



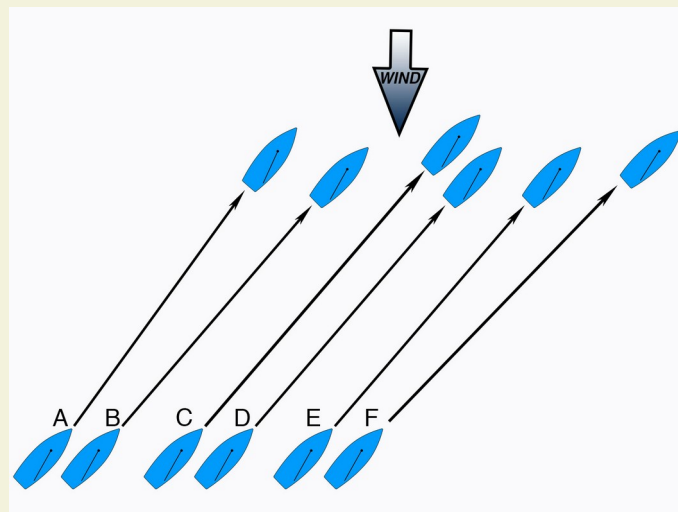
## Optimising VMG

Being in balance is great, but unfortunately not enough. In Step 3 of our tuning process we look at optimising the boat's performance to windward.

To assess this, line up close to another boat and sail two or three long beats upwind. You need to be close enough that small localised wind shifts don't affect only one boat, and the beats need to be long enough that small differences in VMG can be detected.

You have better VMG if:

- You have the same boatspeed, but your boat is climbing higher and lateral separation is increasing. In the diagram below, A is faster to windward than B.
- Lateral separation is constant, but you are pulling ahead. In the diagram C is faster to windward than D.
- You are pointing lower and lateral separation is increasing, but you will pass ahead if you tack. In the diagram, F is faster to windward because he will eventually be able to tack and cross E.



Comparing VMG Performance

Tuning adjustments at this point are typically a tradeoff between height and speed. If the boat is pointing high compared to others, you can trade some of that height for an increase in speed. Conversely, increasing height will invariably slow the boat down. Adjustments made to the boat at this point should be small.

## Tuning for Height

The control that most effects pointing ability is mainsail vang. More vang tightens the mainsail leach and makes the boat want to sail higher.

If you find the boat is pointing too high, do the opposite – introduce a little more twist in the mainsail and ease the

jib a little. The boat should point a little lower and go a little faster.

## ***Tuning for Speed***

To get the boat going through the water a little faster, you can always trade off a little height for more speed as described above. There are a few other things you can try:

- Ensure the slot between jib and mainsail is open. If you have altered twist in the mainsail, you may have to re-adjust twist in the jib. Choking off the airflow across the back of the mainsail will reduce the forward drive you are getting from the sails. A sure sign the slot is choked is to see the luff of the mainsail back-winding.
- If sailing at the top of the wind range for your rig size, tightening the backstay will flatten the top of the mainsail. It will also add twist so you might need to re-adjust the vang. This mode will allow the boat to stay upright a little longer in the gusts so the boat goes faster and makes less leeway. You may not be pointing as high, but reducing leeway will improve your VMG relative to other boats.