

## Approaching the Weather Mark – John Ball

### Rule 18 *Mark Room* and the Weather Mark

Note for this topic, all marks are to be rounded to port, unless specified. You should have a copy of the Racing Rules of Sailing. You may download a free PDF of the RRS from the ISAF web site.

<http://www.sailing.org/tools/documents/ISAFRRS20132016Final-%5B13376%5D.pdf>

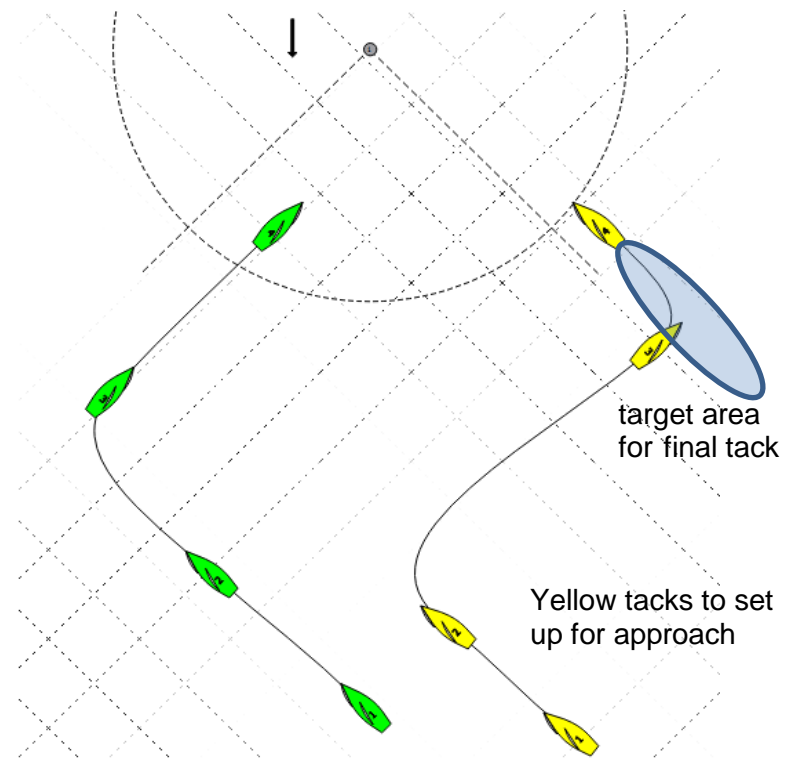
#### Weather Mark rounding 101 - Approaching the Zone



Lots of action in the zone - UK Nationals August 2014 - Photograph by Sue Brown

Under R 18 Mark Room, any boat that tacks in the zone of the weather mark has virtually no rights, and must stay clear of other boats. So tactically, it is very important to get onto the stbd lay line before entering the zone. However getting onto the lay line from a long way out carries its own risks, for example, I will not be able to take advantage of a wind shift, or may have to sail in dirty air if another boat tacks in front of me. So coming in on port, I try to approach the stbd lay line between six to eight boat lengths below the port lay line. To do this I plan the port tack approach as much as twenty boat lengths away. At twenty boat lengths, I start to assess what the wind and the fleet is doing. I don't want to be on the headed tack, but very close to the mark, it may be necessary just to get good position, and if the distance is small, any loss will also be small.

Looking at the fleet, are there a group of boat arriving at the mark with me? Or is the fleet spread out? If there is going to be congestion at the mark, from where are the boats approaching -

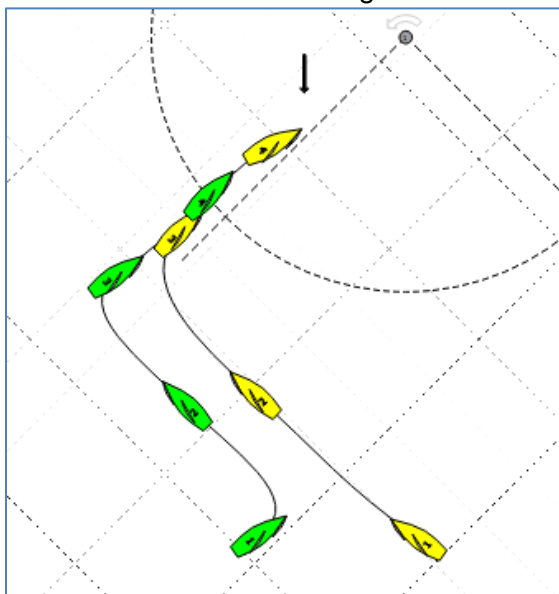
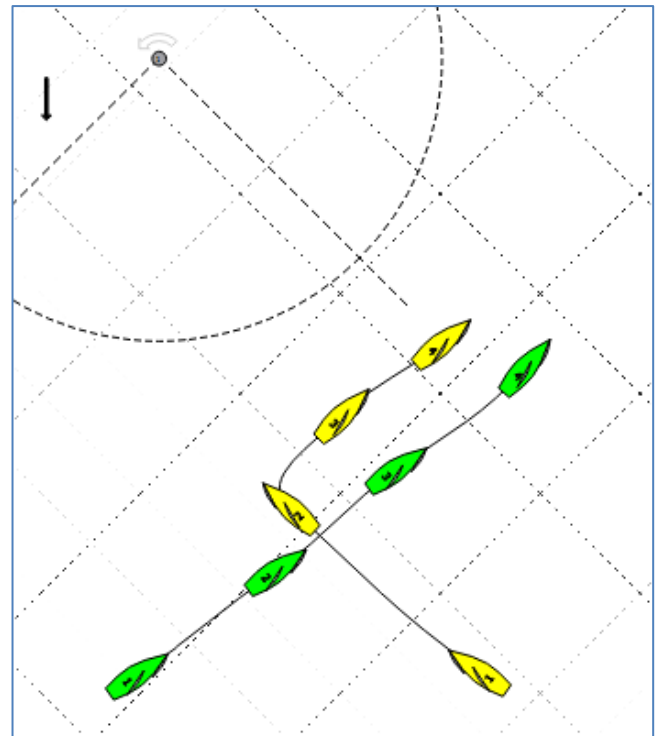


the left or right side of the course? If I see a mess developing, then I will over stand the stbd lay line a little, so that I have a little in the bank and can sail around any congestion at the mark. If my way is clear, I can always crack off and approach the mark with more speed.

This suggestion is for Race Directors – Please try to place the weather mark as least 10 boat lengths away from the shore line. The above diagram shows the importance of allowing room for boats to get onto the stbd lay line before entering the zone. Some sailing venues, like San Diego, Foster City, and Salt Spring Island have prevailing winds that often favor sailing out to the left, and so many skippers approach the weather mark on port from the left side of the course. If I see a recurring pattern of a group of boats coming into the zone on port, that suggest to me that the mark needs to be moved further out to move it closer to the favoured wind and to increase access to the target tacking area on the stbd lay line.

### Be in control

Approaching the weather mark, I want to get between any nearby boat and the mark so that I will be in control of the final approach to the mark – just like match racing. If Yellow tacks to port to leeward of Green and before P2, then Yellow is giving control to Green to decide when to make the final tack to lay the mark. A better tactic for Yellow is to tack to port to slightly weather of Green at P2 as shown in the diagram-right, to get between Green and the mark. Yellow is now in control of when to make the final tack to stbd to lay the mark. Green cannot tack to stbd without breaking R 13 (tacking too close) due to the close proximity of Yellow. At P3, Yellow could crack her sheets a little to accelerate and move forward and even closer to Green. A reminder hail by Yellow of 'No room to tack' is a good idea. At P4, there is nothing in the rules that requires Yellow to tack for the mark. She can take Green beyond the lay line so that Green has to sail in her dirty air up to the mark. If Yellow crosses Green at P2 but delays too long before tacking to P3, then she risks allowing enough room for Green subsequently to tack to stbd first. Even worse for Yellow is to extend on stbd from P2 as she will have to risk tacking in the zone with Green now laying the mark on stbd with all the rights.



If I were Green, approaching Yellow at P1, I would not tack to stbd between P1 and P2 as is shown in this diagram. Here Green tacks to stbd after P1 and is locked outside by Yellow. Green is forced to follow Yellow around the mark.

It is better for Green hail 'Hold your course' and to duck Yellow after P1. Yellow may carry on, giving Green the stbd tack advantage later. Or Yellow may tack to cover (as in the previous diagram). Now Green has a choice. She may pinch up to Yellow and possibly force Yellow to tack away before reaching the lay line. Or do the opposite – crack off at P1 and try to open up enough separation between the boats so that Green has enough room at the lay line to tack to stbd without breaking R 13.

## Looking at R18 for the weather mark

There are several differences in how (or even if) we apply R 18 at a weather mark compared to other types of mark rounding (reaching or downwind). The first thing to note is that, in spite of the title of this topic, the word 'Weather Mark' does not appear in the rules. We use the name 'Weather Mark' as a convenient label to describe the course to be sailed. However, when you look at R 18, it is the sailing angle of the boats as they approach a mark that determines how the rule applies. If a race starts on a beat, towards the 'Weather Mark', but then there is a 180 degree wind shift, the boat sailing angle into the mark is now a run. That is what determines how R 18 applies. The important wording to note in R18.1.a is the use of the phrase 'on a beat to windward'.

## Definitions

The following defined terms are use in R 18 and understanding them is important.

**Clear Astern and Clear Ahead; Overlap** One boat is *clear astern* of another when her hull and equipment in normal position are behind a line abeam from the aftermost point of the other boat's hull and equipment in normal position. The other boat is *clear ahead*. They *overlap* when neither is *clear astern*. However, they also *overlap* when a boat between them *overlaps* both. These terms always apply to boats on the same tack. They do not apply to boats on opposite tacks unless rule 18 applies or both boats are sailing more than ninety degrees from the true wind.

**Fetching** A boat is *fetching* a mark when she is in a position to pass to windward of it and leave it on the required side without changing tack.

**Mark-Room** Room for a boat to leave a mark on the required side. Also,  
(a) *room* to sail to the mark when her proper course is to sail close to it, and  
(b) *room* to round the mark as necessary to sail the course.

However, *mark-room* for a boat does not include *room* to tack unless she is *overlapped* inside and to windward of the boat required to give *mark-room* and she would be *fetching* the mark after her tack.

**Room** The space a boat needs in the existing conditions, including space to comply with her obligations under the rules of Part 2 and rule 31, while manoeuvring promptly in a seamanlike way.

## Breaking down R 18

R 18 contains four sections.

R 18.1 describes when R 18 applies and importantly, the exceptions for when it does not apply.

R 18.2 covers giving mark room.

R 18.3 covers tacking in the zone.

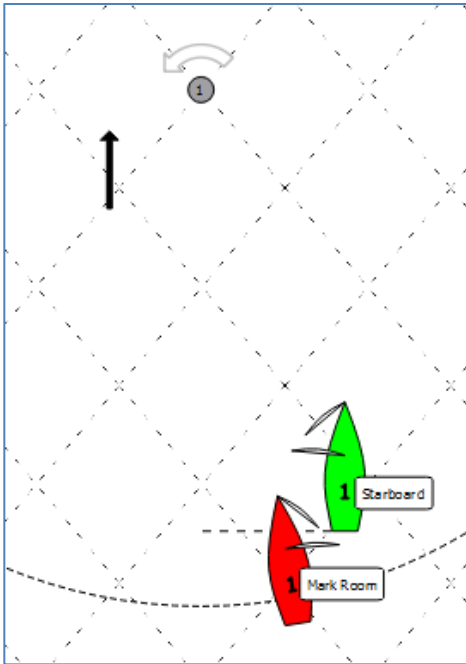
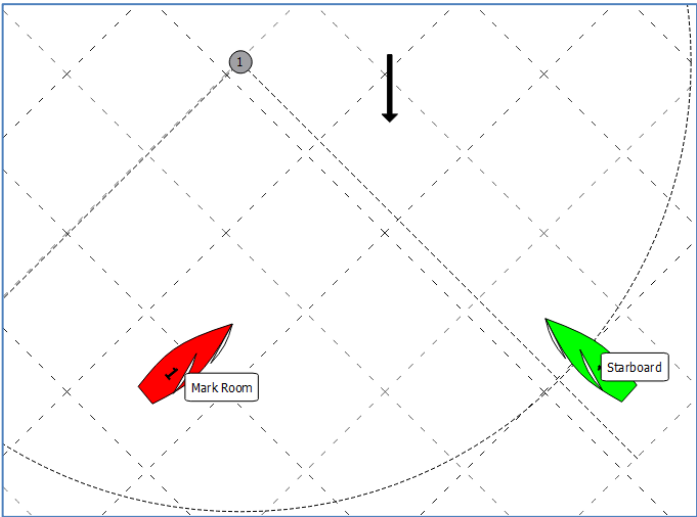
R 18.4 covers gybing in the zone.

It is important to note that R18 does not grant Right Of Way (ROW is granted in R 10 through R 13). All R 18 does is to give 'mark room', and that may place limits on a ROW boat, but does not alter ROW.

## Opposite tacks

The first of the exceptions in R 18 (R18.1.a) covers boats on opposite tacks on a beat to windward. As R 18 and mark room do not apply, it is as if the mark is not there and so we are left with a simple R10 situation, and port tack keeps clear of stbd tack.

In this diagram-right, the boats are on a beat to windward, and even though they are in the zone, and Red on port, entered the zone first, R 18.1.a says that R 18 and mark room do not apply. So Red must stay clear of Green, under R 10 (P/S)

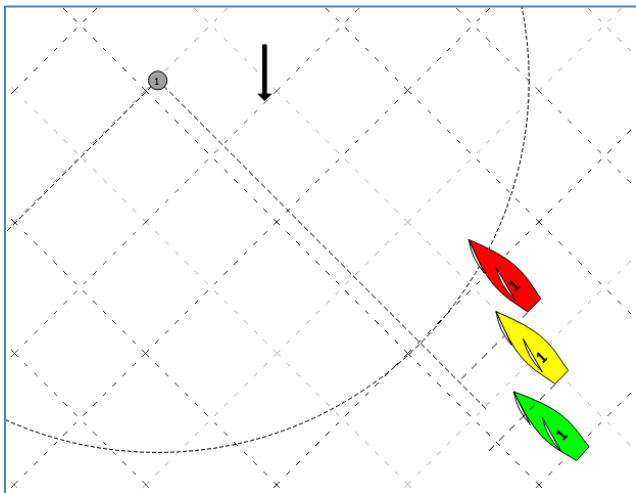
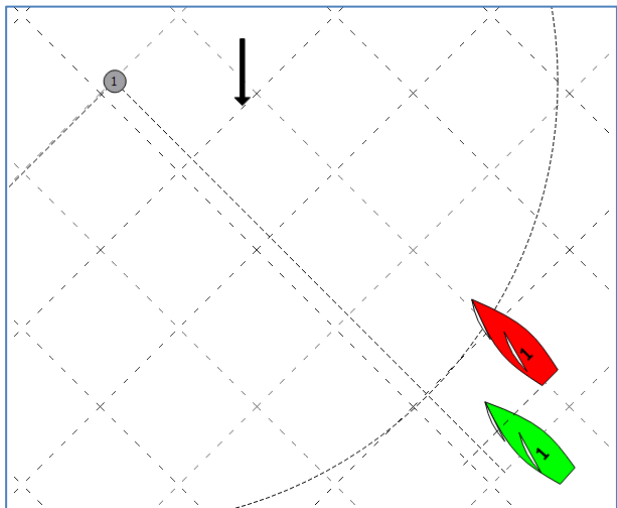


Now look at this diagram-left and compare with the previous one. As the boats are not on a beat to windward, and none of the 4 exceptions listed in R18.1 exist, R 18 applies. So on the downwind mark, they are considered to be overlapped, and Red on port is entitled to mark room from Green on starboard. Looking at the definition of mark room, Green must allow Red to sail to the mark and give enough room for Red to manoeuvre around the mark. Green cannot force Red to the wrong side of the mark. Green is still ROW boat, so Red cannot sail by the lee and force Green out wide of the mark.

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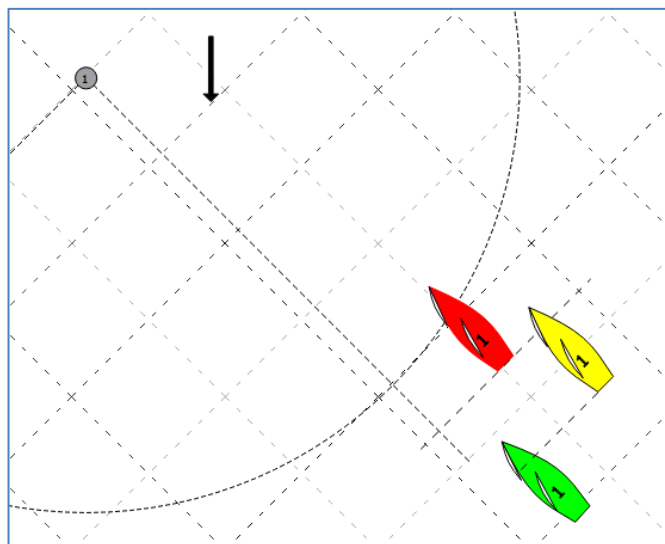
### Same Tack and Overlap

This diagram shows the most common application of R 18.2 and mark room. Red and Green are approaching the mark from outside of the zone, already on stbd tack and above the lay line (the dotted line). Before they reach the zone, they are overlapped and Green has ROW under R11 (windward/leeward). Red touches the zone first, and as they are overlapped when the first boat reaches the zone, the inside boat, Green is entitled to mark room under R 18.2.b.

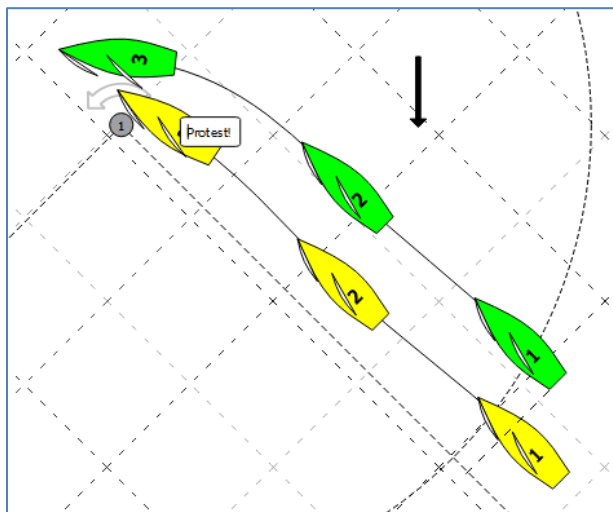


Now let's look at a similar situation, but add Yellow as the middle boat. This extends the concept of overlap (see the definition earlier) to include an intervening boat. As Red is overlapped with Yellow and Yellow is overlapped with Green and Yellow is between Red and Green, the overlap extends over all three boats. This means that Red has to give mark room to BOTH Yellow and Green and Yellow has to give mark room to Green if Yellow and Green are still overlapped when Yellow reaches the zone.

Taking this one step further, now look at the diagram-right. In this case while Red and Yellow overlap, and Yellow and Green overlap, Yellow is NOT between Red and Green, she is outside. So in this example, Yellow gives mark room to Red and Yellow gives mark room to Green. As Red and Green are not overlapped, they must be clear ahead/clear astern, so Red has ROW over Green (R12) and is clear ahead at the zone, so Green must give mark room to Red and must avoid Red as she bares away around the mark. But note that Yellow must also give Green enough room to avoid Red.

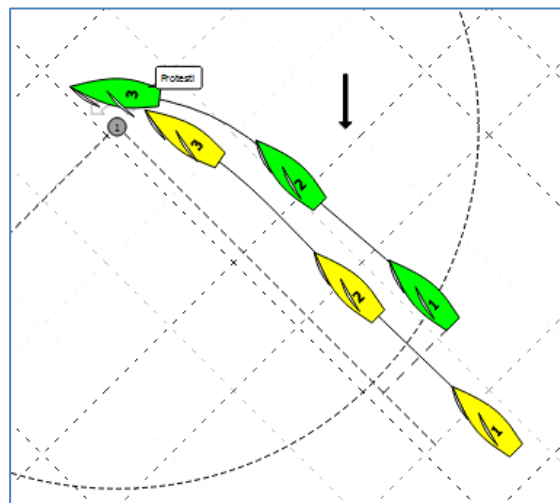


### More on R 18.2 Clear ahead compared to overlapped



In the diagram-left, Yellow and Green were overlapped when the first boat entered the zone, so Yellow is entitled to mark room. At the mark, Green bares away for the next leg, and Yellow hits the mark, avoiding Green. Green breaks R 18.2.b. by failing to give mark room to Yellow. Yellow breaks R 31 Touching a Mark, but is exonerated under R 21 Exoneration.

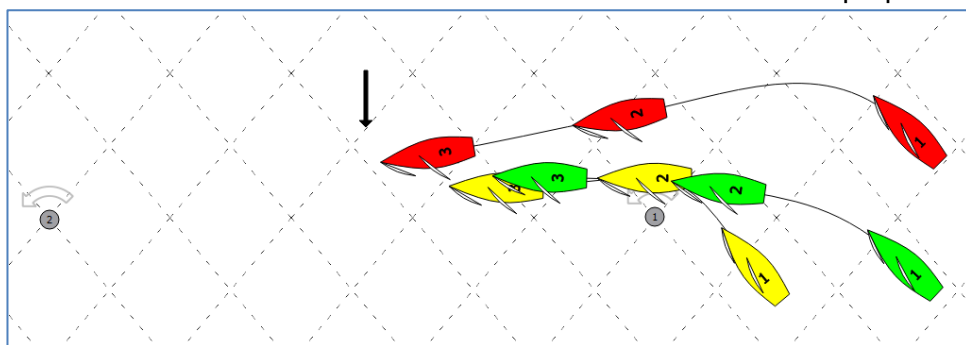
In the diagram-right, Green entered the zone clear ahead of Yellow



and so Green is entitled to mark room from Yellow. That room includes room to bare away to sail her proper course and so Yellow breaks R 18.2.b and R 18.2.c.2 by failing to give Green mark room to sail her proper course, close to the mark. For Yellow, it is dangerous to stick your bow inside Green. Better to cross her transom and get outside, to avoid being trapped.

### Proper Course and Mark Room

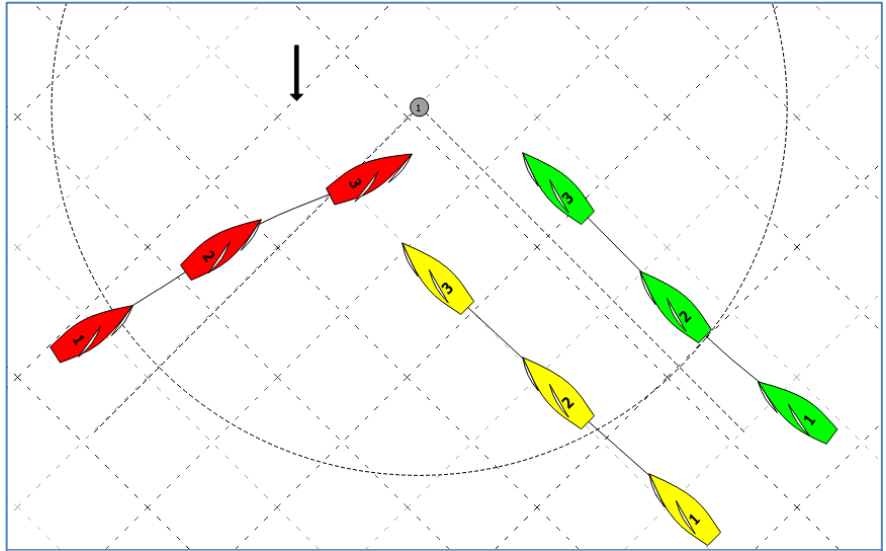
These boats are all demonstrating sailing their proper course from difference starting positions. If a boat has Mark Room, then the other boat has to allow the Mark Room boat to sail to the mark when her proper course is to sail close to the mark, and room to round the mark to sail the course. Here we have a weather mark and an offset mark. From their positions at P1, and with Mark Room, Yellow and Green may sail close the weather mark, and then sail towards the next mark. However Red at P1 does not need to sail close to the weather mark as her proper course and course to the next mark is a higher line. So Red has left a hole that another boat could sail into.



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## Fetching a mark

This diagram-right shows the concept of 'fetching' the mark. The lay lines are shown by the dotted lines. Green is fetching the mark as she is able to sail up to and around the mark without the need to tack. Yellow is not fetching the mark as she is below the starboard lay line and will need to tack twice before rounding. Red also needs to tack to round the mark and so is not fetching the mark either.



## Tacking in the Zone

Tacking in the zone is the second most frequent application of R 18, and is covered by R18.3. The main item to note is, when a boat tacks in the zone, she does not gain *mark room* over any boats that are fetching the mark. She has to give *mark room* to all other boats that are fetching the mark, even if they are not yet in the zone. There are three possibilities for a port tack boat approaching a boat already fetching the mark on stbd. She can tack clear ahead of, or tack inside of, or tack outside of the stbd tack boat. Here is an extract from R 18. Note that when R 18.3 applies, R 18.2 no longer applies between them and sets out a new obligation for the boat that tacked.

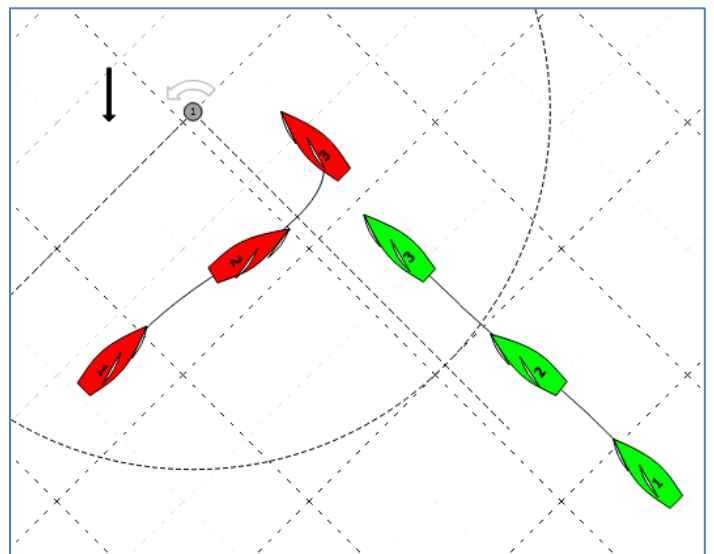
### 18.3 Tacking in the Zone

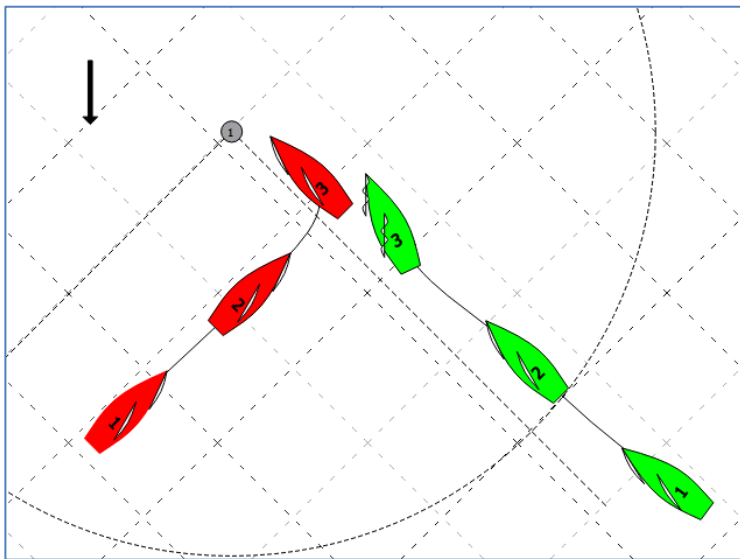
If a boat in the *zone* passes head to wind and is then on the same tack as a boat that is *fetching the mark*, rule 18.2 does not thereafter apply between them. The boat that changed tack

- (a) shall not cause the other boat to sail above close-hauled to avoid contact or prevent the other boat from passing the mark on the required side, and
- (b) shall give mark-room if the other boat becomes overlapped inside her.

## Tacking clear ahead of another boat

If Red is able to tack clear ahead of Green and round the mark, she has done well. However, if she slows down due to the tack and Green gets an inside overlap, Red has to give mark room to Green! R 18.3.b.



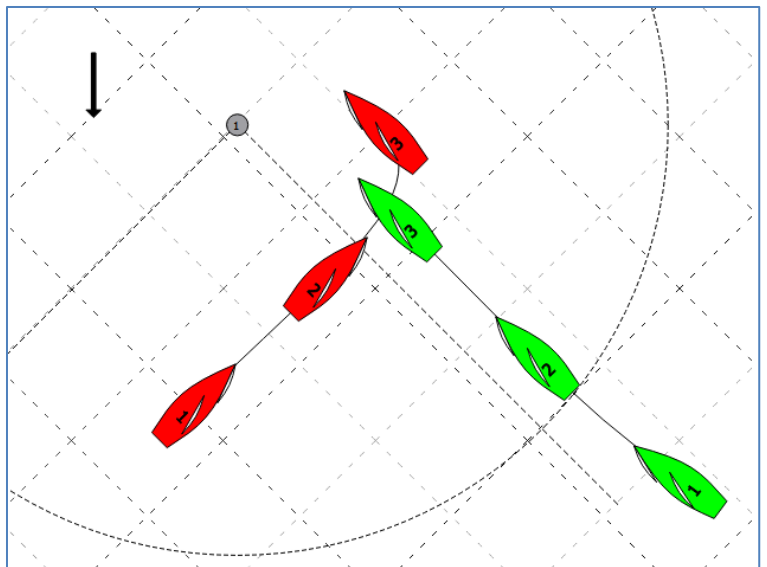


### Tacking inside another boat

If Red tacks inside Green, such that they become overlapped, then R 11 says that Green, to weather, must stay clear of Red, to leeward. However, if Green has to luff above close hauled to avoid Red, then Red has broken R 18.3.a. Green can try to dissuade Red from tacking inside by hailing "No Room – don't think of going in there". If Red tacks, and Green protests, that hail will be compelling evidence in a hearing.

### Tacking outside another boat

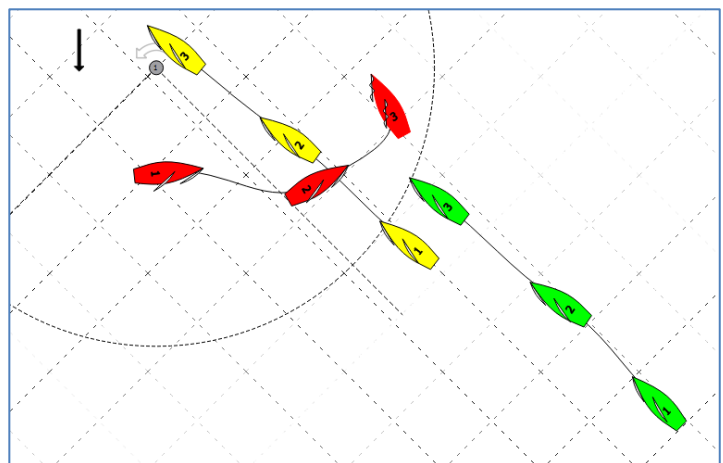
If Red tacks outside of Green and they become overlapped, then Red must give mark room to Green under R 18.3.b.



### Entering the Zone on Port tack

In spite of my earlier tactical advice about getting to the stbd lay line before entering the zone safely on stbd tack, it happens! You get pushed out to the left side of the course and are forced to come into the zone, close to the mark on port tack. Basically, not only do you have to keep clear of other boats while you approach and while you tack, but you have to give mark room to any boats ahead, or inside you, or coming in from astern and gaining an inside overlap. So you need to find a hole in the line of stbd tack boats, and you may need do a quick circle, or bare off and sail low to find a hole big enough. Once you find a path, it is better to go beyond a stbd boat before tacking – that way you avoid breaking R 10 and/or R 13.

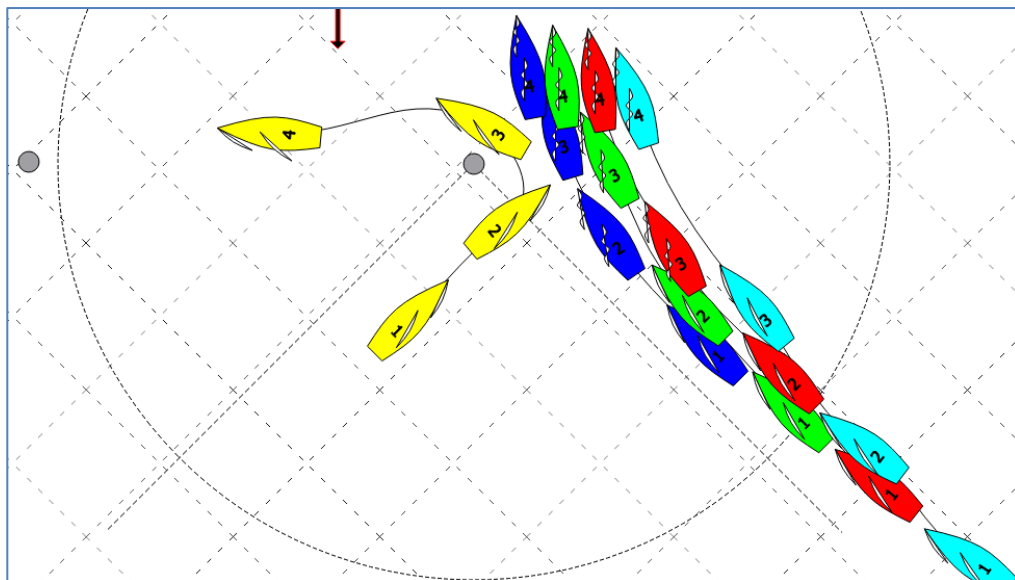
By going beyond the stbd boat, you are conceding inside overlap, but she was going to get inside at the mark anyway. At least now you give up only one place – much better that risking a penalty and losing many places while doing your turns! In this diagram, Red ducks Yellow and then crosses ahead of Green before tacking. If Red tacked in front of Green, she risks breaking R 13 and Green could either duck inside and gain mark room, or luff up beyond close hauled and protest. Either way, Red would become a sitting duck.



A fine example of sportsmanship – from the 2014 IOM New Zealand Championships – White boat #71 (Ian Vickers) and Yellow boat #64 approach the weather mark on Port. Yellow makes it ahead of the approaching stbd boats, but there is no room for White. White makes a quick turn and tries again – but still

no room, so she circles then bares off and sails down the line, looking for a hole. Video by Neil Deverell. [https://www.youtube.com/watch?feature=player\\_detailpage&v=F7jP5eGAIM8#t=89](https://www.youtube.com/watch?feature=player_detailpage&v=F7jP5eGAIM8#t=89)

Generally, it is considered very poor sportsmanship to come crashing in on port, just hoping to tack into a hole and not hit anyone – you are spoiling the race for the other affected skippers. If you come in on port and squeeze around the mark, but cause several stbd tack boats to become fouled up with each other avoiding you, then you may be found to have gained a significant advantage, and have to do multiple turns until all those boats are in front of you and the advantage is eliminated (Appendix E 4.3.b). So you gained no advantage, you spoiled the race for a number of competitors and generally will become very unpopular. Here Yellow breaks R 18.3.a and also gains significant advantage over the other four boats, requiring many penalty turns until they are all ahead of her.



### A closer look at Tacking and Above Close-hauled

There is no definition of what is meant by Tacking, nor of sailing above Close Hauled. The information is contained in the applicable rules and in common understanding of the terms. Tacking is covered in R 13.

#### R 13 WHILE TACKING

After a boat passes head to wind, she shall keep clear of other boats until she is on a close-hauled course. During that time rules 10,11 and 12 do not apply. If two boats are subject to this rule at the same time, the one on the other's port side or the one astern shall keep clear.

So a boat is luffing as she turns up from close hauled until she reaches head to wind, and she is tacking from 'beyond head to wind' until she reaches a close-hauled course. Now let's apply this to R 18.3. Imagine that I am fetching the mark on stbd tack and my sails are in tight and I am pointing as high as I can without luffing, and a port tack boat tacks inside me. I head up a little to avoid the other boat and my jib luffs – then the boat that tacked has broken R 18.3.a. However if I have over-stood the mark a little and I am heading for the mark, cracked off for speed, and the boat tacks inside me, and I head up a little to avoid her and my jib luffs, then the other boat has not (yet) broken R 18.3.a because I was not fully close-hauled and my sails were not fully sheeted fully in. Now, if I come up higher to avoid the other boat, and sheet in my sails all the way, and the jib still luffs, then the boat that tacked as broken R 18.3.a.

### When both boats tack in the zone

Suppose we have two boats entering the zone, overlapped on port tack, sailing towards the stbd lay line. As they reach the lay line, both boats tack simultaneously. Who has mark room and why? The short answer is that R 18.2.a says that the outside boat shall give the inside boat mark room. However to arrive at this we need to look at how R 18.2 is put together in order to eliminate some options. R 18.2 has five parts, a) through e), but for this we need only look at R 18.2.a) through c).

R 18.2.a says the outside boat gives the inside boat mark room unless R18.2.b applies. R 18.2.b covers boats fetching the mark from outside the zone and probably covers 75 per cent of all windward mark

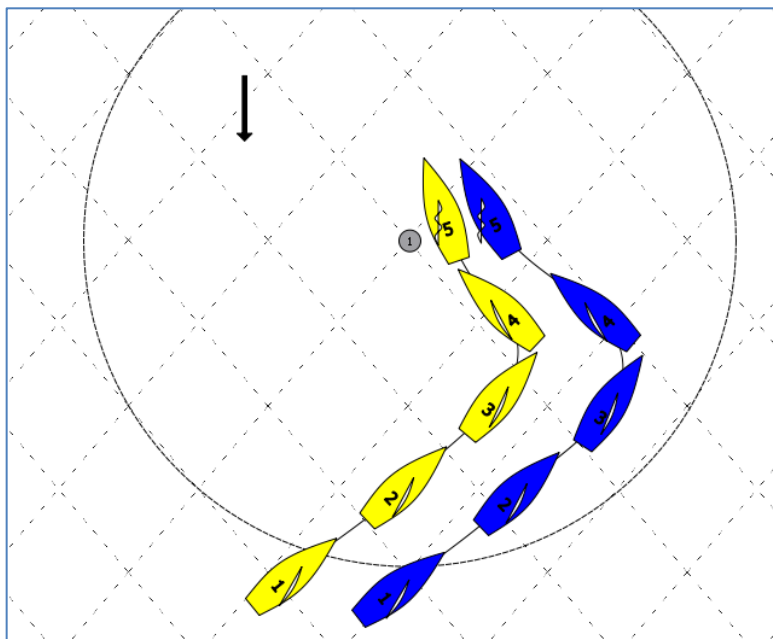
roundings. Next, the last part of R 18.2.c turns off R 18.2.b. when one boat tacks in the zone while the other boat is fetching the mark, and probably covers another 20 percent of roundings. But what happens in the other 5 per cent, when both boats tack in the zone? – neither R 18.2.b nor R18.2.c applies and so finally, we are left with R 18.2.a.

There is a subtle difference between R 18.2.a and R 18.3 when it comes to luffing. In this diagram, Yellow and Blue on port tack, are overlapped when they enter the zone. Blue gives mark room to Yellow under R 18.2.b. As they reach the stbd lay line, they both tack at the same time. As soon as Yellow tacks, R 18.2.c cancels the original mark room obligation.

While they are tacking, R 13 applies, and the last part of R 13 says

If two boats are subject to this rule at the same time, the one on the other's port side or the one astern shall keep clear.

So during the tack, Yellow keeps clear of Blue. Once the tack is complete and as they are both in the zone, R 18.2.a now applies, and Blue has to give Yellow mark room. In this diagram, Yellow needs to luff a little to get around the mark, and Blue has to luff to stay clear. In this case no rule is broken by the luff, as that restriction about causing a boat to luff is in R 18.3, which does not apply here. Compare this situation with **'Tacking inside another boat'** two pages back.



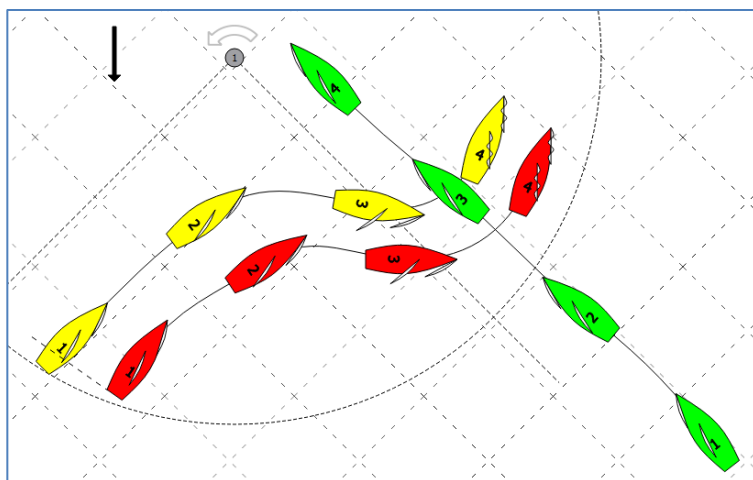
### Hailing for Mark Room

There is no explicit requirement to hail for room at the mark, or to hail an overlap. R 18.2 says that the outside boat or boat clear astern "shall give" . . . The problem is that there is no neat circle drawn in the water – we have to guesstimate where the zone starts. So a hail helps to reinforce the relative positions of the boats as they approach the zone. If two boats have been overlapped for some time, then there is usually no issue with mark room. However when a late overlap is established or broken, then a hail helps focus the situation in everyone's mind. R 18.2.d places the burden of proof on the boat making a late claim that an overlap was created or broken.

*R 18.2.(d) If there is reasonable doubt that a boat obtained or broke an overlap in time, it shall be presumed that she did not.*

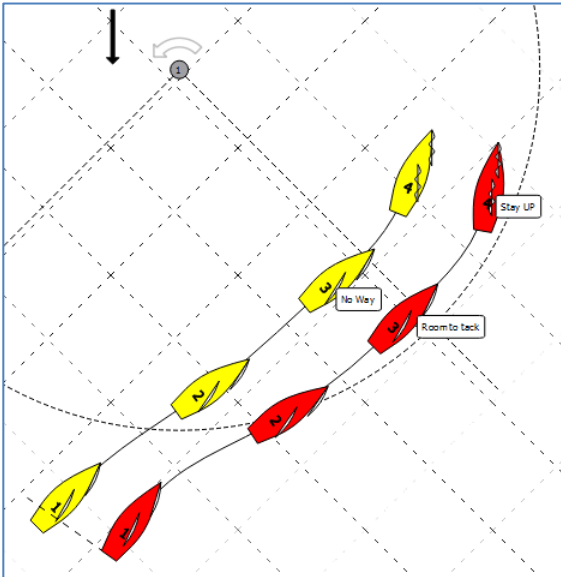
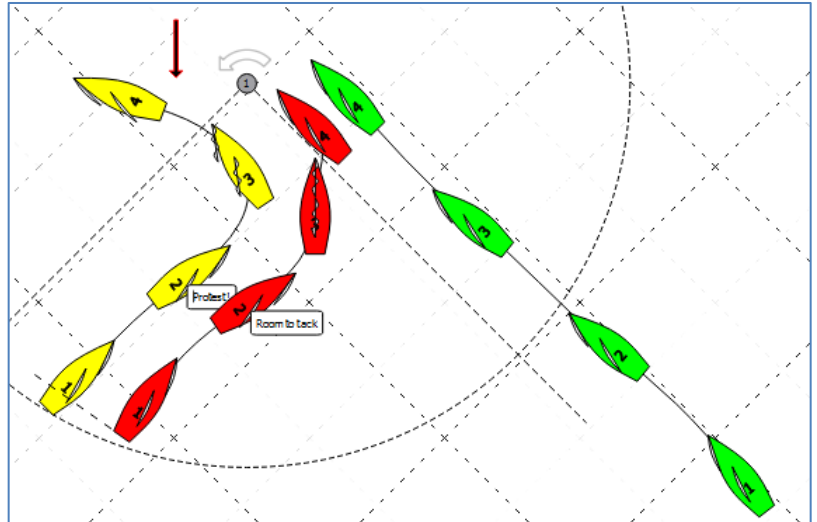
### Meeting an obstruction in the zone (R 19 and R 20)

Green is fetching the mark on stbd. Red and Yellow are approaching on port tack and are converging with Green. Red and Yellow were overlapped when the first one entered the zone. This diagram shows what should happen. Red cannot hail for room to tack (R20) at P1 or P2, as that would take Yellow to the wrong side of the mark (remember that Red has to give mark room to Yellow, which includes passing a mark on the correct side). As Green is an obstruction, Red must comply with R 19 and her only



remaining option is to duck Green. When she ducks Green, she must also leave room for Yellow to clear Green's transom.

If Red hails for room to tack at P1 or P2, she is hailing under R 20 and Yellow MUST respond. However this forces Yellow to the wrong side of the mark, so Red denies Yellow mark room and Red breaks R 18.2.b. Yellow's correct and ONLY recourse is to protest Red.



### Hailing for Room to tack at the lay line - NOT

Red and Yellow are overlapped as they reach the stbd lay line. Red wants to tack, but Yellow tells her to get lost! In this case there is no obstruction, and so R 20 does not apply. There is no rule that requires Yellow to tack. All Red can do is begin to luff up to help 'persuade' Yellow to tack. But Red cannot pass head-to-wind or she would begin tacking – and would break R 13 by tacking too close to Yellow.

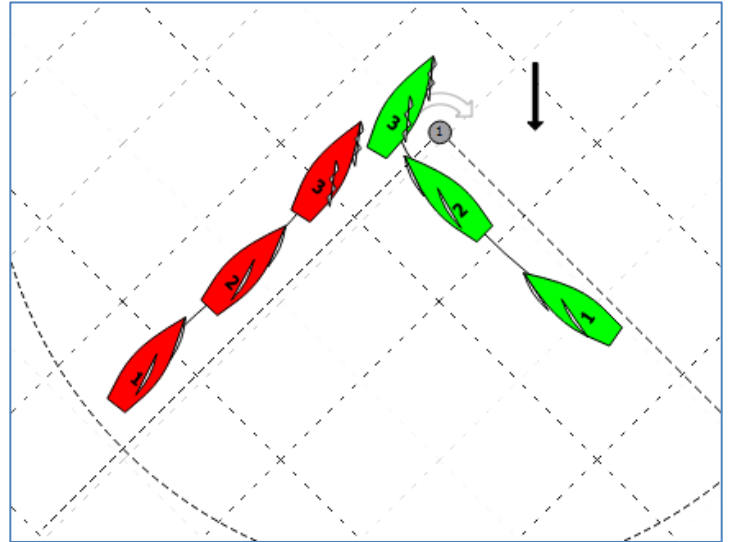
### The 'dreaded' Marks to Stbd – R13 and tacking too close



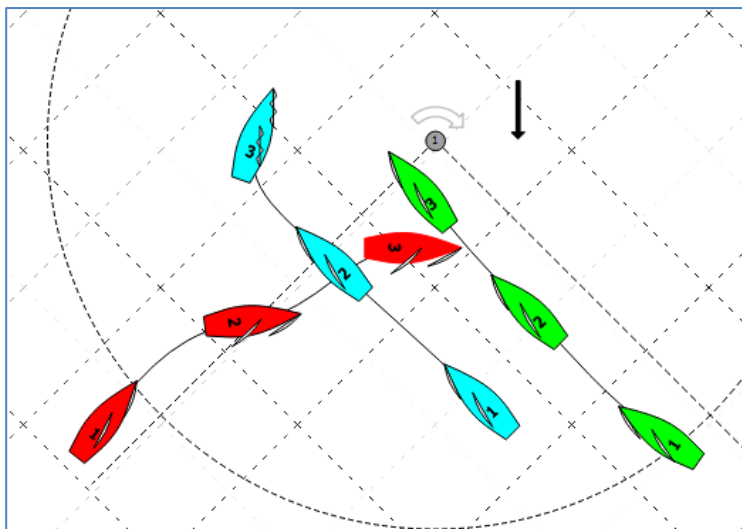
UK Nationals August 2014 - Photograph by Sue Brown. Marks to stbd – 38 is hiding the mark and is just rounding

'Marks to Stbd' creates various complex rules situations and as a result, is popular in Match Racing. While that is fine when there are just two boats on the race course, those complex situations are multiplied and become collisions and lead to protest hearings when stbd roundings are used in fleet racing. The problem occurs as a boat approaches the mark on stbd, but has to tack to round the mark. Until she tacks, she has ROW over any approaching port tack boats, but as soon as she alters course by luffing (after P2), she become subject to R 16 Changing Course. As soon as she passes head to wind, she is tacking and there is an immediate transfer of ROW.

When stbd tacks, she loses right of way due to R 13, and as she has tacked in the zone, she does not acquire any mark room rights over a boat fetching the mark on the port tack lay line. But while that is happening, the port tack boat fetching the mark, still has to avoid any other stbd tack boats. Here Green breaks R 13 as Red has to avoid her before the tack has completed (Green's sails are still luffing and she has not yet reached a close hauled course). Green also breaks R 18.3.a as Red is forced above close hauled.



As you can see from the above photograph, the preferred tactic for a stbd rounding, is to approach the mark on stbd, close to the stbd lay line, and then round up and tack around the mark (while avoiding interfering with any port tack boats).



If a port tack boat is approaching, this is a great time for stbd to go an extra boat length before tacking to avoid breaking R 13. Here Blue has over-stood a little before starting to tack, to clear Red and to allow room for Green, still on stbd, with ROW. However, Blue may be in trouble if Green carries on. Blue should wait for Green to begin to tack, before starting her move. Remember, there is no rule requiring Green to tack right at the mark.

If you sail out to the port lay line and come into the mark on port, you have to watch for stbd tack boats and may have to duck one – and then another – and suddenly, you are not making the mark anymore! So if you plan to come in on port, you may want to over stand

by a couple of boat lengths. Here, Red did not over stand enough and ends up below the mark.