a hoist and gybes the pole, works closely with the mastman and repacks the spinnaker.

Points of Sail



Close Hauled

Wind will be 30-40 degrees off the bow of the boat; your sails should be sheeted in tight**.**

Close Reach

Wind will be 40-60 degrees off the bow of the boat; your sails should be eased slightly.

Beam Reach

Wind 80-100 degrees of the bow off the boat; your sails should be ½ way out.

Broad Reach

Wind should be 100-140 degrees off the bow of the boat; your sails should be ¾ of the way out. Spinnaker would normally be flown.

Running

Wind should be 140-180 degrees or directly behind the boat. Your sails should be all the way out, spinnaker would normally be flown.

Tacking a boat

What is tacking?

Tacking is when the bow of the boat goes through the eye of the wind. The sail will switch from one side of the boat to the other.

Why do we tack?

Sailing boats are unable to sail directly into the wind, most boats can sail approximately 45 degrees to the wind. The area that a boat cannot sail is known as the "No Go Zone". In order to sail in the direction of the wind a boat must sail along the "No Go Zone" tacking through 90 degrees in order to progress up wind. This point of sail is known as close hauled and is when the boat is sailing as close to wind as it can.

This is known as "beating" or "tacking" to windward.

Preparing to tack

The helm will make sure that there are no other boats around and it is clear

The helm will call "Ready About" or "Ready to Tack"

The crew should prepare the working jib sheet to be released and prepare the lazy jib sheet to be hauled in. When the crew are ready they should call ready to the helm.

The main sheet traveller should be moved into the centre to minimise the movement of the boom during the tack and the crew should call ready to the helm.

The helm will call "tacking" or "helm to lee" and steer the boat towards the wind. All crew should watch their heads on the boom.

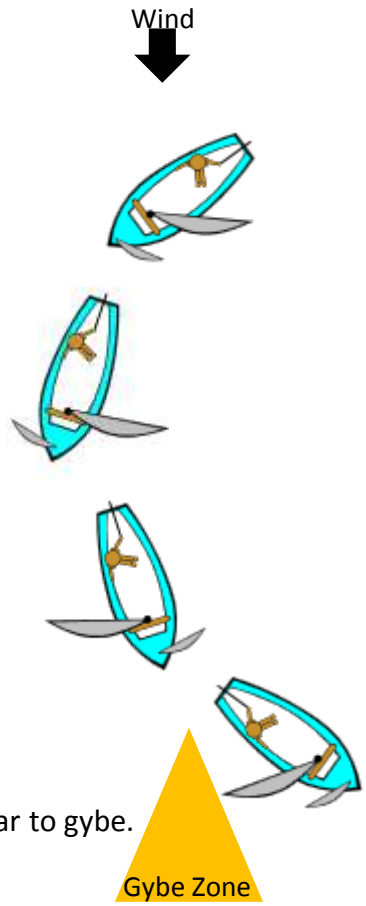
When the boat turns head to wind the helm will call "lee-oh" the crew member on the working jib sheet will realise the sheet, becoming the new lazy sheet and the crew member on the lazy sheet will haul in the sheet becoming the new working sheet. The crew member operating the main sheet will guide the boom across the boat.

The helm will straighten the boat and continue sailing with the sails on the opposite side.

Gybing a boat

What is gybing?

Gybing is when the stern of the boat goes through the eye of the wind and the sails will switch from one side of the boat to the other.



Why do we gybe?

We gybe when we are sailing away from the wind or downwind. It is possible to sail with the wind directly behind you, but requires an experienced helm, so it is often safer to sail on a broad reach gybing downwind similar to tacking upwind. The area where a gybe will occur is known as the "Gybe Zone". It is important to note that because the wind is coming from behind the sails do not flap at any point rather they fill on one side or the other side. If a boat accidently gybes the boom can very quickly move across the boat so it is important to make sure all crew know when a gybe is going to occur.

Please look at some or our other worksheet for more details on the points of sail, tacking, main sail trim, and jib trim.

Preparing to Gybe

The helm will make sure that there are no other boats around and it is clear to gybe.

The helm will call "Stand by to gybe"

The crew should prepare the working jib sheet to be released and prepare the lazy jib sheet to be hauled in. When the crew are ready they should call ready to the helm.

The main sheet traveller should be moved into the centre and the main sheet pull into the centre of the boat to minimise the travel of the boom, the crew should call ready to the helm.

The helm will call "gybing" and steer the boat away from the wind. All crew should watch their heads to avoid the boom.

When the boat turns downwind the helm will call "gybe-oh" the crew member on the working jib sheet will realise the sheet, becoming the new lazy sheet and the crew member on the lazy sheet will haul in the sheet becoming the new working sheet. The crew member operating the main sheet will guide the boom across the boat and ease the main sheet out.

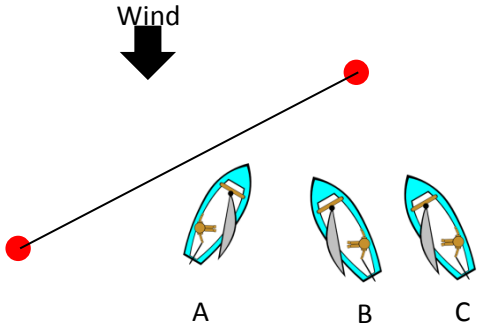
The helm will straighten the boat and continue sailing with the sails on the opposite side.

The Racing Rules of Sailing

Understanding who has right of way in different situations when racing is perhaps the most important aspect of the Racing Rules of Sailing (RRS) that you need to know. A good understanding will help to keep you out of the protest room, and help you to spot any other yacht that is racing *'dirty'*.

Start Line

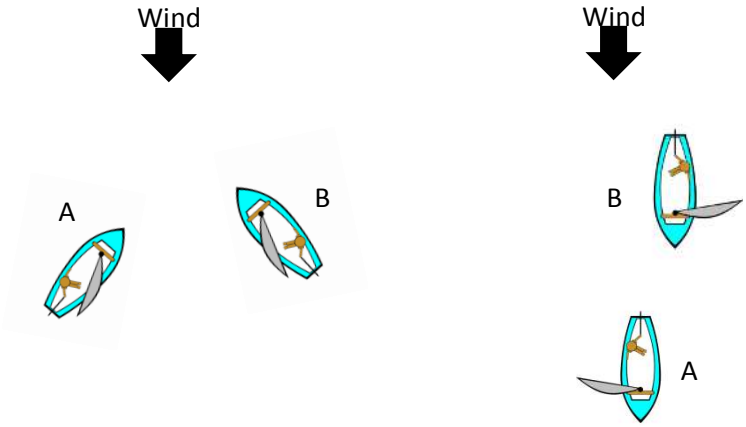
There is no mark room on the start line, windward must keep clear and port must give way to starboard



A is on port tack and must keep clear of B and C
C is to windward of B so must keep clear B should hold its course

On opposite tacks

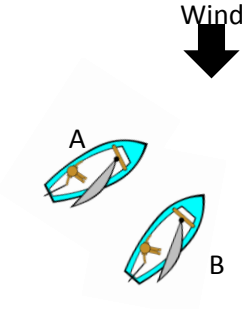
When boats are on opposite tacks, the port-tack boat keeps clear of the starboard-tack boat, even if the starboard tack boat is also the windward boat.



In both cases A must keep clear of B

On the same tack, overlapped

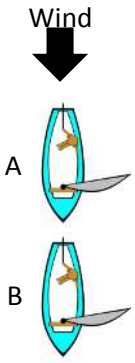
When boats are on the same tack and overlapped, a windward boat must keep clear of a leeward boat.



A must keep clear of B

On the same tack, not overlapped

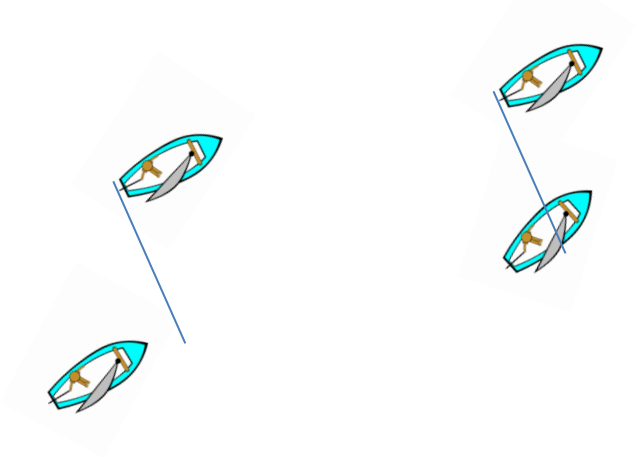
When boats are on the same tack and not overlapped, a boat clear astern shall keep clear of a boat clear ahead.



A must keep clear of B

Same tack proper course

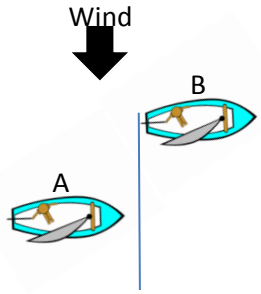
If a boat becomes overlapped for clear astern to leeward, then they must not sail above their proper course



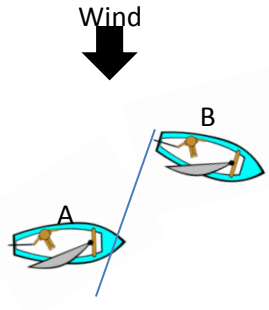
What is an overlap?

It is important to understand the concept of overlap because it will determine what action boats must take not just when tacking, but also when rounding marks and passing an obstruction.

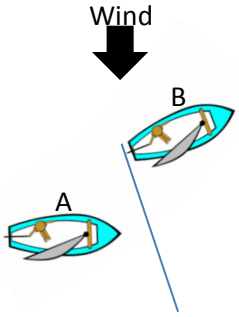
An overlap is when one boat is not clear astern of another.



No overlap
A must keep clear of B



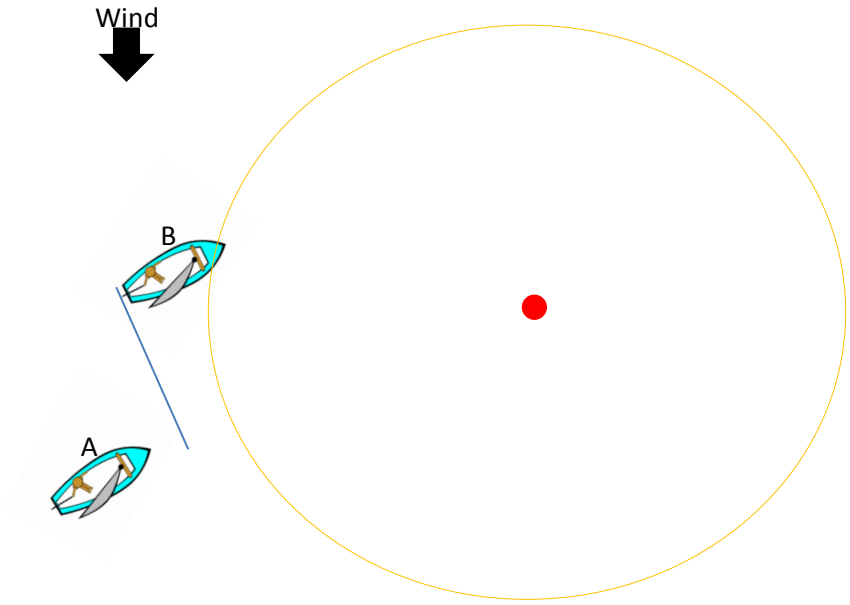
Overlap
A must not sail above its proper course



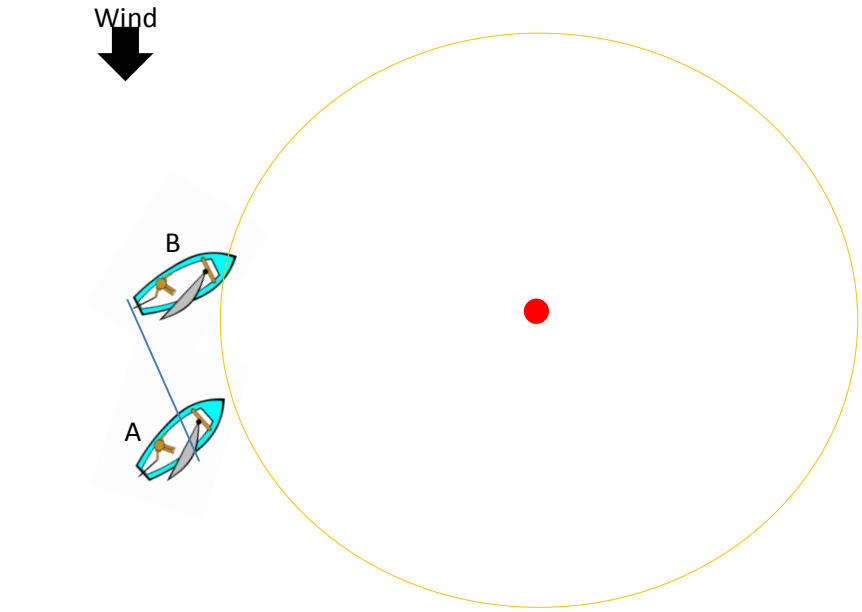
No overlap
A must keep clear of B

Mark rounding

Room to round a mark must be given to a boat if there is an overlap 3 boat length's from the mark.



Boat B does not have to give boat A room at the mark

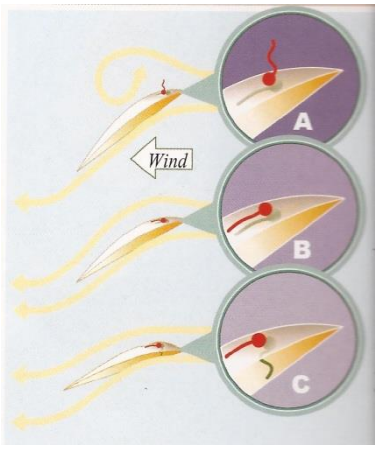


Boat B must give boat A room at the mark

Trimming a Genoa/Jib

A Jib has 3 sets of tell-tale close to the luff of the sail when the Jib is correctly trimmed all 3 sets of tell-tale's will stream aft.

A - If the leeward tell-tale lifts you should ease your sheet or the helm should luff up.



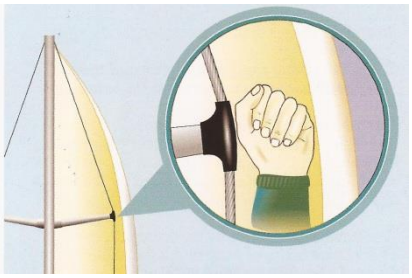
B - Both tell-tale's streaming aft, you have the correct trim.

C - If the windward tell-tale is lifts you should sheet in or the helm should bear away – Known as luffing.

Upwind Sail Trim

It is important to trim the genoa/jib to the prevailing conditions; the Sigma 38 is a heavy boat and requires time to build speed after the boat has tacked.
Once the boat has tacked trim the genoa/jib 90% (2-3 fists from the spreader) - As boat speed increases the genoa/ jib can be sheeted in, to keep the tell-tale's flying properly.

Under normal conditions the genoa/ jib is trimmed until it is 1 fist from the spreader.



If the boat needs to point higher (sail closer to the wind) then the genoa/ jib may be trimmed until just touching the spreader

In very light wind's or strong winds and choppy water the jib can be eased to 2-3 fist's from the spreaders to increase boat speed.

Hoisting a Spinnaker

Bear away set

Before hoisting a spinnaker you must ensure that the sheets and guys are rigged correctly and the spinnaker halyard is not twisted. The spinnaker bag should be secured to the leeward rail with the sheets and guys attached to the clews and the halyard secured to the head. As the spinnaker is hoisted behind the jib when racing we prepare the spinnaker while on the opposite tack to make it easier.

Pole up

The windward sheet and guy are secured into the jaws of the spinnaker pole (known as double beaking), the inboard and outboard ends are raised to a pre-determined height.

Sneeking the guy

The windward guy is pulled until the clew reaches the spinnaker pole, this helps the spinnaker fill more easily after it has been hoisted.

The hoist

The helm will bear away until the wind is aft of the beam then call for the spinnaker to be hoisted. When the spinnaker is fully hoisted the person sweating the halyard will call **MADE**. The spinnaker guy can now be trimmed until 90 degrees to the wind and the spinnaker sheet can now sheeted in to fill the spinnaker. The genoa/jib is lowered to the foredeck and secured.

Gybe set

The main difference between a gybe set and a bear away set is, a bear away set is quicker as the pole can be raised before the mark and the spinnaker is hoisted going around the mark.

A gybe set requires the boat to gybe under white sail then hoist the spinnaker. Setting up for a gybe hoist is the same as a bear away set, but ensure the spinnaker is setup on what will become the leeward side of the boat after the gybe.

The sheet and guy can be double beaked into the spinnaker pole, but the pole cannot be raised until the boat has gybed under white sail. Everything happens very quickly.

Pole up

Once the genoa/jib has gybed, the pole can be raised as quickly as possible to the predetermined height.

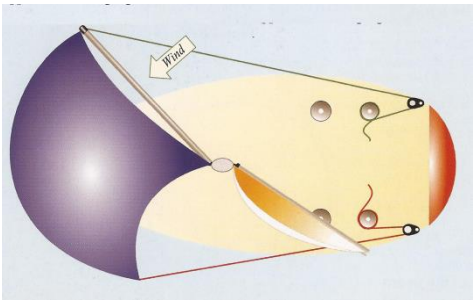
Sneeking the guy

The guy trimmer needs to sneek the guy as the pole is being raised into position.

The hoist

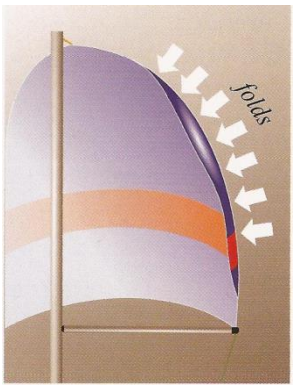
The helm will call for the spinnaker to be hoisted. When the spinnaker is fully hoisted the person sweating the halyard will call **MADE**. The spinnaker guy can now be trimmed until 90 degrees to the wind and the spinnaker sheet can now sheeted in to fill the spinnaker. The genoa/jib is lowered to the foredeck and secured.

Setting the pole



The spinnaker pole should be set to 90 degrees to the apparent wind at all times when the wind is aft of the beam. This allows the spinnaker to provide the maximum drive. The pole height should be set so both clews are level.

Flying the Spinnaker



Once the pole is set the spinnaker sheet can be used to fly the spinnaker. The sheet should be eased until the windward leech begins to fold, when the spinnaker is on the verge of collapsing it is at its most efficient. The spinnaker sheet should be "played" continuously to ensure the spinnaker is on the verge of collapsing.

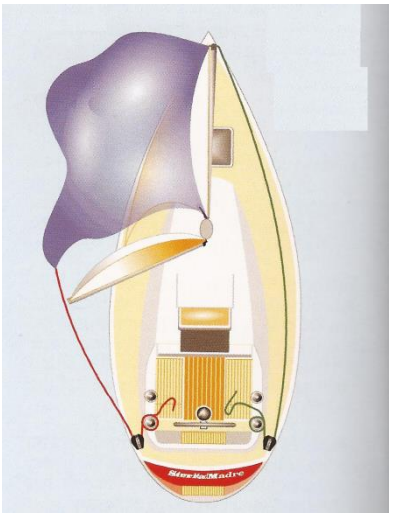
Dip Pole Gybe

Before the gybe the helm will bear away on to a dead run, once the boat and spinnaker have stabilised the pole is ready to be tripped.

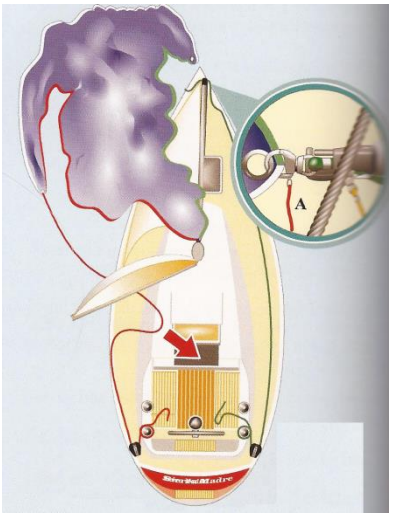
Tripping the pole
When the spinnaker pole is tripped the guy can be eased so the spinnaker is being flown on the 2 sheets and the lazy guy can be prepared. The jaws of the spinnaker pole are tripped (open), and the pole up is eased to allow the pole to fall, the inboard end may need to be raised to allow the pole to fit between the mast and forestay. As the pole goes through the boat the lazy guy is secured into the jaws and **MADE** is called. The spinnaker pole is raised again and the guy (was the lazy guy) can be sheeted in until the pole is 90 degrees to the wind again.

Spinnaker drop

When the decision to drop the spinnaker is made the genoa/jib should be hoisted to allow us to blanket the spinnaker before the drop is made.



The guy should be eased to allow the spinnaker pole to go forward until just off the forestay, this will allow the sheet to be tripped more easily. The lazy guy can now be brought into the companionway hatch ready to be hauled in.



Tripping the sheet

The sheet will be tripped (A) allowing the spinnaker to stream out and as the halyard is lowered the spinnaker can be fed into the companion way.

This method can be used to drop the spinnaker on any heading and by feeding the spinnaker through the slot between the mainsail and the boom we can do what is known as a letterbox drop which is useful in stronger winds.