

Points of Sail

Points of sail are general reference terms used to describe the direction a boat is sailing in relation to its angle to the wind. Learning the terms and the characteristics of each point of sail is very important when learning to sail. Each point of sail has its own personality. Some are more difficult to sail than others while some are more efficient and provide for faster speeds. It is the responsibility of the skipper and crew to understand the characteristics of each point of sail and make the proper adjustments to the sails, centerboard (if equipped) and the crew's own positioning inside the boat to ensure efficient sailing no matter what course the boat is on. These adjustments are a continuous task as every time the boat changes course, its point of sail also changes. This article is intended to get your feet wet on the various points of sail so you will have a better understanding of how to better harness the wind on your next sailing adventure.

INTO THE WIND

Into the wind is not a precise point of sail. It is commonly referred to as the 'No Go Zone' and refers to when a boat attempts to sail either directly into the wind or at an angle toward the wind where its sails cannot generate any lift. This angle is generally around 40 to 45 degree mark but can vary dependent on the characteristics of the boat and its rig. When a boat attempts to sail into the wind, its sails will begin to flap and the boat will rapidly slow down. If you attempt to sail into the wind too long, the boat will eventually stop and even begin to float backwards, This is commonly called 'In Irons'.

Though you can't actually sail into the wind, turning your boat into the wind can be useful. Anchoring and mooring the boat will be much easier once the boat has slowed down. Also, raising and lowering sails is easier without the wind pushing against them.

CLOSE HAULED

Close Hauled is a precise point of sail. It is equal to the exact angle to the wind where a boat's sails just begin to gain lift and propel the boat forward. This angle is usually around 40 to 45 degrees away from directly into the wind. The true angle will vary depending on the characteristics of the boat and its rigging. This is the closest the boat can sail upwind. When sailing close-hauled, the sails are brought in tight and the centerboard is all the way down. Also known as 'Beating', close-hauled sailing can be a difficult point of sail. In addition to generally being the slowest point of sail as it is, sailing on the brink of the no-sail-zone means that any change in wind direction or change of course could end up deflating your sails causing you to lose even more speed. Also, because of the angle of the sails, the boat will encounter the most heeling force of any point of sail causing the boat to tilt over slightly. This might be exciting for some, but uneasy for others. Due to the difficulty of close-hauled sailing, any boat that performs well under this point of sail is preferred for racing.

CLOSE REACH

Close reach is not a precise point of sail and includes any angle to the wind between close-hauled and a beam reach (beam reach information to follow). Here, the sails are let out more than close-hauled and the centerboard is raised to about $\frac{3}{4}$ of being fully down. Also known as 'Fetching' this is a more efficient point of sail than close-hauled and can allow for faster speeds. A close reach point of sail also endures less heeling force than a close-hauled point of sail and can be more comfortable to sail.

BEAM REACH

This is a precise point of sail and is exactly perpendicular, or 90 degrees, from the direction of the wind. Here the sails are let half way out and the centerboard is set to half way down. This is generally the most efficient point of sail and can provide for the fastest speeds.

BROAD REACH

A broad reach is not a precise point of sail and can be any angle from the wind from a beam reach to directly down wind. The sails are about $\frac{3}{4}$ of the way out and the centerboard is only $\frac{1}{4}$ of the way down. Even though you are starting to sail down wind a little bit, you actually lose efficiency from a beam reach and will generally see slower speeds.

RUNNING

This is a precise point of sail where you are sailing in the same exact direction as the wind. Here the mainsail is let out all of the way while the centerboard is fully up. The headsail will no longer get airflow directed to it from the mainsail and is either moved to the opposite side of the mainsail or replaced with a spinnaker sail. This is also the only point of sail where the sails are actually "catching" the wind rather than generating lift and generally allows slower speeds. Running can be a very relaxing point of sail. There is very little, if any, heeling force on the boat meaning that the boat is rather upright while sailing. There is also no wind blowing across the boat since the wind will be coming from directly behind the boat.

Often referred to as the 'Don't Go Zone', running can be a very dangerous point of sail. Since the stern of the boat is already "in the eye" of the wind, any sudden wind changes or mistakes while steering could cause the boat to accidentally jibe causing the boom to swing dangerously across the boat to the other side. Due to this, it is often advised to beginner sailors to sail 10 degrees off of a true run until they gain enough experience to be able to safely handle it.

TACK

Tack is not a point of sail, but a term used in conjunction with a point of sail to more accurately describe a boat's course. Tack refers to the side of the boat from which the wind is blowing. Tack can have only one of two values, port or starboard.

A boat is said to be on a starboard tack when the wind is blowing from its starboard side and pushes the boom to the port side of the boat. Conversely, a boat is said to be on a port tack when the wind is blowing from its port side and the boom is pushed to the starboard side of the boat. Up a boat is running and the wind is blowing from directly behind, the boat's tack is determined to be the opposite side that the boom is on. When a boat is into the wind, it does not really have a tack since the boom is straight back and the boat is not sailing. Still, this boat's tack is determined to be the last tack the boat was on before entering the 'No-Go-Zone'.

