

A search of most any sailing library will turn up volumes on how to sail well upwind and perhaps similar amounts of on how to sail downwind with a spinnaker. You probably won't find any information about sailing dead downwind with a main sail and a jib on a whisker pole. This article is intended to fill that gap.

First take a simple test.

Ask yourself where your team spends most its time looking when sailing dead downwind.

Many Lido 14 racers simply sail dead downwind sailing to the wind they find themselves at that moment. It has often been observed that when a known "fast" Lido 14 team passes a bunch of such boats, many of those being passed don't react at all or only react defensively by initiating a luffing maneuver to block the faster boat. Few teams will ask the difficult question of what enabled the fast team to catch up or pass them in the first place and what would it take to become a boat passer too. A big part of the answer to these questions involves sailing with their "heads out of the boat" more, meaning observing far away conditions in an attempt to take advantage (or avoid) them so they sail smarter and faster more of the time.

Fast teams are looking forward to the next mark so they can steer a good course to it. They are also keeping an eye out for upwind traffic, obstructions, and tactical situations that may lead to passing boats ahead (e.g. getting an inside overlap on a group of boats). But more importantly, they are looking aft to see into their future. By looking at the wind conditions and boats behind them, they can better predict what will happen in the future and position themselves to make gains or, at a minimum, avoid hazards and costly errors.

Here is a list of what fast teams are looking for.

- Puffs of wind when they are still many boat lengths away. Wind ripples on the water are the primary clue about a puff and they can be best seen far away, especially if you use polarized sunglasses. Puffs don't always create ripples; wind has to push against the water for a while before the ripples form which means a puff will usually get to you before the ripples do. The crew often comments on the puff by stating how much time will pass before it will hit, what direction it is coming from (often a clock position with noon being toward the bow and 6 o'clock being dead astern) and a rough idea of its strength (mild, modest, strong, or a knock down blast!). "Modest puff at 5:30 in fifteen seconds" might be a typical report.
- The angle of the wind inside the puff. This can be particularly difficult to assess but fortunately it's not too much of a problem in most Lido 14 racing venues, as the wind angles tend to remain fairly stable. Often the reactions of the boats behind you provide the best indication of wind direction changes though some sailors can interpret the wind direction by the shape and direction of wind ripples. At a minimum, your boat should be equipped with a wind angle indicator. Ideally, the indicator should be at the head of the mast so the skipper can

quickly compare the angle of the wind with the angle of the main sail so that sail trimming changes can be done quickly and accurately. There is a long-standing joke in the Lido14 class about not needing a mast head wind indicator because one can simply use the indicator of a nearby boat. In fact looking at the wind indicators on nearby boats can be useful, especially in trying to judge if you are in the bad are of a boat behind you though you have to know that a wind indicator shows apparent wind direction and dirty air travels along the direction of the true wind. However depending on the indicators of other boats is simply ignoring the fact that you need you own steady answer without having to look around. Some sailors are able to use tell tales on the shrouds as wind direction indicators however they are generally harder to read. Part of judging wind angle involves studying how puffs of wind fan out on the water. Puffs of wind are often vertical currents of air hitting the water that fan out horizontally in many directions. It is important to understand that the wind also bounces and skips (sort of like a bad airplane landing) leaving weird patches in between where the wind velocity and angle can be rather difficult to understand.

- Where to position the boat so that it remains in a puff for the longest possible time. A rule of thumb is to position your boat directly in front of the biggest portion of the puff. This often leads to tough choices between positioning under the bigger portion of the puff versus a stronger portion along the puff's edge. Most of the energy in a puff of wind is in its earliest stages. This makes it critical to see puffs coming so you can be prepared to absorb the energy and put it to use in pushing the boat forward. The best gains are made by those well set up before the puff hits.
- Looking for the next puff as soon as possible. The crew might start talking about a new puff well before the previous one has hit. This will allow the team to better connect the dots between each puff; staying in the best possible winds for longer periods of time and will allow the skipper to make longer-range plans.

Your goal should be to observe these events around you and to adapt to them smoothly and efficiently. If, for example, you know that a big puff is coming, you can pre-set the vang (a critical downwind sail control in the Lido 14) so that you can focus on keeping the boat properly balanced thru steering, heeling, and jib trim when the puff eventually hits. This will help you keep the boat moving forward instead having to fight its desire to round up. Of course, if you really like wild rides, just keep your centerboard up and eyes forward and let the big puffs rock and roll the boat! Again, fewer surprises and smoother transitions keep the crew and boat happy.

Another example is when you are sailing dead downwind and you realize that the boat is slowing down. If you have been observing the wind behind you, it is easier to determine if you are slow because of lack of wind or you are simply driving poorly. Knowing the difference can be crucial.

Now that we have a basic idea of what teams should be looking for, here are a few tips on how to actually sail a Lido 14 dead downwind.

First, we assume you are pulling your centerboard up into the trunk soon after rounding the weather mark and you will be putting it back down into the water (at least partially) every time you need better steering control of the boat.

Without the centerboard, steering the boat dead downwind can become a complicated combination of boat heel, sail trimming, and tiller movement. You need to learn how heeling and trimming of the sails changes the boat's desire to turn and to use them concurrently to get the boat to turn (or not turn!) willingly. The skills are more or less the same as those used when sailing upwind but the feedback is not as strong, making it more difficult to sense what the boat is trying to do.



You also need to learn how to make small adjustments without causing distraction or complication to yourself and your crew. Often this means rigging your boat so that controls are easy to reach and adjust regardless of where you are sitting. Making sure boat operations are smooth (no shaking of the boat and sails) is very important and can be quite easy if you simply communicate body movements well in advance.

In addition to looking at the new winds aft of your boat, you should be keeping a lookout for boats behind you that may be blocking your wind or boats that are altering course. Are they attempting to over take you to windward? Are they sailing away from you to get to better wind? Are they trying to get into an inside overlap position before the next mark zone? All of these course changes deserve early warnings so that the team can formulate a new tactical plan to stay out of trouble or keep engaged with a boat of interest.

For example, if you are in front of a group of boats that are catching up to you, you should always know how to best escape from their wind shadow. If you don't know, you should have a default escape route in the direction that will minimize the number of boats that might pass you or to pick a route that will

put you in an inside overlapped position at the next mark. If you are not looking aft, you'll never realize the problem and won't have much chance of escaping in a smart fashion.

Heeling to weather. Undoubtedly you've seen boats racing downwind heeled to one side. The purpose for heeling is several fold and it's never too early to learn why and when boats do this and what the benefits are. First, this technique is mostly used when you are in strong enough winds that the boom can be trusted to remain stable without human assistance. The moment that wind (or waves) disturb the boom and cause it to fall down, you should either discontinue heeling or you should re-prioritize crew duties so that they now focus on holding the boom in place. Regardless, you want the sails to remain very stable; no rattling, flapping, and shifting around.

There are two reasons to heel the boat. First, by lifting the main sail higher into the air, we locate the forces in the sails so that they are better distributed (left to right) over the center of the boat. This rebalancing reduces or eliminates the boat's weather helm, making the boat want to sail dead downwind. Secondly, with the boat heeled up, a big portion of the hull rises out of the water, which results in less drag. Less drag means you should go faster.

The benefits of heeling can be crucial at times but they also come with a lot of problems too:

- In order for heeling to work, you need to raise the centerboard up all the way. With the centerboard out of the water, the boat will "crab" sideways (yawing to you pilots), which slows the boat. There is a point where the benefits aren't big enough to compensate for the added drag of pushing the tiller to one side. This balance point is not so easily explained; you have to learn it thru experience.
- It can be difficult to hold the boat stable while heeled, especially in "fresh" or puffy breezes where you have to constantly lean in and out (a good reason for the skipper to work on their abdominal muscles) to compensate for the boats rolling. A wobbly boat is not fast and may be construed by others as an effort to propel the boat by illegal kinetics.
- It can be difficult for some crews to scrunch up into a corner of the boat to properly balance the boat.
- It creates a huge blind spot so you can't see what's going on around you
- It may lead to the boom "falling" down when there isn't enough wind to keep it in its place. Not good.
- It may lead to dragging the whisker pole and jib sheet thru the water, which slows you down too.
- With your centerboard fully up, you have much very little steering control (thus the earlier emphasis on knowing how to turn your boat with sail trim and heeling) which means you may get into right of way rules problems by not being keep clear of other boats due to poor steering control. This is a common problem when approaching a right of way boat sailing upwind towards you.
- Sailing heeled in strong wind is both very scary and difficult too. So we don't encourage it.

A simple rule of thumb that is if the boom isn't stable when the boat is heeled, switch back to sailing the boat flat.

Balancing the boat fore and aft. The typical tuning guide from your sail maker will suggest seating positions for different wind strengths. Generally it starts with the skipper and crew sitting immediately aft and in front of the jib cleat. As the wind speed increases or decreases, the overall balance of the boat changes and moving body weight fore and aft becomes appropriate. In sailing downwind, there is a tendency for the skipper to move aft to allow a better view of the sails and crews tend to migrate forward too (for no particular reason). In general you want to keep the weight of the crew close (fore/aft) together if you expect any swells or chop. As conditions drop into the very underpowered range (i.e. just a couple knots of wind speed), it is increasingly common to position both skipper and crew very far forward. This leans the mast further forward and brings the aft portion of the hull out of the water, thereby reducing drag.

We've just touched upon the fundamentals of downwind Lido 14 sailing. As always, you should strive to appreciate the variables involved and try to understand and adopt as many as seem fit to your team's goals. For those with high enthusiasm and optimism, the rewards of using these skills can be quite impressive; Class Championship Regattas has been won by virtue of a single outstanding downwind leg.

Lastly, by sailing with more information, you may just find yourself more relaxed and confident which should allow you to sail your boat as you prefer, whether it's being caught up in the boat on boat tactics that the Lido 14 is famous for or free and clear in your own zone.

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#### **About DoubleWave and John Papadopoulos**

DoubleWave, the leading independent supplier of parts and service in the Lido 14 community, is owned and operated by John Papadopoulos.

DoubleWave is an authorized dealer for W.D. Schock Corp., the builder of the Lido 14 but extends service and parts well beyond those of a traditional boat dealer. In many cases, DoubleWave innovates solutions to problems in both the classic and 6000 series boats and has, in several cases, become a preferred supplier of parts and technology to W.D. Schock Corporation.

Outside of DoubleWave, John is very active in many dimensions of the sport of sailboat racing – from organizing local racing to serving as an International Measurer at world championships to writing on various topics of one-design sailing.

To learn more about DoubleWave, please visit [www.doublewave.com](http://www.doublewave.com)