

BASIC MATCH RACING

UNDERSTANDING THE GAME

BY

John Cutler

And

Henry L. Menin

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The Authors

John Cutler is a native of Auckland, New Zealand and he is a graduate of the University of Auckland, with a degree in chemical and materials engineering. He and his wife, Caroline, continue to live there in Birkenhead on the North Shore.

John has had a long and illustrious career in sailing. John represented New Zealand in the 1988 Olympics and won a Bronze medal in the Finn Class. In 1992 and 1996, he was the sailing coach for the New Zealand Olympic Sailing Team. In addition to winning many grade 1 match racing events, he also won the Admiral's Cup in 1997 and 1999 and the Mumm 36 World Championship in 1999. John has been the winning tactician in five Congressional Cups.

Since 1992, John has devoted much of his time to match racing. In 1992, he served as tactician for the Nippon Challenge for America's Cup XXVIII. In 1995, he was helmsman and skipper for the Nippon Challenge for America's Cup XXIX. He was helmsman for the America True challenge for the America's Cup in 1999.

From 2001 through 2003, John was the Director of Sailing Operations, and variously a helmsman, tactician and strategist for America's Cup challenger Oracle BMW Racing, finalist in the Louis Vuitton Cup.

John was tactician and a driving force for the Oracle BMW match racing team that won the 2002 Swedish Match Tour Championship.

Henry L. Menin is a native of Pennsylvania, USA. He and his wife, Fredelle, have lived in St. Thomas, U.S. Virgin Islands for the past 23 years. Henry is a graduate of Dickinson College and the Temple University School of Law.

Though he has won some club, regional and national championships in fleet racing, Henry's passion has been in the area of match racing since 1990. He is an ISAF International Judge and Umpire and has served on a special working party of the ISAF Racing Rules Committee. He is currently a member of the ISAF International Umpires Subcommittee where he serves on the working party for development and writing of the umpire's written test and on the working party for developing and scheduling umpiring seminars and match race clinics. He has written a manual for teaching match racing and is an ISAF instructor for their match race clinics.

Henry served as an umpire in the Louis Vuitton Cup and America's Cup in 1999/2000 and was also the Deputy Chairman of the Jury at those events. He was an umpire at the 2000 Olympics in Sydney and most recently, from 2001 through 2003, served as the rules advisor/coach for the Oracle BMW Racing challenge for America's Cup XXXI.

Foreword

This book is intended to give an introduction to the basics of match racing and to help sailors understand the game a little better. We have tried to keep it simple, but at the same time go into enough detail so that many of the tactics and strategies employed even in the America's Cup and Grade 1 events can be understood.

Our intent was to create a book on match racing that would allow even those who have never raced to gain an understanding of the game. At the same time, we wanted to attract, and hopefully inform, those who may have done some fleet racing and who might want to try their hand at match racing. Last, but not least, we tried to make it advanced enough to be informative for those who may have tried their hand at match racing, but who haven't made it to the "big leagues" quite yet.

Both of us have a passion for the game of match racing and we hope that we can impart some of that to you. We have worked at the game for a considerable time, but from different perspectives. One of us has been a match race helmsman and tactician at the top of the sport. The other has been a match race umpire, judge and rules advisor/coach at a variety of international events. We have tried to give you our individual views and perspective on most of the situations you will encounter on the racecourse. You will see those perspectives in sections called "John's Comments" and "Henry's Comments". In those comments, we have tried to de-mystify how the rules are applied and interpreted, as well as how and why some of the various tactics, strategies and techniques are employed.

We fervently hope that this book will inspire you to try match racing, or if you have already tried it, to encourage you to continue on with it.

Inevitably, when writing a book like this, we will have made errors, some of commission and others of omission. Also, we are sure that many people will have different opinions from ours concerning different scenarios. After all, we had them between ourselves, as you will see, so we would expect the same from our readers. We would welcome your responses and comments. We may not agree with you, but then again, we might. At any rate, we would like you to point out where we may have gone wrong, or where we may have gone right. It would be nice to hear from you, whether you enjoyed the book or not, but of course we hope that you do get something of value from our joint effort.

Several people have suggested that we insert anecdotes about situations we have encountered in our collective experience in order to give this book more "life" and to generate more interest. We thought about it. We then decided that we both would like to continue our careers in match racing, to get invited to future events and to be able to talk to the many friends we have made in the match racing game over the years. So, there are no anecdotes.

Finally, we would like to thank Terry Kohler of North Marine Group for his encouragement to finish this project, Jack Lloyd for his review of the work and for his comments and suggestions and Richard Slater for his support and the material that we have included in the book.

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BASIC MATCH RACING

UNDERSTANDING THE GAME

INTRODUCTION

What is match racing?

A match race has been likened to a chess match on the water. It is a race between two boats, usually identical, over a prescribed course. There is no handicapping. Each team tries to outwit the other through superior crew work, tactics and strategy and judicious use of the Racing Rules of Sailing (RRS).

In a match race, you have only one other boat to beat and it does not matter if you win by one second or one minute. There is no second place in match racing – only a winner and a loser, just as in a chess match.

Though almost all match races are sailed in identical, one-design boats, there is one major exception. In the America's Cup, the boats are all designed to the America's Cup Class rule, but each boat is slightly different than the other and speed differences are common.

In the typical match race, because the boats are basically identical and will theoretically sail at the same speed, the match is principally a test of crew work, tactics and strategy. The best crew should win the race.

Who controls the sport?

Throughout the world, all of sailboat racing, whether fleet racing, ocean racing, windsurfing or match racing, is controlled by the International Sailing Federation (ISAF).^{*} ISAF is made up of individual Member National Authorities (MNAs) which are the associations in each country or territory that control sailing in their respective jurisdictions. For example, the MNA in New Zealand is Yachting New Zealand. In the U.S. Virgin Islands it is the Virgin Islands Sailing Association. Each of these MNAs is divided into groups according to their size and geographic location. The Groups elect the Council of ISAF. It is like shareholders of a company electing a Board of Directors. Council meets twice a year and sets the general policy of ISAF. The MNAs individually elect the Executive Committee of 7 Vice-Presidents and the President. The Executive Committee operates ISAF on a day to day basis, subject to the approval of Council.

There are many Committees and Sub-committees within ISAF that perform a variety of functions. The one the average sailor is most concerned with is the Racing Rules Committee which supervises the Racing Rules of Sailing, including those rules specific to match racing. There is also the International Umpires Sub-committee which is primarily concerned with the training and certification of umpires for match racing, but which also generates many of the suggestions for updating the rules specific to match racing.

ISAF has a web site at www.sailing.org where you can get much more detailed information on the racing rules, match racing, your MNA, upcoming events, seminars, match race clinics, etc.

- ISAF's address is Ariadne House, Town Quay, Southampton SO14 2AQ, England. Tel: +44 2380 63511; Fax: +44 2380 635789; Email: secretariat@isaf.co.uk

Entering a match race regatta

There are several hundred match race regattas around the world each year. Most are registered with ISAF and can be seen on their web site by going under "Sailors" to "Match Racing" to "ISAF International Events Calendar" and then going into "Class" and scrolling down to "Open Match Racing" and then clicking on "Search".

Each event listed on the ISAF calendar is graded from 1 to 5, 1 being the most competitive and 5 being any club match race with identical boats using umpires and standard ISAF match race instructions. Also, there are events that are not listed on the ISAF web site which may be run by local clubs in your area. Finding out about the local unlisted regattas may be more difficult, but contacting a National or International umpire in your area will generally generate a lot of information on readily available regattas. Don't be afraid to ask. Umpires are always flattered and anxious to help when anyone shows even the slightest interest in the sport that they love so dearly.

Once you find a regatta that you want to attend, just call or email the organisers and tell them of your interest. You should be most welcome and they will tell you how to get entered. Remember, to get started, you just have to do it.

Why should you go match racing?

Because you love to sail. And because you want to improve your sailing skills. And because you want to have more fun on the water than you have ever had before.

In a match race, you and your crew will perfect your boat handling skills much more quickly than in a series of fleet races. A match race usually lasts from 20 to 30 minutes. In that time, you will usually do a pre-start, 2 windward legs and 2 leeward legs.

In the pre-start, you will probably have to stop the boat a couple of times, perhaps sail backward for a short distance, keep the bow in the wind for longer than you thought possible by backwinding the jib, fall off onto one tack or another, get started again, speed up, slow down, do circles and sail in close quarters with your opponent. You will be checking the favoured end of the line continuously and probably change your mind several times.

On the first leg you will probably get into a tacking duel, doing more tacks in 5 or 6 minutes than you would on a 2 mile beat in a fleet race.

You will do 2 spinnaker sets and more gybes downwind than you thought possible in 5 minutes. You will do windward and leeward spinnaker drops and you may have to do circles as a penalty for some rule infringement.

And then you repeat that 4 or 5 times with a different opponent each time for 2, 3 or 4 days.

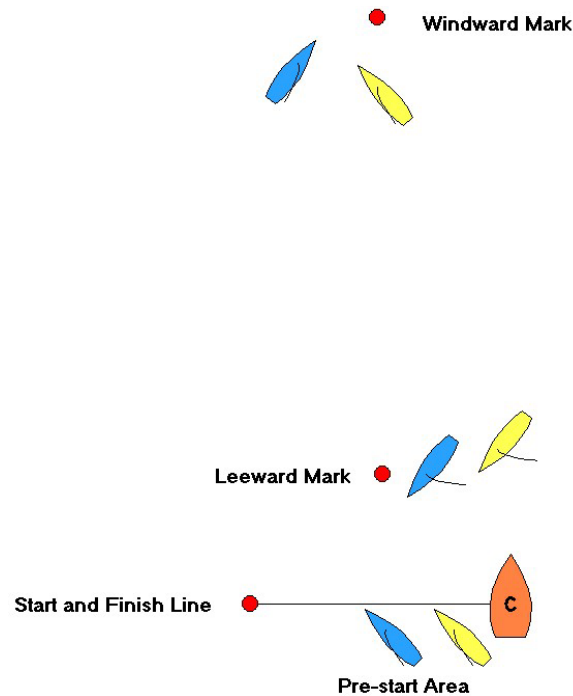
In other words, you will learn to be in total control of your boat instead of the other way around.

You will learn the racing rules in some detail and see how they can be your friend and help you win races and keep you out of trouble.

When and if you get into another fleet race, your crew will never hesitate (or whinge) when you call for a tack set or a tack, gybe set or a windward take down on the gybe.

Because you and your crew will be better sailors as match racers.

I. THE COURSE



The course is a windward – leeward course. Generally the boats make two laps, leaving all marks to starboard. This is totally opposite to normal fleet racing.

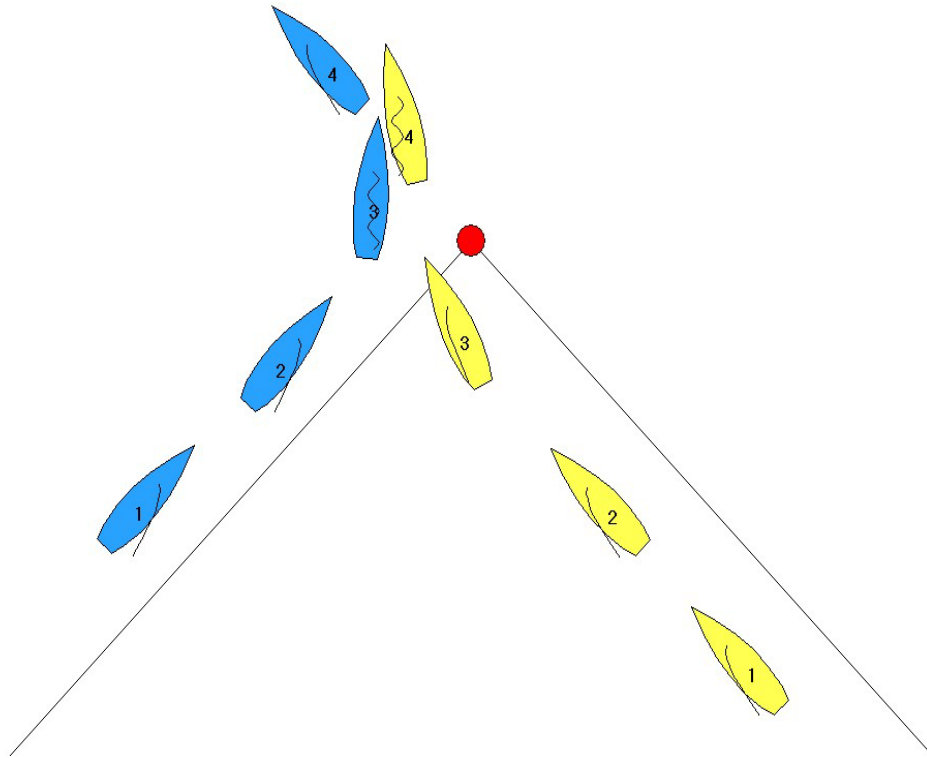
The distance to the windward mark from the Start / Finish line is measured more by time than distance. Race Committees try to set the distance to the windward mark so that two laps around the course will be completed in approximately 25 to 35 minutes. Obviously that distance will depend on wind and wave conditions and the types of boats being sailed.

In some cases the course will be three laps because the geography of the sailing venue will require shorter legs. Race committees have wide latitude in setting the course and will make adjustments depending on weather conditions, local geography and the number of races to be completed in the time available.

The length of the starting line is also a function of time rather than distance. Race officers try to set the line so that it takes a competing boat approximately 25 to 30 seconds to sail the complete length of the line. As with the length of the course, the length of the line will depend on the strength of the wind, wave conditions and the types of boats being sailed in the regatta.

The windward mark and the leeward mark are generally left to starboard. This is designed to make the game more exciting and to give the boat behind an opportunity to catch and pass the leading boat, particularly at the windward mark. If a boat is slightly behind as they approach the windward mark and is on the starboard tack layline, she can often force her opponent who is on the port tack layline to luff, even

to tack, to keep clear of the starboard, right of way, boat. This reverses the boats' positions and puts the boat that was behind in the lead through use of smart tactics and knowledge of the RRS.



The Benefit of Starboard Tack

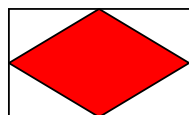
As long as the starboard tack, right of way (ROW) boat can get a “piece” of the port tack, keep clear, boat, he has a good chance of gaining the lead.

II. THE ENTRY

a. Pre-Start Signals

To start a flight of match races (see RRS C3.1), the Race committee makes a sound signal and displays the Attention signal (Code flag “F”) at 10 minutes before the first start.

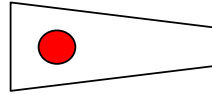
Code Flag F



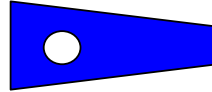
Code flag “F” is lowered 6 minutes before the first start in the flight.

At 5 minutes before the start of a match, the Race Committee will display the Warning signal along with a sound signal.

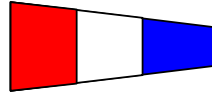
Numeral pennant “1” for the first match



Numeral pennant “2” for the second match

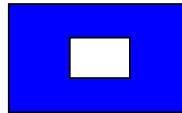


Numeral pennant “3” for the third match



4 minutes before the start of a match, the Race committee will display the Preparatory signal. From this point onward, the boats in the match are racing.

Code flag “P” (Preparatory Signal)



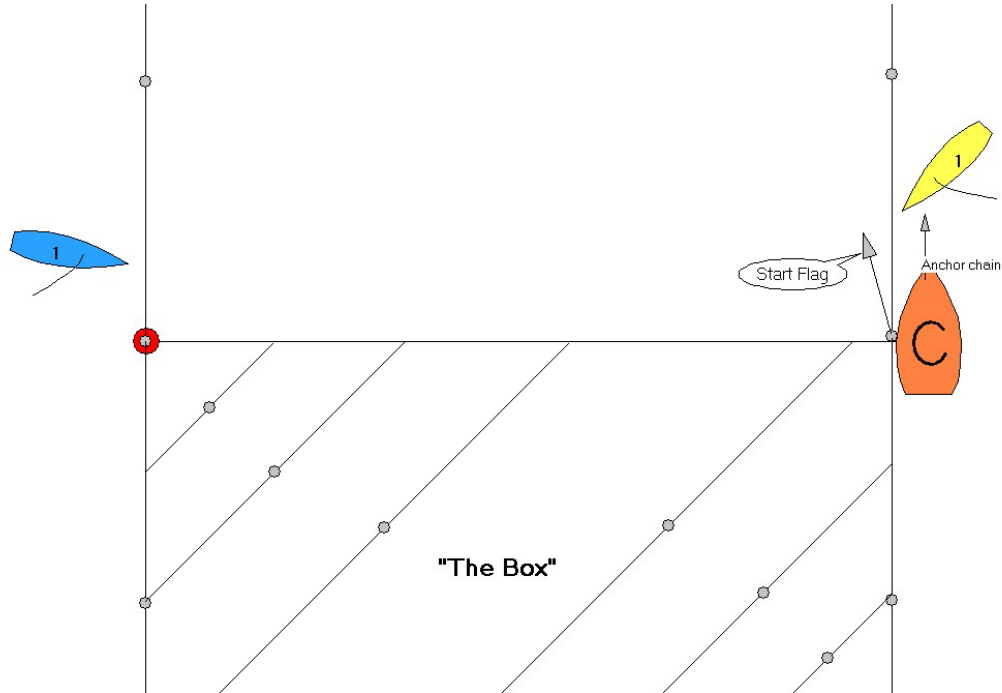
b. Position at the 4 Minute (Preparatory) Signal

At the 4 minute Preparatory signal, both boats must be outside the lines that form an “H” with the starting line. The boat entering from the left side, on port tack, is assigned the identifying colour blue and she must display a blue flag at her stern. The other boat enters from the right side, on starboard tack and she is assigned the identifying colour yellow and must display a yellow flag at her stern. The sides from which the boats enter are determined by the format printed in the sailing instructions. The boat listed on the right side of the pairing list for that match enters from the right and displays the yellow flag.

c. Entering the Box

Within the 2 minute period following the 4 minute Preparatory signal, each boat must enter the pre-start area (often called the “Box”), crossing the start line for the first time from the course side of the line. If either boat does not enter within that 2 minute period, they will receive a penalty. Part of the game is to enter correctly and on time. If your opponent is late crossing the “goalpost upright” then you would try to prevent him from entering the pre-start area on time. This does happen occasionally and it is a legitimate strategy.

d. The "H"



III. THE MATCH RACING RULES

A. The Racing Rules of Sailing

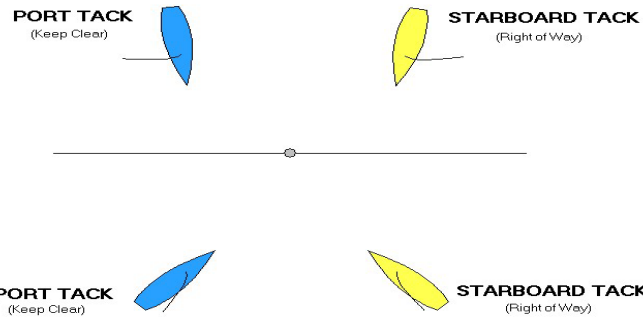
The Racing Rules of Sailing are created, owned and distributed by ISAF. They are available on the ISAF website (www.sailing.org). They are re-printed here with permission from ISAF.

We are concerned here with the basic right of way rules. We will discuss rules 10 through 22, some of the Definitions and Appendix C, which is the section of the rules that governs match racing. Words contained in the Definitions of the rules are italicized.

From here on, we will also italicize the defined words when used in their defined sense. We will also refer to the right of way boat as ROW.

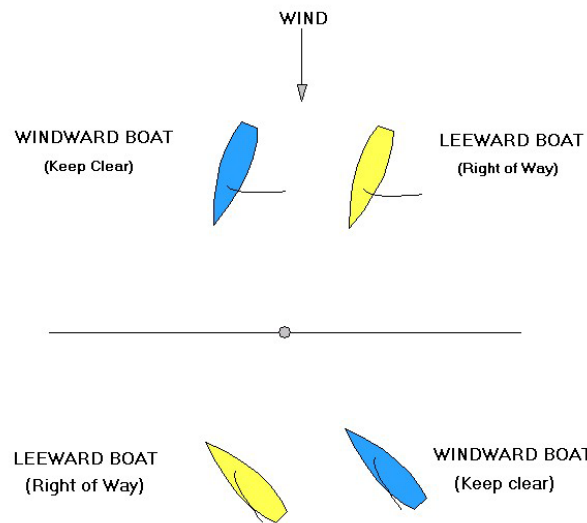
Rule 10 ON OPPOSITE TACKS

When boats are on opposite tacks, a *port-tack* boat shall *keep clear* of a *starboard-tack* boat.



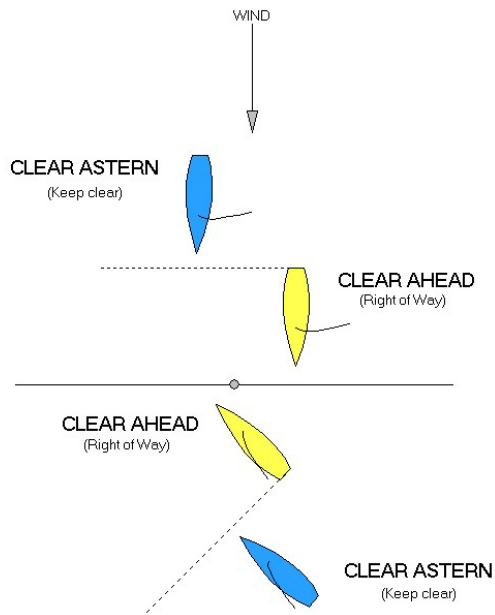
Rule 11 ON THE SAME TACK, OVERLAPPED

When boats are on the same *tack* and *overlapped*, a *windward* boat shall *keep clear* of a *leeward* boat.



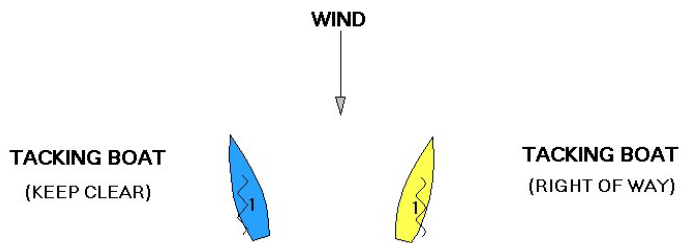
Rule 12 ON THE SAME TACK, NOT OVERLAPPED

When boats are on the same *tack* and not *overlapped*, a boat *clear astern* shall *keep clear* of a boat *clear ahead*.

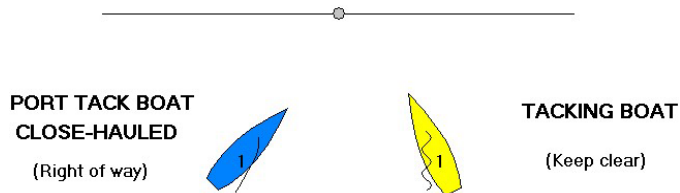


Rule 13.1 WHILE TACKING

After a boat passes head to wind, she shall *keep clear* of the 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 shall *keep clear*.

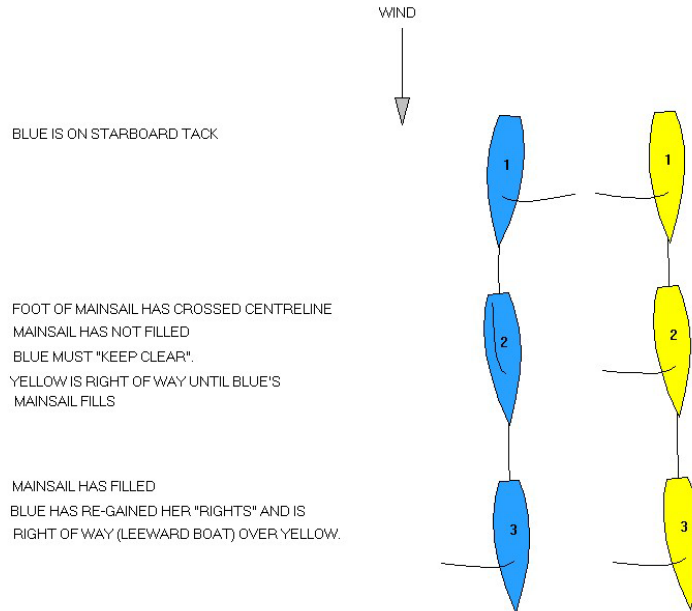


When both boats are tacking at the same time, the one on the other's port side shall "keep clear".
 (When both boats are tacking, "the one on the right is right".)



Rule 13.2 (C2.4)

After the foot of the mainsail of a boat sailing downwind crosses the centerline she shall *keep clear* until her mainsail has filled on the other *tack*.



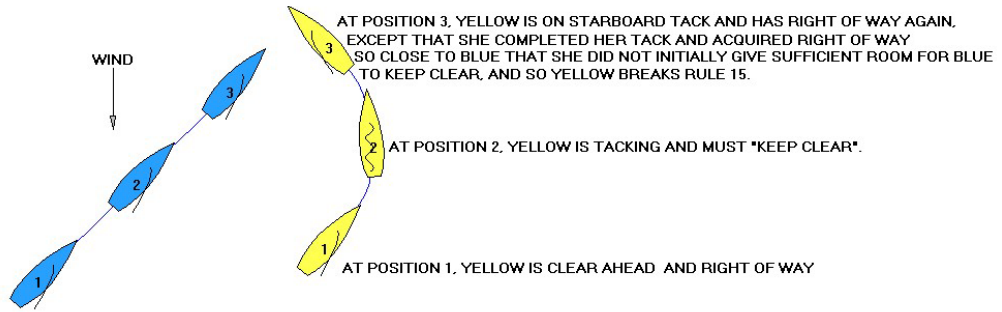
Rule 14 AVOIDING CONTACT

A boat shall avoid contact with another boat if reasonably possible. However, a right-of-way boat or one entitled to *room*

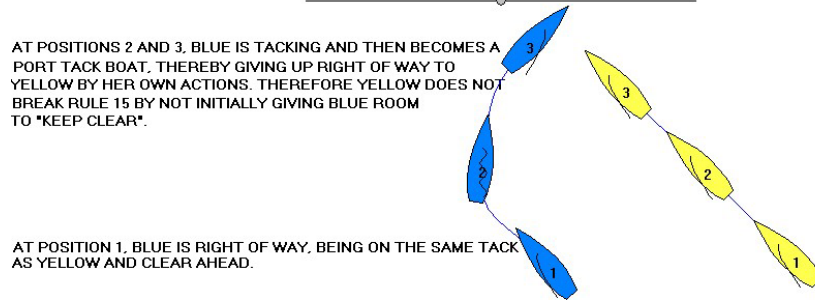
- (a) need not act to avoid contact until it is clear that the other boat is not *keeping clear* or *giving room*, and
- (b) shall not be penalized under this rule unless there is contact that causes damage.

Rule 15 ACQUIRING RIGHT OF WAY

When a boat acquires right of way, she shall initially give the other boat *room* to *keep clear*, unless she acquires right of way because of the other boats actions.

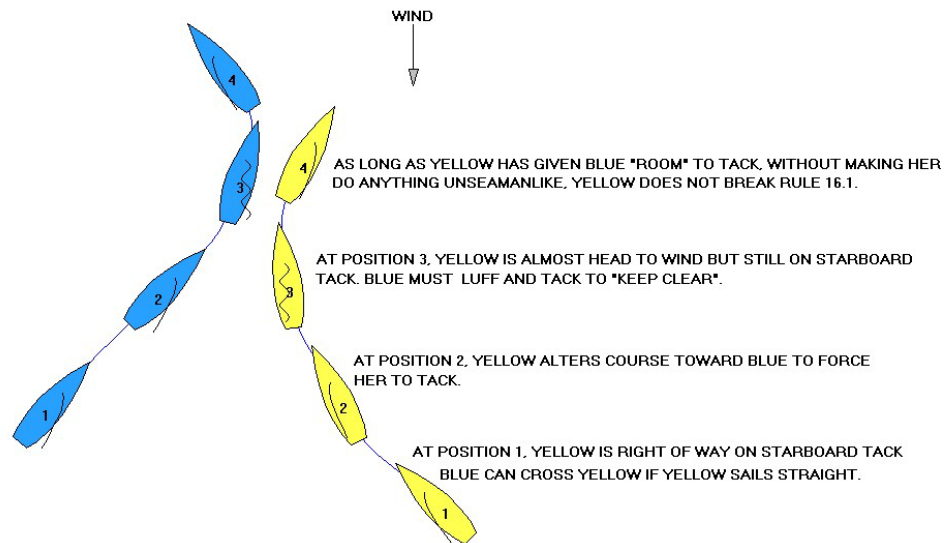


NOTE: IN EACH OF THESE SITUATIONS RULE 14 PLACES AN OBLIGATION ON BOTH BOATS TO AVOID CONTACT WITH EACH OTHER, NO MATTER WHICH HAS RIGHT OF WAY.



Rule 16.1 CHANGING COURSE

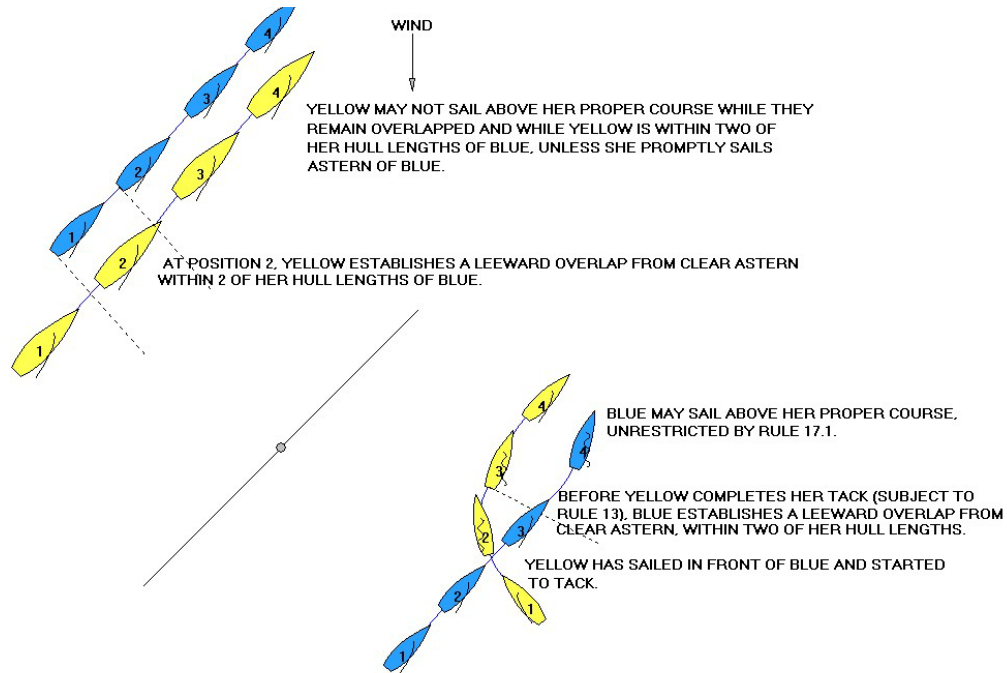
When a right-of-way boat changes course, she shall give the other boat *room to keep clear*.



Rule 16.2 has been deleted for match racing.

Rule 17.1 ON THE SAME COURSE; PROPER COURSE

If a boat *clear astern* becomes *overlapped* within two of her hull lengths to *leeward* of a boat on the same *tack*, she shall not sail above her *proper course* while they remain *overlapped* within that distance, unless in doing so she promptly sails *astern* of the other boat. This rule does not apply if the *overlap* begins while the *windward* boat is required by rule 13 to *keep clear*.

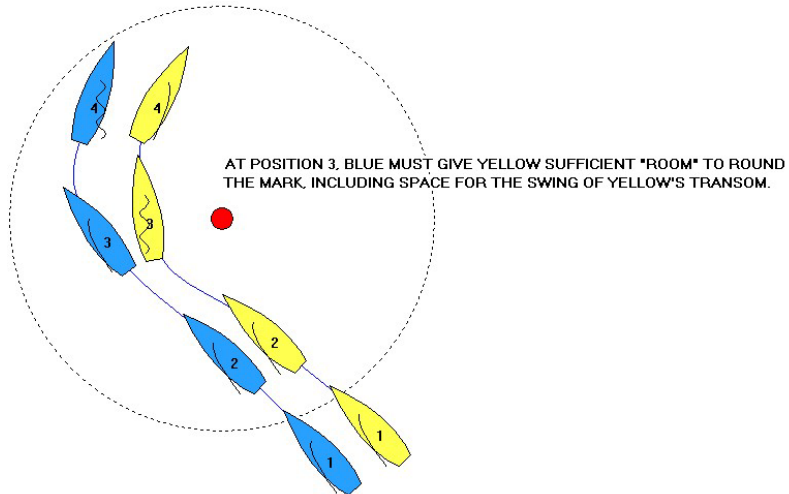


Rule 17.2 has been deleted for match racing.

When there is a conflict between rules 18 and 19 and the previous rules discussed above, rules 18 and 19 take precedence.

Rule 18 ROUNDING AND PASSING MARKS AND OBSTRUCTIONS

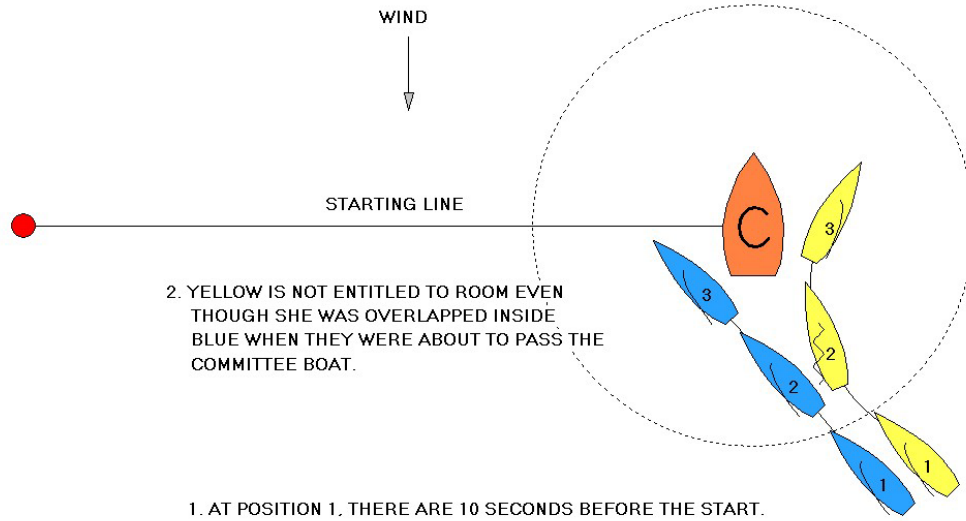
*In rule 18, **room** is **room** for an inside boat to pass between an outside boat and a **mark** or **obstruction**, including **room** to tack or gybe when either is a normal part of the manoeuvre.*



Rule 18.1 WHEN THIS RULE APPLIES

Rule 18 applies when boats are about to round or pass a *mark* they are required to leave on the same side, or an *obstruction* on the same side, until they have passed it. However, it does not apply

- (a) at a starting *mark* surrounded by navigable water or at its anchor line from the time the boats are approaching them to *start* until they have passed them, or
- (b) between boats on opposite *tacks*, either on a beat to windward or when the *proper course* for one or both of them to round or pass the *mark* or *obstruction* is to tack.

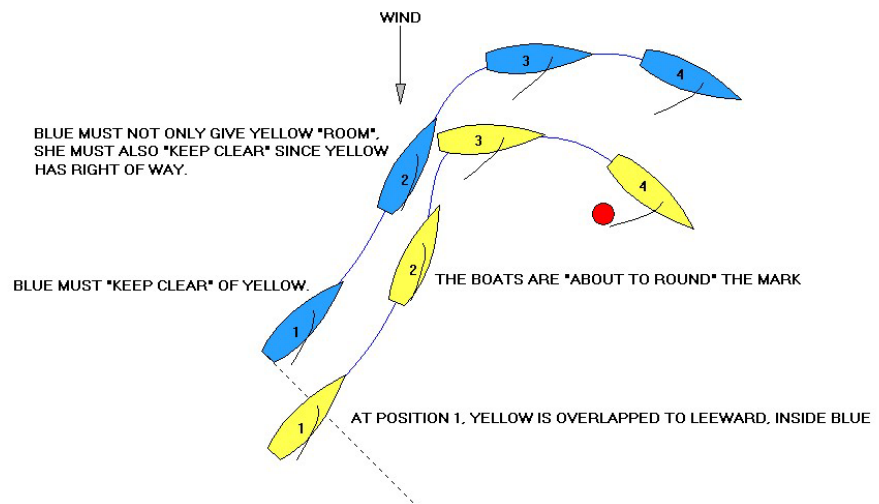


Rule 18.2

GIVING ROOM; KEEPING CLEAR

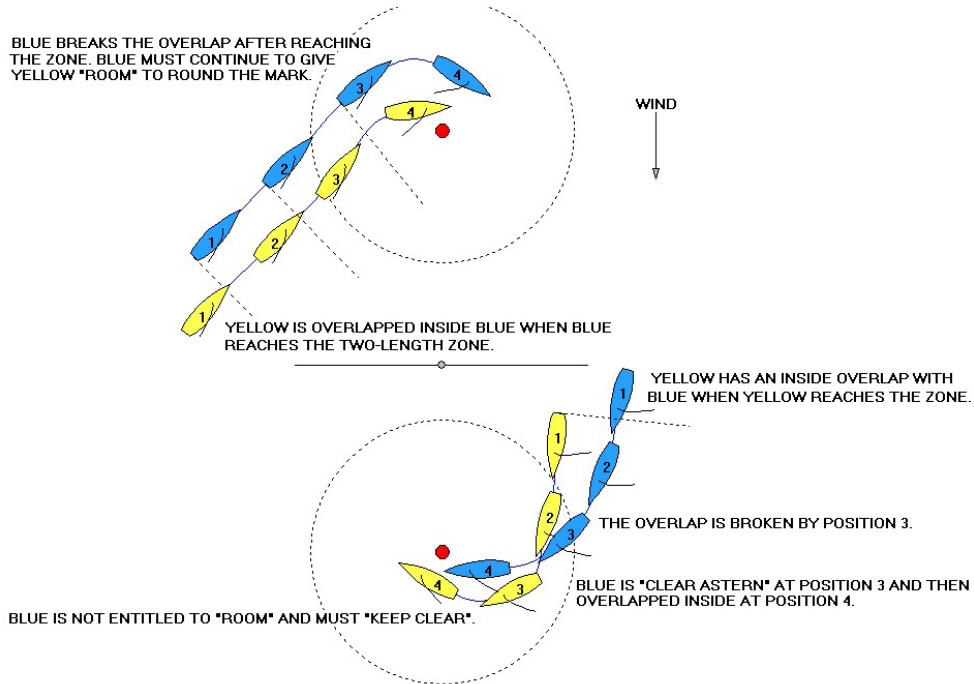
(a) **OVERLAPPED – BASIC RULE**

When boats are *overlapped* the outside boat shall give the inside boat *room* to round or pass the *mark* or *obstruction*, and if the inside boat has right of way the outside boat shall also *keep clear*. Other parts of rule 18 contain exceptions to this rule.



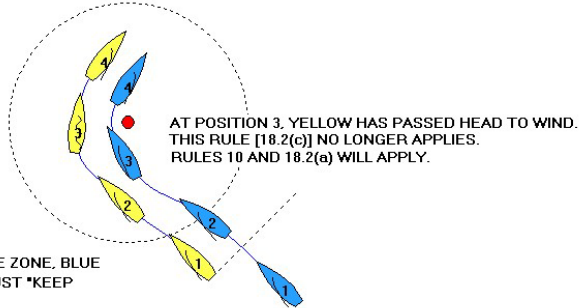
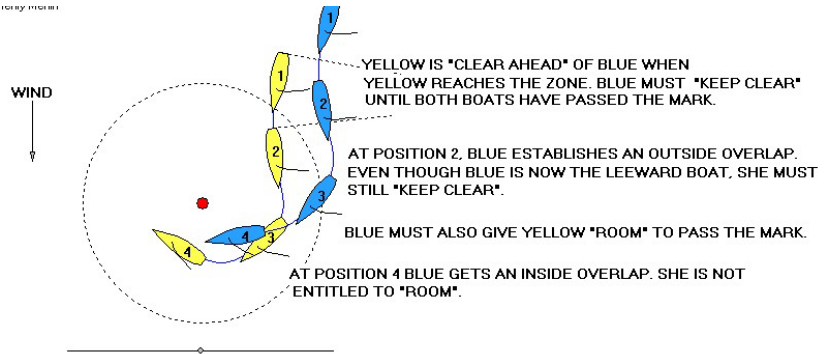
(b) OVERLAPPED AT THE ZONE

If boats were *overlapped* before either of them reached the *two-length zone* and the *overlap* is broken after one of them has reached it, the boat that was on the outside shall continue to give the other boat *room*. If the outside boat becomes *clear astern* or *overlapped* inside the other boat, she is not entitled to *room* and shall *keep clear*.



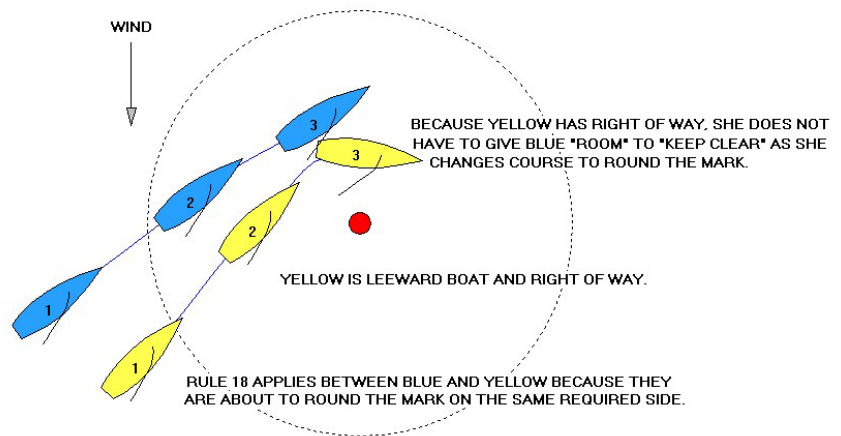
(c) NOT OVERLAPPED AT THE ZONE

If a boat is *clear ahead* at the time she reaches the *two-length zone*, the boat *clear astern* shall thereafter *keep clear*. If the boat *clear astern* becomes *overlapped* outside the other boat she shall also give the inside boat *room*. If the boat *clear astern* becomes *overlapped* inside the other boat she is not entitled to *room*. If the boat that was *clear ahead* passes head to wind, rule 18.2(c) no longer applies.



(d) CHANGING COURSE TO ROUND OR PASS

When rule 18 applies between two boats and the right-of-way boat is changing course to round or pass a *mark*, rule 16 does not apply between her and the other boat.

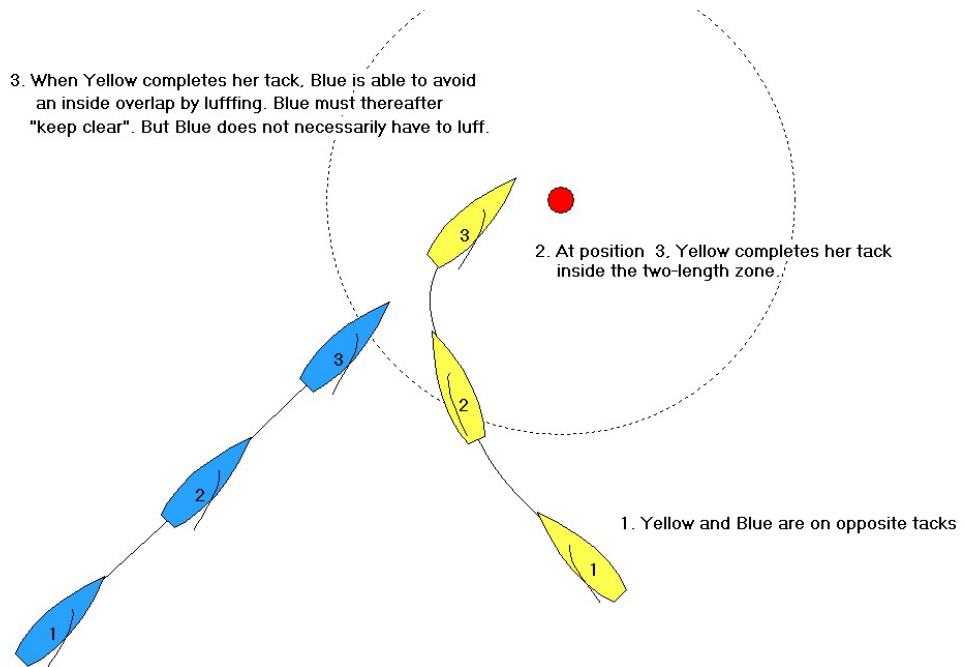


(e) **OVERLAP RIGHTS**

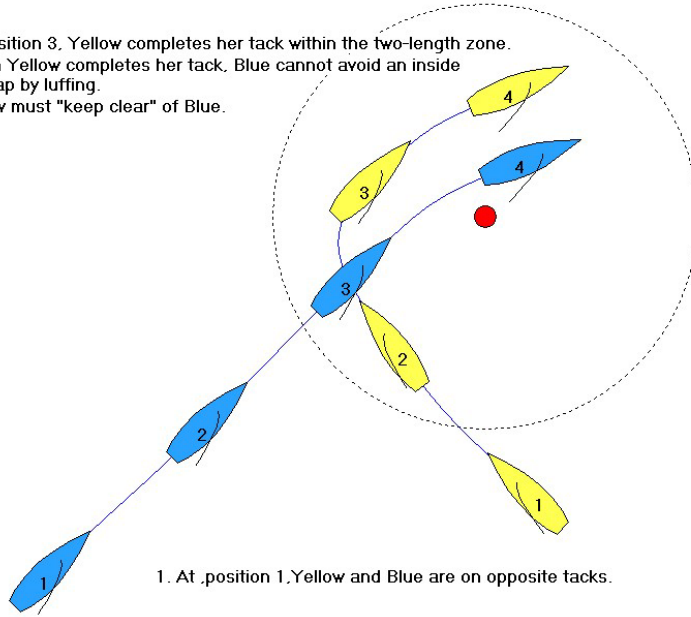
If there is reasonable doubt that a boat obtained or broke an *overlap* in time, it shall be presumed that she did not. If the outside boat is unable to give *room* when an *overlap* begins, rules 18.2(a) and 18.2(b) do not apply.

Rule 18.3 **TACKING AT A MARK** (deleted and replaced by C2.6)

C2.6 If two boats were on opposite *tacks* and one of them completes a tack within the *two-length zone* to pass a *mark* or *obstruction*, and if thereafter the other boat cannot by luffing avoid becoming *overlapped* inside her, the boat that tacked shall *keep clear* and rules 15 and 18.2 do not apply. If the other boat can by luffing avoid becoming *overlapped* inside her then rule 18.2(c) shall apply as if the boats were *clear ahead* and *clear astern* at the *two-length zone*.

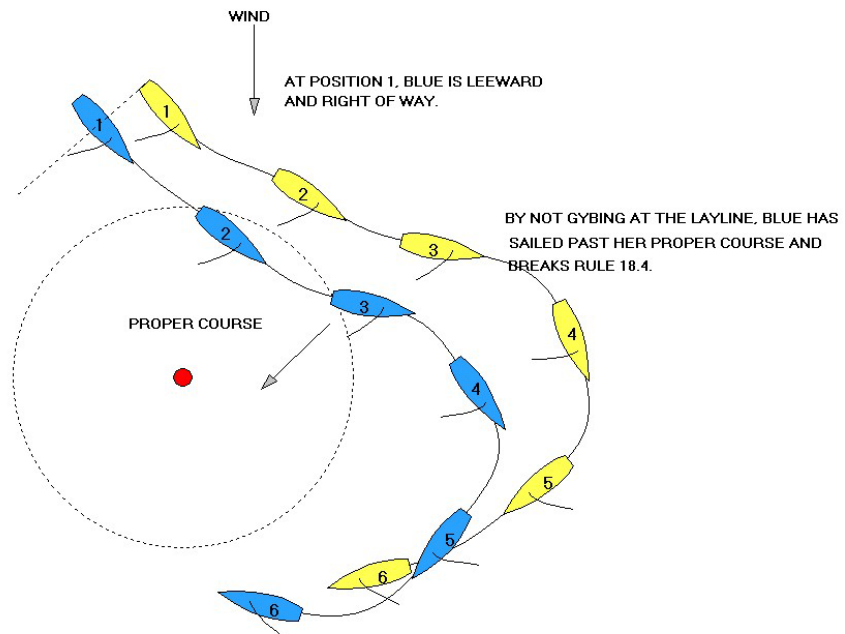


2. At position 3, Yellow completes her tack within the two-length zone.
 When Yellow completes her tack, Blue cannot avoid an inside overlap by luffing.
 Yellow must "keep clear" of Blue.



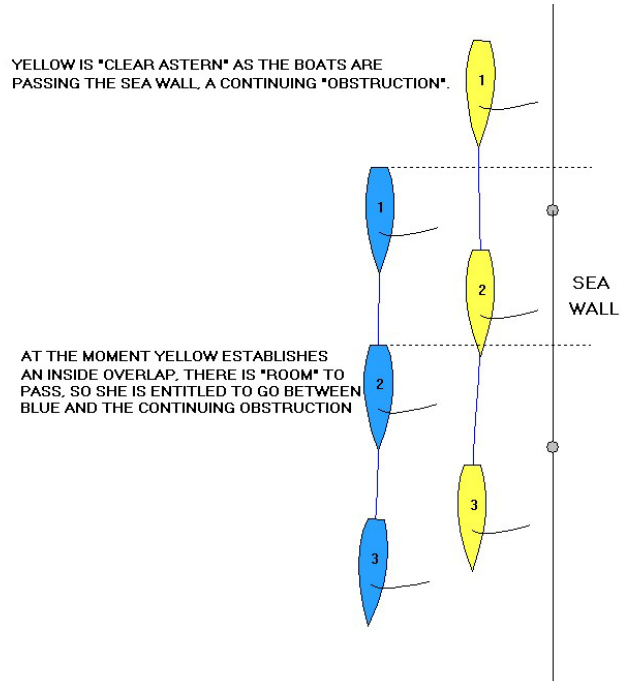
Rule 18.4 **GYBING**

When an inside *overlapped* right-of-way boat must gybe at a mark or *obstruction* to sail her *proper course*, until she gybes she shall sail no farther from the *mark* or *obstruction* than needed to sail that course.



Rule 18.5 PASSING A CONTINUING OBSTRUCTION

While boats are passing a continuing *obstruction*, rules 18.2(b) and 18.2(c) do not apply. A boat *clear astern* that obtains an inside *overlap* is entitled to *room* to pass between the other boat and the *obstruction* only if at the moment the *overlap* begins there is *room* to do so. If there is not, she is not entitled to *room* and shall *keep clear*.



Rule 19 ROOM TO TACK AT AN OBSTRUCTION

19.1 When safety requires a close-hauled boat to make a substantial course change to avoid an *obstruction* and she intends to tack, but cannot tack and avoid another boat on the same *tack*, she shall hail for *room* to do so. Before tacking she shall give the hailed boat time to respond. The hailed boat shall either:

- (a) tack as soon as possible in which case the hailing boat shall also tack as soon as possible, or
- (b) immediately reply "you tack", in which case the hailing boat shall tack as soon as possible and the hailed boat shall give *room*, and rules 10 and 13 do not apply.

C2.7 The following arm signals by the helmsman are required in addition to the hails:

- (a) for "Room to tack", repeatedly and clearly pointing to *windward*; and

(b) for “You tack”, repeatedly and clearly pointing at the other boat and waving the arm to *windward*.

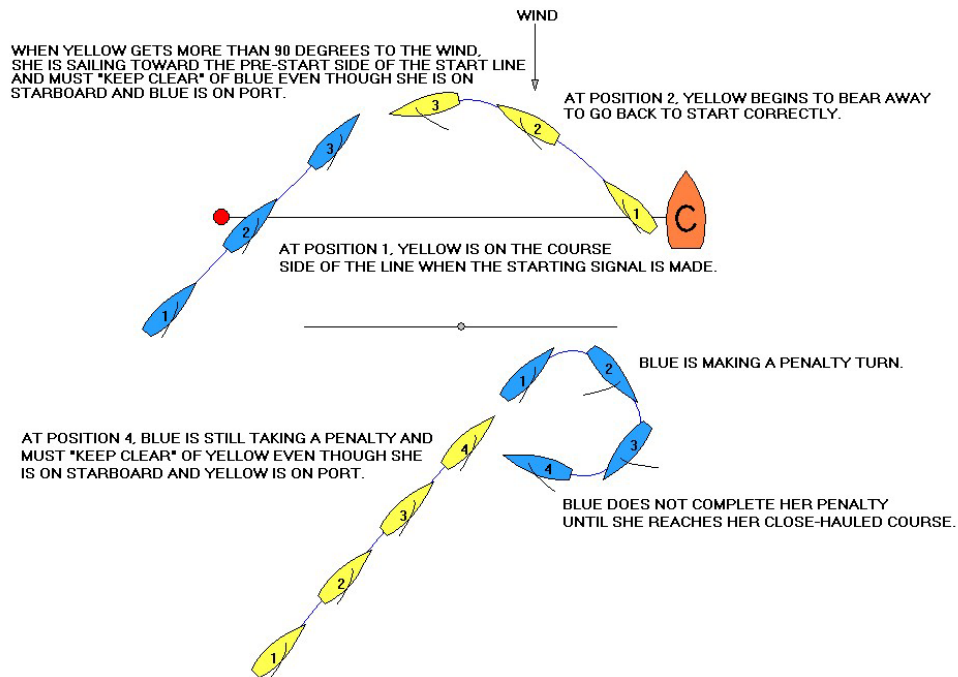
19.2 Rule 19.1 does not apply at a starting *mark* surrounded by navigable water or at its anchor line from the time boats are approaching them to *start* until they have passed them or at a *mark* that the hailed boat can fetch. When rule 19.1 applies, rule 18 does not.

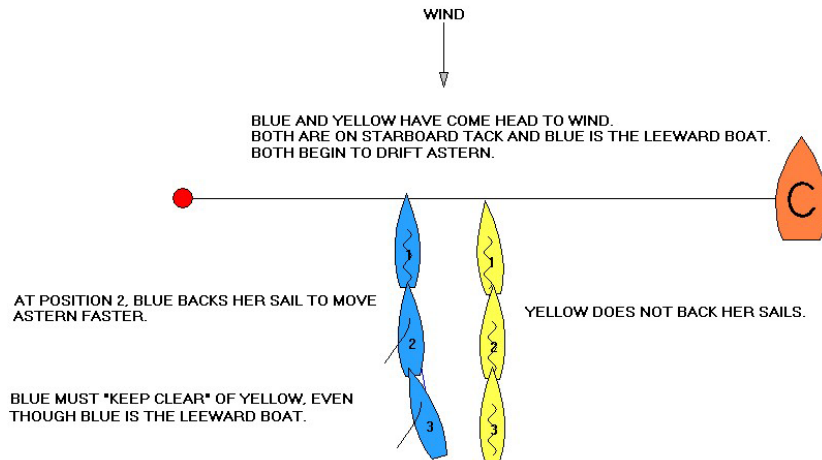
Rule 20 STARTING ERRORS; PENALTY TURNS; MOVING ASTERN

A boat sailing toward the pre-start side of the starting line or its extensions after her starting signal to comply with rule 29.1 or 30.1 shall *keep clear* of a boat not doing so until she is completely on the pre-start side.

C2.8 A boat taking a penalty shall *keep clear* of one that is not.

A boat moving astern by backing a sail shall *keep clear* of one that is not.





Rule 21 CAPSIZED, ANCHORED OR AGROUND; RESCUING

If possible, a boat shall avoid a boat that is capsized or has not regained control after capsizing, is anchored or aground, or is trying to help a person or vessel in danger. A boat is capsized when her masthead is in the water.

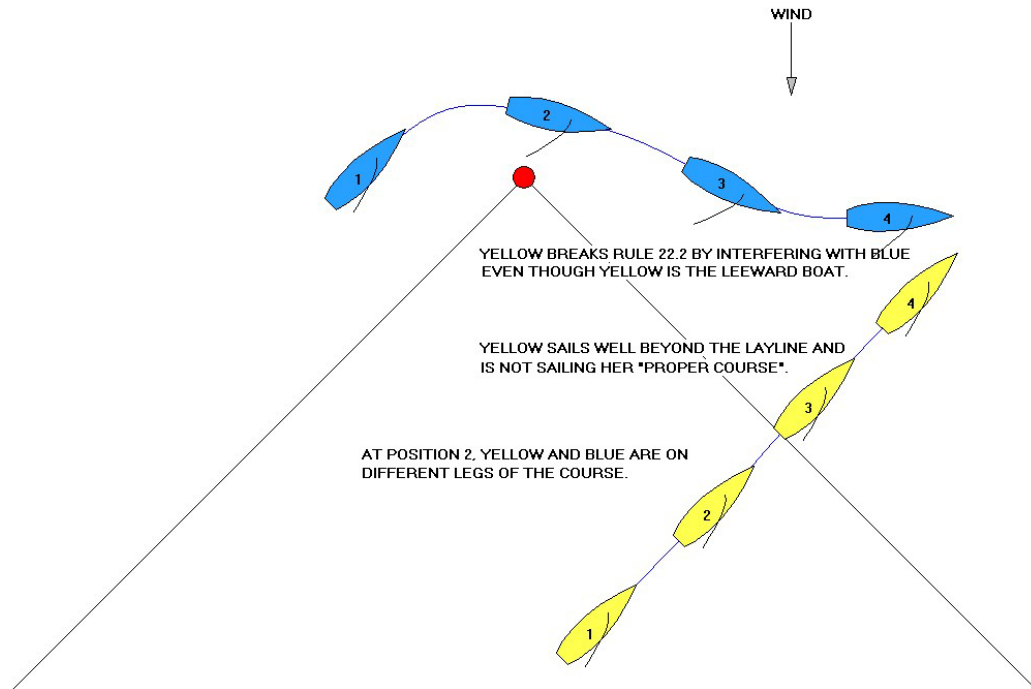
Rule 22 INTERFERING WITH ANOTHER BOAT

22.1 has been deleted for match racing and replaced with the following:

C2.9 If reasonably possible, a boat not *racing* shall not interfere with a boat that is *racing* or an umpire boat.

22.2 has been deleted for match racing and replaced with the following:

C2.10 Except when sailing a *proper course*, a boat shall not interfere with a boat taking a penalty or sailing on another leg.



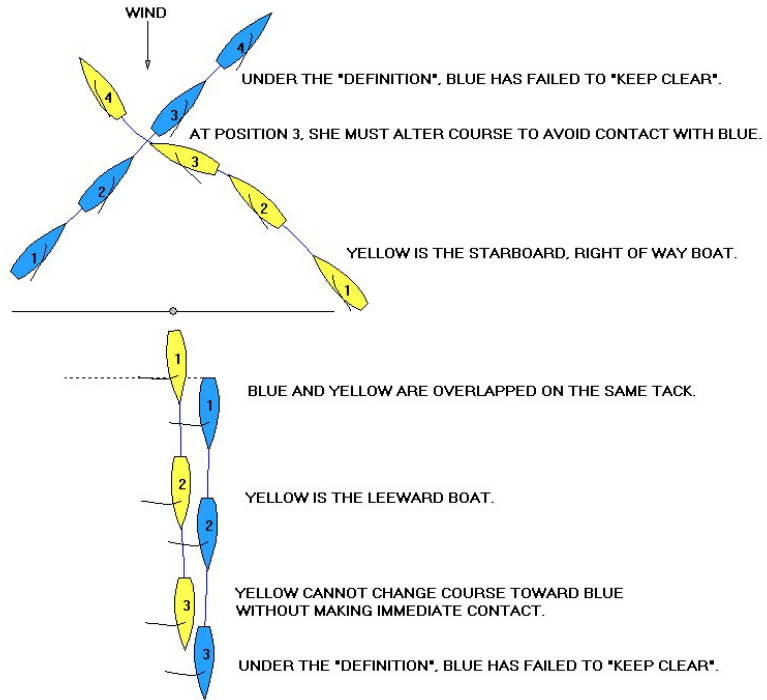
22.3 **C2.11** When boats in different matches meet, any change of course by either boat shall be consistent with complying with a *rule* or trying to win her own match.

DEFINITIONS

There are 20 “definitions” in the Racing Rules of Sailing. It is worthwhile for you to read all of them to fully understand the rules. However, for the purposes of this book, we will only discuss three of them here.

Keep Clear

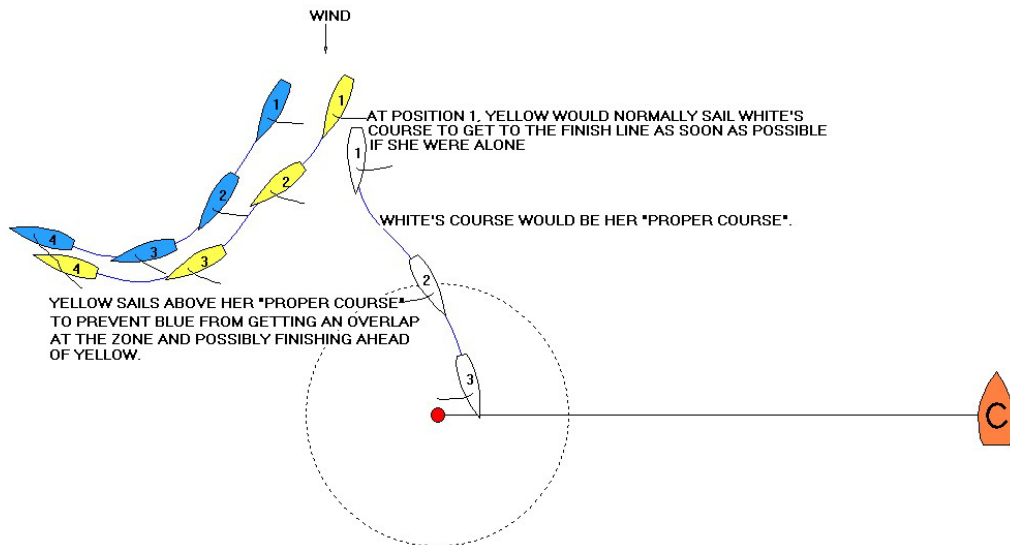
One boat *keeps clear* of another if the other can sail her course with no need to take avoiding action and, when the boats are *overlapped* on the same *tack*, if the *leeward* boat can change course in both directions without immediately making contact with the *windward* boat.



Proper Course

A course a boat would sail to *finish* as soon as possible in the absence of other boats referred to in the *rule* using the term. A boat has no *proper course* before her starting signal.

C2.2 A boat taking a penalty or manoeuvring to take a penalty is not sailing a *proper course*.



Room

The space a boat needs in the existing conditions while manoeuvring promptly in a seamanlike way.

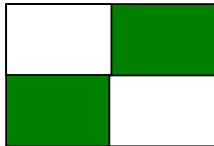
B. Protests and Penalties and Umpires

Under the RRS, protesting another boat while match racing is quite a different matter than in fleet racing. In a match race, the matches are umpired on the water. Two umpires (who are allegedly knowledgeable in the RRS, particularly the match race rules) follow the match in a power boat from the moment of entry, through the pre-start and all the way through to the finish.

If either or both of the racing boats feel that the other boat in the match, or even a boat in another match, has broken a rule of Part 2 of the RRS (rules 10 through 22), then she “conspicuously” displays a “Y” flag.



The umpires make a decision right then and there as to whether a rule was broken or not. If they decide no rule was broken, the umpires display a green and white flag.



If they decide a rule was broken, they display the coloured flag that identifies the boat that broke a rule.



They also display a coloured shape that matches the flag on the penalised boat and they leave the shape displayed until either that boat properly does her penalty turn or until the other boat in the match gets an offsetting penalty.

Match races are sailed under the “delayed penalty” system. This means that if a boat is penalised, it may delay taking the penalty to any time before finishing (C7.3(c)). In fact, if she gets a penalty in the pre-start, she must delay taking it until after she has started. If a boat has two outstanding penalties, then she must take one of them as soon as reasonably possible, but again, not before starting (C7.3(c)). If a boat gets a third penalty before taking any of the prior two, she will be disqualified and the match is awarded to the other boat (C7.2(f)). That is the dreaded Black flag penalty (C5(d)).

Henry’s Comment:

This rarely happens, but if it does, it is usually the result of one of two circumstances:

- a. *A boat gets three penalties in the pre-start. Since a boat may not take a penalty before she starts, there is no way to get rid of one, unless you get a penalty on your opponent, in which case one penalty for each boat offsets the other. However, if you already have two penalties in the pre-start, the best advice is to stay as far away from your opponent as possible. If, at*

that stage, you mix it up with your opponent with the intent of offsetting one of the penalties, the reward will not be nearly as great as the risk.

First, your attitude is not the best for match racing at that point because you already have two penalties against you and you are probably feeling a little “put upon”. You are likely to be overly aggressive and the umpires may think you are a bit of a “cowboy” at that point. Though umpires hate to “Black flag” anyone (we can hear you snickering, but it’s true), they will if they think you are clearly wrong. The result may well be that you will be eliminated before you even start the race. Don’t take the chance. It is better to take your second penalty as soon as you start (which you must do) and then try to play the shifts better, get the new wind first, get to the better side of the course, play the current better and to just out-sail your opponent. You might just catch her in a port/starboard situation at the windward mark and get ahead. Better yet, she may foul you, thereby offsetting your remaining penalty. At least you are still in the race and to win a race where you were down 2 penalties at the start is one of the most satisfying feelings you can have – and think how discouraged your opponent will feel!

John’s Comment:

My opinion on this situation differs from Henry’s quite a bit. In fact, I take the opposite view.

If you get two penalties in the pre-start, don’t let up! Try to offset the penalties as soon as possible. If you have two penalties, you have already effectively lost the match. On a 20 to 30 minute course with equal boats, there is almost no way that you will be able to win the match. You might as well take the risk of getting a third penalty since the match is probably lost anyway.

But, if you are able to offset one of the penalties, you are back in the game and have a much better chance of winning the match.

Henry’s Comment:

- b. *The other most frequent time a third penalty is given, with the accompanying Black flag, is when a boat is carrying a delayed penalty, gets a second penalty and for some reason does not take the second penalty as soon as reasonably possible.*

Reasons for not taking the second penalty may be:

- 1. she is not aware she received the penalty because she didn’t hear the umpire’s whistle or see the penalty flag, or*
- 2. she forgot or didn’t realise she had the first penalty.*

Moral of the story? Someone on board, preferably not the helmsman, must pay attention and keep track of the umpires’ calls.

How do the umpires work?

If you ever get the opportunity, go out with a pair of umpires while they are working a match. First, it will show you in some detail how they operate. Second, it will give you a new perspective and better understanding of what goes into making the umpires' calls. Third, the umpires will be impressed that you want to get their perspective and they will be flattered that you chose them.

If you are a guest on an umpire boat, at some point the umpires will undoubtedly ask your opinion (after the call is made) on a particular situation. They are as anxious to get your perspective as you are to get theirs.

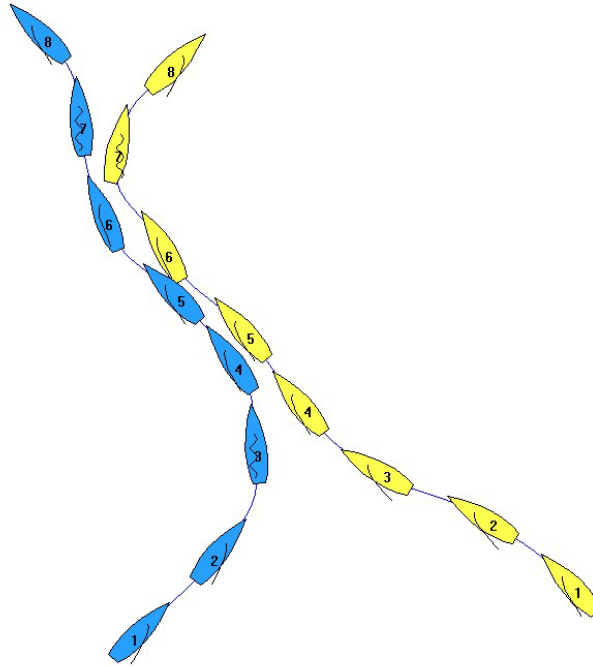
Best of all, if you ever get the chance to do some umpiring, jump at it. You will be a better match racer for the experience. They say it is good to get your head out of the boat to get the overall picture. You cannot get it much farther out, nor in a better place than on the umpire boat.

Also, if there is the time and opportunity, invite an umpire to sail your boat for a few minutes while you are practicing. Umpires who have sailed the type of boat being raced have a better understanding of its capabilities and give better calls as a result.

Now, to answer the original question, "How do umpires work?"

Umpires work in pairs. Each one selects one of the boats and he acts as if he is the skipper of that boat throughout the race. His partner takes the other boat. The two umpires talk to each other almost constantly, relaying appropriate information about what each boat is doing or is permitted to do.

They generally talk of each boat's rights, reasons, obligations and opportunities. For example, assume Blue tacks into a lee bow position, from *port tack* onto *starboard tack* on a beat to *windward*. The conversation might go something like this starting at position 1 (the words in parentheses are probably not spoken, but are implied):



Blue Umpire: "I'm a keep clear boat. Port tack."

Yellow Umpire: "I'm ROW, starboard, collision course. I'm bearing away. Must give you room (rule 16 in effect)."

BU: "Agreed. I have room. I cannot cross. I have to do something soon. (to keep clear)"

YU: "I'm coming back up (luffing to previous course). I'm holding." (course)

BU: "I'm luffing – tacking (through head to wind) – Complete! (tack is complete on a close-hauled course)." (course)

YU: "Overlap (said immediately after hearing 'Complete!')." (course)

BU: "ROW, leeward. Must give you room now." (rule 15 is in effect).

YU: "I've had time." (rule 15 no longer applies). "I'm holding. 3 meters gauge."

BU: "I can luff head to wind." (no restrictions on sailing a proper course).

YU: "Agreed. I'm vulnerable. I am keeping clear."

BU: "I'm luffing – slowly – I'm giving you room."

YU: “Agreed. Gauge 2 1/2 meters. I’m responding now. Watch the rigs please.”

BU: “Rigs are 2 meters apart. I’m still luffing.”

YU: “I’m still luffing – tacking – stern is clear.”

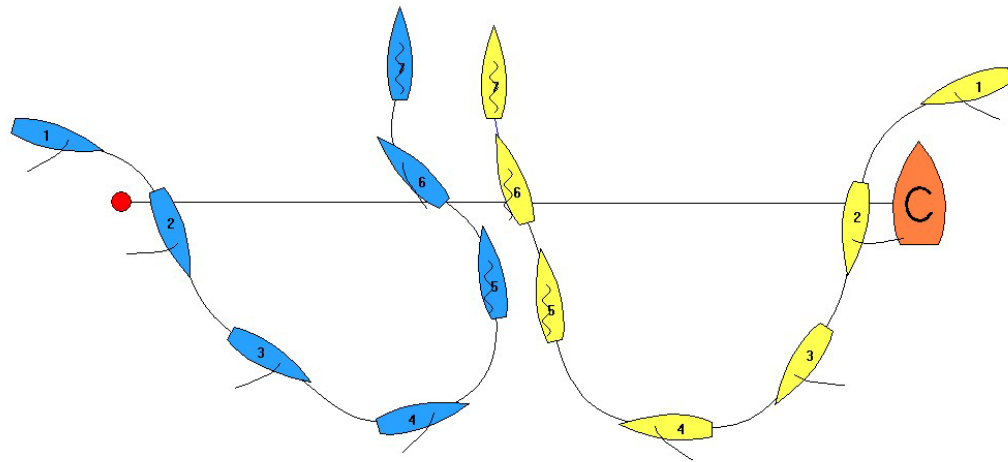
BU: “I’ve stopped luffing. 2 meter gauge. Bearing away. “Y” flag from me. You kept clear. No issue.”

YU: “Agreed. Tack complete. I’m on port. No issue. Green (and white) flag.”

IV. THE PRE-START

1. Pre-start Tactics and Strategy

The Dial Up



Blue’s strategy is almost always to get to the right side of the pre-start area.

Yellow, conversely, will almost always try to keep Blue from getting to the right.

Yellow comes into the “box” with the *starboard* advantage. Her aim is to keep Blue in a disadvantageous position, which may be done by a “dial-up”. Blue, as *port tack* boat, must *keep clear* (rule 10). Yellow initially goes deep to make sure Blue cannot cross in front of her.

As Blue sees that she cannot cross, she begins to luff to keep clear. Yellow luffs in response and maintains a collision course. Every time Yellow changes course, she must give Blue *room to keep clear* (rule 16).

As Blue continues to luff to *keep clear*, Yellow keeps aiming at her, making sure she gives Blue *room* with each alteration of course. Eventually both boats come to a head to wind position.

If neither boat crosses head to wind, then Blue remains on *port tack* and Yellow maintains right of way as the *starboard tack* boat. Blue must continue to *keep clear*. Blue remains vulnerable and at a disadvantage. Therefore, it is quite common for Blue to pass through head to wind (as in position 5, above), go down to a close-hauled course on *starboard* and then return to a head to wind position. Now, Blue is on *starboard tack* and the *leeward* boat. She has gained ROW over Yellow, who must now *keep clear*.

Blue is still not able to cross Yellow to get to the right side, but Yellow is now vulnerable as the *windward* boat. If the boats start to get close to each other, Yellow will have to take action to *keep clear* which probably means tacking and sailing away on *port*. This gives Blue the opportunity to escape and to also tack and follow Yellow toward the right.

John’s Comment:

Starboard entry has the advantage as they have the opportunity to gain control of Blue. If Yellow can dial Blue up before the start and keep Blue to the left, there is generally too much time for Blue to kill, so Blue will either be pushed past the pin layline, or will be too early at the pin. Yellow has the opportunity to always split away to the right.

In light air Blue is most vulnerable. Yellow can normally stay away from Blue and keep control. Blue needs to do something, to keep the boat moving and to look for an opportunity to develop that will allow her to escape.

When entering, the relative speed of the two boats is very important. On starboard, Yellow’s aim is to match the speed of Blue. When entering from port, the default is to keep better speed than Yellow in the light air and try to be slower in the breeze. Generally in the light air, you escape by tacking or gybing. Blue needs to end up close to Yellow at the end of the dial up.

In strong breeze, Blue should always make the tack onto starboard. Have the tactician call which tack the boats are on, that is, whether they are on port, starboard, or tacking. This affects who has right of way, and it is important to remember because the boats could still be in the same relative situation, even

minutes later. The escape here is generally by waiting, backing the boat down and forcing Yellow to tack away first as the boats get closer to each other.

Yellow should look for the point where Blue is stalled, or stuck on starboard tack, and then tack onto port to maximise the distance between the two boats.

The key to winning the dial up, either from port or starboard is to be able to have better boat control. Practice holding the boat head to wind, backing down, picking a tack to come out on and build speed. The bowman helps keep head to wind by backing the jib as required. Confidence in your team's boat handling is critical.

Henry's Comment:

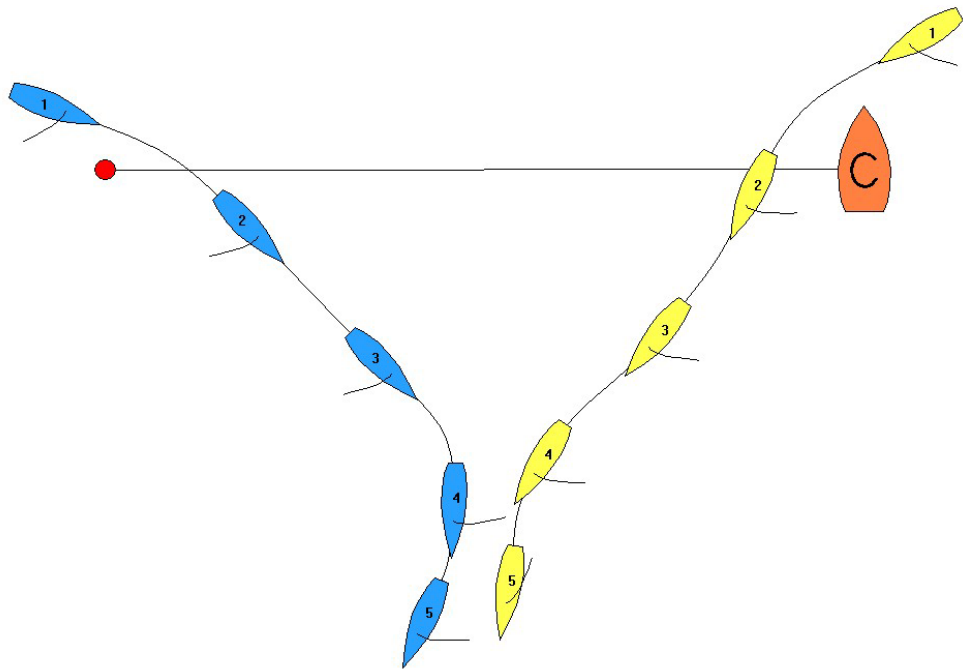
In the "dial up", Yellow must constantly be aware of her obligation under rule 16 to give Blue room to keep clear every time she alters course. The fact that Yellow's helmsman does not move the tiller or the wheel does not mean she is not altering course. As long as the boat's compass heading is changing, Yellow is altering course.

Conversely, under rule 10, Blue must do whatever is reasonable to keep clear, once there is a collision course. She does not have to anticipate the establishment of a collision course, but once it is established, she must act promptly to keep clear. If Blue delays acting to keep clear, trying to get closer to Yellow, Blue makes herself vulnerable to getting a penalty. If Yellow establishes the collision course so late that Blue cannot keep clear, then Yellow breaks rule 16.

Yellow will often establish the collision course 2 to 3 boat lengths from Blue and then hold a straight course thereafter. If Blue does not take appropriate action to avoid the collision and thereafter Yellow has to alter course to avoid contact, then Blue breaks rule 10.

If Blue passes through head to wind and gets to a close-hauled course on starboard and then luffs back to head to wind, then she has acquired ROW by her own actions. This brings rule 15 into play and Blue must make sure that she does not luff so hard that she does not, initially, give Yellow room to keep clear.

Dial Downs



In this scenario, Blue and Yellow are still trying to accomplish the same things as in the “dial up”. Blue is trying to get to the right and Yellow is trying to prevent her from doing so.

This time, Blue is trying to cross in front of Yellow. Yellow keeps a collision course with Blue and forces her to gybe at position 4.

John’s Comment:

These are just an alternative to the dial up. Yellow is looking to gain control, or at least be in a strong position after the first cross. If the committee boat is well favoured, or Yellow enters late, then the dial down is a viable option for Blue.

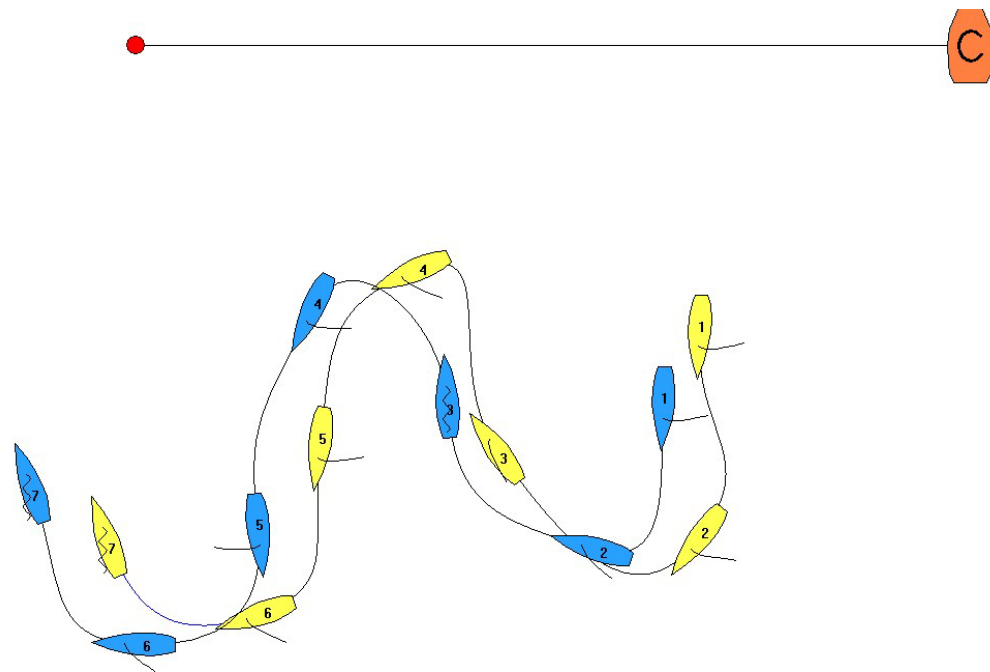
If it looks like Yellow can prevent Blue from crossing, she should aim at the stern of Blue, rather than the bow. This helps prevent Blue from doing a late dial up and escaping, and forces the dial down.

As the boats converge, Yellow should alter course to make sure that the Blue is forced to gybe. At this point, Blue tries to have the boats close, so that when Blue turns up, Yellow is unable to turn inside, allowing Blue to escape. Yellow needs to separate away from Blue, always keeping the ability to swing.

For Yellow, the trade off here is to either keep control by staying away, or to go for the penalty on Blue (low risk to Yellow) and probably lose control of Blue in the process.

The dial down, or the alternative where Blue crosses yellow, is often a strong move when it is windy. Yellow ends up on the stern of Blue, possibly close enough to prevent blue from gybing. It saves the risk of the dial up, and sitting head to wind flogging sails.

Yellow tries to control Blue as follows:



In position 1, Blue is too close to the pin end of the line and too early to lead Yellow back to the line to *start*. Blue has to kill time and she wants to do that by stretching the game out to the right. So she luffs at positions 2 and 3 to try to tack and cross in front of Yellow. Yellow follows, breaks the *overlap* as she goes astern of Blue and then sails to *windward* at position 3. Yellow is now the *windward* boat and must *keep clear* of Blue. However, Blue, even though ROW, cannot go past head to wind or else she becomes a tacking boat, in which case she must *keep clear* of Yellow. Yellow is still on *starboard*. If Yellow is forced to alter course to avoid Blue after Blue crosses head to wind, Blue breaks rule 13.

So, Blue cannot get to the right of Yellow by tacking. Now Blue bears away at position 4 to try to gybe in front of Yellow again. But, Yellow counters that move by following Blue, staying to the left of her and remaining on *starboard*. Blue cannot cross without breaking rule 10 and so she luffs again. How does Blue escape to the right?

John's Comment:

If Blue is to escape the control of Yellow in this dial-down situation, Blue must try to get Yellow overlapped as much as possible at position 1 and thereafter. As the boats sail deeper in to the "box", the layline to the pin gets closer and closer and Blue does not want to be forced outside that layline. Blue wants to luff in the "safety zone" and stop!

Blue should try to slow down so that Yellow is well overlapped – bow to bow if possible. When that happens, Yellow is then prevented from turning up inside her when Blue luffs. That enables Blue to tack off to the right side where she can kill time and set up for the approach to the start.

If Yellow is able to turn up inside of Blue when she luffs, then Blue should try to keep the distance between the two boats as close as possible. Blue should then slow down, even stop, and hold her head to wind position. Now, because Blue and Yellow are both on starboard tack, Blue will be the leeward/ROW boat. Yellow must keep clear. Yellow is vulnerable and will probably tack away, allowing Blue to tack and follow.

Success for Blue is being able to tack away to the right because she got Yellow so well overlapped that Yellow could not turn inside of Blue, or ending up head to wind with Yellow also head to wind to the right of her, but so close to windward that Yellow becomes vulnerable to being penalised and has to tack away.

Failure for Blue is when Yellow ends up inside (to the right) of Blue, but far enough away that she is not vulnerable and so Yellow is still in control.

Henry's Comment:

The rules situations in the "dial down" are basically the same as in the "dial up". Yellow must be conscious to give Blue room to keep clear each time she alters course. Blue, while on port tack, must keep clear of Yellow on starboard.

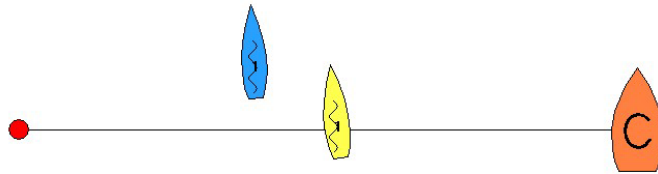
In the second part of the "dial down" scenario, at position 2, Yellow becomes clear astern and must keep clear of Blue (rule 12). As Yellow establishes a windward overlap at position 3, Yellow must continue to keep clear, but Blue must also be careful of her rule 16 obligations as ROW boat and she must take care to give Yellow room to keep clear as she luffs.

Blue must also be careful not to cross head to wind at positions 3 and 7, because she would then become a tacking boat subject to rule 13 and would have to keep clear of Yellow. In addition, because Yellow would have acquired ROW by Blue's own actions, rule 15 would not apply and Yellow would not have to initially give Blue room to keep clear.

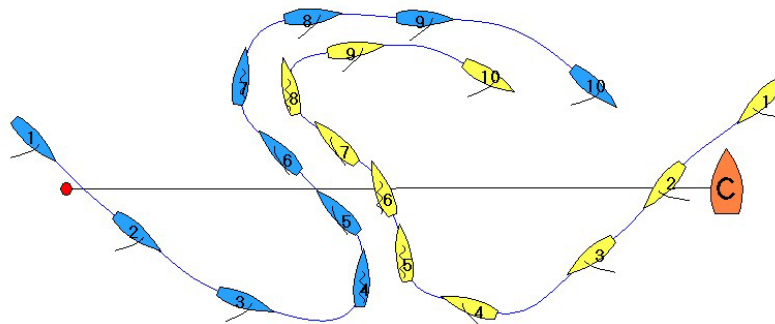
Escapes

Dial Up #1

Dial Up - Yellow's Set Up Position



When the boats are dialing up, Yellow would like to get set up so that she has her bow about level with Blue's quarter and with enough gauge between the boats so that she does not have to worry about getting too close in case Blue becomes the ROW boat and yet close enough that Blue cannot bear away behind her. Getting to that position means that Yellow will have to slow down a little sooner than Blue. Abrupt turns of the rudder, backing sails or luffing them as required gives you the required speed control for the dial ups.



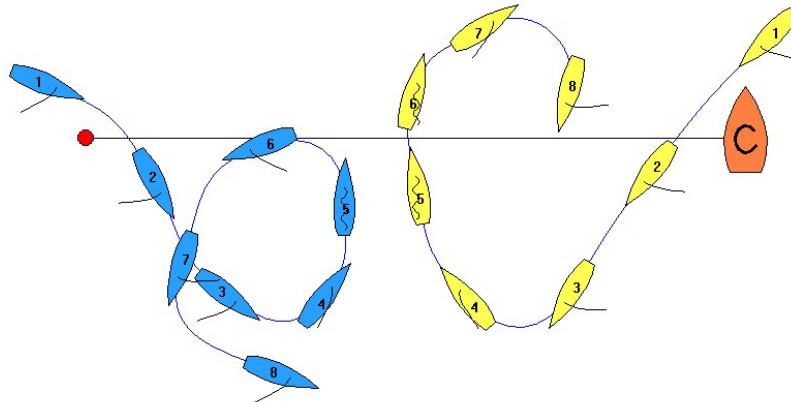
Here, Yellow thinks she is about to achieve her set up position just after position 5.

Blue can take advantage of that positioning by Yellow to escape. In this scenario, Blue appears to be doing a normal “dial up”. She luffs head to wind, or a little beyond at position 4, slowing slightly. She bears off to get to a close-hauled course on *starboard* to gain ROW. Yellow assumes Blue will come back to a head to wind position and so Yellow continues to slow down.

But Blue keeps building speed on *starboard* instead of luffing back to head to wind. Yellow now realises Blue is not stopping and she must bear off to try to prevent Blue from escaping. Because Blue never slowed as much as Yellow, she is able to gain speed faster than Yellow and she gets far enough in front to tack and cross Yellow at position 8.

This tactic works best in light air when it will take Yellow longer to gain speed than in heavy air.

Dial Up #2

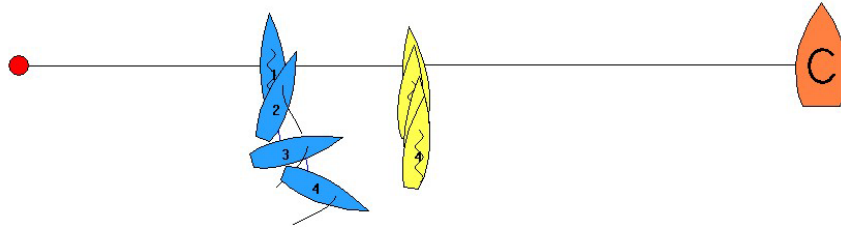


In this scenario, Yellow has gotten too far advanced at position 5 as she is slowing down. Her bow is slightly forward of Blue's. Blue takes advantage of the situation by immediately tacking to a close-hauled position on *starboard*, but instead of coming back to head to wind, she continues straight into a gybe. She keeps her speed up the entire time. When Yellow sees what Blue is doing, she tacks and bears off so that she can gybe and come back on *starboard* at Blue again. But she is too late, and Blue will cross in front and escape to the right.

John's Comment:

Even if Blue gets dialed up a second time, Blue may be able to get down to starboard tack and then come back to head to wind, closer to Yellow, in a better position than she was last time. Or, she may be able to bear away and try for another gybe escape. Also, it often happens that when there are several dial ups, the whole scenario moves further to the right, giving Blue more room to the pin end of the line.

Dial Up #3



In this scenario, Yellow ends up with too much distance between the boats as they come head to wind and stop. As the boats begin to drift backwards, Blue takes advantage of the distance between them by backing her jib and/or her mainsail, forcing her bow down. She is able to get to a position where she can sail forward and behind Yellow, thereby escaping to the right.

John's Comment:

This is a good escape when Yellow has set up well to the right of Blue. Blue needs to recognize that Yellow is too far away and make the first move. Blue's response to Yellow's positioning is to turn towards Yellow and swing astern. It takes strong nerves and good trim to make the turn.

Do this when the boats are going in reverse or almost stationary. Blue needs to stop her boat and try to start moving backward. Then, she must back the jib hard and ease the main completely. When she can get clear behind Yellow, she trims both main and jib and starts going forward behind Yellow.

If Blue initiates this move before Yellow starts to turn, Blue's actions tend to "freeze" Yellow, preventing her from stopping Blue's escape.

The key is to make the move before Yellow alters towards Blue to close the gap between the boats. Confidence in boat handling will make this a great escape or an expensive error!!

Henry's Comment:

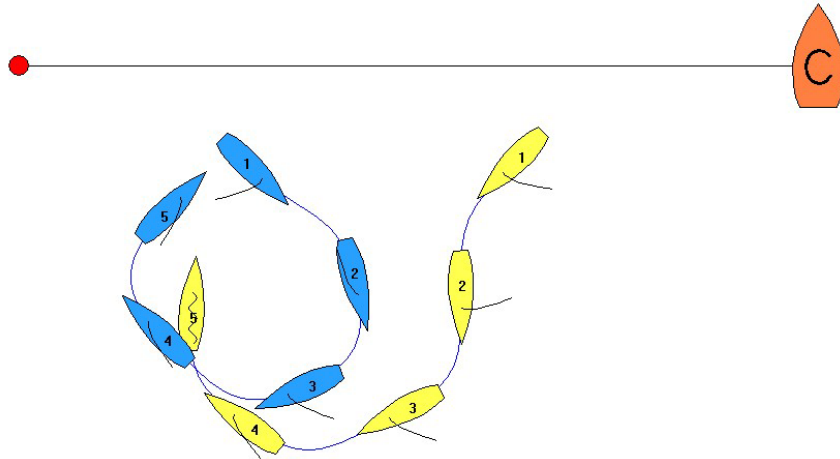
This can be a difficult manoeuvre from a rules perspective. If Blue has become ROW by going onto starboard tack and then comes back to head to wind, she gives up her ROW as soon as she passes head to wind onto port tack at position 2. If she has been a keep clear boat all along, then she is no worse off than she was before she started this attempt to escape.

She must be seen by the umpires as keeping clear throughout the manoeuvre, so that means she can not come too close to Yellow. She does not help her case very much by the fact that she is turning toward Yellow as opposed to away from her. Nevertheless, if she is keeping clear and the umpires see there is clearly room to do what she is doing, then Yellow is the one which is put into somewhat of a difficult position.

Yellow is the ROW boat. If she attempts to close off Blue's avenue of escape, as ROW boat, she must give Blue room to keep clear as soon as she alters course. Once Blue's bow gets down to a close-hauled position, it is extremely difficult for Yellow to make any turn that would stop Blue's escape without breaking rule 16.

Both boats are going astern. They are probably not quite as manoeuvrable as when they go forward. They are going slow and Blue has considerable leeway – that is, she is sliding sideways. If Yellow swings her stern toward Blue to cut off her escape route, once Blue's bow is beyond close-hauled, it is highly unlikely that Blue will be able to reverse her course and luff to avoid contact. If there was contact at that point, it is likely that Yellow would be penalised for breaking rule 16.

Dial Down #1



In the dial down situations, if Blue can slow down more quickly than Yellow at position 2 and get her well *overlapped*, Blue can luff onto *starboard*. When Yellow follows, she will be unable to luff inside Blue because she is so far *overlapped*. Blue will be either directly in front or to the right of Yellow when they get to a close-hauled course. Blue should be able to tack onto *port* and escape to the right side.

John's Comment:

At position 2, Yellow keeps control by maintaining good separation from Blue. She will still be able to luff inside Blue and keep her from getting to the right.

If Yellow closes the gauge, she may draw a penalty from Blue, if Blue waited too long to luff. There is very low risk of Yellow being penalised in this situation, but Yellow does lose control as she cannot turn inside Blue when she closes the gauge. It is usually better to maintain control rather than to try to get the penalty.

Henry's Comment:

There is nothing unusual in the rules aspect of this manoeuvre, but the transitions from keep clear to ROW at the end will be fast and it may be difficult to keep track of them.

Blue is the port tack/keep clear boat through position 2. She must be careful to start her gybe early enough that she does not make Yellow alter course to avoid her.

All through the gybe (rule 13.2) and until it is complete and until Blue's mainsail fills on the new tack, Blue continues to be the keep clear boat. At position 3, Blue is a windward/keep clear boat. Yellow's only restriction is rule 16. She must continually give Blue room to keep clear as she alters course while following Blue.

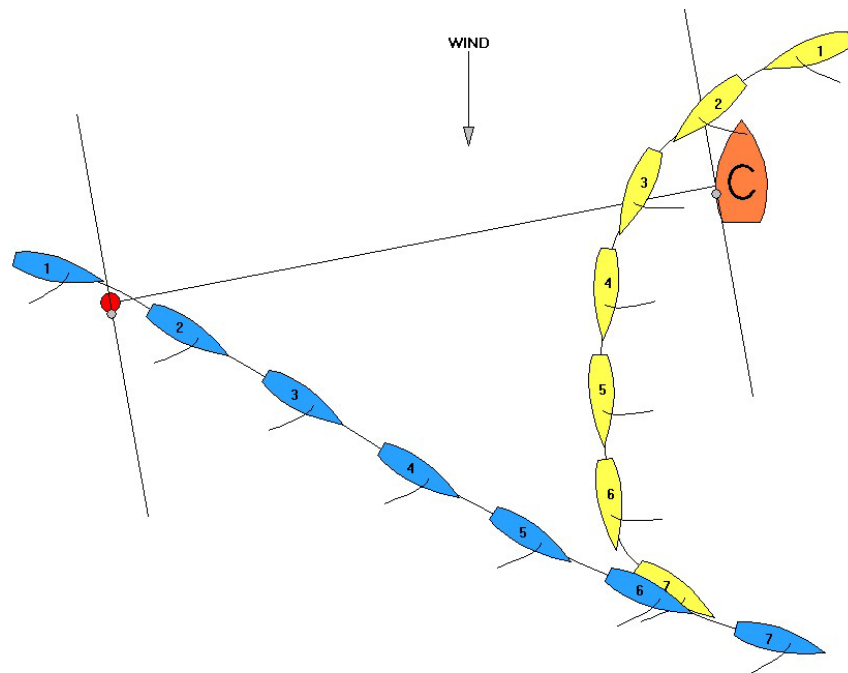
At position 4, Yellow falls clear astern and she becomes the keep clear boat.

As Blue passes through head to wind and tacks onto port, she becomes the keep clear boat again, by reason of her own actions. So, Yellow does not initially have to give Blue room to keep clear. However, Blue probably can get across Yellow's bow without making Yellow alter course so there won't be an incident.

It is most likely that Yellow will pass head to wind as Blue crosses her. More transitions take place at that point. First, for a moment the two boats may be tacking at the same time. If that happens, Yellow remains ROW (rule 13.1). However, as soon as Blue gets onto a close-hauled course, while Yellow is still tacking, Blue becomes ROW again. When Yellow finally gets to a close-hauled course, if she is overlapped to leeward, she is ROW. If Blue got out ahead of her and is clear ahead, then Yellow is the keep clear boat.

In either event, it is likely that Blue will have attained speed more quickly than Yellow and she will "roll" over the top of Yellow, making a successful escape to the right.

Dial Down #2



This scenario illustrates an opportunity for Blue to escape to the right over which Yellow really has no control. It happens when the Race Committee end of the line becomes favored (probably because of the wind shifting to the right) and Blue is able to reach across in front of Yellow. Yellow is forced to sail a slower course, almost directly downwind. Because Blue is reaching at a greater speed and probably has less distance to cover, she covers the distance in a shorter period of time than Yellow and escapes to the right.

Blue helps her case if she is on time at the pin end when it is time to enter. Yellow hurts her cause if she is late entering.

All is not lost, however, for Yellow. If she is able to gybe close behind Blue, she ends up in a very strong position, even though Blue is on the right side.

John's Comment:

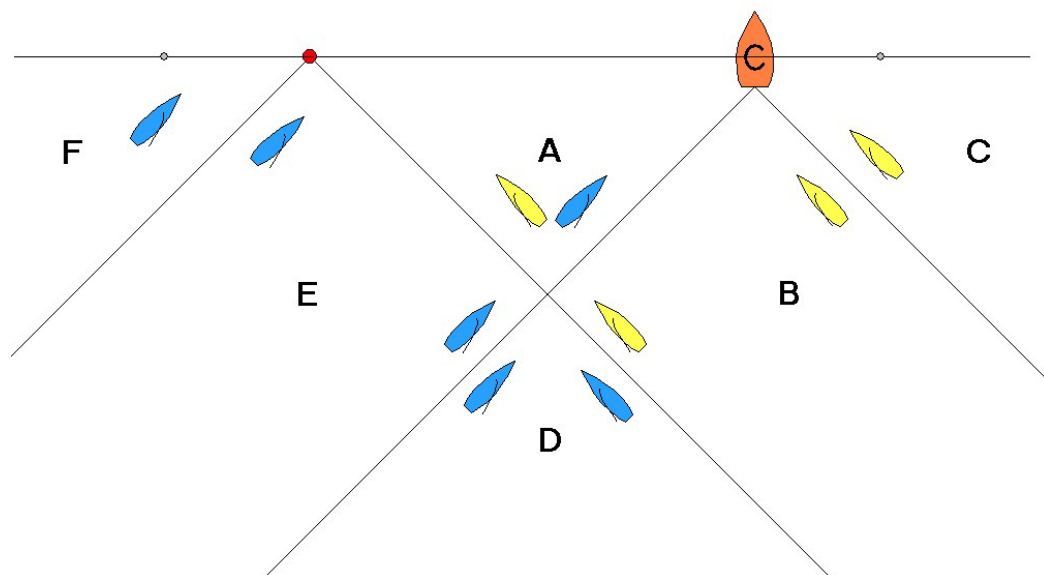
I like this situation when I am on starboard, particularly in a strong breeze. You come out on the tail of Blue, in control and in a very strong position. I will even do a little luff at position 3, 4 or 5 if necessary to make sure that Blue is able to cross.

One reason I like it is because in a dial-up, in strong breeze, there is about a 50/50 chance that Yellow will lose control. If you let Blue cross and you gybe right behind her, you have a good chance of preventing Blue from gybing and starting the circling process, thereby driving Blue further from the starting line.

This a strong position to be in for Yellow. Blue still has to escape Yellow's control and the gybe around may not be possible. Blue has work to do here. The escape by Blue may be to tack and do a reverse circle as Yellow gybes at position 7, and then follow Yellow out of the box.

An alternative, if the gybe isn't an option, is to go out close to the committee boat layline, draw Yellow in close, and then make a hard turn and hold head to wind. Yellow will commit either to windward or to leeward. The escape can be made from this point as either a tack or gybe.

Safe and Unsafe Pre-Start Zones



Area A

All of Area A is within the laylines to the starting line. Any boat in that area, whether on *port tack* or *starboard tack* can get to the starting line, even if being controlled by its opponent.

If there is a boat to *leeward* luffing you, you may have to tack to a side of the line you don't particularly want, but you can get to the line and start.

If you are to *leeward* and want to tack but cannot, you can still sail straight and get to the line to start.

Area A is the safest place to be, especially within the last minute before the starting signal.

Area B

If you are within Area B and on *starboard tack*, you can almost always get to the starting line. If you are to *windward* and on the layline to the Race Committee boat, you may have a problem with the *leeward* boat luffing you above the layline. But Area B is still a fairly safe place to be. A lot of pre-start circling and manoeuvring takes place in Area B. You usually want to move from B to A within a minute or so before the start.

If you are on *port tack* in Area B, you need to get onto *starboard* to get to the line. Try not to get trapped on *port* in that area. Remember that even if you cannot tack onto *starboard*, you may very well be able to gybe to get there.

Area C

Area C is less safe than A or B, but still a reasonable place to be for some of the pre-start manoeuvring. Some of the circling will take place in this area. Getting to the start line requires being on *starboard* which is much safer than having to try to get there on *port tack* from the left side.

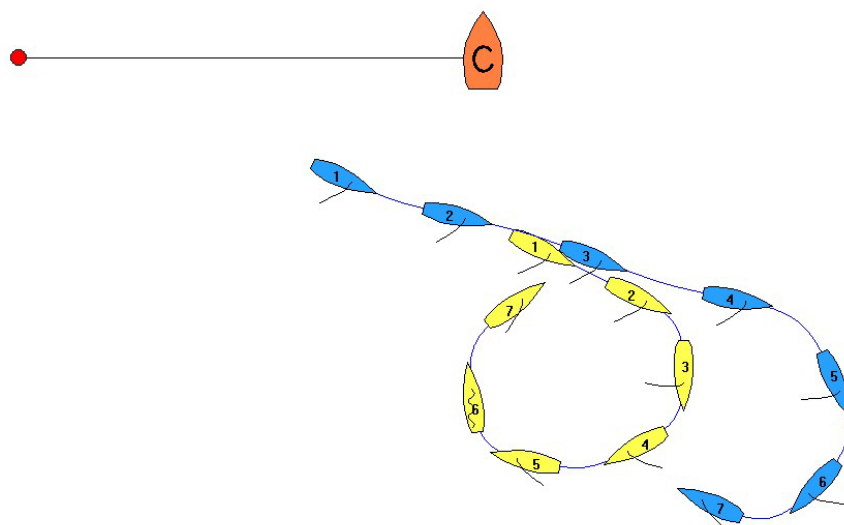
The deeper you are in Area C, the safer you will be, especially when on *starboard*. You should be thinking about getting over to B and then A at 1 ½ to 2 minutes before the start.

Areas D, E and F

These are areas you want to avoid. You cannot reach the starting line on *starboard tack* in any of them. In D, you are outside all the laylines. In E, though inside the laylines, you can only reach the start line on *port tack*. In F, you cannot even reach the start line on *port tack* on a close-hauled course.

As with any rule, there is always an exception. Areas D, E and F are wonderful places to be if you are in total control of your opponent, you are between him and the start line and you are driving him away from the line. However, “wonderful” can turn into “terrible” if your opponent escapes your control and gets back to the line before you. Even worse, if he is able to reverse the situation and get control of you, the race may be over for you before you ever get to the start line.

Circling



After the initial “dial up” or “dial down”, if Yellow is not able to keep Blue from escaping to the right, the boats will generally sail just beyond and below the Race committee boat and start circling.

Circles are usually done in a clockwise direction. The lead boat is on *port tack*, bears off, gybes onto *starboard*, goes to a close-hauled course and then tacks back onto *port* behind his opponent, completing the circle.

In fact, it is not a circle, but an oval. Boats should be careful to keep up their speed and to extend the oval on *port tack* before bearing away to gybe again. If you slow down too much, you may find that your opponent has caught up with you and can control you.

Circling may look meaningless to the casual observer, but it is far from that. John calls it “neutral circling”, which is a very appropriate name. While circling, neither boat has an advantage. It is safe for both boats. The critical moment comes when one of them decides to break off the circling and head to the starting line, getting ready to *start*.

If a boat stops circling too early and has left too much time to kill before the *start*, she is in danger of being chased by her opponent, controlled and forced over the line early.

If she stops circling too late, then she will either be late for the start or she will *start* behind or in the “bad air” of her opponent.

If your opponent gets close astern of you, she can prevent you from gybing and force you away from the line or prevent you from tacking back toward the start line.

If you have come out of your tack too slowly onto *port tack*, your opponent may be able to come at you on *starboard* and force you to tack toward the line too early, either forcing you over the line early or forcing you outside the layline to the pin end of the line.

John's Comment:

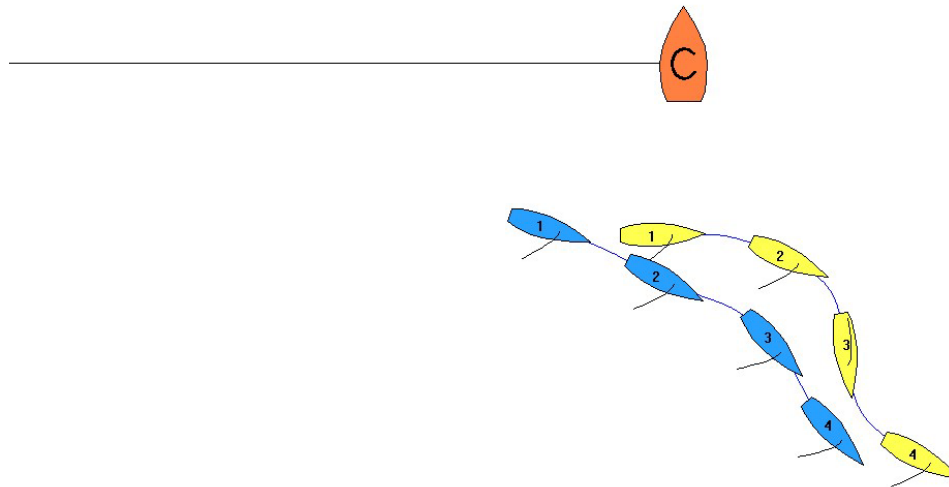
Circling is all about picking the right time to get back to the start line. If you can get close astern when circling, then you can either prevent the lead boat from gybing or force it to gybe too early.

Timing to get back to the line is critical. I have our crew use the following terms to indicate our position when circling:

- 1. Can lead to the pin/RC boat*
- 2. Cannot lead to the pin/RC boat*
- 3. Marginal lead to the pin/RC boat*
- 4. Must lead to the pin/RC boat*

It's all about getting to the right place at the right time to lead or push.

Circling and the timing of the last circle depend on where you want to start. You generally lead back to the line if you want to start on the left and you push if you want the right. But, if your opposition starts to lead too early, then you will push and try to force her over the line before the starting signal, no matter which side of the line you prefer.



Henry's Comment:

There are some interesting rules problems in the circling manoeuvres.

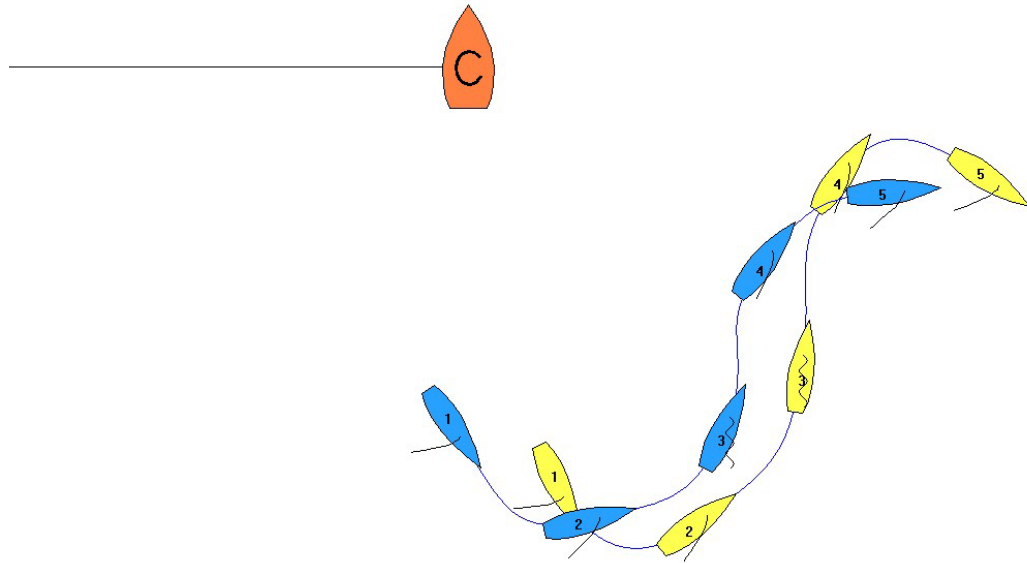
In the situation above, Yellow has allowed Blue to get too close astern. When Yellow bears away to start a circle, Blue also bears away to leeward of Yellow. Yellow is clear ahead and ROW at this point, but as soon as an overlap is created or as soon as the foot of her mainsail crosses the centerline (position 3), ROW changes and she becomes a keep clear boat either under rule 11 or rule 13.2.

Blue does not have to initially give Yellow room to keep clear because Blue acquired ROW by Yellow's actions (rule 15).

Yellow, even though she may be on starboard tack, remains the keep clear boat until her mainsail fills on the new tack. If Blue has to alter course before Yellow's mainsail fills or if Yellow has not initially given her room to keep clear after her mainsail fills, Yellow will be penalized.

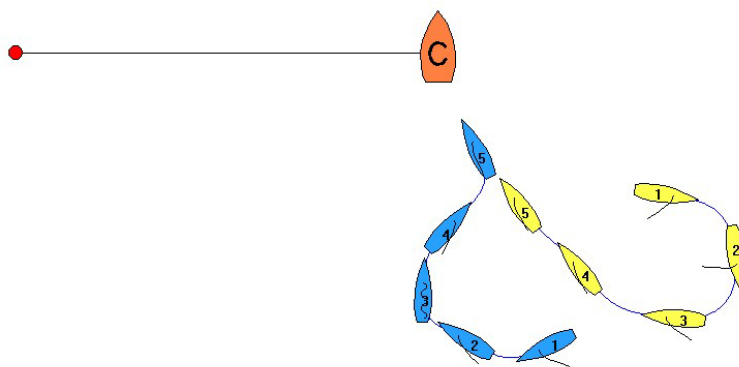
In this situation, Yellow is forced to gybe back onto port tack and Blue has control of her, "pushing" her away from the start line.

There is an optimal rate of circling for every wind speed and the type of boat you are sailing. It is important to become familiar with the circling capabilities of the boat you are sailing. For example, an America's Cup boat can make a very tight turn, but that can result in a big loss of speed which could put you in a disadvantaged position.



This is a continuation of the above scenario showing how Blue can maintain control after she prevents Yellow from gybing, forcing her away from the start line.

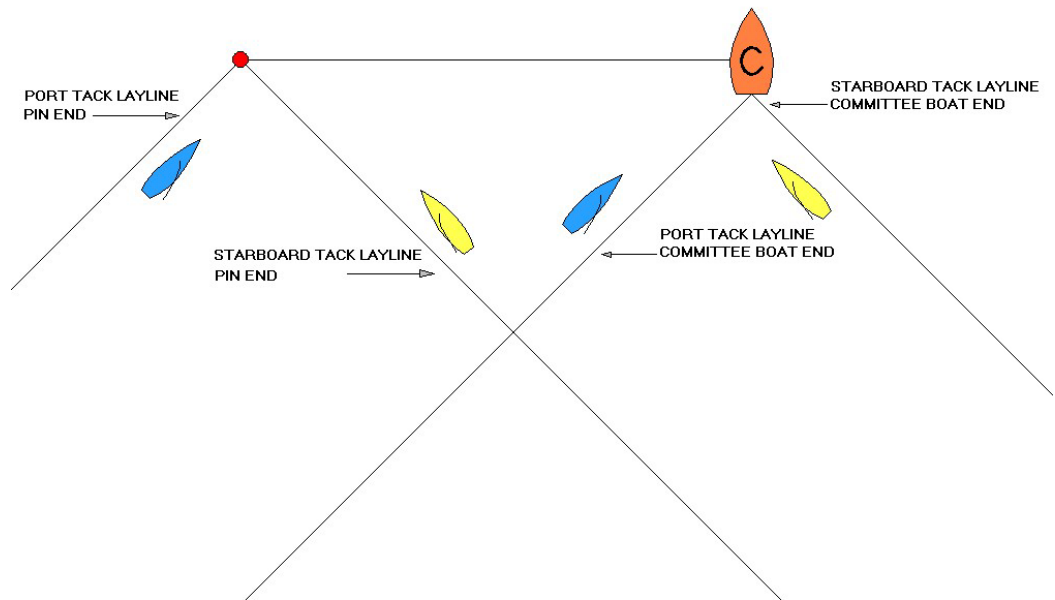
The following scenario shows what can happen if Blue does too tight of a circle or lets herself get too slow compared to Yellow.



Blue is now unable to continue circling. She has been forced to go toward the line much earlier than she would have liked. She may be forced over the line early or get pushed beyond the layline to the pin.

Laylines

Starting line laylines are the lines on which you can “lay” the starting marks on a close-hauled course on either port or starboard.



Knowing the laylines is extremely important for starting. If you don't know where they are, you may easily get pushed and pinned outside the laylines and you will have a hard time getting back to the starting line.

Before the Preparatory signal, you should be “running the laylines” with your boat, looking for some object on shore or an upwind buoy to use as your gauge. You have to re-check the laylines from time to time to see what effect any wind shift may have had.

You and your crew may have decided that the Committee boat end of the line is favored while practicing before the starting sequence. However, wind shifts, or a change of *mark* position by the Race Committee may change all that, so try to stay aware of what the laylines are and which end of the start line may be favored.

While running the laylines, it is also a good idea to run the starting line and find out how long it takes you to sail from one end to the other in the prevailing wind and sea conditions. If you are dueling with your opponent at the Race Committee end of the line, trying to protect the left side because you

think it is favored, it is essential to know when you can break off the duel and head for the pin end and be precisely on time for the start signal and going at full speed.

Timing is extremely important throughout any sailboat race, but it is critical in the pre-start of a match race. You must constantly be aware of your position and how long it will take you to get from your position to either end of the start line and before that, to any of the laylines. This is where crew teamwork is so essential. It is not unlikely that the helmsman will be so occupied with steering and keeping a constant eye on the opposition that he will lose track of the time to the start and exactly where he is in the pre-start area. A good tactician, and possibly other members of the crew as well, should be telling him the time to the start signal, time to the line at the Committee boat or pin end and where he is in relation to the laylines.

John's Comment:

I use the "time to kill" call. Once we decide which end of the starting line we are fighting for, we have a crew member periodically call out the "time to kill" to the ends of the line. Knowing the time to each end of the line and the time to the laylines will ensure a good start.

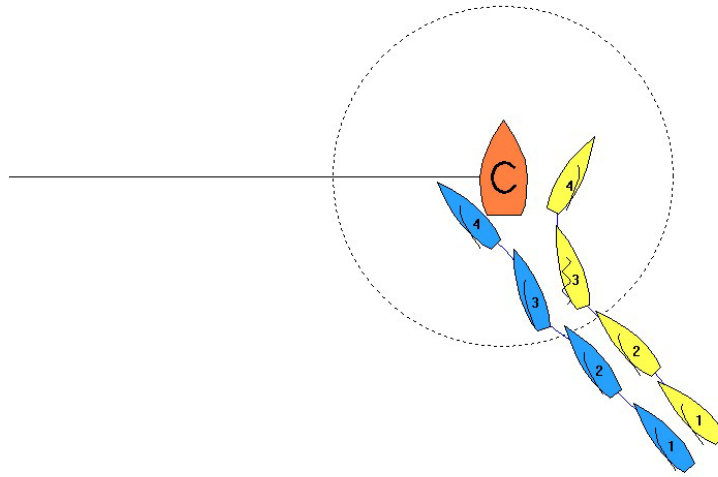
Practice the laylines before each start! We use fixed buoys or moored boats to help with the location of the laylines and with our timing. It can be tiring on the crew to constantly run the laylines before the initial entry, but it will pay dividends in the start.

Approaching a Starting Mark to Start

The term "approaching a starting mark to start" has at least two important meanings.

From a tactical perspective, it means that you have finished most of your pre-start manoeuvring on the right side of the pre-start area and you are preparing to head toward the start line, trying to get the best *start* you can. You have picked the end of the line you think is favoured and you will now implement your plan to get there, on time and in an advantageous, or at the worst, an even position with your opponent. We will discuss your plan to get to the line shortly.

From a rules perspective, "approaching a starting mark to start" means that you are headed toward the starting *marks* and that it will take you approximately the time that is left before the starting signal is made. You cannot be approaching a starting *mark* to *start* if there are 3 minutes left to the starting signal and you are in a position that is only 1 minute away from the *mark*.



Henry's Comment:

In this scenario, at position 1, there are approximately 30 seconds or less to the starting signal. The boats are 4 to 5 boat lengths from the starting line. The umpires will have determined that the boats are “approaching a starting mark to start”. In truth, they probably made that determination some time before the boats reached position 1. This is a very important determination at this point.

When boats are approaching a mark to start, rule 18 (Rounding and passing Marks and Obstructions) does not apply. As a result, Yellow, the inside boat is not entitled to room to pass the mark. In fact, the two-length zone has no application either, so it does not matter when the overlap was established. This is what was once called the “anti-barging rule”.

Blue is entirely within her rights to luff at position 3 and to force Yellow to pass on the wrong side of the mark.

Remember, Blue, as the ROW/leeward boat, is constrained by rule 16 and must give Yellow room to keep clear. Her luff may not be so fast that she does not give Yellow that room. Also, Blue may not wait until Yellow cannot luff without hitting the Committee boat. If she does wait that long, then Blue has lost the opportunity and she must give Yellow the room to pass between her and the Committee boat.

Leading and Pushing

“Leading”, as the name suggests, is when you start moving toward the starting line in order to *start* and you are the boat in front, with the other boat behind. The boat behind is “pushing”.

John’s Comment:

My rules of thumb for pushing or leading are:

1. *Push*
 - a. *good breeze*
 - b. *you want the right*
 - c. *you are below the committee boat layline on starboard*
 - d. *you have plenty of time to kill*

2. *Lead*
 - a. *light air*
 - b. *you want the left*
 - c. *you are well above the committee boat layline on starboard*
 - d. *you are on time or late for the start*

Picking the Favoured End

As in a fleet race, there are many factors to consider in determining which end of the starting line is favoured, if any. Many of the world’s best sailors have said that it is not where you are at the *start*, but where you are 2 minutes after the *start* that determines if you have had a successful *start* or not.

If at the *start* you are at the favoured end of the line and ½ a boat length ahead of you opponent, but going 3 knots while your opponent is on your windward hip with several boat lengths of gauge and going at 6 knots, it would seem from an overhead photograph that you won the *start*. In fact, the opposite is true. If you took another overhead picture within 2 minutes, it is probable that your opponent will be forward of you and to weather, covering every move you make to get out from his wind shadow.

What are the factors you want to consider in determining where you want to *start*?

John’s Comment:

It’s really quite simple: start to windward or start to leeward.

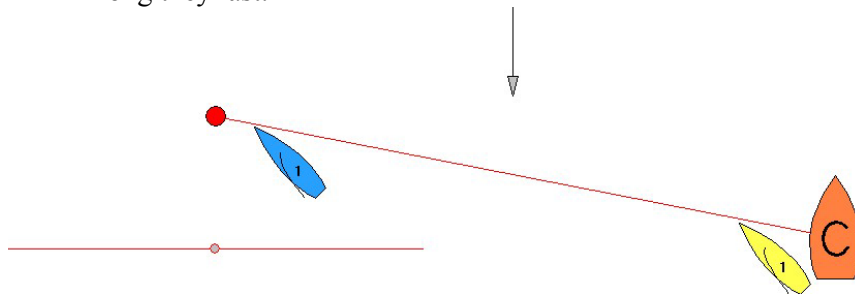
Generally, the windier it is, start to windward, and the less windy it is, start tight to leeward.

The other consideration is that “the first to tack generally loses”. There is no point starting tight to windward unless the right side is heavily favoured. When you start tight to windward, you will almost always be forced to tack away by the disturbed air from your opponent and you will probably be half a boat length or so behind at the start or shortly thereafter. You will also be putting in one more extra tack than your opponent when you both eventually tack and come to your first cross. If the right side of the course is substantially advantaged, the better option would be to approach the starting line tight to windward, tack onto port before the starting gun and get up to full speed before you start so that you are on split tacks when the gun does go off. Now, when you both tack to come to your first cross, you will both have done equal tacks after the start, you will both have sailed in clear air and if the right was advantaged as you thought, you will be in the lead.

So, picking the favoured end is a balance between line bias, favoured side up the course and how much you may have to sacrifice to start to the left or right of the opposition. Each factor will need to be considered in order to make the right decision. Good luck!

Starting line bias:

Almost every starting line had some bias in it at the *start*. Race Committees may set the squarest line to the wind that is possible, but by the time you enter the “box” and certainly by the time you *start*, the wind will have shifted several times making one end more favored than the other. You and your crew must keep a constant watch to determine the size of the shifts and for how long they last.



As you can see from the diagram, just a few degrees of bias favouring the pin end gives the Blue boat a full boat length lead, or more, if they are both on the

line as the gun goes off. A perfectly square line would have been at the small mark with the red line. A 10 degree shift to the left just before the start will give Blue a big advantage.

Wind shifts

The wind is constantly changing direction. If the shifts are persistent, that is, if each shift continues to take the wind in one direction, either to the left or to the right, then you want to *start* at the end of the line toward which the wind is persistently shifting, or at least be on that side of your opponent when you *start*.

If the shifts are oscillating, that is, they shift first in one direction and then back in the other direction, you will want to time the shifts to see if a pattern develops and you will want to figure out which way the shift will be going as you *start*, to determine which direction you want to be going when that shift appears.

John's Comment:

In your practice time before each start, be very aware of the wind oscillations and check to see if one side of the course has better current, better wind pressure or a geographical shift. Then keep track of how the bias of the start line will change with the wind shifts. Every wind shift alters the laylines, so make sure you keep checking them as well.

It is important to have a plan as to which side of your opponent you want to be at the start. At two minutes before the start, the tactician must review the plan and take into account any changes in the breeze that he sees up the course. He must try to anticipate whether the wind will be in a left or right phase when the starting signal is made and, if possible, where it will be for the first minute or two after the start.

If the breeze is oscillating and you are in a left shift when the start signal is made, start to windward of your opponent or split tacks and go right. In either case, you will be on the right side of your opponent and in a better position to take advantage of the first shift after the start, which will be to the right.

Current

If there is current on the race course, it may affect some areas of the course more than others. If there is a strong adverse current on the right side of the course and a weaker current on the left, you may want to *start* on the left and favour the left side of the course. If there is a strong favourable current on the right, you will probably want to get to it as soon as possible and that will affect your decision as to where on the line to *start*.

Wind Strength

Various conditions may affect the wind strength on any part of the course, even at the starting line. There may be hills or buildings on one side or the other that affect the strength and direction of the wind at the starting line. If you determine that the hills on the left are blocking the wind, giving it less strength as compared to the right side of the line, that would be a factor that would make you consider starting on the right side of the line.

You must also look up the course and see what is happening there. If you can see that conditions 100 or 200 metres up the course are somewhat different than in the starting area, and those conditions favour going to the right, you will definitely want to take them into consideration in determining at which end of the line you want to *start*.

V. THE WINDWARD LEG

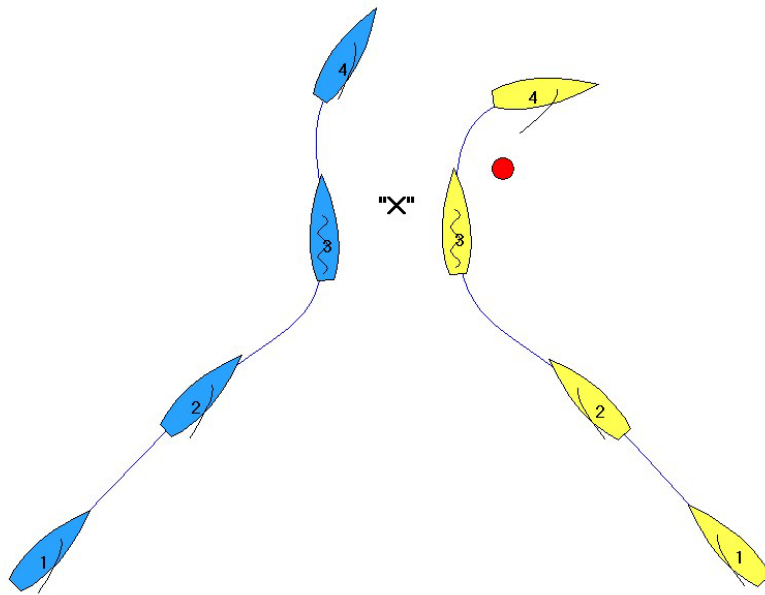
Tactics and Strategy

General Strategy

The general strategy on the windward leg is to get the lead on your opponent (pretty obvious, we suppose), get between her and the mark, “cover” her, and push her to the least favoured side of the course.

If you can get even the slightest lead while covering your opponent, you should be able to extend that lead as you sail to the windward *mark* because she will be sailing in your bad air for at least a portion of the leg, or she will make more tacks than you, or she is forced to sail on the unfavourable side of the course or she will be forced to overstand the layline to the mark.

If one side of the course has no apparent advantage over the other, then the default strategy is to protect the right side of the course. This gives you *starboard* advantage when you go to round the windward *mark*.



In this scenario, the boats have reached the windward *mark* in equal positions. At position 1, each boat is the same distance from point “X” which is where Yellow would begin to luff to go around the mark. If neither boat altered course, their bows would meet there.

Because Yellow has protected the right side of the course, she is able to come to the *mark* on the *starboard tack* layline. Blue, on *port tack*, will have to *keep clear* of Yellow as they reach point “X” (rule 10). Yellow is able to force Blue to luff away from her, perhaps even forcing Blue to tack onto *starboard*, while Yellow luffs and then tacks and bears away to round the *mark* one or more boat lengths ahead of Blue. This demonstrates the advantage Yellow gained by protecting the right side and coming to the *mark* on *starboard*.

Henry’s Comments:

If Yellow just holds her course and forces Blue to luff or to tack, Yellow is not restricted by rule 16 and she does not have to give Blue room to keep clear. She is, however, still subject to rule 14 and must avoid a collision if it becomes clear that Blue is not keeping clear.

As soon as Yellow alters course, she does become subject to rule 16 and must continually give Blue room to keep clear as she “hunts” Blue to force her to luff or tack.

Covering

“Covering” is a basic strategy on any windward leg.

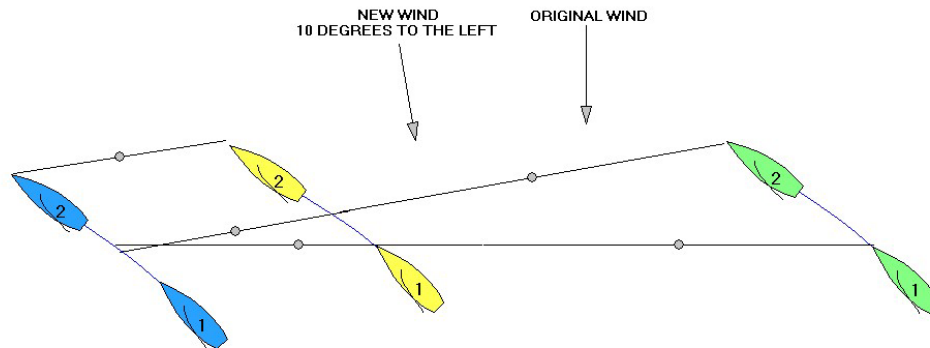
John's Comment:

The reason for covering is to keep control of your opponent. You will be able to make gains for several reasons:

- a. You should be sailing toward the favoured side of the course (because of favourable current, wind shifts, etc.)
- b. She will be sailing in your disturbed air for at least some of the time.
- c. She will be doing short or downspeed tacks to get out of your bad air.
- d. You can control who has starboard advantage.
- e. When you get to the laylines, you may be able to force her to do extra tacks to get clear air or force her to sail a greater distance to the mark by overstanding.

If you do not cover and let your opponent split and get far away from you, you may give her too much "leverage". That is, the further away from you she is, the more she can gain from a wind shift in her direction. So you want to stay in touch with your opponent, staying on the favoured side of her and the course, but not so far away that she ends up in a different wind pattern than you have. You may not gain as much as you might from a possible wind shift to the favoured side. But you won't lose as much either when the wind goes the other way and you will still have control of the favoured side of the course.

The following diagram shows what can happen with "leverage".



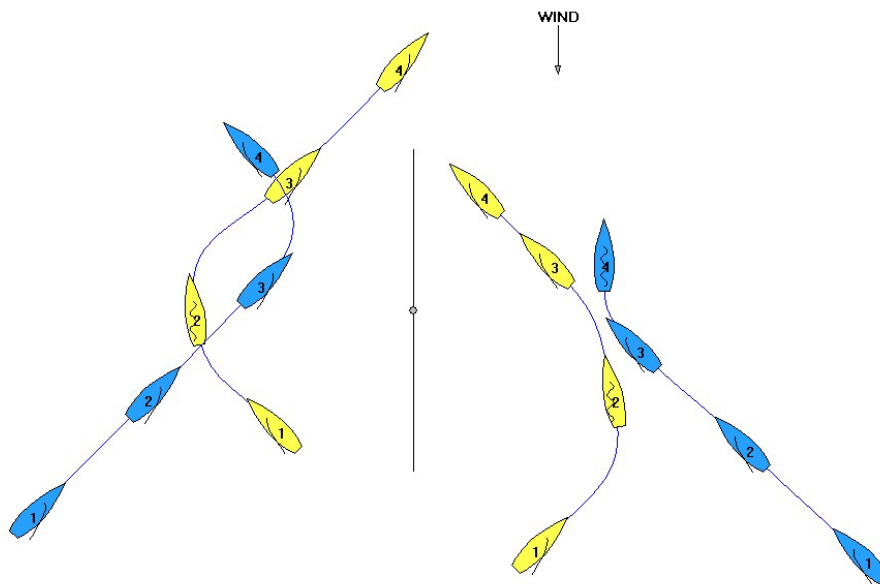
In the above diagram, Yellow and Blue are racing each other and Yellow is protecting the right, believing that it is advantaged. The wind is coming directly from the top of the page. Yellow has about a ½ boat length lead. Unfortunately for Yellow, the wind shifts to the left 10 degrees at position 2. Yellow immediately goes from being ahead to just a very little bit behind. But Blue cannot not tack and cross Yellow and Yellow

still has the starboard advantage. If the wind goes no further left, Yellow will still round the windward mark in the lead.

However, if Yellow were in the position of Green, at position 1 she would still have the exact same $\frac{1}{2}$ boat length lead over Blue. But, because Blue has more “leverage” on her and is about 6 lengths apart instead of 2 lengths, the difference in the lead change between Blue and Green is substantially more than between Blue and Yellow when the wind goes left. With the same 10 degree wind shift, Blue is now $1\frac{1}{2}$ boat lengths ahead and if the wind does not shift back to the right, Blue will now be able to tack and cross ahead of Green and will probably get to the windward mark first.

Of course, if Yellow is absolutely right in her judgment and the wind does shift right and continues to do so, she would make much bigger gains if she were in Green’s position. But, is it worth the risk? How sure can she be? Yellow’s game plan, though more conservative, is safer than Green’s.

Examples of “covering”



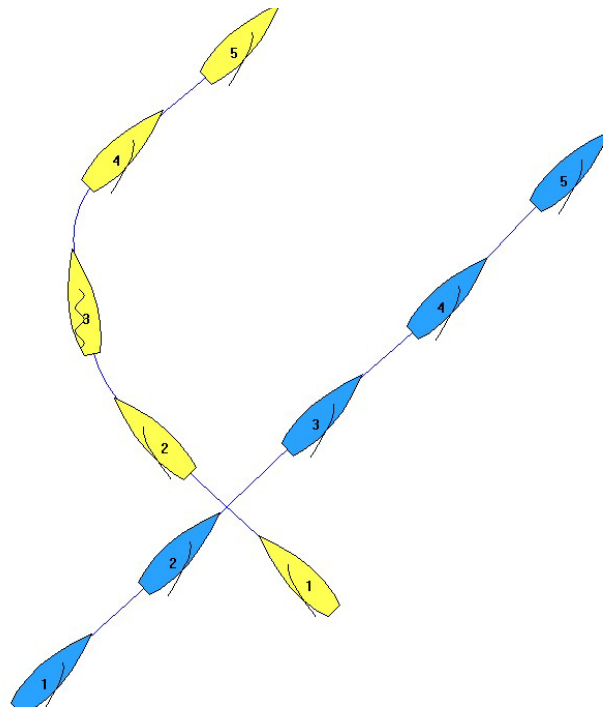
In each of these illustrations, Yellow is leading and is converging with Blue who is on an opposite *tack*. In each case, Yellow covers Blue by tacking so as to put Blue in her turbulent air and her wake. This has the effect of slowing Blue’s speed. If Blue were to stay “covered”, she would go slower and slower and she would point lower than Yellow.

Unless Blue is close to the next *mark* and believes that it would be less damaging to sail for a few boat lengths to the *mark* in bad air than to make 2 extra tacks, she will immediately tack out of Yellow’s bad air and look for clear air, stronger wind or a favourable shift away from Yellow.

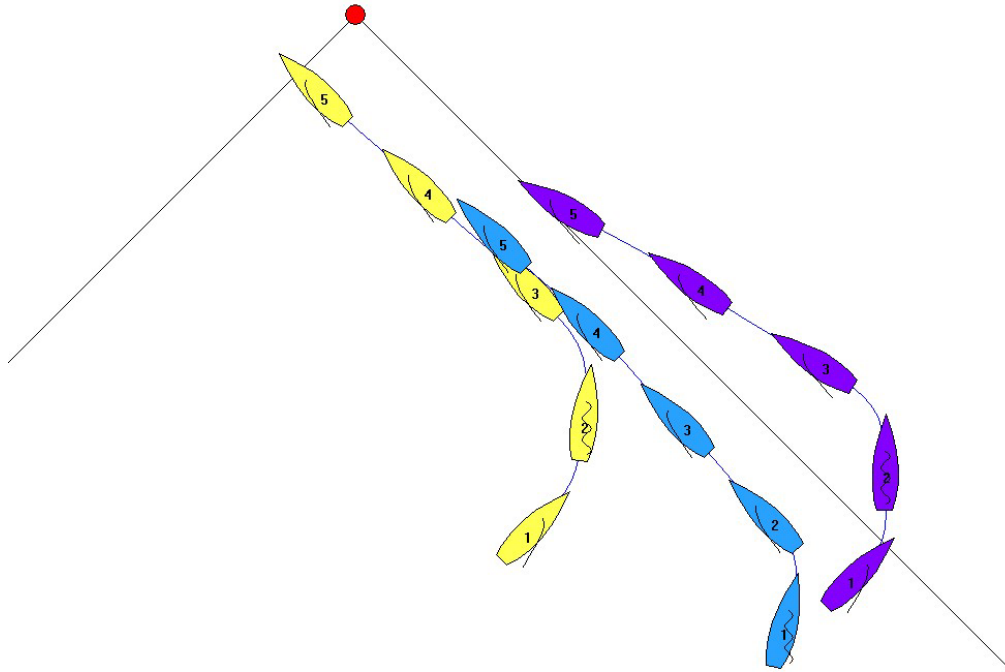
On the other hand, Yellow obviously believes that the side of the course she has tacked toward is favoured. If not, she would have simply crossed Blue to get to the favoured side, then she would have come back toward Blue on the next tack. Every time Blue came back at her, trying to get to the favoured side, Yellow would simply “bounce” Blue back to the unfavoured side.

A “loose” cover is where you sail in the same direction as your opponent, staying to windward of her, but you allow her to sail in clear air. By doing so, you stay in the same general wind pattern as your opponent, not allowing her to gain by any wind shift.

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In the situation below, if Yellow and Blue continue to the starboard layline, when the boats tack on the layline, Blue will sail in Yellow’s bad air all the way to the *mark*. To avoid that, Blue may sail to windward of the layline after Yellow tacks to give herself clear air to the *mark*. If Blue sails past the layline, she loses distance to Yellow. If she tacks in Yellow’s line to the mark, she still loses distance by sailing in her bad air. Yellow gains either way.



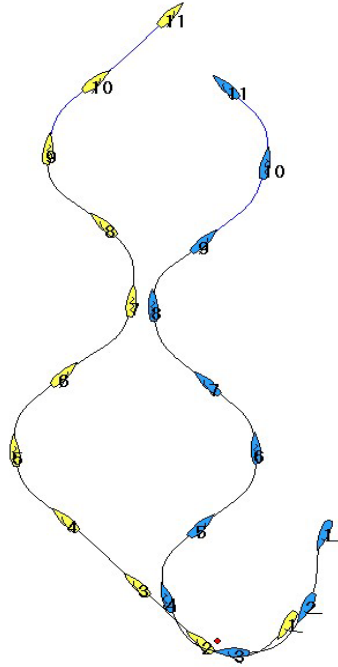
Escaping Cover

1. Getting “out of phase”.

Escaping cover requires the two boats to get “out of phase”.

If the leading boat tacks slightly later than the trailing boat so as to try to tack directly on the air of the trailing boat, the two boats will very quickly get out of phase. This allows the trailing boat to separate, pick her time to come back onto *starboard* and if she is able to make a gain, she will have the *starboard* advantage.

In the diagram below, if the tacking duel continues much further up the beat, Blue will get more and more out of phase and may gain enough to take the lead when she comes back at Yellow on *starboard* with even the slightest right hand wind shift.

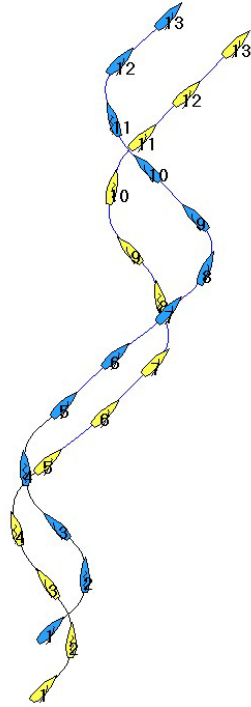


2. Tacking “thin”.

When you are in a tacking duel and you are being closely covered, you should generally have clearer air on one of the tacks. When you are on that tack, build up to full speed. That means that as you complete your tack, you go slightly beyond your normal close-hauled course, build speed and then come back to close-hauled. When you tack on to the course with less clear air, where the lead boat gives you a tighter cover, tack “thin”. By that we mean you will only tack to a close-hauled course and you will not go down to your speed build mode. Once you get to close-hauled, tack immediately back to the other side.

When you tack “thin” and then immediately tack back to the other side, you inevitably will be going slower. These are downspeed tacks and the leading boat may be reluctant to engage in this tactic thereby letting you get out of phase. She will probably gain if she lets you go, but you will have clear air and possibly the opportunity to gain by getting to the favoured side of the course.

Make sure you communicate clearly to the trimmers what kind of tack you are doing so that they can respond accordingly.

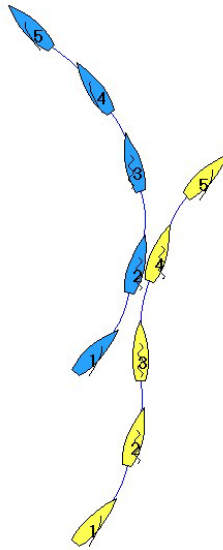


3. Fake Tack.

When the lead boat is covering very tightly, the trailing boat may be able to escape by doing a fake tack.

Assume you are in a tight tacking duel. You have been tacking frequently and the leading boat has been covering you closely. Start your next tack as you normally would but slow your turn as you approach head to wind. Keep a close eye on your opponent. If she goes through head to wind before you get there, then you smoothly fall back onto your original tack. Once having gone through head to wind, if she tries to stop and go back to the original tack, she will be very, very slow and you will have gained considerably. If she continues through and finishes her tack, you will have split tacks effectively and will be out of phase with her.

You have probably heard that “dummy tacks are for dummies”. Not always. If you have the right situation and you are very alert, you may be able to pull it off.



John's Comment:

In order to escape cover, any one of the three techniques identified above can be used. Knowing when to use each one is important and you and your crew must pay close attention to the situation to see when an opportunity presents itself. As always, good communication with your crew is essential to the successful outcome of the use of any of these techniques.

Of course, better technique and tacking ability will almost surely make a gain. If your technique is worse, then the lead boat will sail away from you. Practice is the only solution to better technique.

Initiating the tack to escape should be done when you are at the same or better speed than your opponent. Better speed is obviously preferable. Look for an opportunity when your opposition hits a bad set of waves or may be affected by the position of the boats in another match. If you can tack and be in clear air and the covering tack by your opponent will put them in the bad air of a boat in another match, do it.

Escaping cover will almost always cost you some distance (don't be fooled by the diagrams) and generally you will have to make an extra downspeed tack. If you work hard and take advantage of the opportunities and have better technique, you will minimise the losses (perhaps even make a gain) but you will break cover and have the opportunity to make a gain further up the course.

Now, a word of caution. When you are trying to break cover, be aware of the favoured side of the course. Don't split tacks and sail away from an obvious favourable shift. If you do, the lead boat may just sail on, take the gain and then come back to cover later on. Always have a plan in mind and try to split to the favoured side.

As a leading boat, you should try to stay in phase in the early part of the beat and then make the gain later on by being on the inside of the shift or by making the trailing boat do extra tacks, etc.

Just tack in phase all the time, even if this means that you end up slightly to leeward of the trailing boat's line on one tack. If the trailing boat tacks away, just stay exactly in phase. This uses up the race course and has very little risk for a gain or loss. Look to make the gain nearer the top mark by taking a shift or minimising tacks .

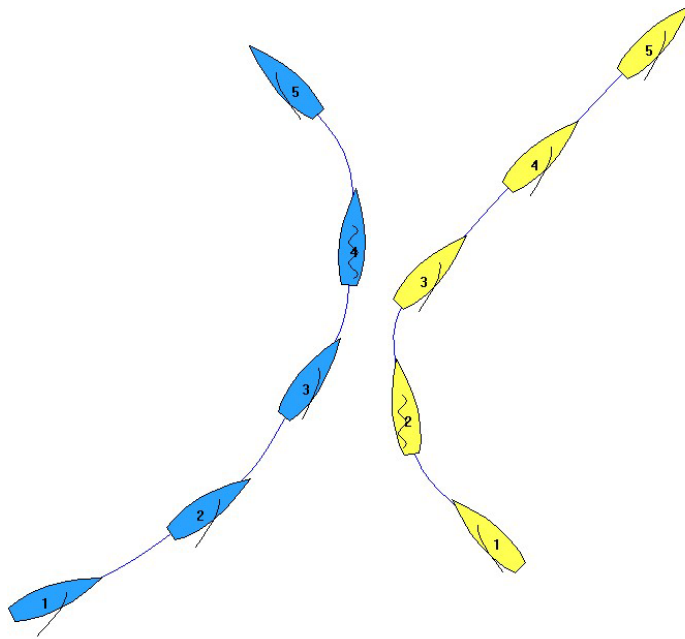
As we have said repeatedly, you stay in control by staying in phase. To make a gain early, force the trailing boat to make one more extra downspeed tack than you do. Have a plan to make sure that they do the downspeed tack towards the unfavoured side of the course. Once you are up to full speed, tack back to stay in phase and consolidate the gain. It is risky to allow too much of a split here.

If the tacking duel isn't going well, I recommend protecting the starboard tack advantage, especially in the top half of the beat. It will ensure that you will round in the lead, even though it may be only a small lead.

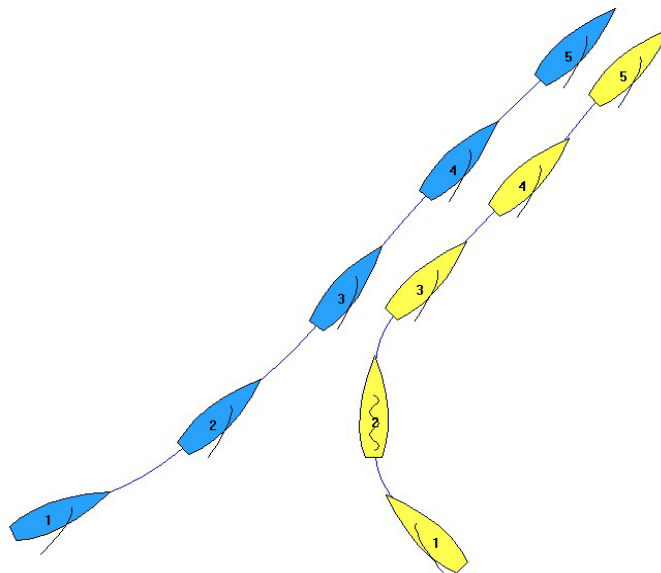
The Lee Bow

The "lee bow" is another method of forcing your opponent to tack away to the other side of the course. It is a form of covering, without actually being to *windward* of your opponent. It is most often used when your opponent begins to bear away to dip behind you and you want to force her to tack away to the unfavourable side of the course

The following two illustrations demonstrate the manoeuvre. The first is really not a lee bow in the technical sense, but is most commonly used because it is very effective in slowing your opponent and has none of the risks of a slam dunk.



The second scenario illustrates a true lee bow. It is used when the leading boat does not have a sufficient lead to get directly in front of Blue, but does have enough of a lead to force Blue to tack away. The risk here is that Blue may have enough speed to roll over the top of Yellow and gain the lead as Yellow slows down through the tack.



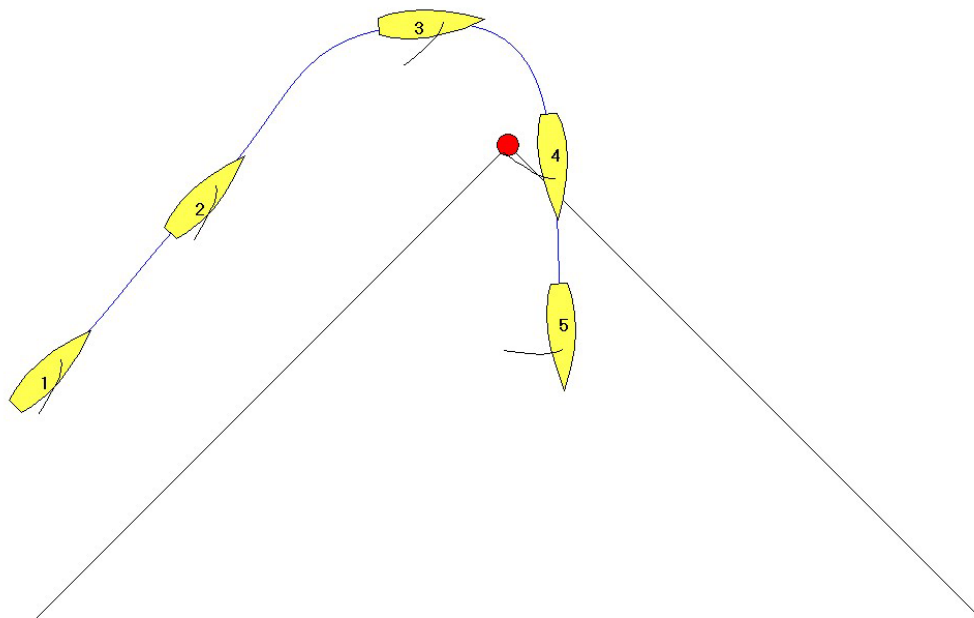
Approaching the Windward Mark

Approaching the windward *mark* is a critical time during a match race because the way you round the *mark* can gain or lose you boat lengths.

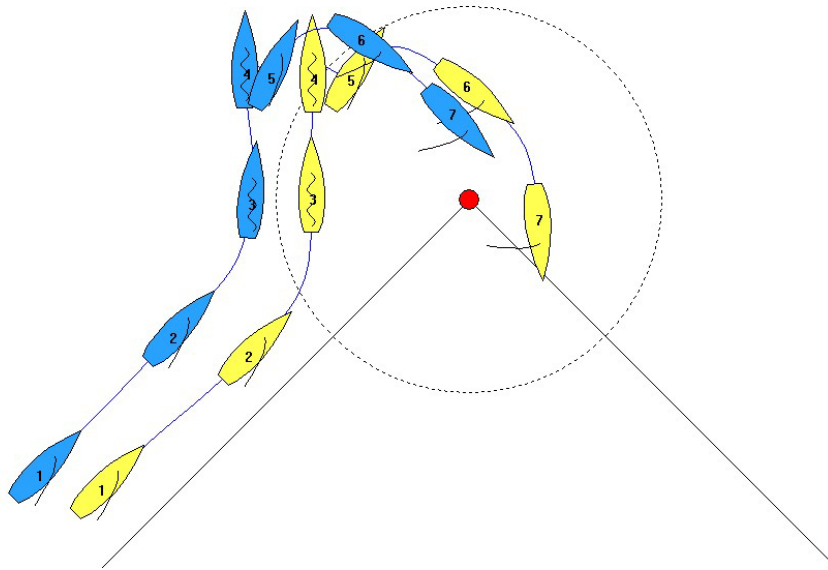
When rounding alone, it is always best to approach the windward *mark* on the *port* tack layline, giving yourself at least several boat lengths on that tack. This allows for a smooth rounding with as little extra turning of the boat as possible. It also allows your crew plenty of time to prepare for setting the spinnaker in a smooth and orderly fashion. All of that keeps your boat at maximum speed during the entire manoeuvre.

John's Comment:

Enter wide and exit close to the mark when rounding alone.



When boats are *overlapped*, the roundings get more complicated. It is possible in many situations for a boat to gain $\frac{1}{2}$ boat length or more on her opponent by luffing at the windward *mark*.

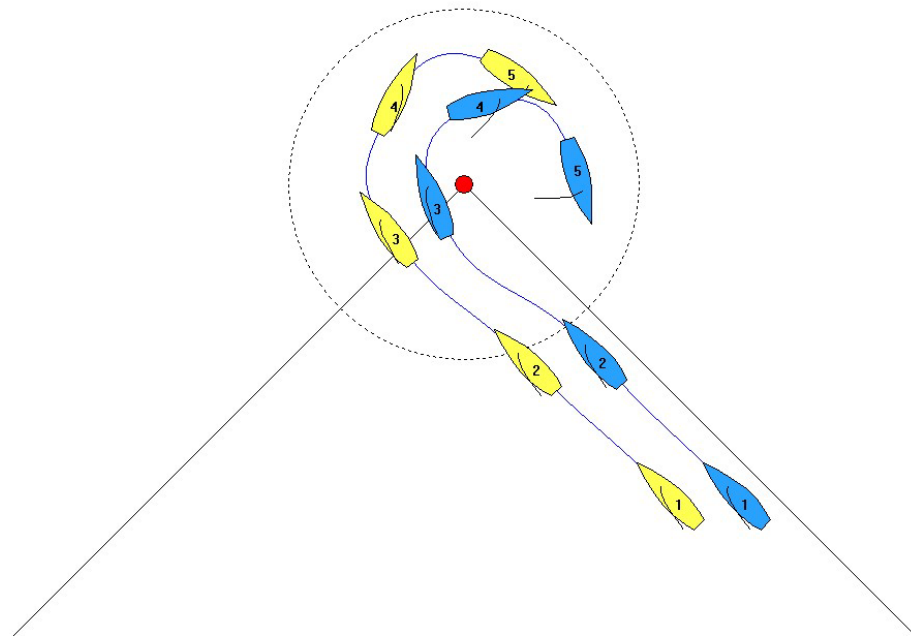


In the above situation, under rule 18(a), Blue not only has to give Yellow *room* to pass the *mark*, she must also *keep clear* of Yellow. Assuming Yellow is not restricted by rule 17.1 (that is, she has luffing rights), she may luff Blue at any time in the rounding process. She picks the time to bear away and almost always will gain some distance on Blue.

John's Comment:

Yellow should wait until the boats are almost stopped before bearing away. Blue cannot bear away until Yellow does. She has to wait until Yellow is far enough away so that Blue does not foul her when she does bear away. Waiting until the boats are almost stopped can give Yellow up to a full boat length advantage.

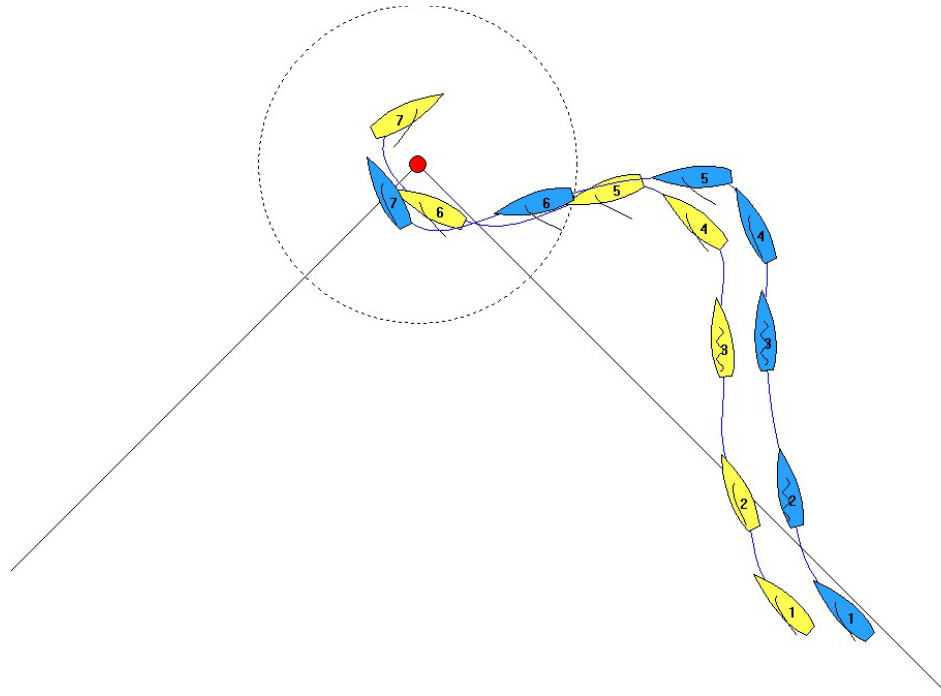
Coming in on the *starboard* layline presents other problems, especially with rule 18(a).



In this situation, Yellow is the ROW boat (rule 11), but when they enter the *two-length zone overlapped*, rule 18.2(a) applies and Yellow must now give Blue *room* to round the *mark*. The result is, of course, that Blue ends up ahead of Yellow after they pass the *mark*.

Once they enter the *two-length zone* and are about to round the *mark*, Yellow may not luff Blue. (See Call UMP 24)

However, Yellow may luff Blue before they get to the *two-length zone* and can create a situation where she ends up *clear ahead* of Blue once they do enter the zone. Then, under rule 18.2(c), Blue must *keep clear* of Yellow, at least until Yellow passes head to wind. Under these circumstances, Yellow will almost always end up *clear ahead* of Blue after they have rounded the *mark*.



Taking an Upwind Penalty

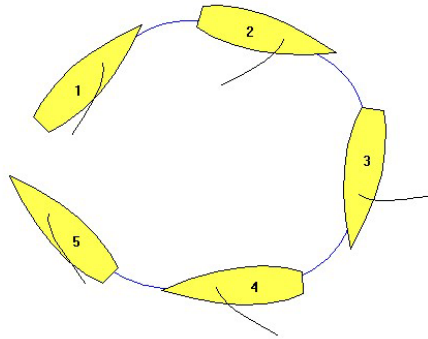
Taking an upwind penalty can often be the fastest way to take a penalty and, in the right circumstances, will allow you to take the penalty and still come out in control of your opponent.

Under rule C7.2(a) (All Penalties):

“A penalized boat may delay taking a penalty within the limitations of rule C7.3 and shall take it as follows:

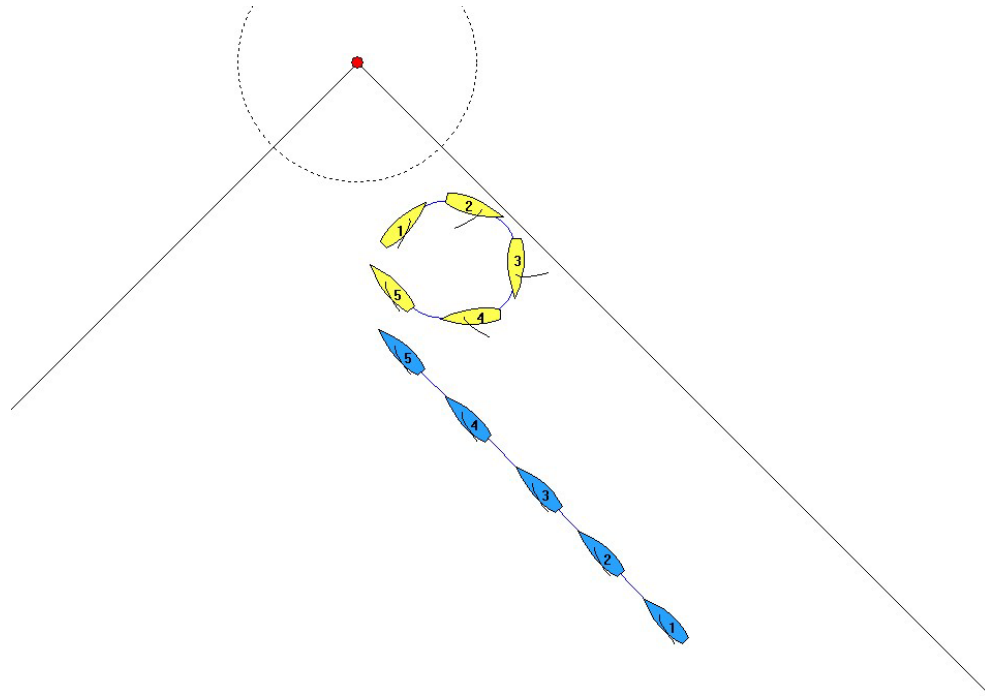
- (1) When on a leg of the course to a windward mark, she shall gybe and, as soon as reasonably possible, luff to a close-hauled course.
- (2) When on a leg of the course to a leeward mark or the finishing line, she shall tack and, as soon as reasonably possible, bear away to a downwind course.”

So, an upwind penalty (one taken on a leg of the course to the windward *mark*) looks like this:



It amounts to a 270 degree turn.. Yellow is considered to be taking a penalty from the time she gybes at position 3 until she gets to a close-hauled course at position 5. A boat taking a penalty must *keep clear* of one that is not (rule C2.8). Therefore, even though on *starboard* tack at position 3, Yellow would have to keep clear of a *port* tack boat until she completed her penalty at position 5.

Tactically, it is sometimes advantageous to take an upwind penalty when you have enough of a lead over your opponent and you can complete the penalty in a position of control. Generally, you need about a 5 to 8 boat length lead to take a penalty and still come out in front of your competition, depending on the type of boat you are sailing and the wind and sea conditions.



In this scenario, you can see that Yellow has crossed ahead of Blue, about 6 or 7 lengths in front, and takes her penalty. When she completes it at position 5, she is covering Blue and is in control. She will round the mark ahead of Blue, with no penalty outstanding.

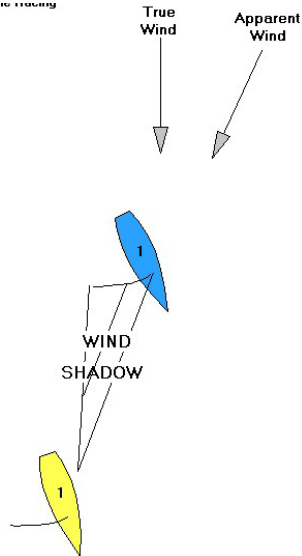
VI. The Downwind Leg

Attacking and Covering

When it comes to covering, the roles of the leading boat and the trailing boat become reversed on the downwind leg. As soon as the boats round the windward *mark* and head downwind, the trailing boat becomes positioned between the leader and the wind and thus has the opportunity to block the wind of the leader and slow her down. This presents passing opportunities to the trailing boat.

Most match racing is done with boats using symmetrical spinnakers, as opposed to asymmetrical spinnakers. Our comments will be based on the assumption that symmetrical spinnakers are being used. With symmetrical spinnakers, the apparent wind on the boats is farther aft than with asymmetrical spinnakers and consequently the wind shadow is farther forward. With symmetrical spinnakers, the boat astern is more easily able to get “on the wind” of the boat ahead.

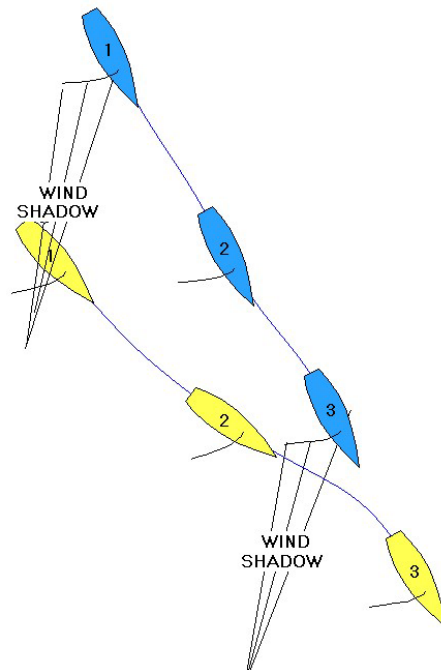
If the boat astern can create any sort of wind shadow on the mainsail or spinnaker of the boat ahead, she will slow the boat ahead and create an opportunity to pass.



Blue's wind shadow, first on Yellow's mainsail and then on her spinnaker, will cause Yellow to slow down. Blue will make substantial gains and will eventually pass Yellow unless Yellow does something to defend herself.

Yellow has a couple of options. She can sail higher and get in front of Blue, getting out of the wind shadow. Or, she can gybe away and get clear air in that way.

There are tactical considerations that will affect Yellow's decision. If Yellow believes that there is more wind pressure to her left, she may want to sail higher and protect her position on her left side.



If she is close to the starboard layline, she may want to gybe rather than overstand the layline to the mark.

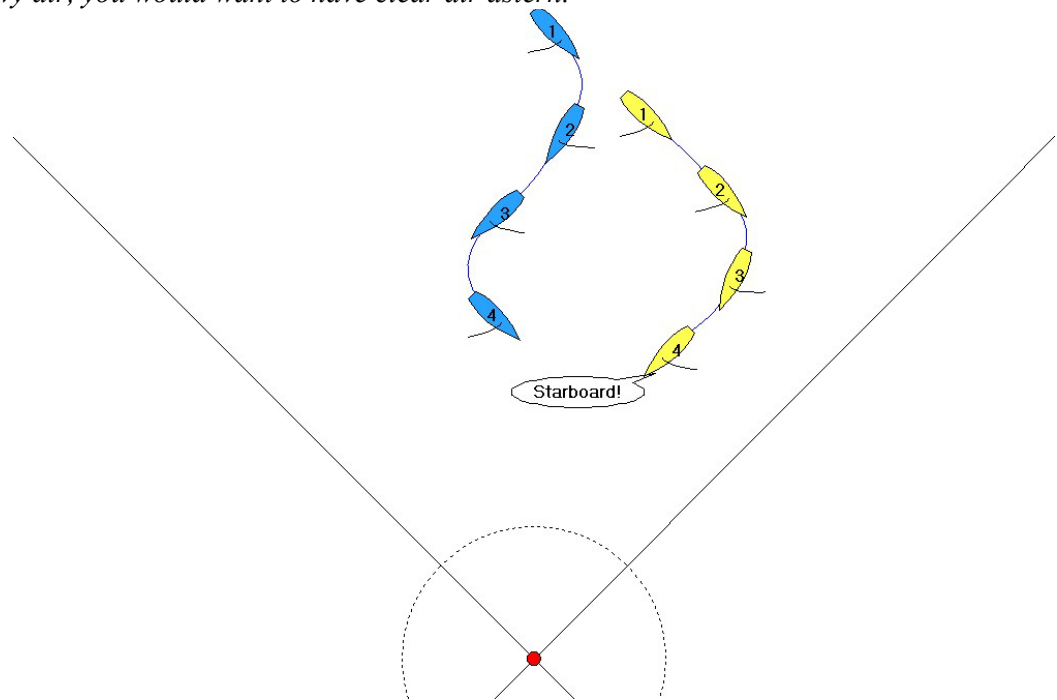
If she is not close to the layline, she may want to wait and gybe after Blue, thereby protecting the *starboard* advantage she will have once she does gybe toward the mark.

John's Comment:

How you handle the wind shadow as the lead boat depends on several factors. The type of boat you are sailing and the strength of the breeze and your position on the race course all have a big effect.

Generally, in light air you would want to keep the breeze in front, as Yellow does in position 3 above.

In heavy air, you would want to have clear air astern.

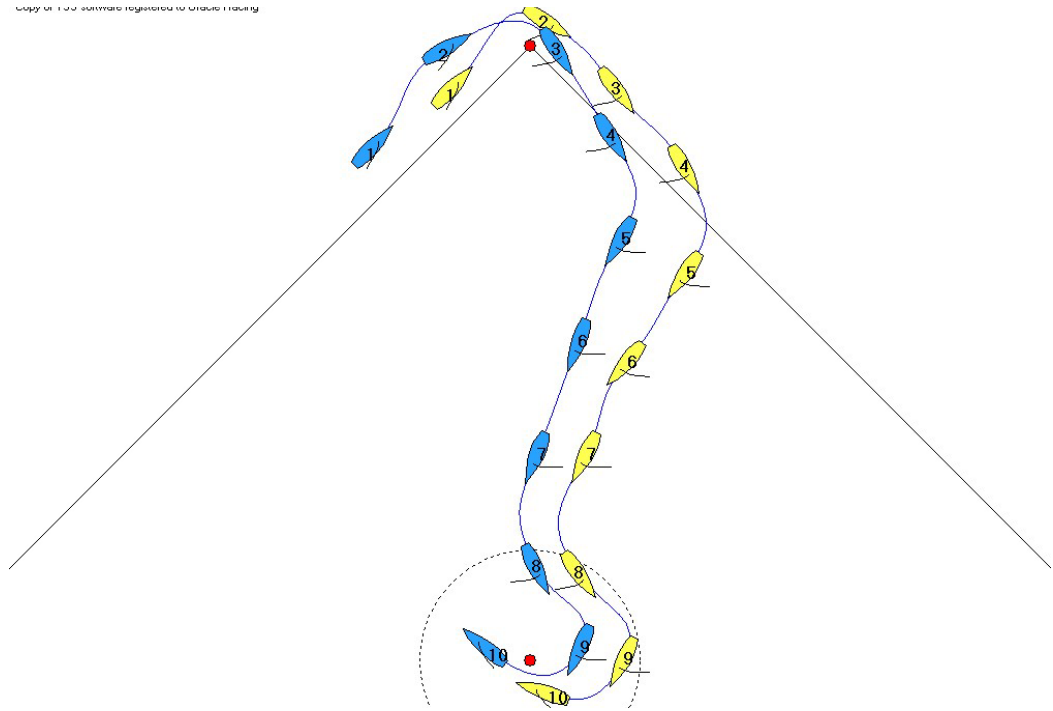


If Yellow feels that there is more wind pressure coming down the course from the left side (looking upwind), she may want to gybe away from Blue and get to the new breeze before Blue does.

If Blue gybes first, Yellow wants to make sure that when she gybes, she does not put herself in Blue's wind shadow as they sail toward the left side of the course.

However, one tactic that Blue may use is to not try to pass Yellow to *windward* on the *port* tack, but to position herself to *leeward* of Yellow's track after they come around the windward *mark* so that Blue will be directly on Yellow's air once she does gybe. And Yellow will have to gybe at some point to get to the leeward *mark*. This puts

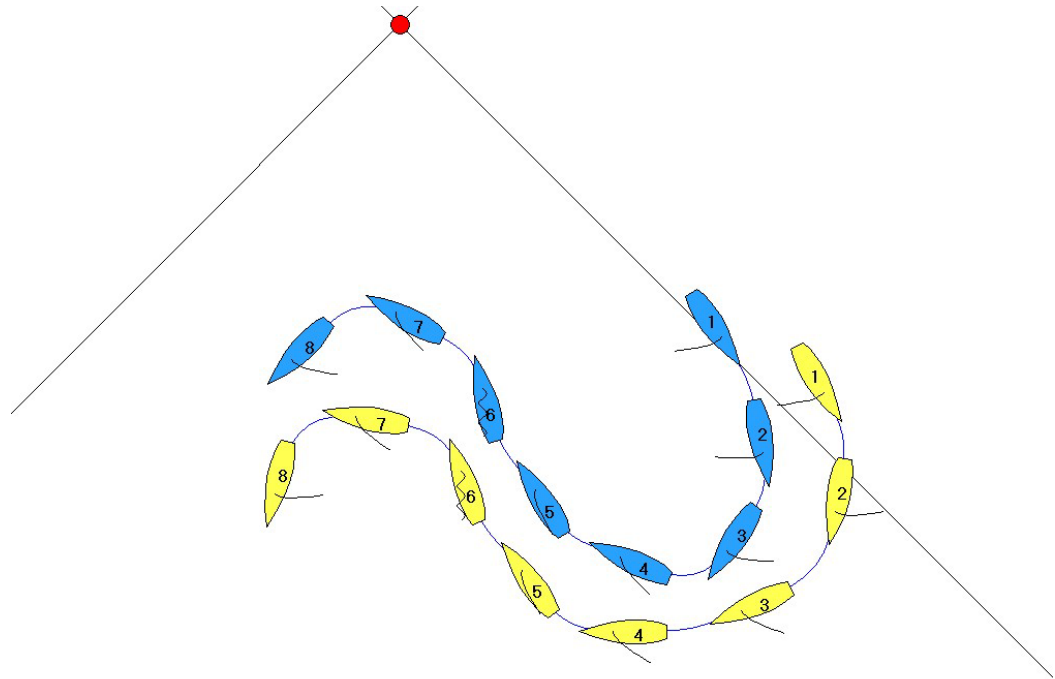
Blue in a strong position to pass Yellow and to gain the inside position at the leeward mark.



BREAKING COVER

When Blue is covering Yellow and trying to pass to *windward*, it is very important for Yellow to keep clear air. We have already discussed one of the methods Yellow can use when she is *clear ahead* of Blue.

However, when Blue becomes *overlapped* to *windward* of Yellow and if she is starting to block Yellow's air, Yellow's most effective defense is to luff Blue to the point where Blue will be *clear astern* once Yellow bears away.

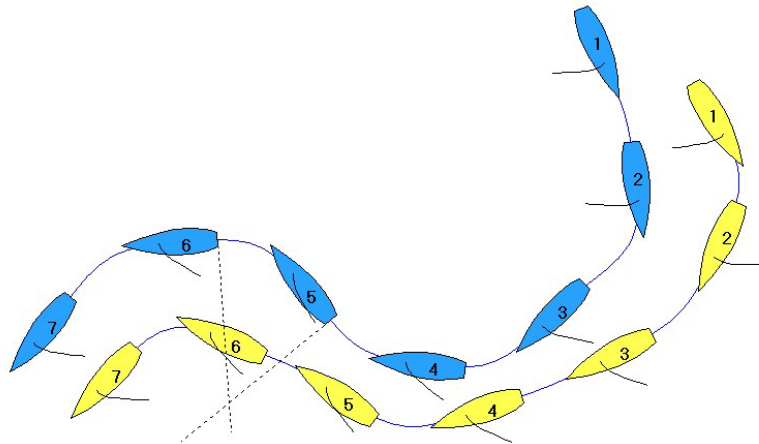


Henry's Comment:

In the above situation, the overlap at position 3 has been created as the result of the gybe by Blue. Therefore, the overlap is not established from astern and Yellow is not restricted by rule 17.1. Yellow may sail above her proper course (she may luff). Yellow is restricted by rule 16 in that every time she alters course, she must give Blue room to keep clear. Assuming they are flying spinnakers, it also means that Yellow must give Blue room to take down her spinnaker, if that is the seamanlike thing for Blue to do. Nevertheless, Yellow has control of Blue and Blue must keep clear .

When they come out of this manoeuvre, Yellow should be clear ahead and in clear air. If Blue gets on Yellow's air again, she can repeat the manoeuvre.

If Blue can get slightly further advanced of Yellow, she can stop Yellow from luffing her and sailing above proper course by breaking the overlap with Yellow. Blue does this by luffing higher than Yellow or luffing before Yellow does. When Blue bears away again, the overlap is re-established, but this time it is from astern, so rule 17.1 becomes applicable and Yellow can no longer sail above her proper course as long as they remain overlapped.



In this scenario, Blue is astern but to *leeward* of Yellow when Yellow gybes onto *starboard* tack. Blue also gybes at position 3 and a new *overlap* is established as a result of the gybe. Yellow is unrestricted by rule 17.1 and can luff Blue above Yellow's *proper course*.

Blue, being on the inside of the circle, moves forward on Yellow as she begins to luff Blue at positions 3 and 4. At position 5, as Yellow continues to luff, Blue luffs harder and breaks the *overlap*. At position 6, Blue bears away and re-establishes an *overlap*. But this time Blue becomes *overlapped* from astern (even though it was all Blue's action which caused the *overlap*) and therefore Yellow is now restricted by rule 17.1. Yellow must no longer sail above her *proper course*, or she risks a penalty. Yellow must bear away to her *proper course* and, in all likelihood, Blue will "roll" over the top of Yellow, or at least gain the inside position at the leeward *mark*.

APPROACHING THE LEEWARD MARK

Getting to the leeward *mark* ahead of or inside your competition is key to your success on the next windward leg. Being *clear ahead* is best, but being *overlapped* on the inside is almost as good. In either case, you should be able to start the next leg in the lead with the ability to cover your opponent and to stretch your lead throughout the beat to the windward *mark*.

When approaching the leeward *mark*, you have to keep rule 18 in mind.

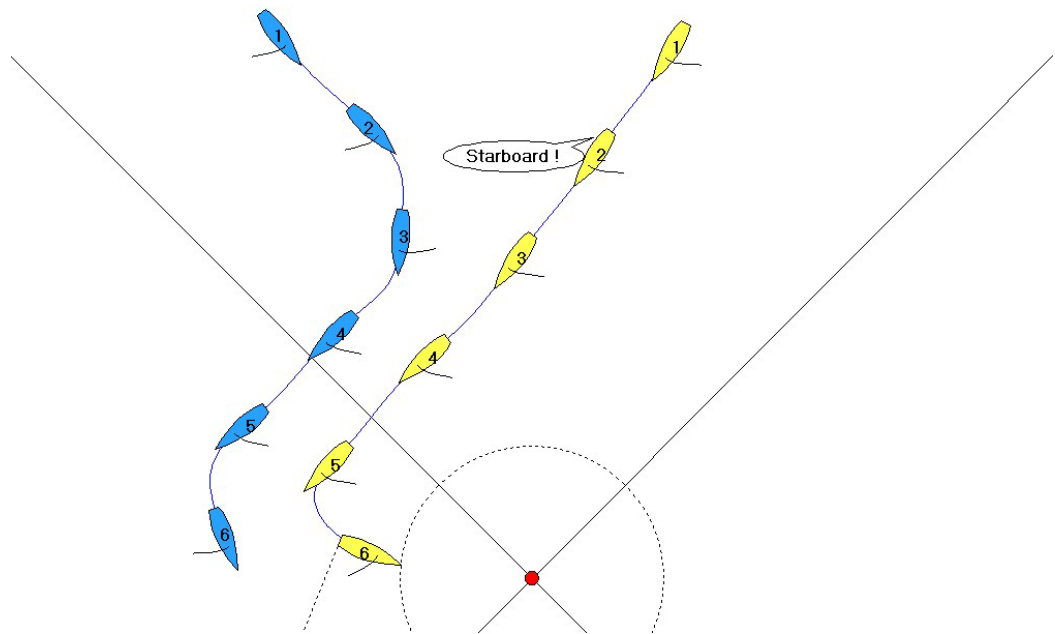
If you are *clear ahead* when you reach the *two-length zone*, your opponent must *keep clear* of you until both of you have passed the *mark* [RRS 18.2(c)]. The only exception is if you pass through head to wind, in which case you turn off that section of the rule.

If you are *overlapped* on the inside of your opponent when one of you reaches the *two-length zone*, then you are entitled to *room* as you round the *mark* and even if your opponent gets *clear astern* and then establishes an inside *overlap* on you, she must *keep clear* and she is not entitled to *room* [RRS 18.2(a) and 18.2(b)].

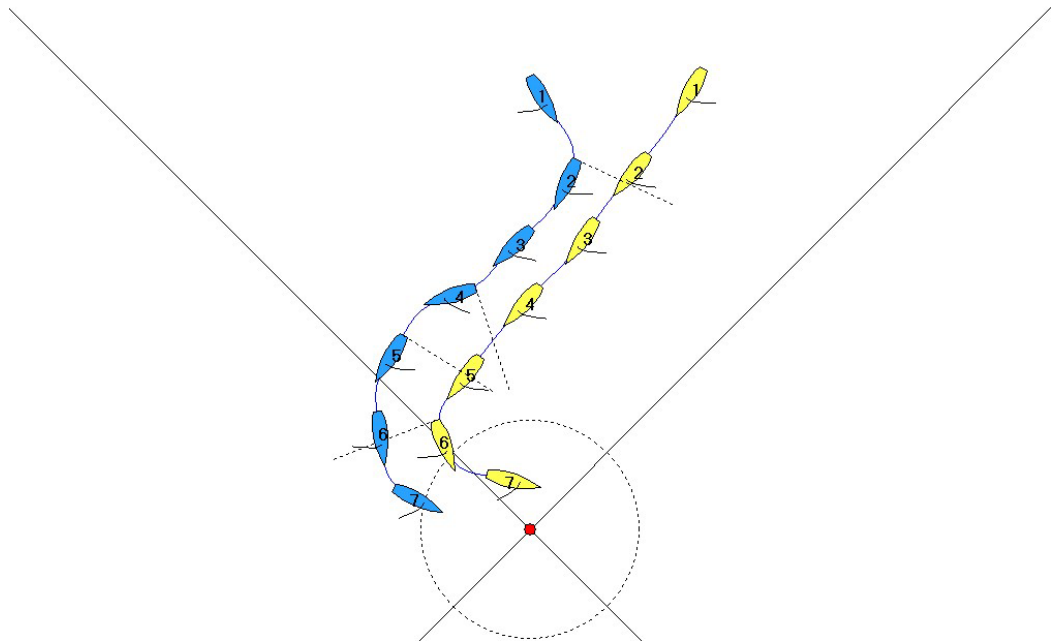
You need to plan for your leeward *mark* rounding early. There are several ways to reach your objective.

Starboard Advantage or Protecting the Inside Position

If you are able to come toward the mark on *starboard* tack, but above the *two-length zone*, and your opponent is on *port* tack, you can often control your entry into the zone so that you end up *clear ahead*.

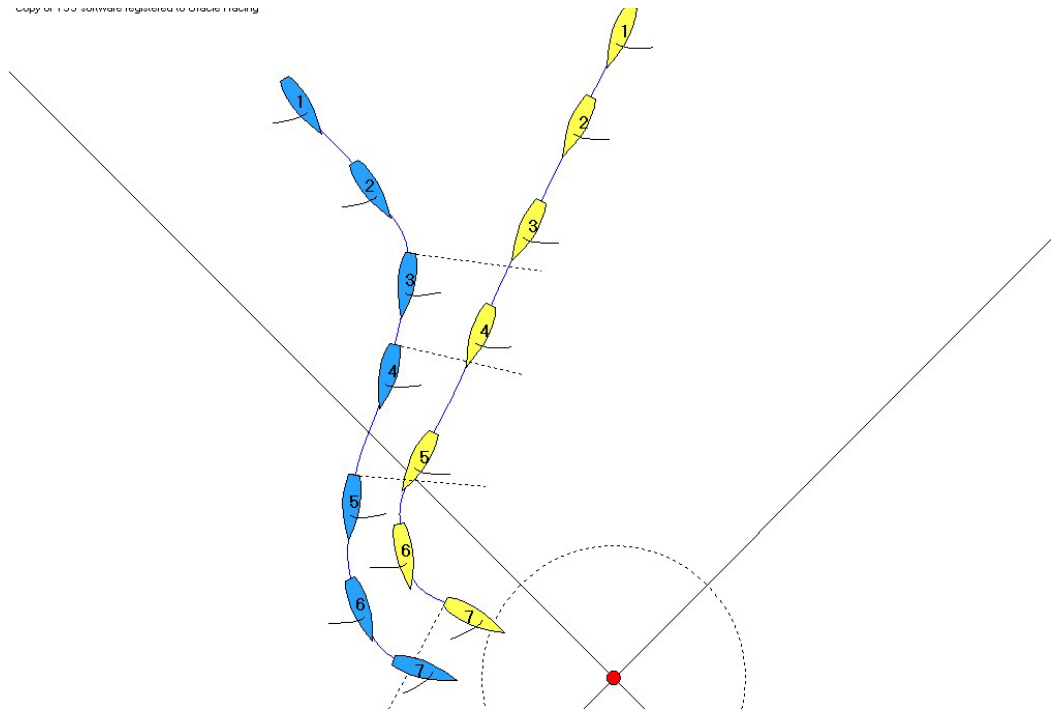


In this scenario, Yellow is not restricted by rule 17.1 and may sail above her *proper course* (beyond the layline to the *mark*) because the *overlap* at position 3 was created by Blue's gybe and not from astern. She can continue past the layline as long as she likes in order to ensure that when she gybes for the *mark*, Blue will be *clear astern*, as she is here at position 6. Please note, if Yellow gets too close to the *two-length zone* and reaches it at position 4 or 5, she must immediately bear away and give Blue *room* to round the *mark* inside her.



The defense to that situation for Blue is to do a quick luff at position 4, break the *overlap* and immediately bear away again thereby creating a new *overlap* by Yellow from astern, as she does at position 5 in the illustration above. Yellow immediately becomes subject to rule 17.1 and cannot sail above her *proper course* and must gybe for the mark at the layline giving Blue the opportunity to remain *overlapped* when Yellow gets to the *two-length zone*, as is shown at position 6. Blue is now entitled to *room* at the *mark* even though Yellow was able to get *clear ahead* after entering the zone [rule 18.2 (b)].

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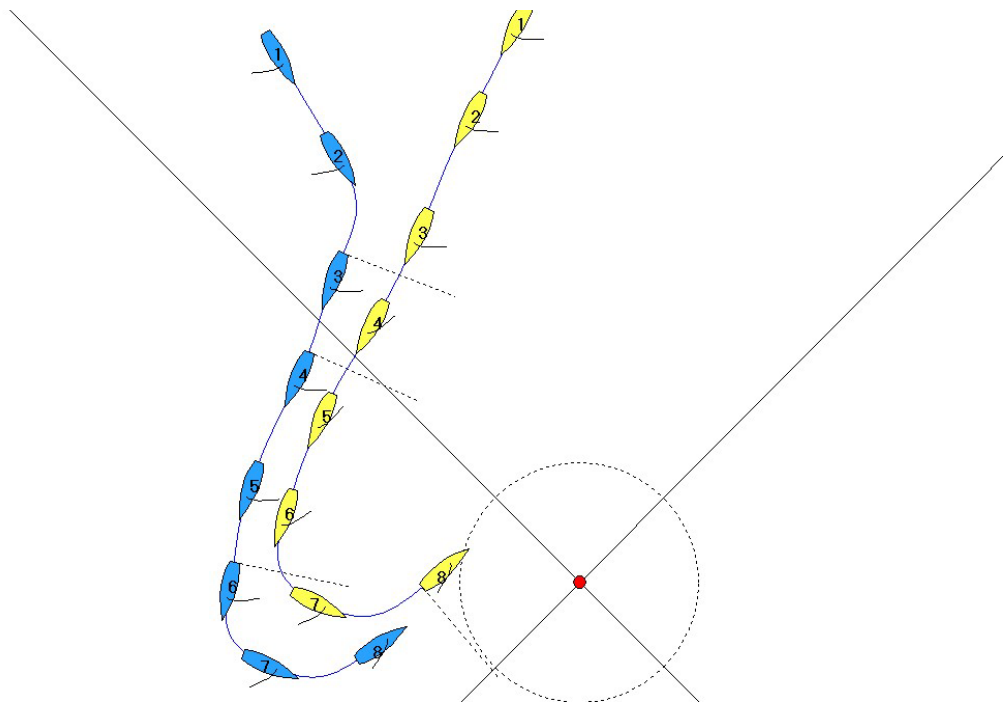


In the scenario above, we have a different situation. Here, Blue completes her gybe onto starboard tack *clear ahead* of Yellow at position 3. Thereafter, at position 4, Yellow establishes a *leeward overlap* from astern and thereby becomes restricted by rule 17.1. When Yellow reaches the layline to the mark at position 5, Yellow is obliged to bear away and gybe for the mark so that she will not be sailing above her *proper course*. Again, when Yellow enters the *two-length zone*, Blue is *overlapped* inside of Yellow and Yellow must give Blue *room* to round the *mark* inside of Yellow. Blue will come out in the lead as they exit the *mark*, close-hauled on *starboard* tack.

Does Yellow have any options at her disposal to prevent Blue from getting the inside position? Most definitely.

First, she could slow down so that she does not establish the *overlap* from astern and so that she remains *clear astern* of Blue. If she does that, Yellow has no rule 17.1 restrictions and she can sail where she likes, so long as she *keeps clear* of Blue in the process (RRS 12).

Even though ROW, Blue cannot gybe onto *port* in front of Yellow without breaking rule 10. Yellow can continue well past the layline until she is satisfied that when she does gybe toward the *mark*, Blue will be *clear astern* when she reaches the zone, as in the scenario below.

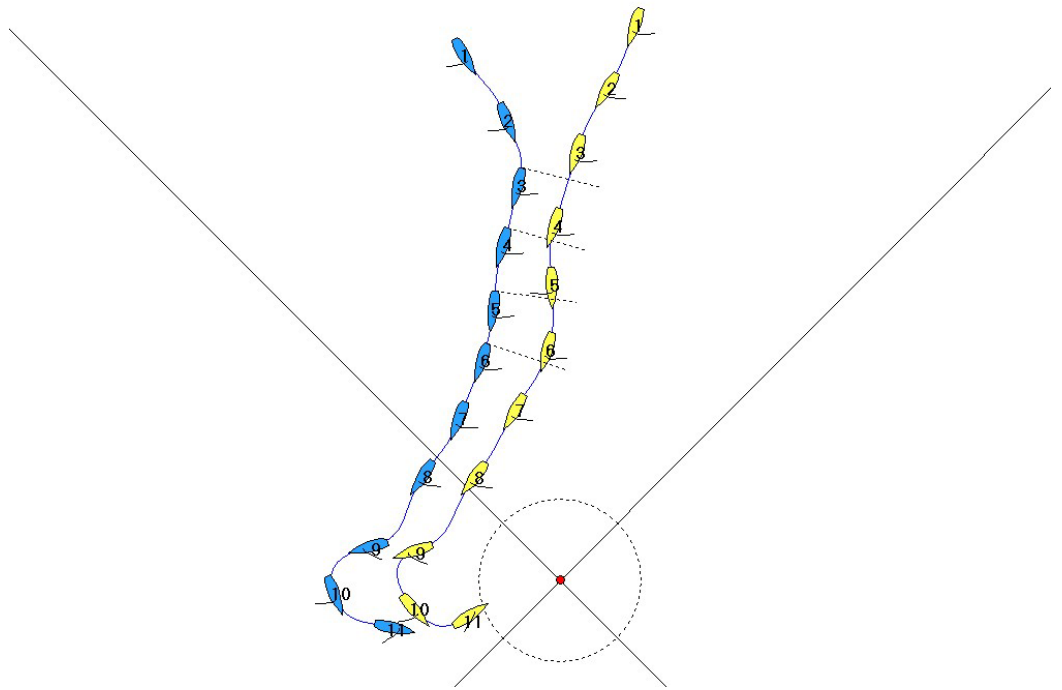


One defense Blue has to that is to slow down as much or more than Yellow and to try to force Yellow into an *overlap* from astern

Another defense is for Blue to bear away sufficiently so that Yellow becomes *overlapped* to *leeward*. However, Blue must be very careful that she *keeps clear* while doing that because she makes herself the *windward/keep clear* boat and if Yellow has to alter course to avoid contact, Blue will be penalized (RRS 11). Also, Yellow does not have to initially give Blue *room* to *keep clear* in such a situation because Blue's actions gave Yellow ROW (RRS 15).

If Blue can accomplish either of those manoeuvres, she will have made Yellow subject to rule 17.1, forcing Yellow to gybe earlier than she would have wanted and Blue may have protected her inside position at the *mark*

Another method that Yellow can use to prevent Blue from getting the inside position is the "double gybe".



In this scenario, Blue gybes to *keep clear* of Yellow on *starboard* at position 3. When Blue completes her gybe, she is *clear ahead* of Yellow. Yellow has better speed at that point and becomes *overlapped* from *clear astern* at position 4, thereby becoming restricted by rule 17.1. Since she cannot sail above her *proper course* (beyond the layline) as long as that *overlap* continues, she will have to gybe at the layline and risks Blue being *overlapped* on the inside when Yellow reaches the *two-length zone*.

To prevent that from happening, Yellow gybes onto *port* tack at position 5 and immediately gybes back onto *starboard* tack at position 6. The effect of this is that since boats are not *overlapped* when on opposite tacks (unless rule 18 applies or both are subject to 13.2 – See RRS C2.3 – Definition of Clear Astern and Clear Ahead; Overlap), Yellow has created a new *overlap* at position 6 when both boats are on *starboard* tack. This *overlap* was created by the gybe and not from astern, so Yellow is no longer restricted by rule 17.1 and she is free to sail above her *proper course* either by luffing or sailing beyond the layline to the leeward *mark*.

Yellow does both those things at position 9, and when she bears away and gybes and eventually enters the *two-length zone* at position 11, she is *clear ahead* of Blue and Blue must thereafter *keep clear* until both boats have passed the *mark* or until Yellow passes head to wind, whichever occurs first [RRS18.2(c)].

WINDWARD AND LEEWARD SPINNAKER DROPS

In most match races, the legs are fairly short – perhaps 5 to 7 minutes. When you drop the spinnaker at the leeward *mark* rounding, you don't have a lot of time before you get to the windward *mark* again. Therefore you don't have a lot of time to always do a safe leeward drop on *starboard* tack and then move all the spinnaker gear around to the other side for the usual bear away set at the windward *mark*.

If at all possible, you would prefer to do a drop that brings the spinnaker down on the *starboard* side of the boat so that the spinnaker and all its gear will be on that side, ready for a hoist as you bear away at the next windward *mark* rounding.

If you are coming into the leeward *mark* on the *port* tack, then the simplest and most efficient thing to do is to raise your jib, drop the spinnaker to *leeward* and then gybe as you begin to round the *mark*.

If you want to keep the spinnaker flying as long as possible, then you might consider the “Mexican” drop. That means that you hoist the jib as usual, but keep the spinnaker flying as you approach the *starboard* layline. Drop the spinnaker pole and “free fly” the spinnaker. As you gybe, you keep the spinnaker on the *starboard* side of the boat and drop the halyard, bringing the spinnaker down on the new *windward* side. The spinnaker and its gear end up on the *starboard* side where you wanted it for the next hoist. The jib prevents the spinnaker from blowing through the foretriangle to the *leeward* side and into the water (we hope). Watch to see that the spinnaker does not become fouled in the spreaders when you drop it.

If you are coming into the mark on the *starboard* tack, then you will probably want to do a *windward* spinnaker drop so that the spinnaker will be on the *starboard* side for the next hoist.

A *windward* drop requires you to rotate the spinnaker toward the *windward* side as much as possible, drop the pole, “free fly” the spinnaker, get the guy back and drop the spinnaker on the *windward* side, much as you would in the “Mexican”.

If you are coming in to the *mark* on a fairly hot angle, it will be almost impossible to do a *windward* drop unless you bear away for a moment or two while the crew rotates the spinnaker around the front of the boat, allowing you to do the *windward* drop.

There are some instances where you may want to drop the spinnaker on the *port* side of the boat.

If you are coming in at a hot angle and you are in close quarters with your opposition and cannot afford to bear away for the *windward* drop, you are better off doing the *leeward* drop on the *port* side. It is better to have control of your opposition and move the spinnaker gear later.

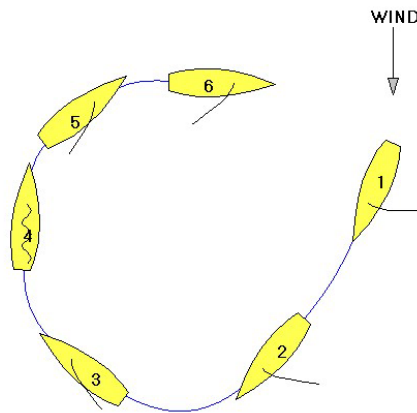
Also, if you are sure that you are going to do a gybe set at the next *windward mark*, then you will want all the spinnaker gear on the *port* side and the pole on the *starboard* side. In that case, you would want to drop the spinnaker on the *port* side at the *leeward mark*.

DOWNWIND PENALTIES

There are several ways of getting rid of penalties when on the downwind leg.

The most straightforward is to just take the penalty as provided in RRS C7.2 (a)(2):

“When on a leg of the course to a *leeward mark* or the finishing line, she shall tack and, as soon as reasonably possible, bear away to a downwind course.”



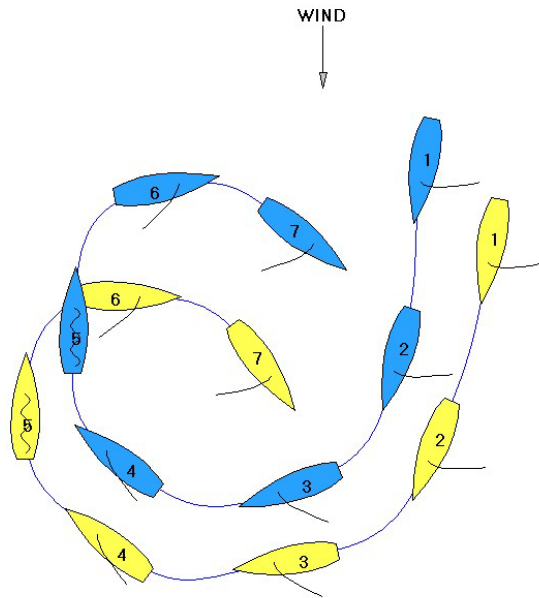
In this scenario, Yellow is sailing downwind and begins to luff at position 2 with the intention of taking her outstanding penalty. However, under Call MR 12, a boat taking a downwind penalty is not considered to be taking her penalty until she passes head to wind. Here, Yellow passes head to wind at position 4. At that point she becomes a *keep clear* boat under RRS C2.8. She remains a *keep clear* boat until she gets to a downwind course. Call MR 26 says:

“A boat is on a downwind course when she is sailing a course more than 90 degrees away from the wind.”

In this diagram, Yellow is sailing at 91 degrees to the wind at position 6, so she has completed her penalty at that point and regains any rights she may have from then on.

A further requirement in taking a downwind penalty is that the head of the spinnaker must be below the gooseneck of the main boom from the time the boat passes head to wind until she gets to a close-hauled course [RRS C7.3(a)]. So, in our illustration, the head of the spinnaker on Yellow must be below the main boom gooseneck from position 4 through 5. Even though she does not complete the penalty until position 6, she may start to re-hoist the spinnaker after position 5.

One tactical way of getting rid of a penalty downwind, while maintaining control of your opponent is as follows:



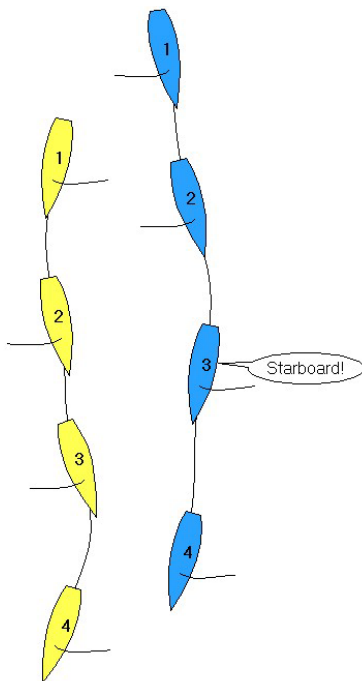
In this scenario, Yellow has an outstanding penalty at position 1. She wants to exonerate herself and still control Blue in the process. She positions herself so that she gets an *overlap* to *leeward* of Blue, preferably with both boats on *starboard* tack. Once Yellow has Blue “hooked” to *windward*, Yellow luffs. (This presumes that Yellow has been ahead and did not become *overlapped* to *leeward* from *astern*, or else she would be restricted by rule 17.1 and could not sail above her *proper course*. A boat manoeuvring to take a penalty is not sailing a *proper course* – RRS C2.2) She is still ROW boat all the way to position 5, so Blue must keep clear.

Once Yellow passes head to wind, she is considered to be taking her penalty and she is a *keep clear* boat. However, by that time, Blue may have been obliged to begin tacking to *keep clear*. Yellow will try to have left enough room for her to complete her tack *astern* of Blue and to complete her penalty at position 6. At that point she regains her rights. She is now a *leeward* boat and has ROW again under RRS11. She is also ahead of Blue with no penalty outstanding and it is now a sprint to the *finish* line to see who gets there first.

What is Blue’s defense to this manoeuvre?

First, avoid getting *overlapped* to *windward* if at all possible, especially on Yellow’s *starboard* side. Slow down and even take down your spinnaker if necessary so that you remain *clear astern*. Don’t get “hooked” where you have to respond to Yellow’s luff. Depending on the types of boats you are sailing, it takes about 5 to 8 boat lengths to take a penalty. If you stay behind your opponent by less than that margin and don’t let her engage you in a battle where she might offset her penalty, you should be able to pass her and win the race when she finally does do her penalty turn.

Second, try to stay on Yellow's *port* side going downwind. If Blue can stay on Yellow's *port* side, when Yellow gybes onto *port* tack to try to "hook" Blue, then Blue should either already be on *starboard* tack or she should gybe onto *starboard*, thereby gaining ROW over Yellow who now must *keep clear* of Blue and cannot luff her.



VII. THE FINISH

PICKING A SIDE

Similar to picking the favored end of the line at the *start*, one must also try to pick the favoured end of the line at the *finish*.

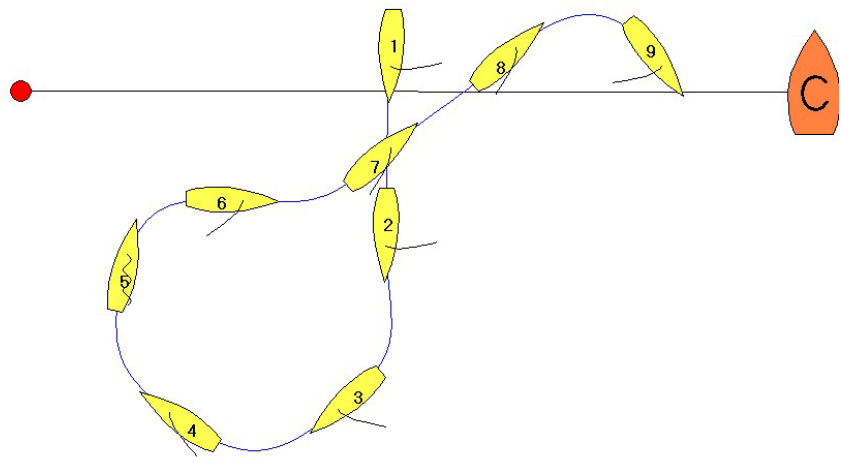
As with the *start*, the favoured end will be determined by at least the same four elements we discussed at the start of the race:

1. Wind direction.
2. Line bias.
3. Wind strength greater at one end of the line or the other.
4. Adverse or advantageous current greater at one end of the line or the other.

There is also the consideration that you may have an outstanding penalty to take before you can *finish*. That may dictate where you finish on the line.

Under RRS C2.1, you cannot *finish* before you have taken your penalty. That does not mean you cannot cross the *finish* line before taking your penalty. It just means you won't be recorded as *finishing* until you have taken the penalty and then crossed the line in the direction of the course from the last *mark*.

So, if you cross the *finish* line before taking a penalty, you must take your penalty turn and then go back to the course side of the line and come back across the *finish* line from the direction of the last *mark* of the course (the windward *mark*).

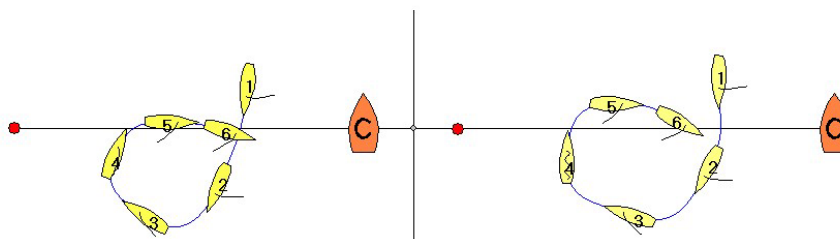


In this scenario, Yellow has an outstanding penalty and has crossed the *finish* line at position 1. But she has not *finished* under RRS C2.1. At position 5 she has begun to take her penalty. She completes it at position 6. She must now sail to the course side of the line and cross the *finish* line again, which she does at position 9. At that point, she has *finished* the race. Obviously, this is not the fastest nor most efficient way to take a penalty, especially if your opponent is close behind.

Quite often, competitors will take their penalty just as they approach the *finish* line. They want to take it as close to the line as possible so that just after reaching a downwind course (when the penalty is complete) they will cross the *finish* line. This is the fastest way for them to complete a downwind penalty and to *finish*. It becomes critical when your opponent is behind you, but only by 5 boat lengths or so. In such a situation, it will be a very close *finish* between the two boats and every metre of distance is crucial.

However, when taking a penalty that way, it is sometimes very difficult to tell exactly where the *finish* line is and whether or not you have crossed the *finish* line before completing the penalty turn. It is also possible that you have

crossed the *finish* line, but never got completely on the course side of the line again before attempting to *finish*.

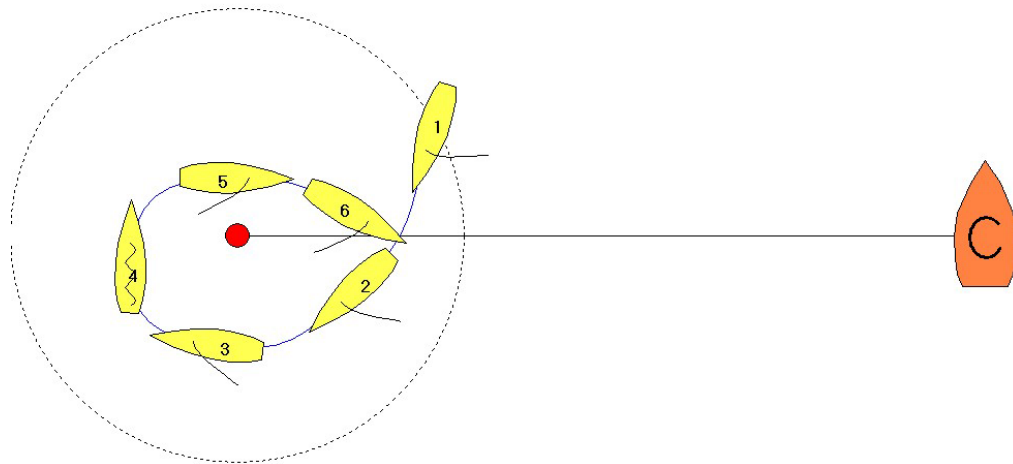


In the scenario on the right, you can see that Yellow has taken her penalty correctly – but just! At position 5, she is completely on the course side of the line and she has come to a downwind course. But her boom is quite close to the line. There have been many instances where Yellow’s boom has never gotten completely on the course side of the line and she cannot be recorded as having *finished* properly. This happens when the mainsheet trimmer eases off the mainsheet to allow the bow of the boat to come down as fast as possible.

This call is made by the Race Committee official on the committee boat who is calling the *finish* line. The question of whether the penalty has been completed is a call made by the umpires on the match.

In the scenario on the left, Yellow completes her penalty, but the boat never gets completely on the course side of the line. At position 6, she has not *finished* and she will not do so until she sails completely onto the course side of the line and crosses the *finish* line again.

In order to assure that they do not misjudge the location of the *finish* line, many competitors will take their penalty around the pin end of the line, which is another reason to pick that end of the line to *finish*. This is a perfectly acceptable tactic and does not break RRS 28, “Sailing the Course”. See Call MR 6.



In this scenario, Yellow knows that if she circles the pin end of the line, she will get the hull back on the course side of the line before she *finishes*. The only thing she has to be careful about is that the main boom does not get eased out so far that it extends over the pin buoy and never gets completely on the course side of the line, or worse yet, that the boom hits the *mark*.

VIII. RED FLAG PROTESTS

The purpose of having umpires on the water is to eliminate, as much as possible, red flag protests and long hearings that delay the matches or leave their outcome in doubt.

However, you can initiate a red flag protest for some things. The most common are:

- a. Rule 14 – but only when there is contact that results in damage.
- b. Race Committee errors:
 1. No sound or visual signal from the Race Committee for a recall.
 2. Late sound or visual signal.
 3. Failure or late lowering of recall flag when the boat has cleared the line.
 4. Mistake in timing.
 5. Mistakes in flag procedures – wrong flag or no flag displayed when required.
 6. Failure in change of course procedures – no sound and /or visual signal.
 7. Missing or moving *mark*.
 8. Wrong colour mark replacing an original *mark*.
- c. A breach of the Sailing Instructions

Red flag protests are generally held on the water, though the Chief Umpire can hold one on shore and may take evidence in whatever way he sees fit.

Usually the only ones present at the hearing are the umpires who comprise the protest committee, one crew member from each boat involved in the protest and/ or a member of the Race Committee or umpires who may have witnessed the incident. The hearings are very informal, brief and to the point. They are usually held on one of the umpire boats. When the protest committee is making their decision, they will usually ask the parties to move to another part of the boat or onto another umpire boat. The decision will be delivered orally. There are no written decisions, definitely no appeals and no requests to reopen a hearing! (RRS C9.1)

You **may not** fly a red flag protest for:

- a. any breach of Part 2 of the RRS (right of way rules, 10 through 22, except rule 14 when there is damage).
- b. Rule 31 (Touching a Mark).
- c. Rule 42 (all the kinetics – rocking, pumping, ooching, sculling, etc.)
- d. Rule C 4 (Requirements Before The Start – enter too early or too late, wrong colour flag displayed on a racing boat).
- e. Rule C 7 (Penalty System – taking penalties improperly by the other boat in the match).

The red flag must be displayed “as soon as possible after she becomes aware of” the incident giving rise to the protest, but “not later than two minutes after finishing or retiring”. (RRS C6.3)

IX. GETTING STARTED

1. By yourself

This is similar to what you do in practicing with your crew for a fleet race, but generally more structured and more specific.

You will want to set up a little race course for yourself. You can set your own *marks* using fenders or buoys as the *marks*. Or, you might use empty moorings, government marks, fisherman’s buoys or whatever is available. You really only need three *marks*. Two should be about 6 to 8 boat lengths apart and form a line that is pretty much perpendicular to the wind. The third buoy or *mark* should be as directly upwind as you can manage and just far enough away so that you can do 3 to 5 quick gybes downwind before you get to the leeward *mark*.

Grab your crew and start doing some of the drills described later in this section. This will be a good way to work on your timing for the entry, some boat handling matters such as slowing down, stopping, sailing backwards, holding the boat head to wind and falling off onto a desired tack. In the beginning, all of these are best done by yourself and without the interaction of another boat.

2. With others

Give yourself an hour or two to perform the first drills by yourself. Hopefully a friend of yours with the same boat will have been doing the same drills. After you have finished those, then it is time for the two boats to begin some practice drills together. Try to stay with the drills for an hour or so, interchanging roles, so that you both get the experience of timing and trying to control each other's movements. Once you have tired of the drills, just start match racing. You can time yourselves. You don't need a Race Committee. Shorten the pre-entry time sequence to a minute or two, but keep the pre-start time at 4 minutes. The races will be short. Perhaps 15 minutes or so, but that is all you need. Do as many as you can before your crew starts mentioning "mutiny". Most important, tell your crew what a great job they did and buy the first round of beers for them after you put the boat away. Make sure you and the other crew has an opportunity to "debrief" the day's sailing and make arrangements to do it again . . . soon!

3. Boats to use

When practicing with others, it is best to use identical or one-design boats. Otherwise, the speed or handling characteristics of the boats will be different and one or the other of you will quickly become frustrated.

Any size sailboat may be used for match racing, but it is better to keep them over fifteen feet (5 metres) and under thirty-five feet (11 metres). Keel boats seem to work better than centerboard boats, but are not essential. A three or four person boat works well, so that you would probably have a helmsman, tactician/main trimmer, jib trimmer and foredeck.

Small headsails are recommended because they make the boats easier to handle, don't tire the crew as easily, provide good visibility and lessen the chance for contact. Boats with spinnakers are preferred but not necessary.

4. DRILLS

By Yourself

- a. Place a buoy in the middle of the starting line, or you can just use the buoy at the opposite end of the line from which you enter.

Think of the starting line as forming the crossbar of a rugby or American football goalpost. You enter the starting area by being outside the *port* end of

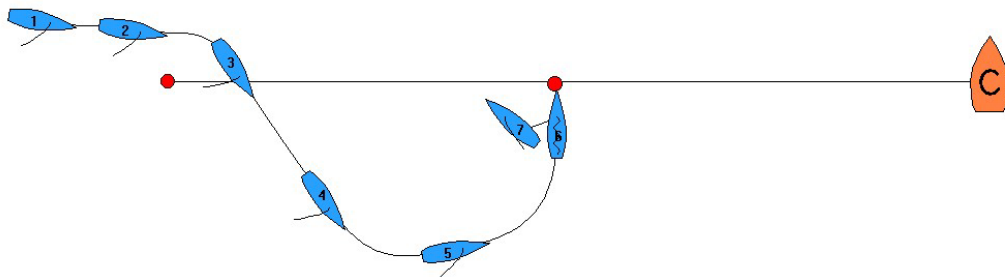
the upright of the goalpost. Start your countdown stop watch at 1 minute and enter the starting area at 0 minutes, crossing the starting line from the windward side of the line. Practice your timing so that your bow passes the buoy within just a second or two of the 0 minute signal.

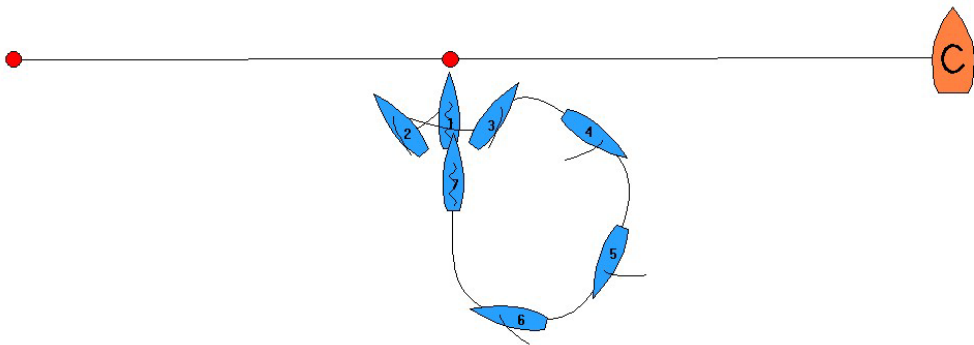
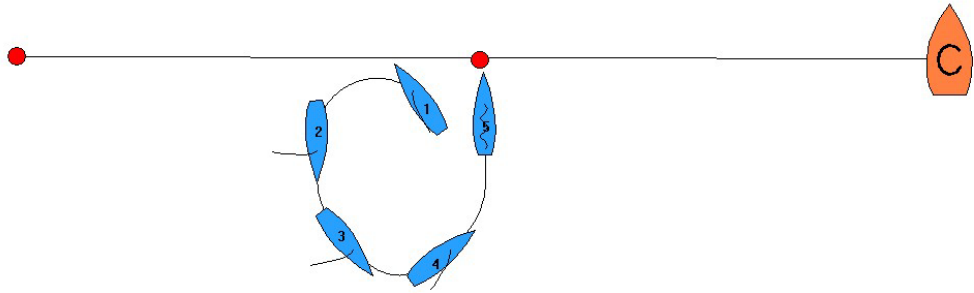
Enter the prestart area and then luff your boat to head to wind as close to the middle buoy (or the buoy at the other end of the line) as possible. Hold that position for about 10 seconds and then fall off onto *starboard* tack.

Make a tight turn and return to head to wind at the same buoy. Immediately fall off to a close-hauled position on *starboard* tack and then immediately return to head to wind. Hold the head to wind position for another 10 seconds and then fall off onto either *port* or *starboard* tack.

Make a tight circle and return to head to wind at the same buoy again. Hold the head to wind position as long as you can, even going backward as you do so. Have your foredeck use the jib to hold the boat head to wind. Back the main if necessary. Have one of your crew choose a tack for you to fall onto at the end of the drill and try to accomplish that.

Repeat this drill, but enter from the *starboard* side this time. Keep repeating the drill until you feel comfortable with your use of the sails to slow down, to hold head to wind and to fall off on one tack or another from a head to wind position. Don't expect to get it all right on the first or second try. Keep at it.





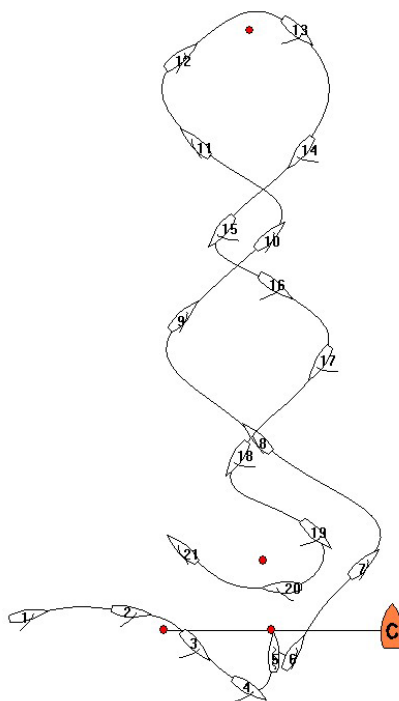
- b. Enter from either side of the line using the same 1 minute sequence. Come head to wind at the middle buoy or the buoy at the opposite end of the line. Hold your head to wind position for 15 seconds if you can, then fall off onto *port* tack. Sail upwind to the windward *mark*.

Do a bear away spinnaker set and at least 3 gybes to the leeward *mark* and then do a *leeward* spinnaker takedown.

Tack back to the windward *mark* and do a gybe spinnaker set and then continue to gybe back to the leeward *mark* and do a *windward* spinnaker takedown.

Repeat the drill until you feel comfortable with all the maneuvers, particularly the gybe spinnaker set and the windward spinnaker takedown.

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c. With others

Now comes the beginning of the real fun part when you start sailing with others

Choose an end from which you will enter. For this drill, it doesn't matter which side you pick.

The boat entering from the right side on *starboard* tack should fly a yellow flag or streamer from her backstay. It is not essential to the drill, but it gets you used to flying the proper identification flag which you will be doing when you start racing in earnest. The boat entering from the left on *port* tack displays a blue flag or streamer.

Just use a 5 minute starting sequence. The boats will enter at 4 minutes and will continue the drill until they start at 0 minutes

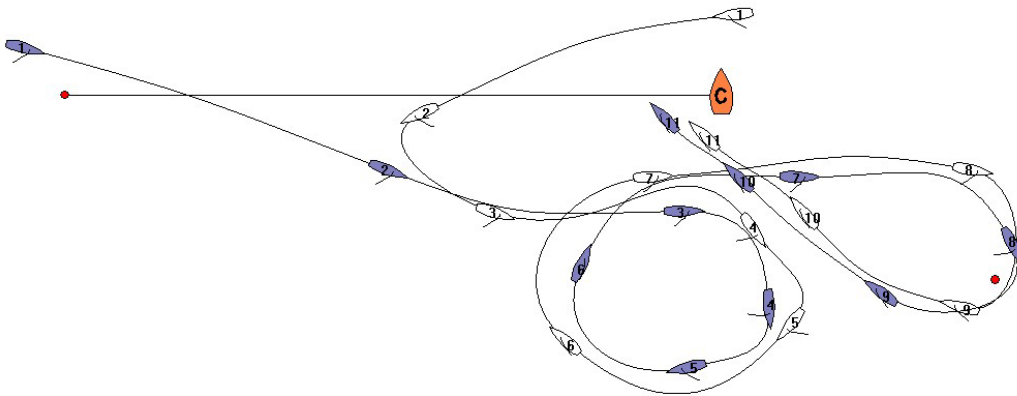
Place a buoy in the water approximately 50 to 75 metres to leeward of the buoy at the starboard end of the line and at least 50 metres to the right of that buoy.

After entry, the *starboard* tack boat (Yellow) gybes behind the *port* tack boat (Blue) and both boats begin to circle in a clockwise direction.

The boats should continue to circle each other until they think it is time to break for the starting line in order to *start* on time. Either boat can break for the line first, but they must leave the buoy to *leeward* of the starting line to *starboard* in their last circle.

Don't make circles so small that you go slower and slower. Keep up your speed. The circles are actually ovals and you should extend the circle each time as you tack onto port.

The purpose of this drill is to practice your timing to the start line. You can pick either end of the line to *start*.



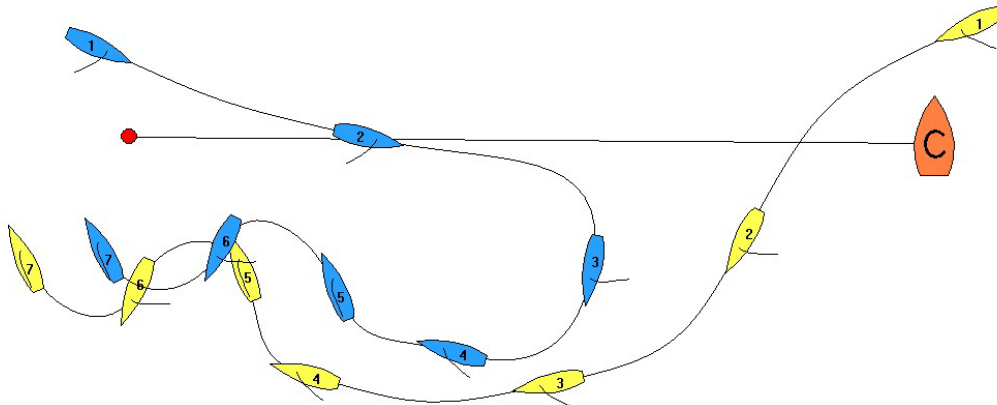
d. The pairs of boats enter using the same 5 minute starting sequence. Display your proper identification flags.

After entry, the *starboard* tack boat (Yellow) sails deep enough to allow the *port* tack boat (Blue) to pass to *windward* of her. Blue gybes onto *starboard* immediately behind Yellow.

The object of the drill is for Yellow to escape from Blue. Blue tries to keep Yellow going to the left side by luffing inside Yellow to *windward* of her when Yellow tries to tack and by bearing off to *leeward* of Yellow when she tries to gybe.

Yellow, of course, tries to escape by getting far enough ahead of Blue to tack or gybe across Blue's bow without fouling her.

At the end of the Drill, boats should exchange sides and repeat the Drill.



d. The pairs enter using the same 5 minute starting sequence.

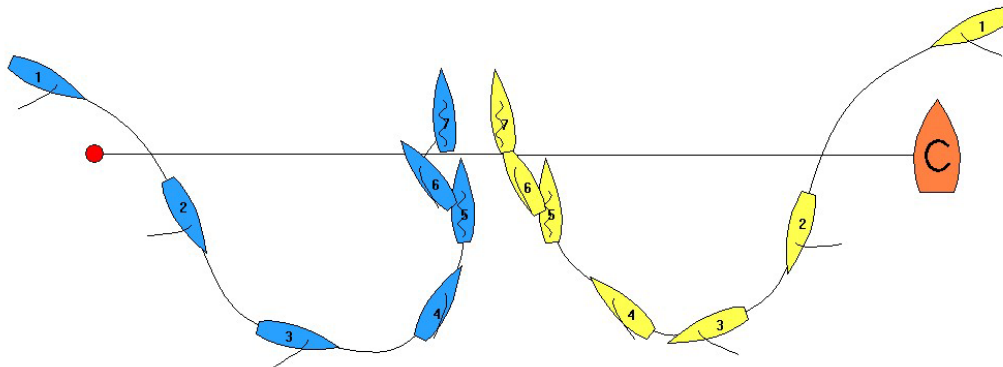
The boats enter and approach each other bow to bow. When they are approximately three boat lengths apart, the *port* tack (Blue) boat luffs to a head to wind position. At the same time, the *starboard* tack boat (Yellow) luffs to head to wind alongside Blue.

Care must be taken by each boat to make sure there is no contact.

In order to gain right of way, Blue should tack and get to a close-hauled course on *starboard* tack and immediately return to head to wind, as was practiced in Drill 1.

Thereafter, Blue should try to escape to the right side of the prestart area and then both boats should try to *start* on time in a controlling position.

At the end of the drill, boats should switch sides and repeat the drill.



Now go out and do some match racing.

These are the basic moves in match racing pre-starts. There are many others, but these are enough to get you started. You will discover many other manoeuvres on your own as time goes on and that is part of the fun of the game. Some you will have read about in this book.

Starting a program at your club.

If your club does not have a match race program and you want to get one started, here are a couple of ideas.

1. Use the above drills with a friend and then bring in other sailors in the same class. Invite other skippers to crew for you and then give them a turn at the helm. Set up a regular schedule of match racing on a weekly or monthly basis at your club(s).
2. Go to your club and ask them to contact your MNA to set up an ISAF match race clinic or have them contact ISAF directly.
3. Find a match racer or umpire to give a seminar or clinic on match racing.

The most important thing is to not spend too much time in the classroom and to spend as much time as possible on the water. Once you get on the water and get some people interested in the game, then you can bring in instructors. Show your club that there is interest and how much fun you are having. Clinics and seminars will follow.

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