

UPWIND SAILING

side 1

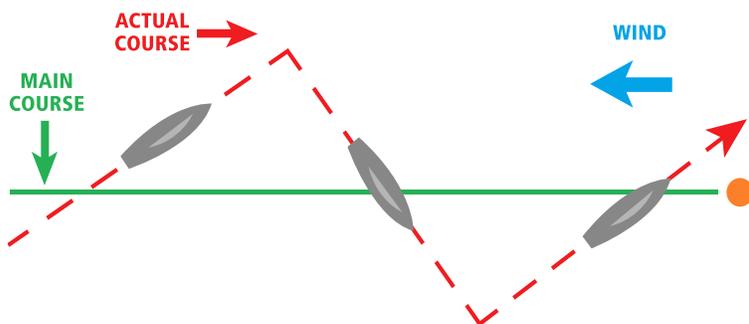
Introduction

Upwind sailing is somewhat difficult to learn, but it is a very important concept. This tutorial introduces how to sail upwind (tacking upwind), and a number of tips to simplify the task.

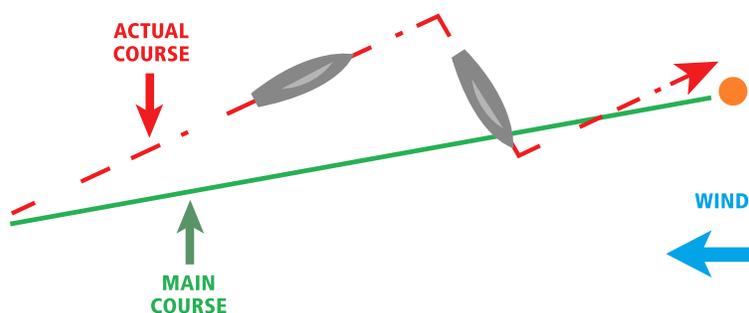
How to Sail Upwind

A sailboat cannot sail directly into the wind, yet it can move in an upwind direction.

Examine the picture below:



The drawing shows that the boat never points directly into the wind, except for when it turns. So, to sail upwind, simply tack back and forth until you've reached your target. This is called upwind sailing or tacking upwind. *



The picture above shows sailing to a point directly into the wind. What if you are sailing to a point that isn't directly into the wind, but still in the no-go zone?

Sailing to the orange dot still requires tacking upwind, but your course will be slightly different.

Things to Keep in Mind

In each part of the photo above, the sailboat is close hauled. It switches from a starboard tack to a port tack, but it is always sailing on the point of sail closest to the wind. When sailing upwind, it is important to sail close hauled, or at least almost close hauled. Think about what would happen if you tried sailing upwind by being on a beam reach. The boat wouldn't make any forward progress because a beam reach is perpendicular to the wind. If you sail on a close reach, you will eventually get to where you are going, but it will take longer and require more tacks than if you sailed close hauled. It is also important that you have your sails trimmed properly for your point of sail. (On a close hauled point of sail, the sails should be in tight!) If your sails are out too far, then they won't catch any wind, which will cause your boat to slow down and eventually stop; that means the rudder won't work, and you will have lost control of the boat.

For all of the tacks that you have done up to this point, you have tacked from a beam reach to a beam reach on the opposite tack. The result of doing that is a 180° turn. When you are tacking from close hauled to close hauled on the opposite tack, the turn is much smaller. You might recall that the no-go zone is approximately 45° on either side of the wind. That means that tacking from close hauled to close hauled



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on the opposite tack is approximately a 90° turn. This might seem a little strange the first few times you tack upwind since you have become used to 180° tacks, but the procedure is exactly the same.

Another important thing to keep in mind is the number of tacks that you should make. Technically, you could make a thousand tacks to sail one mile upwind. That is quite inefficient. Not only will everyone on board be exhausted by the time you are done, but you will make far less progress than if you made only five or six tacks to cover the same mile. Choosing the optimum number of tacks to sail upwind is something that will come with experience. For the short upwind sailing course that you will sail in this class, the smallest number of tacks is best. However, that isn't the same for longer courses.

Finally, do not get into irons! Since you are sailing in such close proximity to the no-go zone, it is very easy to get caught in irons if you're not careful. The easiest way to avoid getting caught in irons is to watch the jib while sailing close hauled. If the jib is correctly trimmed for a close hauled point of sail, and the jib starts to luff, you are heading into the no-go zone. You should then turn away from the wind until it stops luffing.

Recap/Conclusion

Sailing upwind is quite simple to do if you pay attention to your heading and your sails. You should sail close hauled with your sails in tight, and if either sail begins to luff while it is in tight, then turn away from the wind a little bit. If you do that, you shouldn't have any problem.