

WANDERERS RULES QUIZZES

Kim Klaka June 24

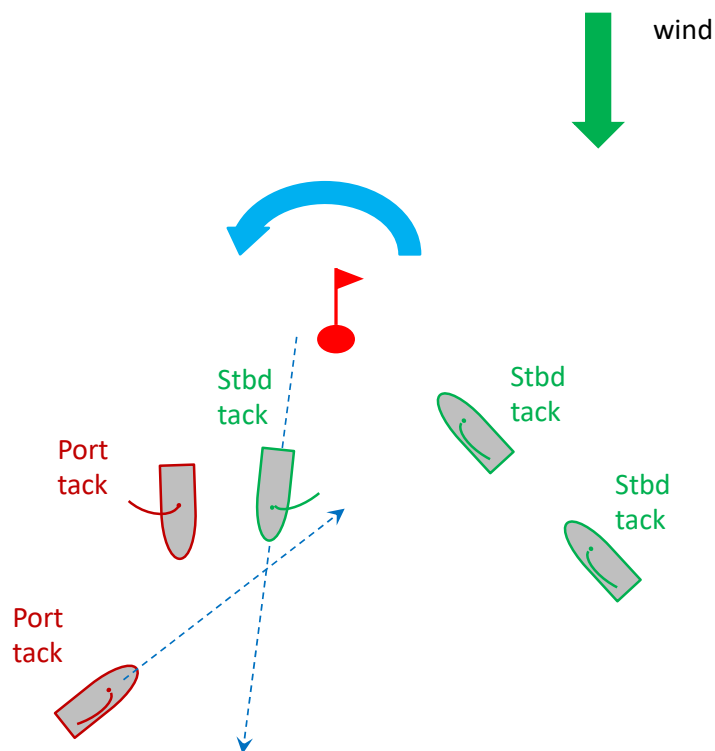
Preamble

These eleven rules questions are intended to help the average club sailor know what do in a typical situation at the time they occur. These are situations that occur on our regular Austin Lakes courses, where we round top marks to port, use a wing mark at the top and a "gate" at the bottom. The explanations are brief and general; experts will doubtless identify ambiguities and exceptions. The key to coming out ahead during these scenarios is to avoid getting into them in the first place. If you sail at a very competitive level (e.g. State or National championships), then you will need to look at more advanced guidance from other sources in order to keep yourself out of trouble.

Background and terminology

port tack and starboard tack

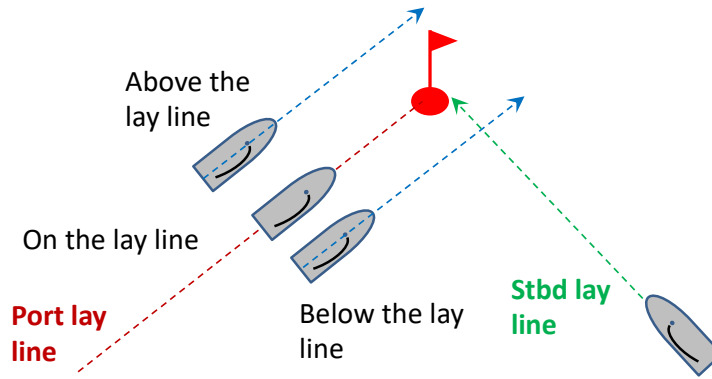
The side from which the wind is blowing. It doesn't matter whether you are sailing upwind or downwind. Therefore the phrases "starboard tack" and "starboard gybe" mean the same thing as far as the rules are concerned.



Lay line

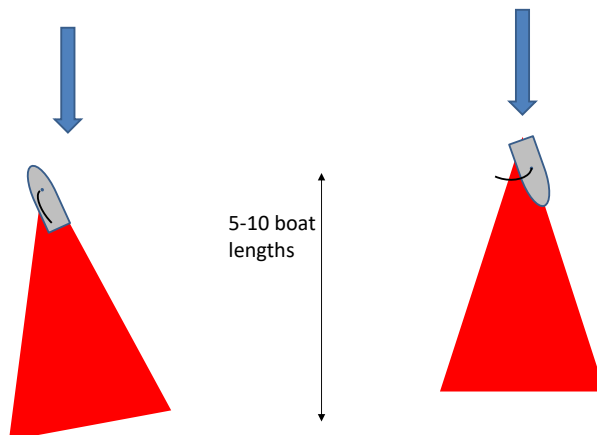
(Usually only used for the top mark) If you sail along this line it will take you exactly to the mark - neither above nor below it. There is a port tack lay line on the port(left) side of the course, and a starboard tack lay line on the starboard (right) side of the course.

the “lay lines”



Wind shadow

The wind shadow cast by a boat is the area of disturbed wind created by its sails. You want to avoid sailing in this region if possible because it will slow you down. The wind shadow can extend up to 10 boat lengths downwind. Note in the diagram below that it extends slightly across the wind as well as directly downwind, so you could find yourself affected even if you are slightly to windward of the other boat.



Fundamental rules

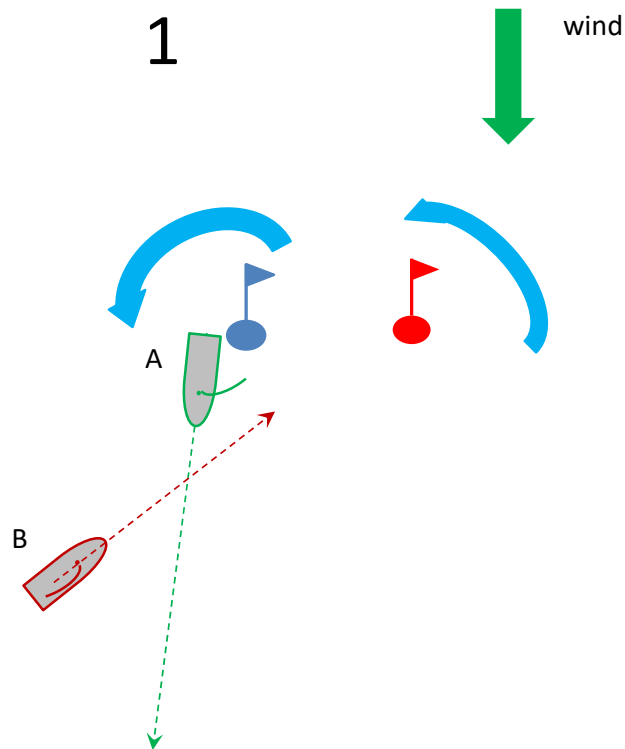
You won't find the rules written like this in the rule book, they are laid out there in a much more complicated way in order to be precise and to cover all eventualities. Here are the basic rules as you really need to know them, **in the order of priority in which they are applied:**

1. Try to avoid a collision.
2. Be nice.
3. Don't tack in another boat's way.
4. Port tack boat keeps clear of starboard tack boat.
5. Windward boat keeps clear of leeward boat if both boats are on the same tack.
6. Boat clear astern keeps clear of boat clear ahead.

Some common situations

1. Top Mark - upwind and downwind

A race is being run on our typical course where the windward mark then the wing mark is rounded to port, then the next leg is to sail dead downwind to the gate marks. Yacht A has just rounded the wing mark (the blue one) and is sailing downwind on starboard gybe. Yacht B is still making its way up to the windward mark (the red one), sailing to windward on port tack (see diagram 1). It is on a collision course with Yacht A. Who has right of way?



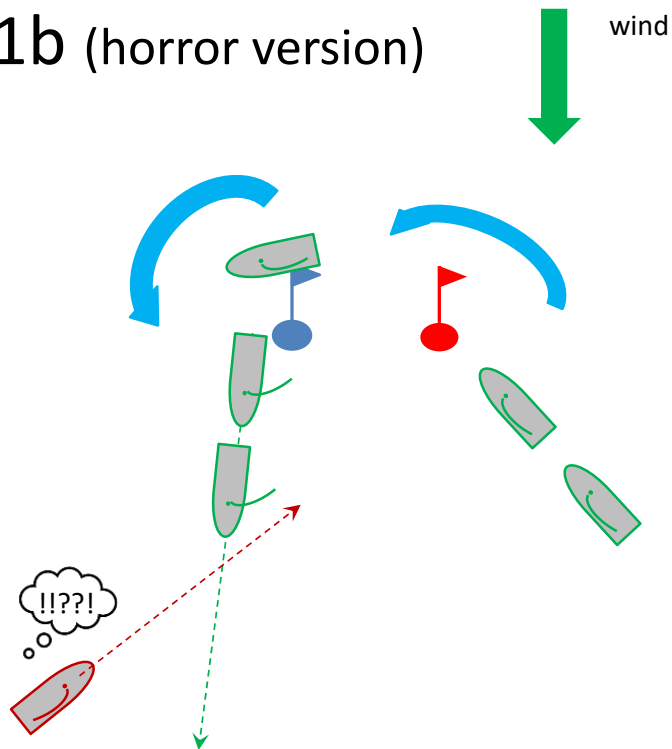
Answer:

This is a very common situation so it is worth knowing your rights and obligations. The answer is very simple: you apply the fundamental rule that starboard has right of way over port. So yacht A, which has rounded the mark and is sailing downwind on starboard, has right of way over yacht B which is still making its way up to the mark on port. It doesn't matter that one is sailing downwind and the other is sailing upwind.

The situation gets quite tricky on the water if the port tacker is sailing close to the mark and on the lay line, when a boat ahead "suddenly" rounds the wing mark and comes towards you on starboard.

You have to respond quickly and you also have to anticipate what the starboard tacker is likely to do. It gets really messy if there are a stream of boats going both upwind and downwind (see diagram 1b).

1b (horror version)



Port tacker strategy:

A good way of avoiding getting into this situation if you are the port tacker, is to get onto port tack well before you are at the lay line. This gives you plenty of time to eye-up the starboard tackers heading down towards you, so you can take early avoiding action. Staying below the port tack lay line also helps prevent you getting tangled up with starboard tackers at the mark. (I really should take my own advice more often!)

Starboard tacker strategy:

This is a good example of when having right of way doesn't mean you should necessarily enforce it. Again, anticipation is key. If you are about to round the wing mark on starboard and there will be a port tacker in your way as soon as you have rounded, it may well be quicker to stay a bit high of your new course in order to keep clear of the other boat, even though you have right of way. However, you need to make your intentions very clear to the port tacker, otherwise you could confuse them and cause a collision. Regardless of who is right or wrong in that situation, collisions really slow you down so it is worth "sacrificing" your right of way in order to avoid one.

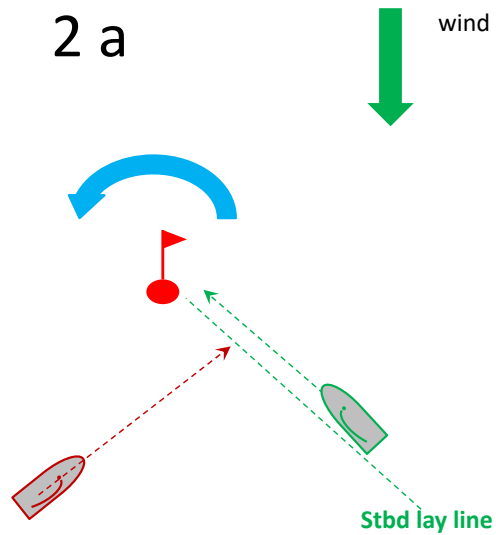
2. Top mark - boats going upwind opposite tacks

When two boats are approaching the windward mark on opposite tacks, which one has right of way in each of the following situations:

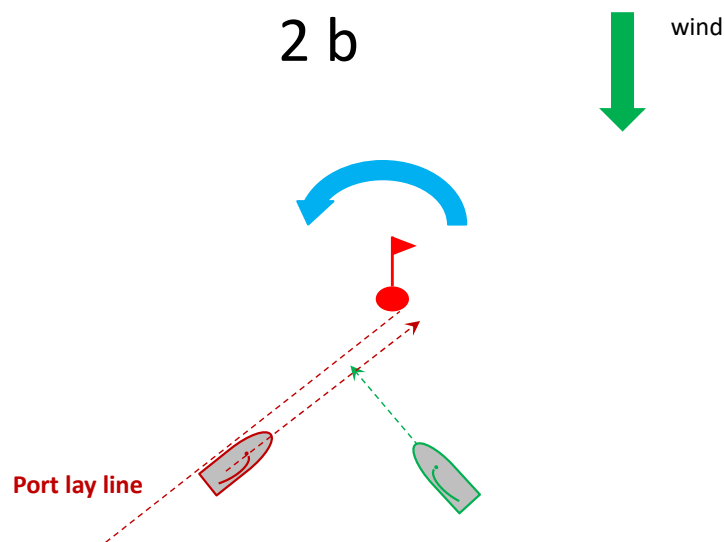
a) when mark rounding is to port and the starboard tack boat is on the lay line (see diagram 2a).

b) when mark rounding is to port and the port tack boat is on the lay line (see diagram 2b).

2 a



2 b



Answer:

You might say this is a trick question, because the answer to each scenario is the same - starboard tack has right of way (the fundamental rule). There is a useful concept that can be applied on the water in these situations: if boats are approaching the windward mark on opposite tacks, then take away the mark and apply the rules i.e. the situation is the same as if you were half way up the beat.

Things get a bit different and more complicated once the boats are on the same tack, but that situation will be a quiz question for another time.

Situation 2a: Port tacker strategy

It is tempting to tack onto starboard just before you get to the starboard tacker, but you will be completely stuffed if you can't make the mark. The details of your rights after tacking are the subject of a later quiz question; the fact that it is complicated means this is probably not a good strategy. Your best option is probably to "duck" - bear away and go behind the starboard tacker before tacking onto starboard yourself. If there are a stream of starboard tackers coming across, you are going to have to duck a lot of sterns. If you don't think you can get behind the starboard tacker(s), try letting the sails out completely to slow the boat down. At best this will avoid a collision; at worst it will make for a softer collision.

The best strategy of all is to avoid being on the port lay line by tacking onto port well before you get there, then come into the mark on starboard like the other boat is doing.

Situation 2a: Starboard tacker strategy

You have done the right thing tactically by coming into the mark on the starboard lay line and you have right of way. It makes sense to call "starboard boat number xxx" nice and early, and maybe more than once. It might also be a good idea to call "go behind me" if that is what you would prefer them to do. If the port tacker is a novice they will (should) be grateful for your advice on what to do. If the port tacker is an experienced sailor, they will take that advice to mean "tack at your peril, this is not going to end happily for you". If the port tacker seems intent on continuing their course, you are required to take action to avoid a collision (fundamental rule: try not to hit anyone). You have three options - go behind the port tacker, slow down and let them go ahead, or tack onto port. The best option is usually the last one - tack out of their way (then invite them to do their penalty turn).

Situation 2b: Port tacker strategy

You can either tack, or go behind the starboard tacker. If you tack you must do so early - you cannot force them to change course. You will have to tack back onto port again for the mark; but the starboard tacker is in your way, so you must wait for them to tack for the mark. If you duck them you will have to tack again very soon in order to get to the mark. Meanwhile the starboard tacker will have tacked onto port. This leads to a rapidly changing close-quarters situation; you need to be confident not only of your rights and obligations, but also that the other boat knows their rights and obligations.

The best strategy of all is to avoid being on the port lay line in the first place, by tacking onto port well before you get there, then come into the mark on starboard on (or just above) the starboard lay line.

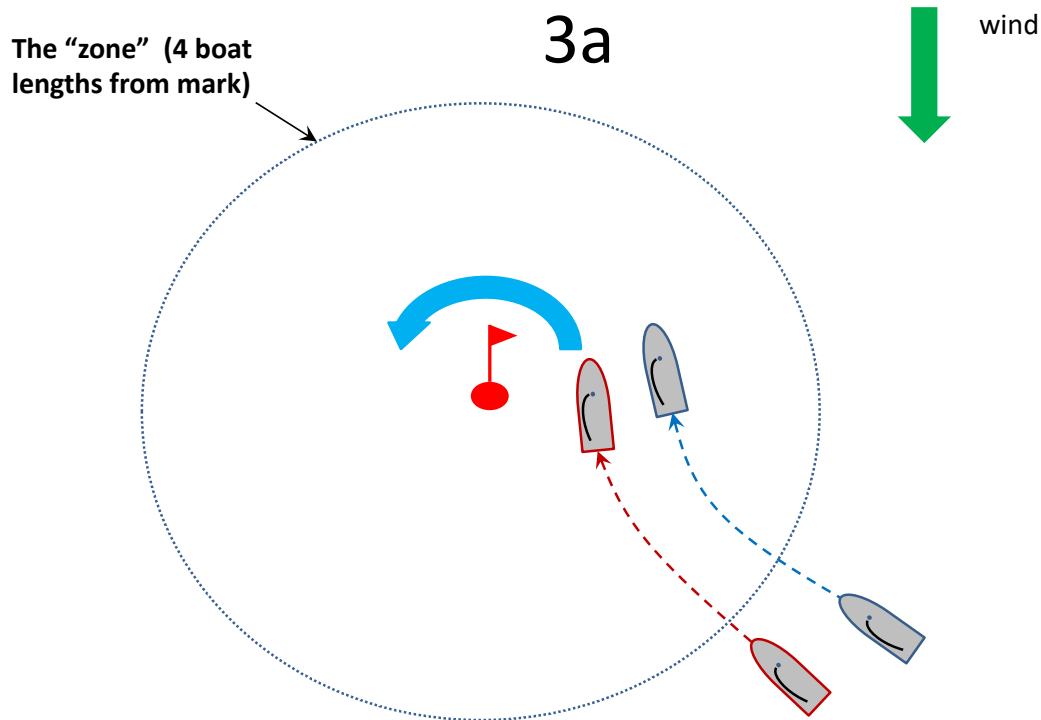
Situation 2b: Starboard tacker strategy

Although you have right of way, you have put yourself in an awkward tactical situation by coming in below the starboard lay line and therefore having to make a couple of quick tacks in order to get round the mark. Your best strategy is to tack onto port well before the other boat is near you. This puts enough space between the boats so that you can tack back onto starboard when you get to the lay line, without tacking in the other boat's water (not allowed; fundamental rule).

Your best avoidance strategy is to come into the mark on, or slightly above, the starboard lay line. If you have misjudged it and you find yourself slightly below the lay line, it is usually better to tack over to port straight away and have another go at getting right, rather than praying for a wind shift to miraculously lift you up to the mark.

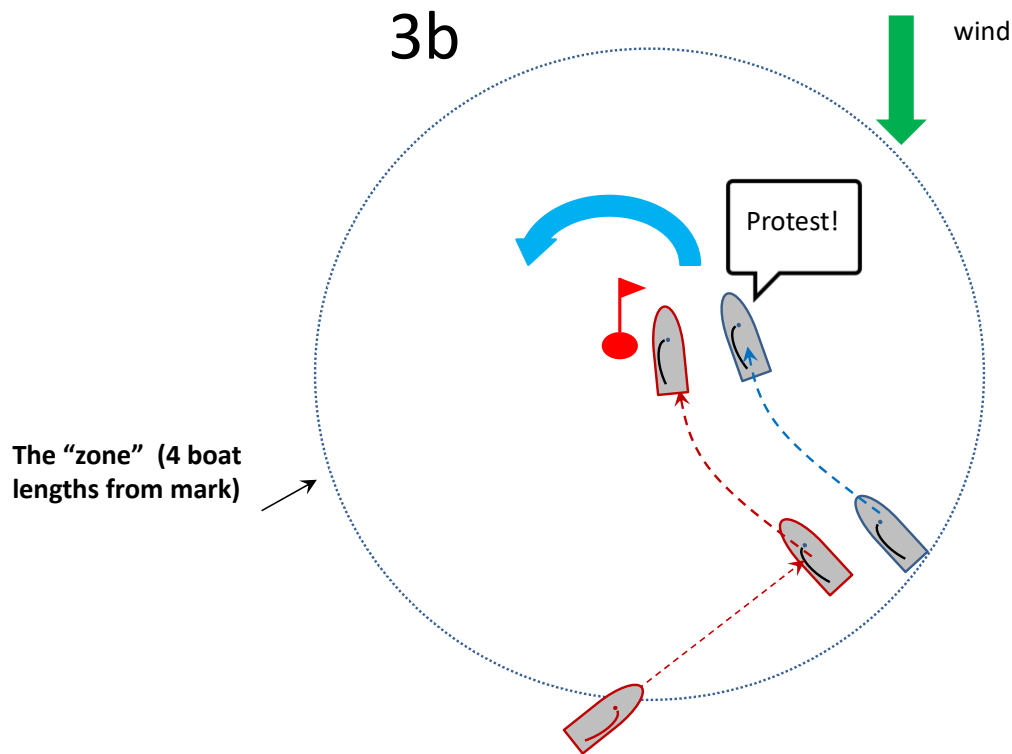
3. Top mark - boats on same tack

Two boats are approaching the top mark, both on starboard tack. The mark has to be left to port as usual. The leeward boat is not quite making the mark, and has to luff up almost head to wind in order to get past the mark. This will require the windward boat to also change course and point above close-hauled (see diagram 3a). Is the leeward boat allowed to do this?



Answer:

If the situation is like the diagram above then yes, the leeward boat can push the windward boat up in order to get round the mark. This is often called "shooting the mark". The leeward boat can point up as far as head-to-wind, but it is not allowed to tack. This assumes that both boats are already on starboard tack when they enter the "zone". However, if they were on opposite tacks when they entered the zone, things are different....



If the leeward boat tacked onto starboard within the zone, it is not allowed to push the windward boat up above a close-hauled course. This catches some sailors out because:

- a) it doesn't apply on a starboard rounding and
- b) it is a relatively new rule.

Leeward boat strategy

If you can't make the mark for whatever reason, your best (only?) option is to bear away hard, gybe and go behind the other boat, then tack for the mark once you know you can make it. To avoid the situation, make sure you are on (or slightly above) the starboard lay line on starboard tack before you enter the zone.

Windward boat strategy

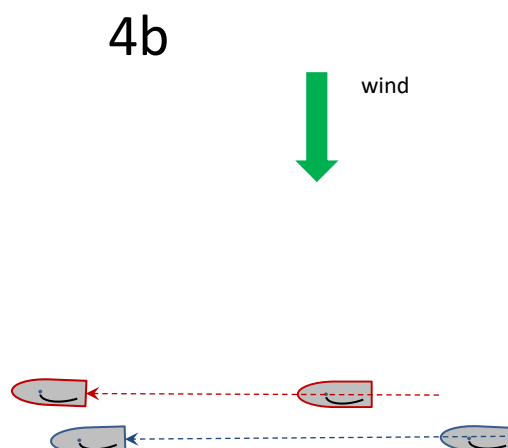
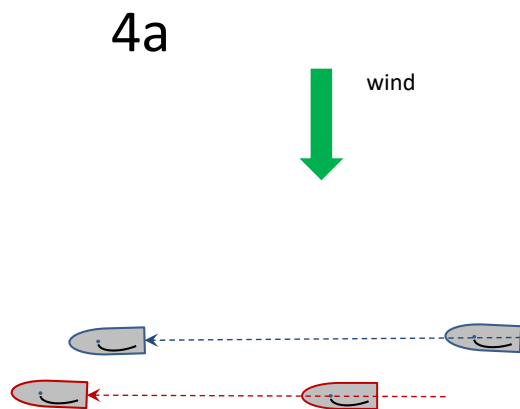
If the leeward boat has the right to push you up (situation 3a), just go up with them. If you can maintain good speed you might be able to sail past them when they are floundering around trying to get up to the mark. If the leeward boat does not have the right to make you sail above close-hauled (situation 3b), you will still have to go up with them because you are required to avoid a collision (fundamental rule), but you should invite them to do their penalty turn.

4 Anywhere - boats on same tack or gybe (the "luffing" rule)

A boat (the blue one) that was clear astern is travelling faster than you (the red one) and starts to overtake.

a) What are the constraints on where you can go if they are overtaking to windward of you? (see diagram 4a)

b) What are the constraints on where *the other boat* can go if they are overtaking to leeward of you? (see diagram 4b)



Answer

a) overtaking to windward

If they are overtaking you to windward then you can point up as far as head to wind if you want, just do it slowly enough to give them time to respond. This procedure is called luffing. Some older sailors might call "mast abeam" at some point; this tells you that they don't know the current rules (this call was removed from the rule decades ago). Invite them to read a rule book that was printed this century.

Leeward boat Strategy

The reason for pushing them up is to prevent them getting past you. However, if you leave it very late before heading up it probably won't work. If you want to push them up, then start pointing high well before they get to you, and make it a significant course change. This does two things: it makes it harder for them to get above you, and it shows them that you are not going to let them pass to windward of you.

Windward boat strategy

This is much the same as the leeward boat strategy - get high above the other boat well before you get to them and make it a significant, obvious move. This gives you more space to get past without being luffed, and shows the other boat you really mean to pass to windward, come what may.

The difficulty with these strategies is that, if both are applied, the two boats end up pushing each other way above the course to the mark, letting other boats slip through to leeward. Don't let your obsession with the boat next to you cause you to lose out to other boats. There is no clear guidance here, but I find it is often not worth luffing someone, and it is rarely worth being luffed. It is usually better for each boats' overall fleet position if they can silently agree to just keep steering a straight line for the mark; there will be other opportunities to overtake that don't make your overall fleet position suffer.

b) overtaking to leeward

If a boat is overtaking you to leeward, they are not allowed to sail above their proper course. What is their "proper course"? It is the direction they would steer to get around the course in the fastest possible time, if there were no other boats around. In practical terms this usually means you are steering your proper course if you are pointing at the mark (except if beating to a mark). You might want to point high (or low) to take advantage of an anticipated wind shift, but you would have a hard job in a protest proving that it was still your proper course. So the answer is that the leeward boat shouldn't point higher than the mark. The windward boat has a similar obligation; it can't point lower than the mark. It makes sense - you don't want the boats converging and then colliding.

Windward boat strategy

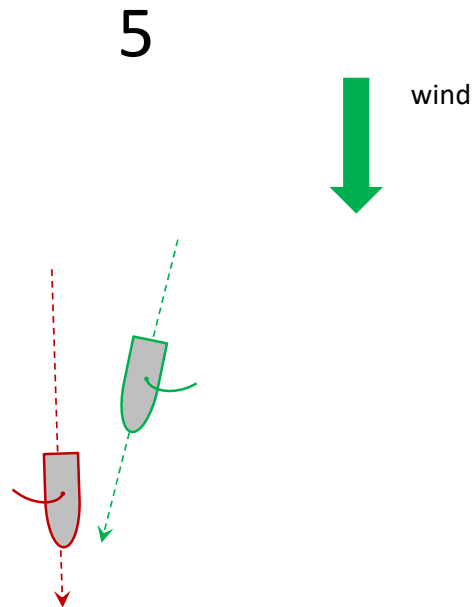
There isn't much strategy. If a boat overtakes to leeward it will only get so far before it sails into your wind shadow, then it slows down and you catch up. It gets a bit interesting (i.e. complicated and exciting) if you are approaching a mark, but that is the subject of another quiz question.

Leeward boat strategy

If you have decided to overtake to leeward, you have a limited chance of getting right past the windward boat because of the windward boat's wind shadow. Your best option is to sail really low so that you are a long way to leeward of the other boat (maybe 5 boat lengths). You might then keep clear of their wind shadow. However, you will cover more distance to do this so you have to be quite a lot faster than the other boat for it to work. You will probably just have to bide your time until you approach the mark, then try and get ahead at that point.

5. Downwind - boats on opposite gybes

You are sailing downwind on port gybe (the red boat) in diagram 5). A boat behind you on starboard gybe (the blue boat) is catching up and has started to overtake you on your windward side. Which boat has to keep clear?



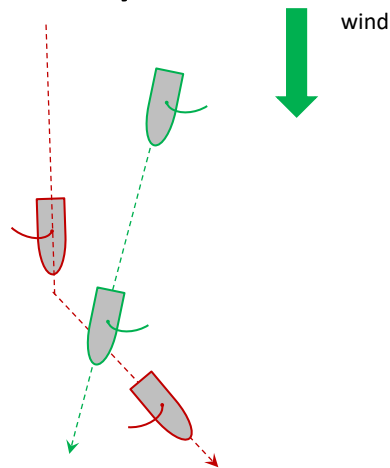
Answer

The key to getting this right is to know the sequence (priority) in which the basic rules apply. You have two apparently conflicting rules - windward boat keeps clear of leeward boat, and port tack keeps clear of starboard tack; which one prevails? The port/starboard rule is the one that always takes priority; the windward/leeward rule is only for boats on the same tack (or gybe). So the boat on port gybe has to keep clear of the boat on starboard gybe, even if the starboard gybe boat is overtaking.

Port gybe boat strategy

If you notice the approaching starboard gybe boat early enough (several boat lengths back), you can point high (i.e. towards the wind) to get out of their path (see diagram 5a). This keeps you out of their wind shadow.

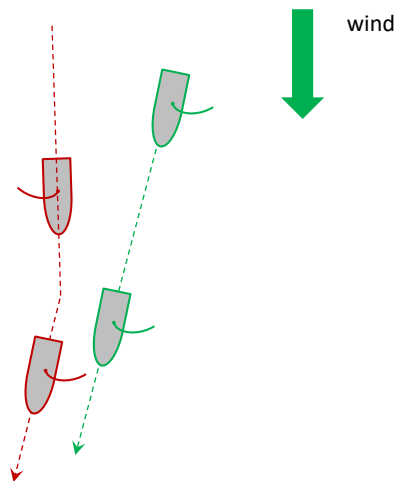
5a: early action



It is too dangerous to do this if they are close, because you absolutely must keep clear of them.

If you have left it too late and they are quite close, you have no choice but to gybe onto starboard to keep out of their way (see diagram 5b).

5b: late action



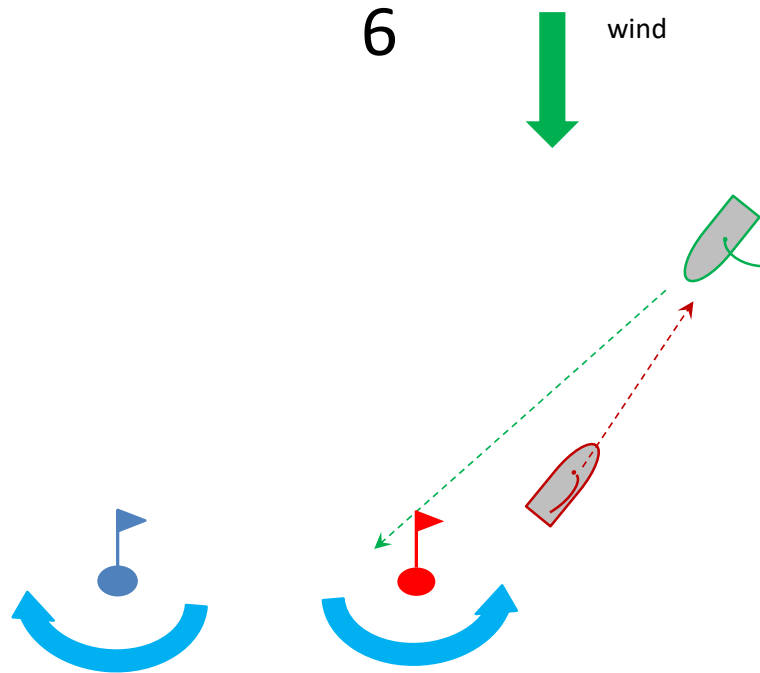
Now that both boats are on the same gybe, the windward/leeward rules apply and you are in the "is luffing allowed?" situation - see separate quiz question.

Starboard gybe boat strategy

You are in a commanding position because the other boat has to keep clear. It is often best to try and keep the other boat on your starboard side as you overtake them. That way, you are free to gybe onto port at any time and get away from their wind shadow if you want to.

6. Bottom mark - upwind and downwind boats

You have just rounded one of the gate marks at the the bottom of the course and you are beating back up the course on port tack. There is a boat still running downwind towards the mark on starboard gybe, just to windward of you (see diagram 6). Who has right of way?



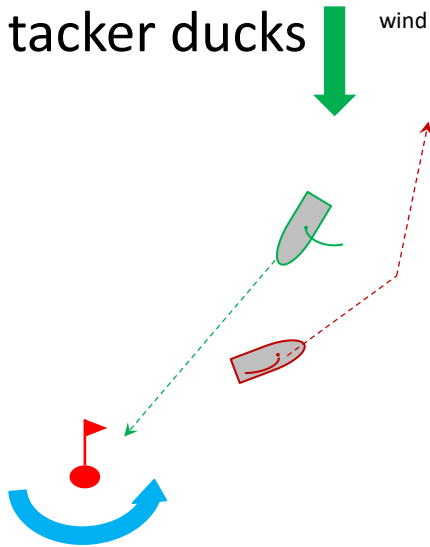
Answer

The boat running downwind on starboard gybe has right of way over the boat heading upwind on port tack (fundamental: rule starboard has right of way over port, which overrides the windward/leeward boat rule).

Port tack boat strategy

if you want to continue on port tack then you will have to bear away a bit to keep clear (see diagram 6a).

6a: port tacker ducks

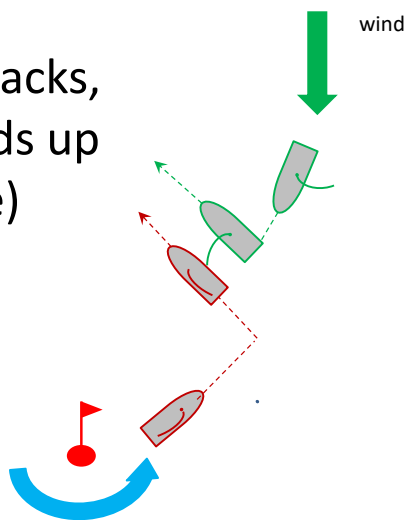


If you were already thinking of tacking onto starboard, you could do so by tacking in front of them, but you must complete your tack before the other boat has to start keeping clear. If you have managed to do that, you are now both on the same tack and windward boat must keep clear (fundamental rule).

Starboard tack boat strategy

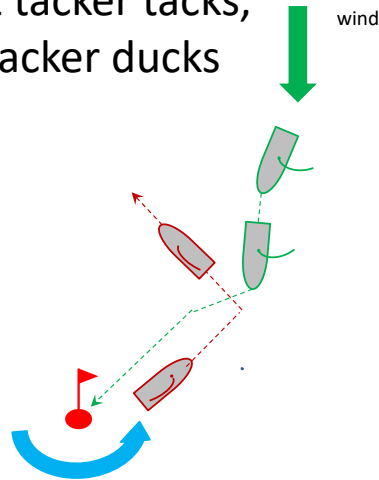
You have right of way so you can sail straight for the mark. You can even bear away if you want to, but you mustn't hinder the other boat's attempt to get out of your way (fundamental rule). However, you need to be on the lookout for the other boat tacking onto starboard in front of you. If that happens (and they have completed their tack without getting in your way), you are now both on the same tack and you are windward boat, so you must keep clear. If you go up with them (i.e. stay on their windward side) you are going to be carried back up the course! (see diagram 6b)

6b: port tacker tacks, Stbd tacker heads up (undesirable)



It is better to duck behind them if possible (see diagram 6c). If that is not possible it might be possible to slow the boat down by bringing the sails in tight, letting the other boat get past you.

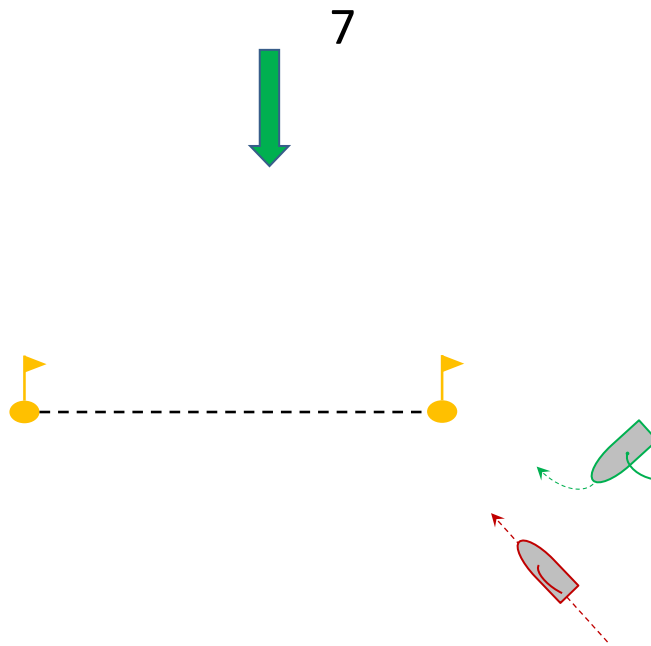
6c: port tacker tacks,
Stbd tacker ducks



7. Start line - the "no barging" rule

You (red boat) are heading towards the start line on starboard, near the right-hand start mark. There is a (green) boat to windward of you (also on starboard) trying to get into the gap between you and the mark (see diagram 7). What are your rights and obligations:

- a) before the start gun
- b) after the start gun

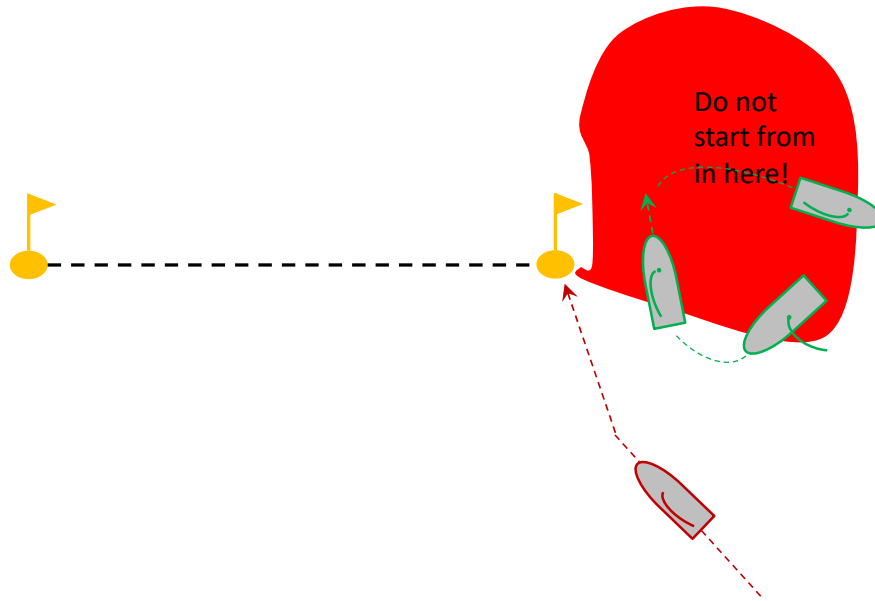


Answer

This is the famous "no barging" rule, but even some experienced sailors don't realise there are two distinctly different parts to it - before the gun goes and after the gun goes. The key to understanding what you can and cannot do is the notion of your "proper course". Your proper course is the course you would sail to get round the racecourse as fast as possible, assuming there are no boats in the way. That seems very clear, but what is your proper course before the gun goes? There isn't one - you don't have a defined direction to go in, so you can sail in whatever direction you want to as long as you obey the rules. Now let's see how all this works...

- A) Before the gun. This is the classic case of where the upwind boat is barging. It is not allowed. The right for room at a mark does not apply at starting marks. You are both on starboard so you as the leeward (red) boat can luff (steadily, not suddenly) the windward (green) boat up to head to wind and block the other boat out (see diagram 7a). You can't go beyond head to wind because that would be tacking, and you would be tacking in his way.

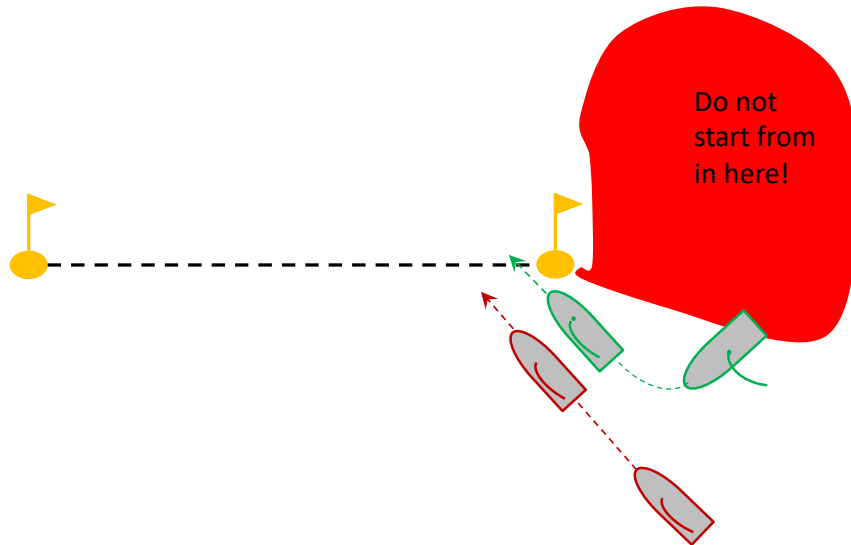
7a: Before the gun



So you can close the gap between you and the mark if you want to. However, once the gun goes.....

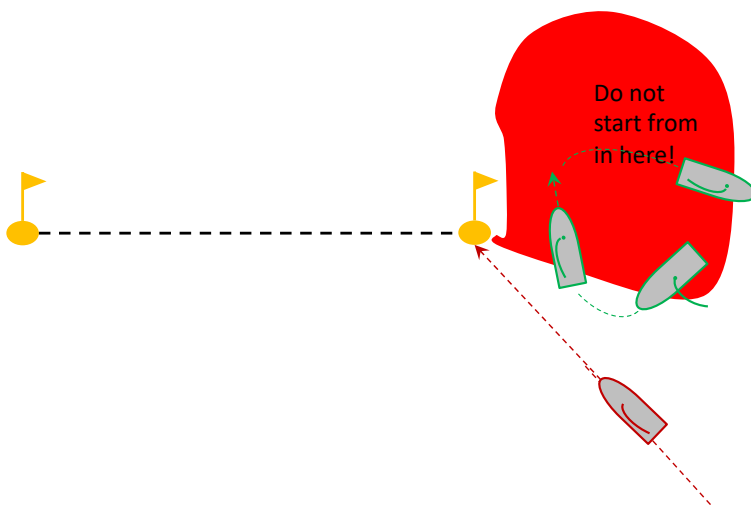
- b) The gun has gone and there is now a proper course - close hauled to the next mark. You can sail close hauled but not above it (that's a simplification, but a wise assumption for the non-expert). If you have left a gap between you and the mark then the other boat is entitled to go there (see diagram 7b).

7b: after the gun –
if you left a space



But if there is no gap then the other boat cannot force you down and create a gap - you cannot be forced by the windward boat to sail below your proper course (see diagram 7c). If the other boat calls for room at the mark then they do not know the rules - there is no requirement to give room at start marks (except to avoid a collision - fundamental rule).

7c: after the
gun – if still no
space



Leeward boat strategy

You are in a strong position before the gun because you can push the other boat out and protect your preferred spot right at the mark. If you have left a gap when the gun goes, there is not much you can do about it. You might think that the best strategy is to approach the start mark from slightly above the lay line, to ensure there can be no gap when the gun goes. However, if there is a boat to leeward of you, then you now become the barging boat and they can keep you out. The best strategy depends so much on the position of the boats around you that there is no general guidance offered here. That is one reason I tend not to start at the right-hand side of the start line.

If the windward boat insists on barging, you must let them in (fundamental rule: avoid a collision), but invite them to do their penalty turn.

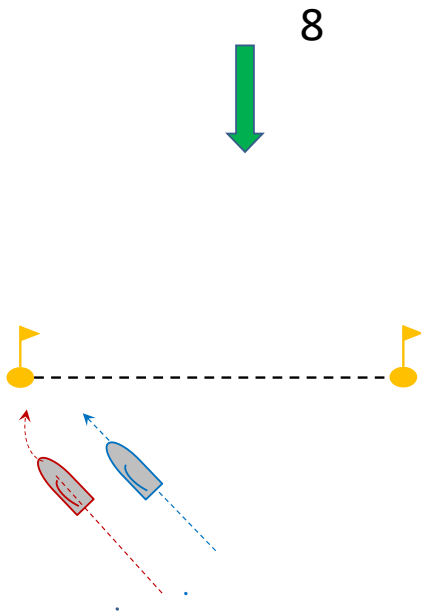
Windward boat strategy

Oh dear, oh dear, you are not in a pretty position for either situation a) or b). Situation b) is bit more hopeful, but it relies on a fair bit of luck to get out of it without acquiring a penalty. If it is clear that there is not going to be a space for you at the mark then you need to tack onto port as soon as you realise this. Get/keep clear of other boats then gybe round onto starboard and do your start approach again. You will now probably be at the back of the fleet, but don't get despondent: just hit the mental "reset" button and look at the new opportunities you have created. You will probably be sailing in clear wind because the other boats are ahead and perhaps to leeward of you; and you can choose whether to stay on starboard or tack onto port i.e. your first-leg strategy is not constrained by the presence of other boats.

You are not going to get away with barging in - it is almost impossible to demonstrate that you were in the right. If you get confused or whatever and end up barging, just say sorry and do your penalty turn.

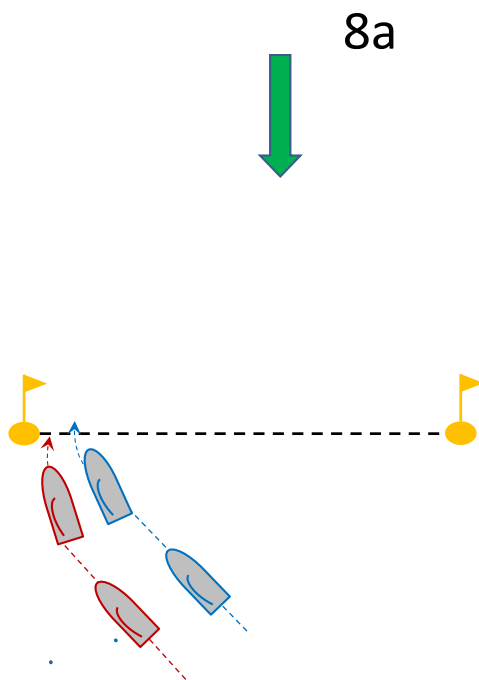
8. Start line - the left-hand end

Two boats are starting on starboard tack at the left end of the line. The leeward boat is not quite making the start mark i.e. it is below the lay line for the mark (see diagram 8). Are they allowed to luff up to get past the mark, pushing the windward boat up as a consequence?



Answer

Yes, they can luff as far as head to wind i.e. "shoot" the mark (see diagram 8a). The leeward boat cannot go beyond head to wind because that would be a tack and you are not allowed to tack in the way of another boat. Note that the right to shoot the mark is the same before and after the gun goes, unlike the barging rule.



Windward boat strategy.

There is not much you can do once the situation has developed, but you are not significantly disadvantaged by having to head up to allow the leeward boat in. If you can foresee it happening well ahead of time it might be worth heading up early to create more space between you and the leeward boat, so you are not affected by their antics.

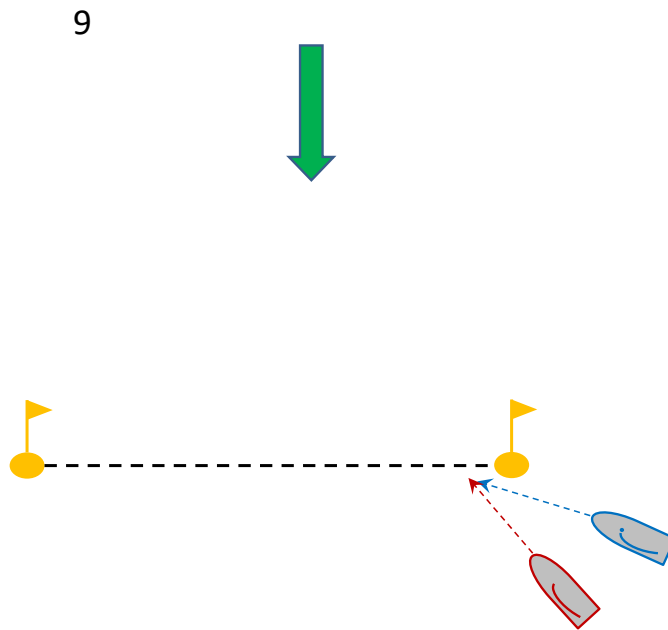
Leeward boat strategy.

You shouldn't have put yourself below the lay line in the first place, but these things happen. If you are unlikely to make the mark even if you shoot it, it is much safer to bear away then gybe around onto port and head to the start again. Remember you will have to give way to any boats still in your way on starboard tack. If you do manage to shoot the mark successfully, bear in mind you will be going slowly as you head back to a close-hauled course. In order to avoid ending up in the wind shadow of the boat to windward of you, you would do well to sail a few degrees low with sails eased in order to pick up speed.

9. Finish line - the right-hand end

You are heading to the right-hand end of the finish line (the “windward” end) on starboard tack, exactly on the lay line for the mark. Another boat to windward of you is also heading for the mark (see diagram 9).

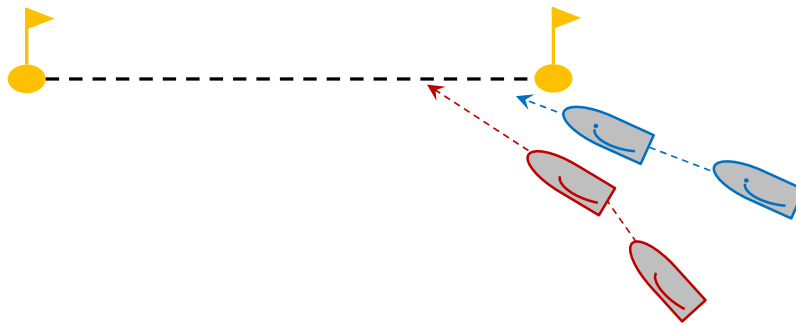
- Do you have to give them room at the mark?
- Can you luff them the wrong side of the mark?



Answer

- Yes, they are the inside overlapped boat so you have to give them room (see diagram 9a), so:
- No, you cannot luff them.

9a



Note that this *finishing* line situation is different from the situation of *starting* at the right-hand end of a start line, when the “no barging” rule applies.

Leeward boat strategy

There are not many options for you; just sail to the line as fast as you can whilst allowing the windward boat enough room to avoid the mark.

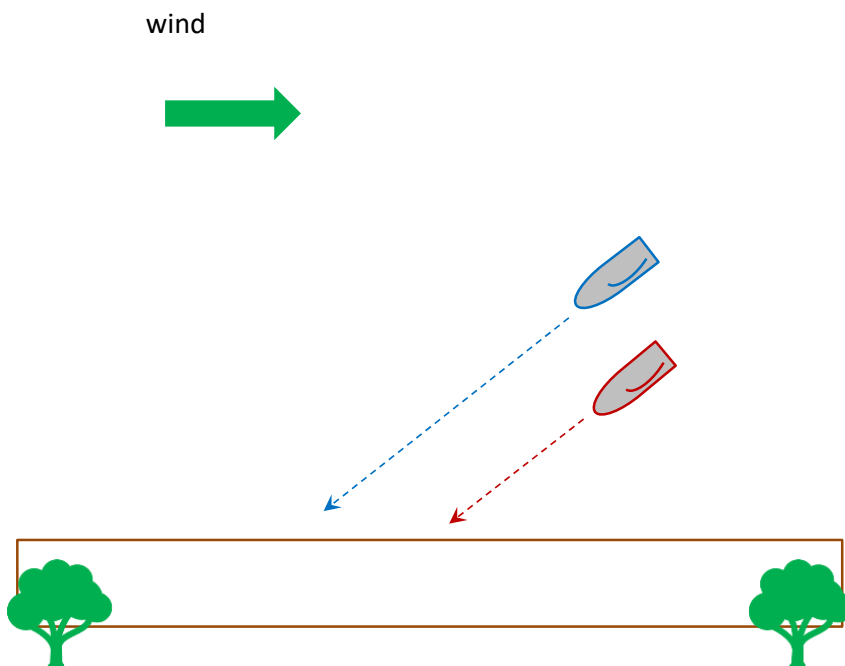
Windward boat strategy

Again, not many options for you. You have the right to get between the other boat and the mark, just try and sail as fast as possible.

10. Room to tack at the bank

This does not happen very often at Austin Lakes, mainly when we are sailing from the jetty end and heading to the left when going upwind. Two boats are sailing to windward close together on starboard tack towards the edge of the lake. The leeward one will have to tack onto port to avoid hitting the edge (see diagram 10). Who has right of way, and what is supposed to happen?

10



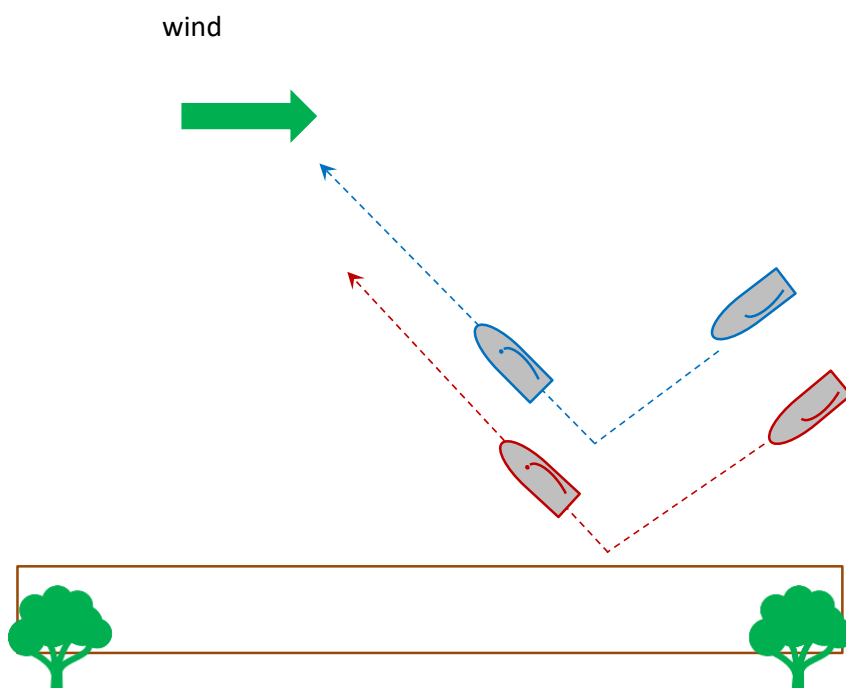
Answer

The leeward boat cannot tack in the way of the other boat (fundamental rule), but it needs to tack. The rules have a section that sorts the potential mess out. The following should happen in sequence (see diagram 10a):

1. The leeward boat calls "room to tack" in plenty of time.
2. As soon as the windward boat hears this call, they must tack straight away.
3. Once the windward boat has tacked, the leeward boat must tack straight away.

4.

10a



The sequence makes sense, and if carried out correctly by both boats it is a bit like a synchronised ballet. In order for it to work correctly, the leeward boat must call early enough for the sequence to play out. It is often worth the leeward boat saying to the windward boat early on " I'm going to be calling for room to tack in minute".

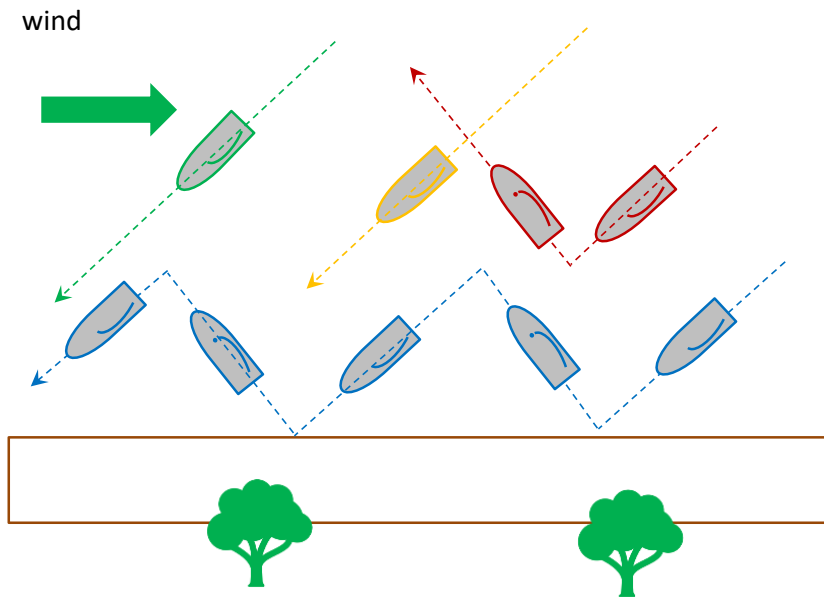
It is vital that the windward boat tacks as soon as the call is heard (the rules require it), you can't say "you've still got plenty of room"; it is the leeward boat's decision as to when they need to tack. The windward boat has no say in the matter.

Once the windward boat has tacked, the leeward boat must also tack straight away (it's in the rules). It wouldn't be fair if the leeward boat could continue for a few seconds before tacking in order to take advantage of a nice wind shift.

Strategy

There isn't much strategy involved in the scenario described. You are presumably sailing as close to the edge as possible because there is some speed advantage (usually a lift), and you both just have to follow the ballet sequence. However, if there are more than two boats around, things can get unpleasantly exciting...

10b



You have to remember that once you have completed your tack and you are sailing away from the edge on port tack, a starboard tacker can force you to tack back into the bank. You then have to call for room to tack again as you get close to the bank, then you have to tack out again on port, then the next starboard tacker pushes you back onto starboard towards the bank again, then you have to call etc. etc. It takes great skill to get yourself out of this Groundhog Day scenario. It is a very famous situation as it occurs almost every year at Cowes Week regatta in England, when 100 boats are coming into the island shore on starboard to get out of the adverse tide, and they all have to call for room to tack onto port, then yet another 100 boats appear on starboard tack pushing the first lot back towards the shore. It makes for great spectating.



11. Over the line early - rights and strategies

You are too keen and end up over the line before the gun goes. You have to get back and restart. What rights and obligations do you have, and what options are available to you?

Answer

If you are over the line when the gun goes, you have to keep clear of all the other boats whilst you are trying to get back, regardless of which tack you are on.

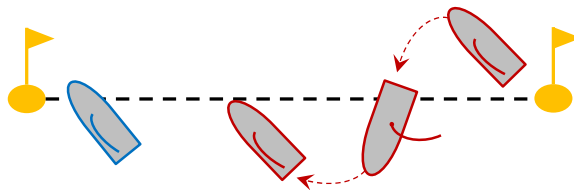
Strategy

Don't get despondent; just get behind the line, hit the mental "reboot" button and start racing again. I am surprised at how often I catch the fleet up after I have been over the line early and have to restart. Perhaps it is because you probably now have few boats around you (they are all ahead!) so you are sailing in clear wind and have no other boats dictating when you can and cannot tack.

How to get behind the line? There are two main options – "dip" the line, or go around one of the ends.

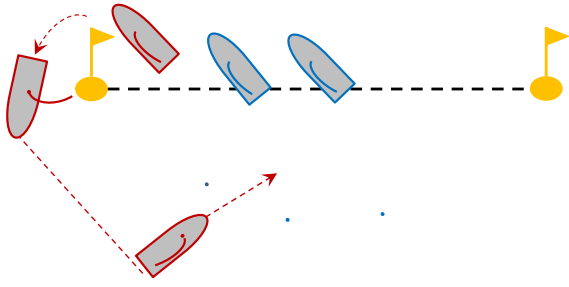
If there is plenty of space to leeward of you, a quick way to get back behind the line is to bear away onto a reach or run until the entire boat is behind the line, then simply return to close-hauled and cross the line again (see diagram 11a). This is called a dip start, but it is rarely possible if the line is crowded.

11a: dip start



The alternative is to go around the nearest end-mark (involving a gybe and a tack) then restart (see diagrams 11b and 11c). This is easy and very quick if you are next to one of the marks. However, if you are in the middle of a crowded line, you will not have room to tack or bear away, so what do you do? You need to get behind the nearby boats in order to create room to turn round. So let the sails right out to slow the boat down. Try to keep just enough speed to retain steering control, otherwise you could drift down on a boat to leeward (this means you not only have to deal with restarting, but you now have to take a penalty turn after you have restarted - yeuch!).

11b



11c

