

Racing to Leeward Gates in Match Racing

Dave Perry

February 2012

Racing to a leeward gate in match racing makes for a more interesting race course, and one that keeps the race closer for longer into the race. Every sport is more exciting to play and watch when the outcome of the game is in question right up to the end of the game.

The two gate marks should be set about three lengths apart max, and set as square to the wind as possible. Keeping the two marks as close to each other as possible reduces the affect of the bias if the gate is not square to the wind. It is not a significant issue that the zones overlap.

Here are some tactical thoughts for the competitors when racing to a gate...

For clarity's sake, I will refer to the two marks as they appear when racing downwind towards them. The mark on the left (looking downwind) will be the "left-hand mark", and the other the "right-hand mark."

Also, keep in mind that racing to the finishing line on leg 4 is the same as racing to a gate, with the only difference being the boats must actually round the gate marks. But tactically, the game is very similar.

The leading boat has the advantage of being able to choose which gate mark to round; the trailing boat has the advantage of being able to choose to round the same mark as the leader, or not. This makes the game much more interesting for both boats, and makes rounding behind the leader much less disadvantageous.

When the trailer rounds the same mark as the leader (which they are forced to do with a single leeward mark), they have two not-great choices: stay on the same tack and sail in the disturbed air and water of the leader; or tack (often when downspeed after the rounding). The problem is usually that the leader will tack with the trailer, ending up in a very strong position to start the second beat.

With a second mark to choose from, the trailer will normally round the other mark than the leader did, starting the beat in clear air and water, and out of phase with the leader. This opens up far more tactical options for attacking and trying to pass, or stay close to, the leader.

When wouldn't the trailer round the other mark than the leader did?

If the bias in the gate is significant (10 degrees or more), the gain from rounding in clear air and water will be less than the loss of sailing the extra distance to round the other mark. Thought must be given when approaching the gate as to whether one of the marks is noticeably more upwind than the other.

But if the marks are relatively square to the wind, and one side of the beat is significantly favored, and the leader rounds the mark closer to that side, then rounding the other mark than the leader rounded and tacking immediately is a better way to get to the favored side. If you round the same mark as the leader, you will end up tacking almost immediately "away" from the favored side (to clear your air), and the leader will easily be able to prevent you from ever getting to the favored side if they want to.

How should the leader decide which mark to round?

There are many considerations that go into the decision on which mark to round, for both boats.

- 1) is one mark more upwind, and by how much?
- 2) is one side of the beat significantly favored?
- 3) which rounding provides the easiest / fastest boat handling?

To determine if one mark is more upwind than the other, you can watch boats ahead of you round and exit the gate, look at flags on nearby race committee boats, and eyeball the two marks yourself. And you will give some

thought about the next beat about halfway down the run, again watching matches on that leg, thinking back on the leg you just sailed, and eyeballing the water.

As for picking the easiest / fastest rounding, one consideration is that in light air a gybe around the leeward mark is very slow. Taking the rounding that doesn't require a gybe will be faster in light air. This factor is reduced in more breeze, but gybing is always slower and more risky (and difficult) than not.

If all things are pretty equal, rounding the right-hand mark will require one less gybe on the run and an easier rounding, and rounding the left-hand mark will position the leader to the right of the trailer, giving them the initial starboard-tack advantage. It is also easier to defend the inside position racing to the left-hand mark, as the inside position can be held on starboard tack.

Bill Hardesty, currently the highest ranked U.S. skipper and tactician for Ian Williams (winner of two World Match Racing Tour Events in 2011), says, "we just try to keep it simple and plan to round the right-hand gate mark (looking downwind) unless the left-hand mark is favored. Setting up to round the right-hand mark leaves us the option to gybe and round the left-hand mark if we choose to."

Setting up the approach to the gate...

The interesting thing about the gate is that it provides four laylines, or approaches, to the gate. Before the leader is sure which mark to round, they can gybe before arriving at any of the laylines, thereby keeping their options open longer. Once a boat has passed the first layline to one of the marks, they will have overstood that mark if they later decide to round that one.

Early in the leg, often the leading boat gybes to starboard and the trailing boat matches the gybe, trying to take the wind of the leader and roll them. Often this fails, and the trailer is left to windward of the leader with the leader's wind in front of or behind them. This is a weak position with a single leeward mark. With the gate however, if the leader sails past the port-tack layline to the left-hand mark, the trailer can gybe on this layline with the initial plan to round the left-hand mark. And if the leader does gybe on this layline, the trailer can do the same, leaving them the option of later gybing on the starboard-tack layline to the right-hand mark and rounding that one in clear air.

Furthermore, the trailer can gybe *before* the port-tack layline to the left-hand mark, getting them to the right of the leader (if the leader does not match their gybe) with the possibility of using their starboard advantage later in the leg; and still having the option of gybing on the starboard-tack layline to the right or left-hand mark as they choose.

If the leader does not gybe early in the leg, then they will have to decide whether to gybe on or before the starboard-tack layline of the right-hand mark. If they do, the trailer has the option of continuing and gybing on the starboard-tack layline to either mark. If the leader passes the starboard-tack layline to the right-hand mark, then the trailer can choose to gybe on this layline and do a no-gybe rounding of the right-hand mark, while the leader will do a gybe rounding around the left-hand mark.

As there are more options for approaching and rounding the gate marks, more discussion needs to occur early in the leg about the plan and options.

Will there still be fights and close action downwind?

Absolutely Yes! Some express concern that the boats won't get involved in the heavy fighting that occurs when the two boats find themselves off to the right side of the run, looking downwind. But this will absolutely still occur, and both boats need to be ready for it. If the leeward boat gains control of the windward boat and turns rule 17 off (i.e., retains or gains luffing rights), then they will simply force the windward boat well past the port-layline to the right-hand mark as usual.

The differences with the gate in this downwind fighting are:

- 1) as the boats approach the right-hand mark on port tack, the leader will need to decide if they want to gybe around the right-hand mark, giving the trailer the option of reaching over and rounding the left-hand mark and picking up the starboard advantage; or round the left-hand mark themselves, leaving the trailer the choice of following the leader or gybing around the right-hand mark.
- 2) if the leeward boat does not turn rule 17 off, they can gybe safely on the port-layline to the left-hand mark. The only attack left for the windward boat would be to try to gybe simultaneously with the leeward boat and remain overlapped and with luffing rights. But even if the old leeward boat does manage to pull clear ahead on port-tack, the trailing boat can still round the right-hand mark in clear air to begin the second beat.

Are there any rule differences when using a gate?

Yes, one. Rule 18.4 does not apply at a gate mark. (Rule 18.4 is the rule that requires an inside right-of-way boat to sail no farther from the mark than her proper course when her proper course includes a gybe.) Rule 17 still does, so if an inside leeward boat got the overlap from clear astern, then rule 17 requires her not to sail above her proper course, and she would have to gybe to round the nearer mark if that was clearly her proper course.

But, if the inside leeward boat did not come from astern, then she has “luffing rights” and she does not need to gybe to sail her proper course; in fact she can luff the outside boat inside the zone. So outside windward boats need to be much more careful. Of course, once either boat sails into the zone to the other mark, the leeward boat becomes the “outside” boat at that mark and must give the windward inside boat room to sail to the mark (mark-room). So there is risk involved with luffing someone in the zone, because the leeward boat may get a penalty for failing to give mark-room at the other mark.

Also, for the same reason, if the boats are approaching the left-hand mark (looking downwind) on opposite tacks, the inside starboard-tack boat does not need to gybe to round the mark, and the outside port-tack boat is smart not to get so close to the starboard-tack boat that she is forced to gybe away to keep clear.

One rules issue to be aware of...

If one boat (A) is clear ahead of the other (B) and if A sails into the area between the marks where the zones are overlapping, then A has reached the zone of both marks clear ahead and B owes her mark-room to both marks for as long as A stays inside both zones. A can change her course as much as she pleases; so B is smart to stay clear astern of A until A is committed to going to one of the marks. Normally A won't slow down when going through the gate, but if she has a penalty, she might use this opportunity to try to trap B. Note: the fact that A has this tactical opportunity is not a reason to separate the gate marks, which would risk the effectiveness of the gate altogether.