

How to Mode For Upwind Speed

By Steve Hunt



Attentive and dynamic moding off the start can help you hold a narrow lane longer, allowing tactical options to develop. Simone Staff

Moding involves three ways of sailing upwind: sailing in a VMG mode, which is the best angle and speed for your boat in the given conditions; sailing in a high mode, which means higher and slower; and sailing in a low mode, which means lower and faster. Why would you want to sail anything other than optimal VMG? Generally speaking, a high or low mode can help you with lane management and racecourse positioning. The overall idea is that you are always working to have a great lane and position yourself between your competition and the next mark, thus reducing risk.

Mode for Lane Management

We've all been there before—you come off the starting line, hoping to have a nice big lane, but the boat to leeward is a little bow-forward of you and could end up pinching you off. Rather than waiting for that to happen, you shift into a high mode to keep your lane. Of course, this assumes your bow is forward of the boat to windward of you, which is usually the case at the start if the pin is at all favored.

Shifting into high mode involves very subtle changes in steering and trimming. The -difference between steering in VMG mode and high mode is only a degree or two. In VMG mode, you're usually steering so that the inside jib telltales are streaming straight back in light air and slightly lifting in medium to heavy breeze. Go into high mode, and those telltales

will now be lifting more. If it's really windy, high mode might mean bubbling the front of the jib a bit. For trim, the main is usually brought in a couple of clicks, and the jib might come in one click of the ratchet. If you're on a boat with inboard/outboard jib leads, moving the lead in a touch also helps get into high mode.

A common mistake when in high mode is to overdo how much you trim the sails. If you overtrim the main and jib to the point where they start stalling, nothing works, and you'll end up losing on everybody.

Pay close attention to how your speed changes when you enter high mode, and learn how high you can go without losing speed, which will vary based on the type of boat you're sailing. A while back, I was sailing in an FJ and was often using a high mode for big gains. We were in full hike, tight main, bubbling the jib, and the boat didn't seem to slow at all. It was flat water, which helped, because pinching puts you on the verge of stalling. This is much riskier in any sort of chop.

I've used high mode with great success on the Etchells too. Some boats pinch -better than others. Wind strength is also a big factor. The windier it is, the easier it is to do. The lighter the wind, the more careful you have to be. At some point, if you get comfortable with the amount of leeward gauge you have, put the bow back down, matching the boat to leeward in VMG mode, release, and go straight. When we bear away, we ease the main and jib just the small amount that we trimmed them when shifting to high mode.

Low mode can be a -powerful tool in helping to maintain your lane as well. Suppose you come off the line strong on the boat to leeward of you, but the boat to windward is going fast, and the threat is that you might get rolled by that boat. The helm bears off a degree or two, and you sail "fat." The telltales will still be streaming, and you might ease the sails a bit, but not necessarily. The key is not to let the boat heel over more when bearing away. If you anticipate the heel, ease the sails a bit, ease the traveler down, or put on a little more backstay. This scenario occurs a lot off the starting line, but it also frequently happens on the open course.

The effectiveness of sailing in a low mode is really boat--specific. An Etchells, for example, doesn't gain that much when you go low; it doesn't accelerate a lot, and you just lose height. In that boat, it's usually VMG mode or high mode—streaming the telltales or lifting 45 degrees. The slower the boat, the subtler the boatspeed change will be. An FJ likes to go high and doesn't accelerate that much when you go low. On the other hand, a 420 accelerates more when you put the bow down. So, moding in a 420 compared with an FJ is slightly different, although it works with both boats. In catamarans and high-performance boats, the speed gain can be huge with a burst of low mode.

It's important to have immediate communication from the rail about whether to shift modes. When you come off the starting line, assess the position you're in relative to those around you and make the call: VMG mode, high mode or low mode. I might tell my skipper: "The threat is to leeward of us. We're good high," meaning, we can go into a high mode without the threat of being rolled by a boat to windward of us. We then come up a degree or two, trim in the sails a click or two, and sail slightly higher, trying to increase our gap on the boat to leeward. Meanwhile, we'll probably end up pinching off the boat above us.

Or I might say: "The threat is high. We're good low." It's really important to have good input from the rail about your height and speed, no matter where you are on the course. Always talk about your boat's height and speed compared with another boat.

For example, you might say, "We're faster but same height" or "We're higher and slower." In low mode, when I look under the boom, I want to see us moving forward on the fleet, and that's another good piece of information that you'll want to communicate. It's an especially good technique if you don't have a knotmeter.

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If you do have a knotmeter, communication can be a lot more specific. Suppose you're sailing in VMG mode at 6 knots, and there's a boat above that might roll you. You might say, "Let's go 6.2 here," which tells the helm to move into low mode, increasing your speed two-tenths. Or you come off the line and have a boat close below you, and to defend, you need to go into high mode. Then you might say, "Let's go 5.8 here." On a boat that has target speeds posted, as a tactician you would say, "Let's go posted here" or "Let's go four-tenths over posted," meaning low and fast. Or you might say, "Two-tenths under posted," which is bow up slightly, higher and slower. It's all based on lane management or positioning.

Say you're on the open course and happy with the direction you're heading, but other boats are threatening your lane. Time to choose a mode. Think of it as a time trial around the racetrack, and the other boats are simply in your way. In this scenario, you might pinch or foot to keep your lane and keep going the direction you want for big-picture strategy. This is very important because losing a little VMG in the short term but gaining on the next shift or a racecourse feature (favorable current) is totally worth it. Tacticians are always calculating gains and losses to make the best decisions possible. Moding to go the way you want is often the right call.

Mode for Course Positioning

Use the same moding techniques to maximize your time in the most wind on the racecourse and also to position yourself in the best possible place relative to the rest of the fleet. Tactical rule No. 1 is to sail in more wind. You can use moding to get to the stronger wind quicker. For example, you're coming out of the left side of the first beat on a puffy day, and you see a puff coming from the left layline area, over your left shoulder. In this scenario, you could shift into a slightly high mode to connect with the puff sooner. Once you are in the puff, release, and sail VMG or fast forward if it's a lift. Another scenario to maximize wind is when you see a nice puff straight ahead. Here you would sail slightly fast to reach the puff sooner. Once in the puff, you sail VMG, thereby increasing your time in the strongest wind.

Tactical rule No. 2 is sail toward the mark, on the long tack. You can use moding to manage your lane as previously mentioned, and as the best sailors do, to reduce risk by positioning yourself between the fleet and the mark when exposed on a side of the racecourse. You essentially should use moding to reduce risk and put your boat in a favorable, strong position. For example, using the same scenario above, once you connect with that left shift and puff, release forward, and sail fast to reduce your leverage since you are already on the left side, especially if most of the fleet is to your right.

One way to think of it is from a drone's perspective. If you are to the left of the majority of the fleet coming out of the left corner but would rather be ahead of them, which is between them and the mark, when you get an advantaged shift and puff, mode forward to position yourself in the ideal spot.

Let's explore a more detailed look at the above scenario: The left puff is a 10-degree lift, but instead of taking all of the 10-degree lift and staying on the same ladder rung and climbing away from the fleet laterally, you come up only 7 degrees, ease your sheets slightly, and go fast forward with the remaining 3 degrees. In doing so, you're advancing forward on the boats to your right and moding toward the mark. Also, if it's shifty and you're in a left shift, the most likely next shift will be a right shift, and by getting bow--forward on those boats to your right, you'll be in a much stronger position when that happens.

Another time to mode: Traditional wisdom is that if you're headed while sailing upwind, you should tack, but suppose you're exiting a corner and you don't have much real estate remaining the other way because you're near layline. Here, when you get the header, you

should shift into a high mode to sail as best as you can toward the mark and the next shift, which will probably be a lift. When the wind shifts back, return to a normal VMG mode sailing faster to the mark. And if it starts lifting you even more, bear away a degree or two and get into a low mode, sailing fast to the mark. Sail in VMG mode only if you're on the long tack, feel you're in a great position on the fleet, in the most wind, and everything is perfect.

Mode for a Tactical Play

Here's another boat-on-boat time to mode: Tactically, a great tip is anytime you're going to come together with another boat, increase your speed. They say in match racing that the faster boat wins in an interaction. So, if you're on starboard sailing upwind, and a boat on port can almost cross but can't and it's clear they're going to lee-bow you, go into a slight low mode, hike hard, crack the main a hair, and really ramp up the boatspeed. Then, when they've committed to their tack, shoot up into a high mode to gain separation. Once there, work to hold your lane. By going bow-down, you make them tack sooner; increase your speed and you can shift into a high mode easier, with a better chance of holding your lane. If you simply do nothing, the chance of holding your lane is reduced.

In summary, if you get a header but don't want to tack, go into high mode. If you get a lift but don't need all of it, go into low mode for positioning. If you're trying to secure a lane on those around you, moding will help you get there.

I'm always thinking that I'm racing the racecourse, and if I can go the way I want, it's very powerful, so it's incredibly important to be able to hold lanes. The wind doesn't care about you. It's doing its thing. If you can sail on the long tack and in more wind more often than your competitors, you're going to do really well. If you can reduce risk by positioning yourself between the competition and the next mark, you will also secure top finishes. Moding helps you do all of the above, and if you incorporate it into your sailing game, you'll be shocked at how much better you'll do.