

# Thinking Through a Race

By  
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What do you need, to do well in races?

Here are some of the things that are important:

Ability to Plan & Execute

Pointing Ability                      Strategy

“Feel” for the helm

Great Crew

Mark Rounding

Experience                      Knowledge

Attitude

Upwind Speed

Perseverance

Reaching Speed                      Feel for Time & Space

Sails

Situational Awareness

Tides & Currents

Starts

Rules & Tactics

Concentration/Thought/Memory

Weather

The Boat Design

Luck

## Thinking Through a Race

**Before The Race:** Try to find ways to get those elusive half-tenths of a knot. If you find 4 of them, that's a 0.2 knot advantage – 0.2 knots over 7 miles = 1.4 Nautical Miles in front of your competition! That's huge!

- Prep the bottom (paint, scrub) Better bottom = faster boat
- Check your sails. Better sails = faster boat. Different sized sails = more choices.
- Tune your rig; tuning = faster & safer. Tuning your rig won't cost you a penny and will help your boat speed. More rake = faster upwind but slower downwind; shroud tension should be symmetric.
- Take weight out of the boat, especially out of the ends; lighter = faster
- Buy whisker pole & other "go-fast" gear; whisker pole = better sail shape = faster boat
- Study the rules; knowing rules keeps you out of trouble & gives you confidence. Not knowing rules fosters indecision and timidity. Neither of these is fast.
- Study every sail trim article you can find; ask the fast racers if you don't understand something in the article. Good sail trim = much faster boat.
- Get some crew that will stick with you. Crew make it possible to sail fast & fun; bite the bullet and train your own.
- Listen to weather reports. But take this with two boxes of salt; think about persistent wind shifts & sea breeze effects
- Check time of high & low tide at Sewell's Point & make your own personal current forecast for 10 AM – 2 PM

### On The Way Out To The Race Course:

Look for ways to gain 30 seconds. If you find 4 of them, that's 2 minutes – many times that's several places!

- Choose sails for today. Reef or not? Headsail size?
- Check the actual weather – wind & sea state and tidal current, compared to the forecast
- Check actual current conditions at crab pots & marks & compare to your personal forecast
- Make your first cut at strategy – not knowing the course, but knowing the wind direction, plan your proper course for the most likely mark sequence. What will each leg look like? Will it be a broad reach or a close reach? Will you be able to run wing-and wing on the downwind leg? Do you expect the wind to shift or change velocity with time; do you expect the wind strength or direction to be different at different locations on the course? How will the wave state & current affect you on each leg of the course?
- Establish crew positions for the day; give the new guy more help
- Consider cross-training crew in different assignments
- Sail at least part of the way out instead of motoring – get "dialed in"

## At the Start Line Before the Race:

- Sail both tacks at least once each, write down the headings on each with the time of day
- Try to determine whether it will be a day with persistent shift or oscillating shifts
  - ♦ If it's oscillating, try to figure out the period between shifts
  - ♦ If it's persistent, decide which way to go early
- Get the course & write it down. I pencil it on the cabin bulkhead.
- Write down the rhumb line for each leg and sail each angle to ascertain sail trim on that leg
- Set up your GPS with the whole course – not just the first mark
- Revamp your strategic plan now that you know the course for sure
- Go head to wind on the start line. The end closest to the wind direction is favored by wind alone. Don't be fooled by which end of the line is closer to the first mark. Understand the concept of "Ladder Rungs."
- Run the line & time it – use this to help you hit the line on time at start – you need good time-distance judgement.
- Get a line shot against the shore to keep you from being over early (foredeck assignment)
- Determine tide state at RC & pin and compare it to your personal forecast
- Set sail trim for upwind with a bit of power and leave it alone until you start. Set up genoa cars, mainsail, backstay, halyard tension or cunningham, outhaul, etc., for a starboard tack beat and leave them alone until after the start. Do NOT always leave the cars in the same spot for the whole race.
- Start a count-down timer & check it every time the RC raises a flag. Are they consistent? Be sure that you know exactly "What time it is" by the RC's watch or GPS.
- Plan your prestart dance using the time/distance estimates that you just got. (Elvstrom start, Vanderbilt start, triangle start, whatever)
- Plan & execute the start
  - ♦ Try to get a *good* start, but not necessarily a *great* start for which you might have to take huge risks.
  - ♦ Start on starboard unless there is a very strong reason to be on port
  - ♦ Get to the start line on time. Don't throw time away. By the same token, don't be over too early. Many people say you should be over early once a year.
  - ♦ Start at the windward (RC) end to get clear air if you are a small boat that doesn't point well and if you want to tack to port early. But starting right at the RC boat is risky – lots of people want that spot.
  - ♦ Start at the Leeward or Pin end if your boat is a "footer" or if you want to stay on starboard after the start
  - ♦ Start at the center of the line to get your nose in front of the line sag if your boat is fast or a pointer & for flexibility in route choice
  - ♦ Start  $\frac{1}{4}$  to  $\frac{1}{3}$  of the way from an end to stay out of the pack and bad air, but still get the side you want
  - ♦ Execute your plan, and work around problems as they come up. Don't change your plan during the start... stick with it.

## On The First Beat:

- Get to clear air; being in someone's wind shadow is not fast.
- Shift gears with sail trim – speed first, then pointing. How is the crowd of boats and sea state affecting you?
- In smooth water, steer straight. Don't overcorrect.
- In big waves, steer up the face and down the backs of waves.
- Using the halyards & cunningham, get the draft where you want it. Use the backstay & outhaul to get the amount of depth you want. Higher winds, flatter sails; moderate wind, deeper sails for more power. Keep powered up until you get away from other boats. Too much weather helm? Let the traveler down.
- After you are up to speed, keep the windward genoa telltale just barely lifting. Don't ever let the outer telltales stall.
- Bring the boom up to the boat's centerline and sheet it in. Top mainsail telltale is the best way to make fine adjustments to mainsail trim. Stalled = slow but high; streaming = fast but low; flicking 50% of the time = good.
- Keep the boat on her lines (heel angle and fore & aft trim) Fore & aft trim is very important with small boats with chopped transoms. (Don't bury the transom, especially on light-air days)
- Don't use too much rudder. Let the helm start each tack if you can.
- In anything but the strongest winds, it helps to have so drag the clew around the shrouds & mast when you tack.
- Start each new tack just 5° low. Bring sails in quickly until speed builds, then bring the last bit in.
- In a drifter, be patient and persistent; All controls should be loose – don't choke the sails – keep the air flowing over the sails and don't ever pinch in light air. Try not to tack very much in light air. It's better to keep the boat moving. Any boat speed you can get will generate apparent wind which will fill the sails and help you to trim better.
- In a drifter, "walk on eggs" and don't move around much. Sail a bit lower and faster to generate apparent wind.
- Write down headings on P & S with the times – tack on the headers if the course is long enough
- Pinch 'em off or foot away with speed, depending on your boat. Make your decision and do it. Bad air extends to leeward 6-10 boat lengths, a boat length astern, and ½ boat width to windward. Stay out of others' bad air and (if it's easy to do) put your nearest competitor in your own bad air.
- Sail your strategic plan – use rules & tactics to help you do this
- Unless there is some reason not to do so, sail the longer tack first – the one that takes you closer to the mark.
- Don't sail out to the lay lines on the 1st tack
- Anticipate what will happen when you converge with other boats. Don't get caught unprepared & have to improvise.
- When on port, crossing someone on starboard, dip behind them to save boatspeed if you are even with them. Don't be afraid to duck if it makes sense.
- "Slam-dunk" boats that rate the same as yours if you are ahead and have good boatspeed, or tack onto starboard on their lee bow, if you are ahead, but not far enough ahead to "Slam-dunk". If their boat is faster, cross ahead on port and keep going, or dip behind and keep going. Don't mess with a much faster boat – and don't mess with a slower boat.
- Check the current on every crab pot you pass & compare it to your forecast, and adjust your strategic plan.
- Keep clear air. Tack if you must. Being in someone's wind shadow is not fast.
- Never give up.

## **Closing on the First Mark:**

- Are we making trees on the mark? In a strong current, decide on how much you need to overstand or if you can cut it short and understand the mark. This takes experience, judgement and sometimes an iron resolve and nerves of steel. (Sometimes a little luck helps too). Keep watching to see that you are making trees, because that can change.
- Talk to crew about what will happen at the mark - sail trim drill - who will ease the backstay, outhaul, cunningham, move the cars, etc. when we get there?
- Don't tack in the 2-length zone. Get on the lay line outside the 2-length zone. (But not 20 lengths)
- Anticipate who will have ROW and/or room at the mark. Don't get surprised. Talk to your competition about the situation if you can do so without losing concentration.
- For pete's sake, don't hit the mark. If you owe room, give it up. If you need room, take it.
- What is your plan to exit the mark? The time to look up bearings is before you get to the mark. Execute the rounding, shifting gears as you come onto the new heading that you already planned for.
- Note the tidal current at the mark as you round. Talk about it so later, somebody will remember what it was.

## **Reaching:**

- Ease everything appropriately unless you are on a very close reach. Run your cars forward proportional to the depth of the reach. When in doubt, let it out.
- Sail your strategic plan and your "proper course" – high first, then wing, or rhumb line? Use your whisker pole to leeward if it makes sense. If it's a broad enough reach, consider reaching high, then running, or vice-versa.
- Compensate for current as needed. Are we making trees on the next mark? It's usually easy to offset a bit without losing speed on a reach. Sail high in the lulls to maintain speed; sail lower when it pipes up.
- How are the other boats doing that are higher/lower than we are? Higher courses are almost always faster, but they don't always generate faster VMG. As boatspeed builds, the apparent wind will go forward.
- Don't stop trimming sails because reaches are easy. My belief is that many people stall their sails on a reach. Don't do it. Whatever else happens, always keep the leeward genoa telltales and the mainsail leech telltales streaming. Your goal on a reach is to make the shape of both sails as close to identical as you can and keep all telltales going.
- If you are faster than someone ahead, should you pass high, or low? Whichever you decide, give him a wide berth or he'll come looking for you. Be far enough away from him that he won't want to bother with you.
- Never give up.

## **Closing on the Reach Mark:**

- Talk to crew about what will happen at the mark - sail trim drill - who will ease the backstay, outhaul, cunningham, move the cars, etc. when we get there?
- Anticipate who will have ROW and/or room at the mark. Don't get surprised. Talk to your competition about the situation if you can do so without losing concentration.
- If you owe room, give it up. If you need room, take it.
- What is your plan to exit the mark? Look up bearings for the next leg before you get to the mark. Execute the rounding, shifting gears as you come onto the new heading that you already planned for.
- Note the tidal current at the mark as you round. Talk about it or write it down so later on, somebody will remember what it was. Compare it to your forecast.

## **On the Run:**

- Don't stop trimming sails – sail trim = boat speed. Big gains can be made here. Wing & Wing? Double Headsails?
- Ease everything. Make the sails “fat” and let the mast go forward. Use a whisker pole.
- Use a pole lift in light air to keep shape in the genoa, and use a downhaul or foreguy in heavy air to keep from opening the leech too far. The foreguy acts just like a vang for the genoa.
- Always know exactly where the wind is coming from. Watch the masthead fly downwind.
- On a run and a reach, bad air follows the direction of the masthead fly. Stay out of others' bad air and (if it's easy to do) put your nearest competitor in your own bad air.
- Vang tightness controls mainsail twist. Use enough to prevent the leech from opening too far, but keep air flowing across the sails, even downwind.
- Fore & Aft trim is never more important than now. Reduce wetted surface in light air and induce heel to let gravity shape your sails. In big waves & wind, surf across the backs of waves to stay on them longer.
- In fine weather, steer straight. Weaving around is not fast and screws up your sail trim. But when the wind is variable, sail high in the lulls to maintain speed; sail lower to make better VMG toward the mark when it pipes up.
- Sail your strategic plan – resist taking a flyer if you can, but do it if it looks promising, especially if you are way behind.
- Are we making trees on the mark? You don't want to, unless you consider gybing downwind
- Make plan for final beat before you get to the mark
- Don't get discouraged if you aren't in front Never give up.
- Make a tactical rounding, especially if you are close ahead or close astern of another boat. If you come into the mark on the outside of a wheel, slow down to round on the inside in the second row. It's way better than being on the outside of the first row. If there's a boat right in front of you or right behind you, take a bite to windward immediately after rounding – this will help you stay out of their bad air.

## **On the Final Beat:**

- Don't sail to the lay lines early
- Sail the longer leg 1st
- Check headings on P & S, revise strategic plan as needed
- Determine which side of the line is favored
- Push all the way – don't stop trimming
- Never give up.

## **At the Finish:**

- Go to the favored end and shoot the line
- Have a beer & sandwich on the way home
- Review what you did right & wrong (*make a journal*) How was your
  - ♦ Prep
  - ♦ Strategy
  - ♦ Driving
  - ♦ Sail Trim
  - ♦ Crew Duties
- Go to the clubhouse & swap "there I was" stories