

B A S I C R A C I N G S K I L L S

A. Manual for the Silver Sail Proficiency Standard

First Draft  
April, 1984

T.A. SAUNDERS

"A yacht shall participate in a race or series of races in an event only by fair sailing, superior speed and skill, and, except in team races, by individual effort."

Fundamental Rule

### Updated Forward

These materials were originally prepared in April, 1984 as a project intended to result in publication of a third book in the "Learn-to-Sail" series produced by the Canadian Yachting Association (now Sail Canada). The objective was to provide a resource for students who were participating in courses at the Silver Sail level, that is, students who already had good technical sailing skills and were looking to get involved in competitive sailing for the first time.

While the project ultimately never came to fruition, the materials remain relevant for sailors who want to start racing. They set out the basic strategy and tactics needed to successfully navigate around a race course.

That said, the materials have never been updated since their original production almost 30 years ago and, during that time, there have been changes to the the racing rules. Indeed, the International Yacht Racing Union which controls the racing rules has even changed its name, now being called the International Sailing Federation ("ISAF").

Readers, then, should read passages that discuss the racing rules with caution. Rule numbers all changed over the years and specific rule provisions in many cases have changed as well. The basics principles remain the same – starboard tack boats have the right of way over port tack boats, windward boats must yield to leeward boats, overtaking boats must keep clear – but readers are well advised to obtain, and study, a copy of the most up-to-date edition of the rules. These may be found at:

[http://www.sailing.org/tools/documents/RRS20092012with2010changes-\[8222\].pdf](http://www.sailing.org/tools/documents/RRS20092012with2010changes-[8222].pdf)

T.A.S.

April, 2013

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## INTRODUCTION

This book begins with both a welcome and a warning. The welcome is on behalf of many thousands of competitive sailors and is extended to you as you are about to move into another facet of sailing: yacht racing. We think you will find it enormously challenging, often frustrating, and therefore utterly enjoyable.

The warning is that you will be disappointed if you hope this book will tell you all you need to know about racing and prepare you for immediate victory in your very first race. No book can do that! But hopefully it will start you off on the right foot, whether you are headed ultimately for an Olympic medal or just improving your finish at the local yacht club.

This book should be viewed as a tool, one of several that you will need to compete successfully in yacht racing. Before you delve further into its pages, you should obtain another and more important tool, a copy of the current International Yacht Racing Union Racing Rules. These are available from your local club, chandlery, or provincial sailing body at minimal cost. This book should be used as a companion to the Racing Rules; not as a substitute.

The other tool you need to be successful in yacht racing is, not surprisingly, experience - racing experience, and lots of it. This book cannot begin to take the place of the lessons you will learn on the water, racing. Hopefully, however, it will give you some framework to glean more out of your racing experiences, to interpret them, and to improve your finishes.

This text is divided into six main chapters, each of which attempts to analyse a particular part of the race. Thus there is a chapter dealing with preparing for racing, with starting, on going up the windward legs, sailing the offwind legs, finishing, and protesting.

Each chapter also contains a discussion of some of the more common rules applicable to each part of the race - but, again, you must become familiar with all the rules. Finally, each chapter contains suggested water exercises that you may practise the skills discussed - but, again, the best practise is competetion itself.

View this book not as a definitive text but as a stepping off point for future endeavors on the race course.

CHAPTER ONETHE IYRU RACING RULES1. Introduction

All competitive sports are governed by a set of rules and competitive sailing is no exception. In the case of yacht racing, these rules are developed by the International Yacht Racing Union (IYRU) and adopted and prescribed by the Canadian Yachting Association (CYA).

While the Rules Committee of the IYRU meets yearly, generally the rules are left intact until the year following each Olympic year, when the rules are then republished and changes inserted as required. For example, following the 1984 Olympics, a new edition of the IYRU Yacht Racing Rules will be published. This edition of the rules will be in force until after the 1988 Olympics when the rules will again be re-issued. Substantial changes in the racing rules, from one edition to the next are rare. Usually, the changes will be for the purpose of clarifying wording or similar objectives. Thus, racing sailors are not faced with the prospect of having to learn an entirely new set of rules after each Olympics.

2. Format of the Rules

Looking at a copy of the Racing Rules, you will see that they are divided into a number of parts and each part deals with a specific aspect of yacht racing. The general tenor of each part of the rules may be summarised as follows:

Part I - defines various terminology, as used in the Racing Rules.

Part II - deals with race management: the authority and duties of the race organizers.



Part III - sets out the responsibilities of a yacht's owner with respect to certain requirements a yacht must meet prior to racing.

Part IV - contains the right of way rules which govern the obligations of one yacht to another when they meet on the race course. This part is divided into three sub-parts or sections:

Section A - which sets out the general obligations of one yacht to another when racing and when a rule is infringed.

Section B - which contains the specific right of way rules when yachts meet on the race course.

Section C - which provides for some exceptions to the right of way rules of section B.

Part V - lists certain obligations that each yacht must satisfy when competing in a yacht race, in order to complete the race properly, quite apart from her obligations when she meets other yachts on the course.

Part VI - deals with protest procedure whereby one yacht can challenge another yacht whom she feels has infringed the racing rules.

Appendices - contain certain miscellaneous topics of relevance to racing such as the Olympic scoring system, which are not otherwise dealt with in the Rules.

### 3. Application of the Rules

The racing rules are the framework which give a yacht race form. Without the rules, a race would merely be a number of boats sailing aimlessly and without purpose; the racing rules define the race. Yacht racing is much more than simply sailing around a set of marks, as you did when you were learning to sail. The presence of the racing rules, which impose certain rights and obligations between

yachts, introduces a new element which is not present in simple pleasure sailing.

Tactics is a word you will hear often associated with yacht racing. It may be simply defined as the application of the racing rules in specific situations to one's advantage over a competitor. The racing rules introduce and define tactics.

In this, yacht racing becomes almost as much a mental exercise as a physical one. It is more than a boatspeed contest; more than simply a parade of competitors around the course. Because of the opportunity to use the racing rules effectively to gain advantage, for most top level competitors, yacht racing is very similar to chess.

To enjoy yacht racing to the fullest, you must be thoroughly familiar with the racing rules, that you may engage in tactics. Without such knowledge, you can never really compete in or know the enjoyment of this aspect of sailing; you will be merely a spectator, the victim of those competitors who know the rules and can apply them. A complete knowledge of the racing rules is a necessary prerequisite to becoming a racing sailor.

But the requirement of knowing the racing rules goes much deeper than this. There are no referees in yacht racing, apart from the competitors themselves. In this, yacht racing is unique among sports. However, this uniqueness places upon each competitor the absolute requirement that he or she is fully aware of the rules. Knowing the rules becomes a question of your responsibility as a competitor to police yourself and others. This is the very essence of the nature of yacht racing.

To the competitor who has infringed the rules, you owe a responsibility, in the spirit of sportsmanship, to enlighten and educate. To the other competitors on the course, you owe a responsibility to ensure that rule

infractions do not go unnoticed. If a competitor collides with you, is in the wrong and you do not protest, he may go on to beat someone else across the finish line. In such a case, you have infringed the ethics of sportsmanship with respect to that beaten competitor.

And finally, you owe a responsibility to the sport of yacht racing to maintain its uniqueness as competitor governing. If you are sloppy in your application of the rules, you encourage others to be so also and in the result, the sport degrades into chaos, just a group of boats out for an aimless sail.

#### 4. Part I: Definitions

Just as when you were learning to sail you had to learn the particular and peculiar language of sailing, now that you are learning to race you must learn the language of the racing rules. When the rules use certain terminology, often these words have very specific meanings. Part I of the Rules contains the racing dictionary; it will tell you exactly what these terms mean when you are racing.

You should, before going any further, read and familiarize yourself with the definitions contained in Part I. You will note that, in some cases, the meaning given to phrases in the racing rules are different and usually stricter than the generally accepted use they have in the everyday sailing world.

## CHAPTER TWO

### PRELIMINARY MATTERS BEFORE RACING

#### 1. Preparation for Racing

##### a) Personal Preparation

##### i) Physical Conditioning

Don Giffin, in his book, Advanced Sailing Skills, deals with the matter of physical conditioning for sailing in Chapter 12. The information contained there pertains to racing as well and will not be repeated here. As with any competitive sport, both in season and off season physical conditioning is essential to the demands required in competition.

##### ii) Mental Preparation

Inasmuch as yacht racing is a mental activity, mental preparation for racing or "psyche", is a matter requiring some consideration. It is beyond the scope of this book to consider all the facets of sport psychology and the interested reader is referred to the many publications available on this topic. However some brief comment on the subject is in order here.

Mental attitude towards competition is, by nature, highly personal and strongly related to the goals that a racing sailor has set for himself. The more committed you are to a competitive goal and the more mentally prepared you are towards achieving that goal, the greater are your chances of meeting with success in racing.

Your goal may not necessarily be victory over all comers. It may be to finish within a certain range of positions, for example, in the top ten placings, or simply to finish ahead of a particular rival. But you should set goals for yourself that your efforts on the race course have a focus, a point to which all your effort may be concentrated.

These goals should be both short term (this particular race) and long term (this season). If you achieve these goals, such as they are, then you have won, even though you may not be taking home any silverware.

You must concentrate on developing a positive mental attitude about achieving your goals. If they seem, always to be out of reach, consider re-examining them. Are the goals you have set realistic? More often than not, the problem is with the goals and not the person who has set them.

Yacht racing also requires considerable mental concentration and, to avoid distractions which can break this concentration, many competitors have developed elaborate rituals which they follow prior to competing. If a regatta is being held away from a competitor's home waters, many racers will want to arrive at the site early to become "tuned in" to the local surroundings; that is, to become aware of the local conditions and familiar with the local surroundings. Many will have a special shirt or consume special food prior to a race but with the same objective; that is, of making themselves familiar with and relaxed in strange surroundings. Familiarity means the local area will hold no surprises and therefore provide no distractions for the competitor.

The third aspect of mental preparation which requires some comment is the cultivation of the skipper/crew relationship. The selection of a skipper or crew, for the beginning racer, is often a matter of circumstance, rather than choice. But as you become more experienced, you should begin considering just who it is you want in the cockpit with you. The selection of a skipper or crew depends on a number of factors which can be summarised under two categories:

- physical compatibility (and perhaps familiarity) with the type of boat being campaigned; and

- social compatibility with yourself.

On this second point, you must search out someone that you can survive in close quarters with for extended periods of time, someone who is likely to have the same attitude towards and goals in racing as you have yourself, and someone who is committed to make the necessary sacrifices to compete successfully.

Once a skipper or crew has been choosen, you must begin to develop a "team approach" to yacht racing. Remember that you are partners; each of you is the extension of the other in the boat. If you lose, he loses; if you win, he wins. A boat divided against itself, where the crew members are fighting with each other or where the blame for losing or success for winning is taken by one man, will never be competitive. You must work together as one.

### iii) Training as a Crew

Developing you and your "other half" into a team takes time. As a start, you should consider:

- the way in which pre-race tasks such as travelling to events, on-going maintenance, and pre-race rigging will be divided up;
- developing a harmony of movement on the water when performing basic sailing manouvers such as tacking, hoisting the spinnaker, initiating planing; and
- splitting up the many tactical and strategic tasks on the race course such as timing the start, keeping a lookout, and judging laylines.

The key to developing a good racing crew is effective communication, and this can only come with practise.

### iv) Practising

Practise sessions, in yacht racing, as in most

sports, come in two varieties:

- those practises which concentrate on the development of the components skills in isolation;
- those practises which simulate the competitive situation (and therefore require practising of all component skills at once)

The second of these types of practises is straightforward: the best way to get better at racing is to race. Short practise races or participation in regattas of little importance to your long term goals allow you to work on all the skills required to race successfully and give you the added benefit of practise in the heat of competition.

But it is the first type of practise, those which develop the individual skills that go into a winning performance, which requires some further attention for these types of practises are often overlooked by racing sailors in favour of competitive-type holistic practising.

Component skill practises in yacht racing may be further broken down into classes:

- those practises which develop basic sailing skills
- those practises which develop racing skills.

By the time you reach the stage of being ready to enter competition, your basic sailing skills should be at such a level that you are able to sail almost by reflex; that is, without having to think conscientiously about tasks you are performing on the water. Only in this way, will you be able to devote your full mental attention to the task of applying appropriate tactics in situations as they arise.

However, having honed your personal sailing skills to such a level, time must still be devoted to maintaining those skills through the use of practice sessions. Skills such as tacking and gybing, beating, flying the spinnaker, and tuning require constant and on-going development.

While you use these skills, continually when you are racing, time must still be spent on developing better technique and improving boatspeed, without the pre-occupation of the competitive setting.

In addition, you should practise individual racing skills such as starting, covering, and mark rounding in isolation, where time can be spent analysing and discussing solutions to the basic problems you will encounter on the race course. This book contains, at the end of each chapter, a set of water exercises aimed at a specific racing skill.

#### b) Preparing the Boat

As important as personal preparation is to competing successfully, of equal importance is the time spent preparing the boat for competition, there will be three main areas to which you will wish to devote your attentions:

- the on-going upkeep of the boat;
- improving the control systems in the boat;
- improving tuning and boatspeed technique.

#### i) On-going Upkeep

If a boat is to be sailed competitively, it must be maintained in top condition to avoid the potential of costly equipment failures on the race course. To this end, you should put into practise a routine maintenance procedure to remedy possible problems before they occur.

An easy method to follow is simply to begin at the stern and check absolutely everything all the way along to the bow. Any item, the serviceability of which is questionable, should be replaced; screws and nuts should be tightened; running and standing rigging checked for wear; and sails, spars, centreboard and rudder examined. If repairs are required, make them using only quality



materials.

Special checks should be made before a regatta. Often you will see competitors hastily making last minute repairs, just prior to the first race. This can be disastrous. Take the time, ahead of the regatta, to make a repair properly.

This type of program consumes a considerable amount of time, but is well worth it. Remember that, in most cases, breakdowns during a race are the result of carelessness, not bad luck.

#### ii) Improving Control Systems

By the term "control systems", we mean those mechanisms which assist you in sailing the boat, such as the boom vang, or spinnaker launching arrangement. When boats are built, the manufacturer installs control systems which will adequately serve the average owner; often that targeted owner is not the racing sailor.

Accordingly, if you wish to sail your boat competitively, you will have to modify, as required, the basic control systems to meet the demands of racing. In this, there are two considerations:

- increasing the stress the control system can handle without failure;
- increasing the efficiency of the control system operation.

Exactly how these goals are achieved and, in fact, to which control systems they apply, will depend on the specific type of boat involved. Information on just what modifications you will want to consider is available from two sources: articles published in the newsletter of your class association and advice from other competitors in your class.

You will find that assistance from fellow competitors will be both the most helpful and the easiest to obtain.

Experienced racers are often more than willing to share their "go-fast" secrets with the newcomer to the class.

Two cautions are, however, in order. Firstly, before making any changes to your boat, consult your class rules to see what is and what is not permitted. If you are in doubt, contact class association officials before you begin.

Secondly, avoid gimmicks. The objectives in making changes to your boat are to improve strength and efficiency, to make systems easier to operate and more reliable in the heat of competition. Simple is often better. Avoid, cluttering up your boat with lines, blocks, and cleats. Justify each change by asking the question: Will this really help me on the race course?

### iii) Improving Boatspeed

Obviously, racing a boat that is properly set up to achieve maximum boatspeed under the prevailing conditions carries with it more chance of success than racing a boat that is poorly rigged and trimmed. Don Giffin, in his book Advanced Sailing Skills, deals with the topic of tuning a boat for maximum performance in Chapters Four through Seven and those comments will not be repeated here.

Again, in tuning your particular boat, seek out expert advice, in the form of articles on your class, or help from experienced racers. However, be prepared for a shock! Likely, you will end up with two, three, or more conflicting views of just how you should tune your boat for given conditions.

This situation is not unusual. Tuning is a very personal thing. You will have to take the ideas you receive and experiment to see what works best for you. This information, however, will give you a base from which to work, some direction in which to channel your efforts,

rather than just taking stabs in the dark. You may well find that, in time, you have combined much of the advice you have obtained into a new hybrid which you feel represents the best set-up for your boat.

#### iv) Preparing for Breakdowns

Even the most rigid routine checks will not eliminate the possibility of failure under the extraordinary loads of racing. Accordingly, you should assemble and carry with you to regattas a well stocked tool chest and appropriate spare parts. Do not go to a regatta relying on the local chandlery to have what you may need in a pinch.

Likewise, when you go afloat, take along a simple assortment of tools and some miscellaneous spares, such as shackles, bolts, and line.

Be prepared for breakdown, should it occur.

## 2. Measuring In

At some regattas, particularly those at a higher level of competition, you may be required to "measure in". This entails having your hull checked with a set of templates to ensure that its shape conforms to the tolerances specified in your class rules. As well, the fittings, spars, rudder, and centreboard may be checked against certain criteria depending on the type of boat you are sailing. Your sails will also be measured to ensure that they are the proper size.

If any of your equipment does not measure in, you will not be permitted to race until the defect is remedied. This aggravation can be avoided when purchasing a new boat by buying from a reputable and licensed builder or, when considering a used boat, ensuring that it has a measurement certificate or having the boat measured by local class officials prior to concluding

the sale.

Sails, when they are measured, are stamped or initialled by the race officials and you will not be allowed to use sails which have not been measured. Accordingly, if you have additional sails, which you may want to use during the regatta, make sure that they are measured as well.

### 3. The Sailing Instructions

When you register to enter a regatta, you will be given a set of sailing instructions. This document will contain all the necessary information you will need to compete in the event, all the details pertaining to the administration of the upcoming races. See Rule 3 for the types of items that will usually be found in the sailing instructions.

You must become thoroughly familiar with the particular instructions which govern the regatta you are about to compete in. In time, all sailing instructions will begin to look alike and, admittedly, many of the details contained in one set of instructions are common to all. But you must discipline yourself to take the time to read them at each regatta you attend.

The sailing instructions set out what is required of you as a competitor and what you may expect from the Race Committee at this regatta. They might, and often do, contain very significant nuances peculiar to the event at hand. A failure on your part to catch these changes may well cost you dearly on the race course.

Many racing sailors take the sailing instructions afloat with them. This practise, however, usually results in a lump of soggy paper sloshing around in the bilge. The time for reading and understanding the sailing instructions is ashore, long before the first race, and not in the middle of the race course, just after the Race Committee

has signalled something of importance to the competitors.

#### 4. Local Geography

When racing on strange waters, it is a good idea to obtain a chart of the local area. Often these will be included in the registration package competitors receive, but if one is not included, you should obtain a chart from a local chandlery. It should be studied to provide information on the influence of local geography on wind patterns, on potential hazards in the area (reefs, currents, shipping lanes, etc.) and to give some idea of where the racing area is in relation to the harbour.

The topic of local geography and its influence on racing will be discussed further in Chapter Four.

#### 5. Local Weather

An understanding of basic meteorology is essential to successful racing and you are referred to Chapter 1 of Don Giffin's Advanced Sailing Skills where the subject is dealt with in depth.

Prior to going afloat you should obtain an up-to-date weather forecast for the local area. Quite apart from the safety factor in so doing, a weather forecast will provide you with much needed information for the race course:

- knowledge of the expected wind speed will determine how your boat is to be tuned, perhaps even what sails you will use;
- knowledge of the expected wind direction or any expected changes in that direction will assist you in planning your start and upwind legs during the race (to be discussed later); and
- knowledge of the more long term forecast will permit you to make your own predictions

about how these changes will affect the racing area in the immediate future.

We shall return to this topic later, in Chapter Four.

#### 6. The Final Check

Having registered, measured in, considered the sailing instructions, and checked the local conditions, you are now ready to race. But before going out on the water, remember to do one more check to make sure the boat is rigged and tuned correctly, that you are properly dressed for the conditions you are likely to encounter on the race course, and that you are mentally prepared to do battle with your opponents.

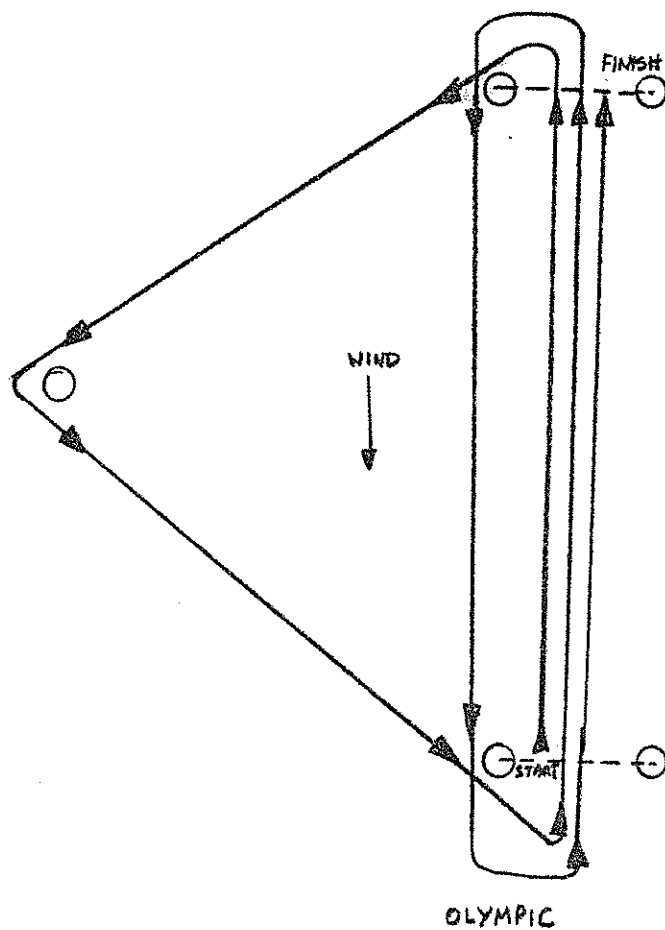
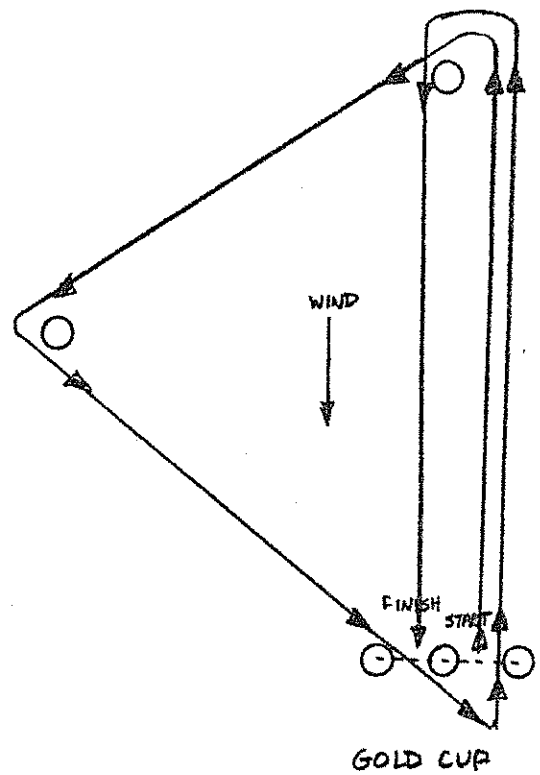
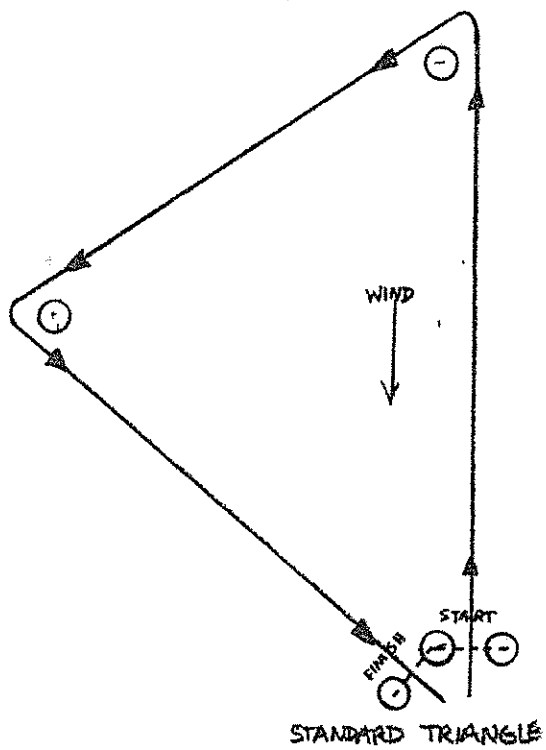
You will be amazed at the little but potentially costly oversights you can make in the pre-race hustle and bustle. A final check ensures that you have done everything you can possibly do ashore to promote success afloat.

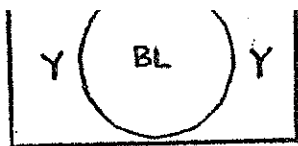
#### 7. The Race Course

All race courses have six common elements:

- the race course is defined by a set of floating marks, just as the courses you practised on when you were learning to sail;
- in most cases, although not always, marks are rounded to port; that is, in completing the course, you pass by the marks with your port side closest to them;
- the race will start between two marks which form the start line (one of the marks may be the Race Committee boat);
- there will be at least one leg of the course dead upwind;
- there will be at least two offwind legs; and
- the race will finish between two marks which

# TYPES OF RACE COURSES

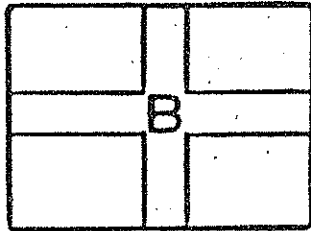




CODE FLAG X  
ONE SOUND SIGNAL

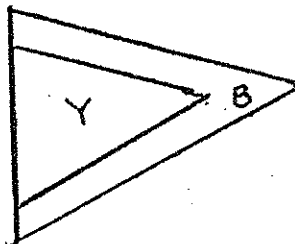
COMMON RACING  
SIGNALS

ONE MINUTE RULE IN EFFECT



CODE FLAG X  
ONE SOUND SIGNAL

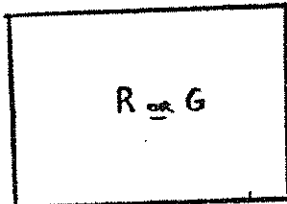
COMPETITOR BEING RECALLED  
(SAIL NUMBER WILL BE CALLED)



FIRST SUBSTITUTE  
TWO SOUND SIGNALS

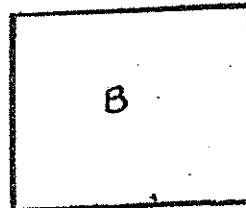
GENERAL RECALL

FLAG LOWERED ONE MINUTE BEFORE  
NEW WARNING SIGNAL

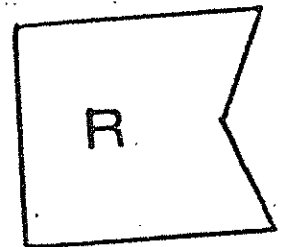


R = ALL MARKS TO PORT

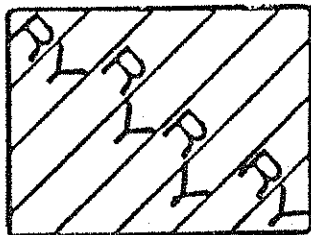
G = ALL MARKS TO STARBOARD



RACE COMMITTEE ON  
STATION

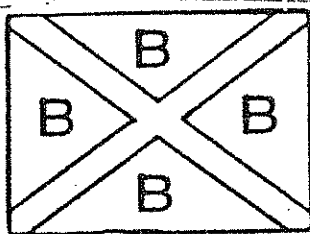


(FLOWN BY A YACHT)  
I AM PROTESTING



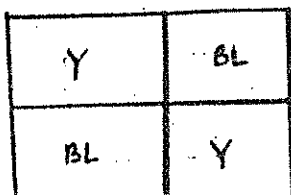
CODE FLAG Y

USE OF PFD'S MANDATORY



CODE FLAG M  
INTERMITTANT/REPEATED SOUND SIGNALS

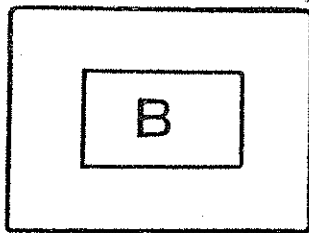
MARK MISSING/REPLACED;  
ROUND HERE INSTEAD



CODE FLAG L

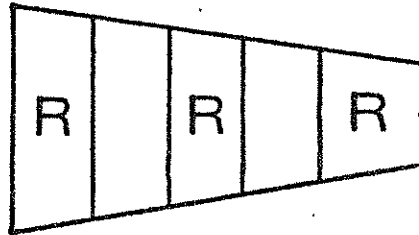
NOTICE TO COMPETITORS ON  
OFFICIAL NOTICE BOARD





CODE FLAG S  
TWO SOUND SIGNALS

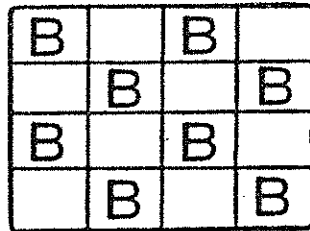
SHORTEN COURSE;  
FINISH AT NEXT MARK



ANSWERING PENDANT ("AP")  
TWO SOUND SIGNALS

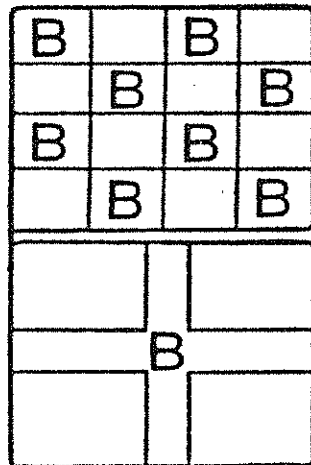
RACE POSTPONED (BEFORE START)

FLAG LOWERED/ONE SOUND SIGNAL  
ONE MINUTE BEFORE NEW WARNING SIGNAL



CODE FLAG N  
THREE SOUND SIGNALS

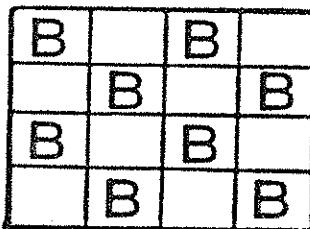
RACE ABANDONED (AFTER START);  
WILL TRY TO BE RE-SAILED



CODE FLAGS N OVER X  
THREE SOUND SIGNALS

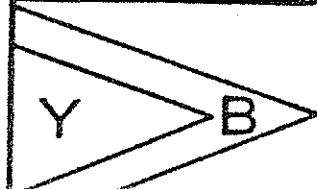
RACE ABANDONED (AFTER START);  
BUT WILL BE RE-SAILED

FLAGS LOWERED/ONE SOUND SIGNAL  
ONE MINUTE BEFORE NEW WARNING SIGNAL



CODE FLAGS N OVER FIRST SUBSTITUTE  
THREE SOUND SIGNALS

RACE CANCELLED;  
WILL NOT BE RE-SAILED



form the finish line (the finish line and the start line need not be the same).

Apart from this, race courses are not uniform in size or configuration. The sailing instructions will tell you not only where the racing area is located on the body of water upon which you are sailing but also the arrangement of the race marks and the approximate distances between them.

The three most usual types of race courses are:

- the triangular course consisting of one upwind leg and two reaches;
- the "Gold Cup" course which consists of a triangular course with an extra upwind leg and a run;
- the Olympic course which is a triangle, an extra upwind leg, a run, and another upwind leg.

See Fig. 2.1.

## 8. The Racing Signals

In a regatta, information is conveyed from the Race Committee to the competitors, whether everyone is ashore or on the water, by means of flag signals based on an international system of code designations. Rule 4 sets out the flags which are to be used to signify certain information. Figure 2.2 shows the common code flags and their meanings on the race course.

However, you should always refer to the sailing instructions to check precisely what code flags will be used to signal what message. Often Race Committees do not have a complete set of the required flags and of necessity will make alterations and substitutions. Only the sailing instructions will tell you what changes have been made.

## 9. Water Exercises

Basic sailing skills.

## CHAPTER THREE

### THE START

#### 1. The Importance of a Good Start

There are three types of starts: the perfect start, the good start, and everything else. Only one yacht in a race gets the perfect start, that perfect combination of position, speed, and timing which enables it to leap out in front of the competition right at the starting gun. For most racers, the objective is to try for the perfect start and to settle for a good start. Inasmuch as everyone on the race course is attempting to get the perfect start, the attainment of such a goal is often as much a matter of luck as it is of skill.

There are a number of advantages in obtaining a good, rather than a poor, start. These are:

- you have a range of good course choices open and have mobility to get to where the best wind is, or will be, with a minimum of interference;
- you can sail to where you wish to be on the course at full speed, unhampered by wind or wave interference from other boats;
- you have a psychological advantage over the competitors who have not attained a good start by being ahead of them as well as being in a good frame of mind to win yourself; and
- you are physically ahead of surrounding boats, forcing other competitors to catch you right from the very beginning of the race.

#### 2. Starting Sequence

Yacht races are commenced by means of a ten minute countdown. The Race Committee, prior to the start, will start the countdown and the race begins when the time has run out. The Race Committee advises competitors

of how much time remains before the start through the use of visual and sound signals (such as flags and horns).

The most common starting sequences used for races are set out in Rule 4.4. Where there is to be only a single group of yachts racing, the system used will be some variation on the following:

<u>Signal</u>	<u>Time to Start</u>	<u>Shape</u>	<u>Sound Signal</u>
Warning Signal	10 mins. to start	White Shape up	One sound signal
	6 mins. to start	White Shape down	No sound signal
Preparatory Signal	5 mins. to start	Blue shape up	One sound signal
	1 min. to start	Blue shape down	No sound signal
Starting Signal	0 min. to start	Red shape up	One sound signal

Where there will be a number of groups of yachts racing, there may be several starts, one after the other, with one group of competitors or "class" starting, then another, then the next, and so on. In this situation, the starting sequences of the various classes may overlap.

Example:

Assume there are three classes racing on the same course. Then the starting sequence will become:

<u>Class 1</u>	<u>Class 2</u>	<u>Class 3</u>
Warning Signal	-	-
Preparatory Signal	Warning Signal	-
Start	Preparatory Signal	Warning Signal
	Start	Preparatory Signal
		Start

In this situation, each signal by the race committee will have different meanings to the competitors in each class. For example, the Start signal for Class 1 is also the Preparatory signal for Class 2 and the Warning signal for Class 3. Note that the result is that Class 2 starts 5 minutes after Class 1 and Class 3 starts 5 minutes after Class 2, 10 minutes after Class 1.

In multi-class starts it is imperative that you know which signals govern your particular class. This information will be contained in the Sailing Instructions. You should also be aware, in these types of starts, of the effect a General Recall of a class ahead of you will be on your starting sequence, in addition to knowing the effect of a General Recall on how your class will start.

### 3. Preparing for a Good Start

Good starts do not just happen, they are the product of much preparation long before the starting gun goes. The actual start is merely the final act of steps which have gone before. To a large degree, you must develop your own individual pre-start technique; that is, progression of steps leading up to the start which you personally feel comfortable with. The remainder of this Chapter attempts to set out the major considerations in developing such a technique and suggest some possible solutions for dealing with them.

The first consideration in preparing for the start is timing your arrival to the starting area. You will find that the time ashore before the start of a race, and particularly before the start of the first race in a regatta, is a very hectic time. Competitors are attempting to get their yachts rigged, in the water, and out to the start area. Adrenalin levels are high.

Until you become a very seasoned competitor, it will be very difficult for you to avoid being caught up in this surge of activity. Yet, for the start you will need to be relaxed, with your concentration focused solely on the task at hand.

Accordingly, preparing for the start begins long before the warning signal is flown. Plan to arrive

at the race site early so that you may rig your yacht in a logical and unhurried fashion. Get onto the water early so that you can avoid the last minute rush of competitors as they try to get out in time for the start. Try to make the sail out to the starting area a quiet and relaxed time. In the result, you will find that your mind will be clear and your concentration at its peak for the task at hand.

Of course, this is a matter of personal choice. Some competitors like to remain on shore until the very last minute. Others prefer to get on the water and out to the starting area long before the committee boat has made preparations to leave. Likely, you will have to strike a median for yourself that you are happy with. But until that time, you should plan to be at the starting area at about the same time as the committee boat arrives on station.

Once you arrive at the starting area, avoid the tendency to waste valuable energy sailing in endless reaches back and forth along the starting line. Avoid engaging in pointless pursuits with other competitors or in "hot-dogging". The time in the starting area, prior to the commencement of your starting sequence, should be put to good use.

If you have a compass, you should be using it to gather valuable data about what the wind will be doing during the race. We shall be discussing this in the next section. If your boat does not have a compass, you should be sitting in the "hove-to" position so that you may fully relax yourself and begin to concentrate on how you will wish to start the race.

Once the line has been set, you should check it in two ways: firstly, you should familiarize yourself with the position of the line in space, and secondly, you should check to see if one end of the line is "favoured".

These concepts will be discussed later in this Chapter.

An eye should be kept on the committee boat at all times. Watching its manoeuvring as the line and course are set will give you some idea of what the wind is doing, if you do not have a compass on board. More importantly, you should be watching the committee boat to see which flag or flags it is displaying. Remember that Rule 4.8 provides that all timing references are to be taken from the visual signals displayed by the committee boat and not the accompanying sound signals. Thus, if a shotgun misfires, a visual signal may well be hoisted without any sound signal at all, yet the timing sequence will continue to run. If a watch is not kept on the committee boat's operations, you may well miss such a signal.

During the last five minutes prior to the start, you should never stray more than 30 seconds sailing time from the start line. While most race committees take their jobs seriously, timing errors occur frequently and you must be in a position to minimise the effect of such an error, should it occur. Remember too, timing errors are often made by competitors; stay close to the line after the preparatory signal.

#### 4. The Compass

Compasses on racing yachts are of great use. Firstly, where the race course is very long, often the windward mark cannot be seen and the Race Committee will give the competitors a compass heading to the first mark. Having a compass on board makes the task of locating the first mark easier once this heading has been given.

More importantly, however, the compass allows

competitors to recognize windshifts. As we shall see, recognizing and making use of windshifts is an integral part of a successful windward leg, information gathered prior to the start of the race with the use of the compass is invaluable in this regard.

We shall return to this topic in greater detail in the next Chapter.

## 5. Timing the Start

As we have seen, yacht races are started as the result of a timed countdown. While the committee boat indicates the official time to the start, to the competitors, it does so only once every five minutes and often, particularly in the closing seconds before the start, competitors will want to know exactly how much time remains before the gun goes.

The solution is, of course, to keep time yourself on your own watch. Any type of watch will do, but watches with countdown timers are best as they can be set to count back from 10 minutes when started with the warning signal and will give the time remaining instantly at a glance. Stopwatches, on the other hand, count up rather than down, meaning the reading must always be subtracted from 10 minutes to yield time remaining to the start. This can lead to errors.

What type of watch you use is your choice. It should be water resistant, shockproof, and be easily readable in direct sunlight. It should be of the wrist variety, rather than of the type worn around the neck. Wristwatches can be read while keeping both hands busy, while neckwatches require one hand to hold them up to be read. Also, neckwatches pose serious safety hazards.

In two man dinghies, the watch should be worn by the crew, leaving the skipper free to concentrate



and to keep a look out. The crew should call the times out with a frequency the skipper is comfortable with. As a rule of thumb, times should be called out:

- every minute during the first 5 minutes of the countdown;
- every 30 seconds during the next 3 minutes;
- every 10 seconds during the next minute;
- every 5 seconds during the next 45 seconds;
- every second during the remaining 15 seconds to the start.

Times should be called out always as time remaining to to the start.

Starting the watch is a simple task. Once the line has been set, sail near the committee boat and listen and watch to ascertain when the warning signal will be raised. Then simply wait nearby and start the watch as the signal is flown. Check your accuracy when the warning signal is lowered. If you are within 5 seconds of the official time, simply make the necessary adjustment in your head when calling times.

If you are more than 10 seconds out or missed the warning signal, repeat the process of starting the watch at the preparatory signal.

## 6. The Starting Line

### a) Locating the line on the water

Once the line has been set by the Race Committee, you should sail along it several times in both directions. As you are doing so, look to see if it is possible to line each end of the starting line up with a point on shore, such as a tree or cottage. With this information, when you are approaching the line for the start, you will have a better idea of where exactly the line is on the water

Locating the Start Line On the Water

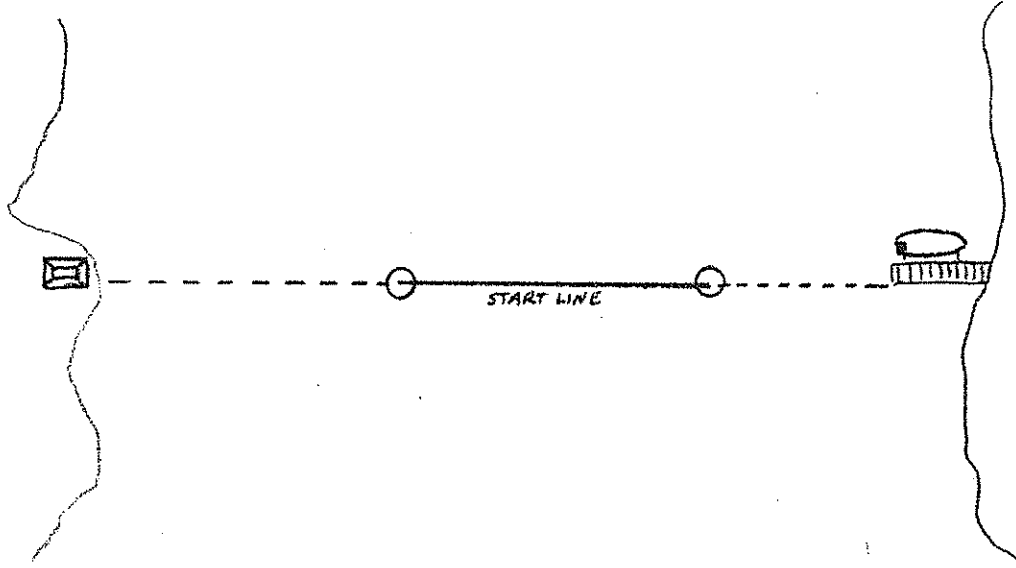


FIG. 3.2

A "FAVOURED" LINE

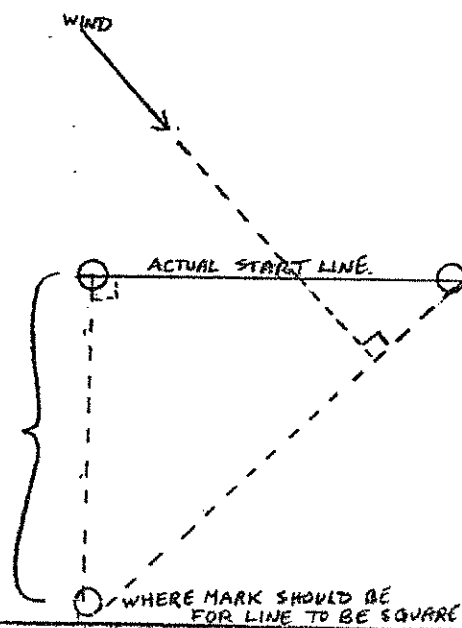
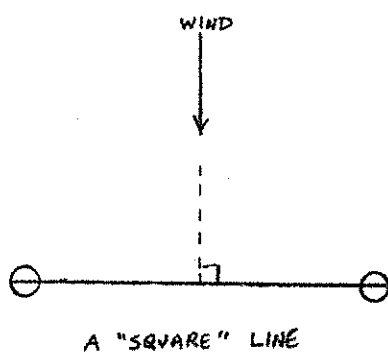
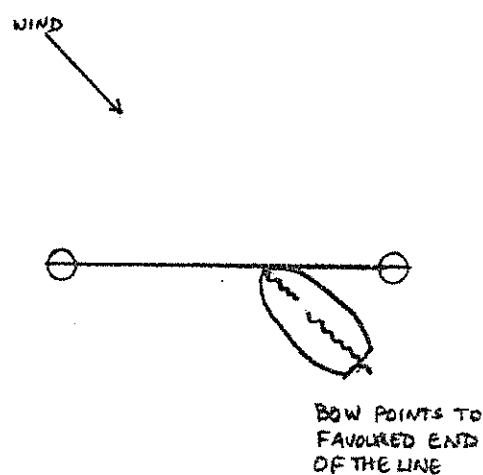
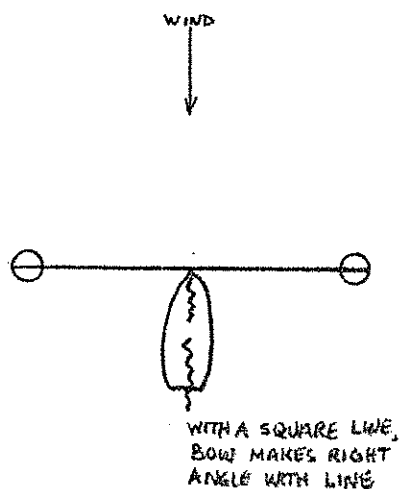


FIG. 3.3

Locating the Favoured End



for you will have up to four reference points to use rather than just the two starting marks in trying to assess where you are with respect to the line. See Fig. 3.1.

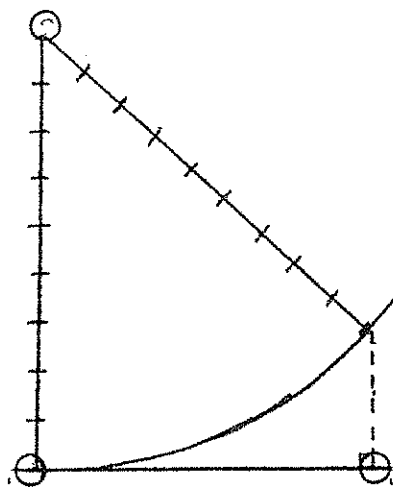
b) Locating the favoured end

When the start is going to be followed by a beat on the first leg of the race, which is the most common situation, the start line is ideally set square to the wind. However, often due to a mark drifting, a windshift, or a poorly set line, one end of the line or the other will become what is known as "favoured". A favoured end is an end of the starting line which is further upwind than the other end of the line. See Fig. 3.2.

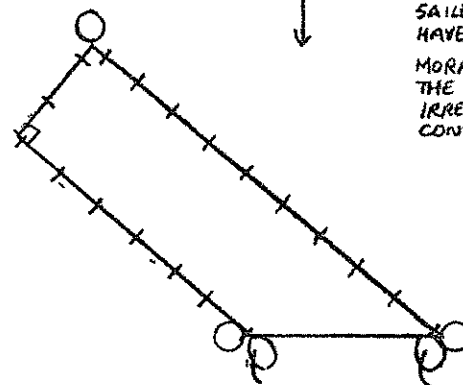
There is an obvious advantage to starting at the end of the line which is the furthest upwind, as the distance dead upwind which you will have to sail from that point is less than at the non-favoured (further downwind) end. Less distance sailed upwind means less time spent sailing upwind and, as in any race, you want to save time. Accordingly, you should test the line to see if it is square to the wind. The procedure to carry out in this test is quite simple.

After the starting line has been set, approach it at a low rate of speed and, as you come up to it, put the bow head to wind. Make sure that the yacht is actually in "irons" and not merely stopped with its sails luffing but otherwise still on a beat. Once head to wind, the bow will tend to point to the end of the line which is favoured; that is, the end of the line which is further upwind than the other end. If the starting line is square to the wind, the bow will not point to either end but will be perpendicular to the starting line. See Fig. 3.3.

You should check again to see if a favoured end



THE WINDMARK  
MARK IS OFFSET  
TO THE START LINE.  
IT IS CLOSER TO  
ONE START LINE  
LIMIT MARK THAN  
THE OTHER  
QUESTION: DOES  
THIS MATTER IN  
CHOOSING WHERE  
TO START ON  
THE LINE?



A MORE EXTREME  
PLACEMENT OF A  
WINDWARD MARK.  
BUT IN TERMS OF  
ACTUAL DISTANCE  
REQUIRED TO BE  
SAILED, BOTH YACHTS  
HAVE AN EQUAL TASK  
MORAL: THE POSITION OF  
THE WINDMARK IS AN  
IRRELEVANT STARTING  
CONSIDERATION

FIG. 3.6

THE VIEW PRIOR TO THE ST.  
WHEN ON PORT TACK

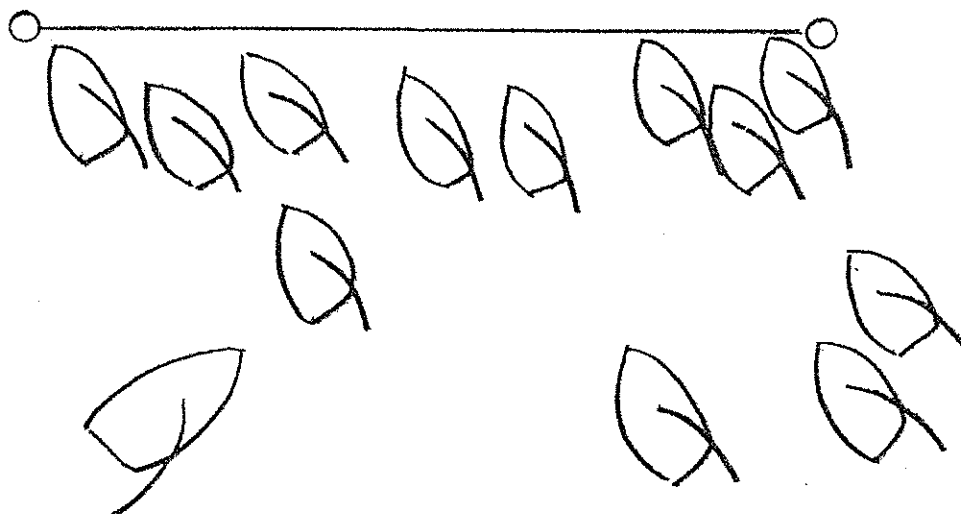
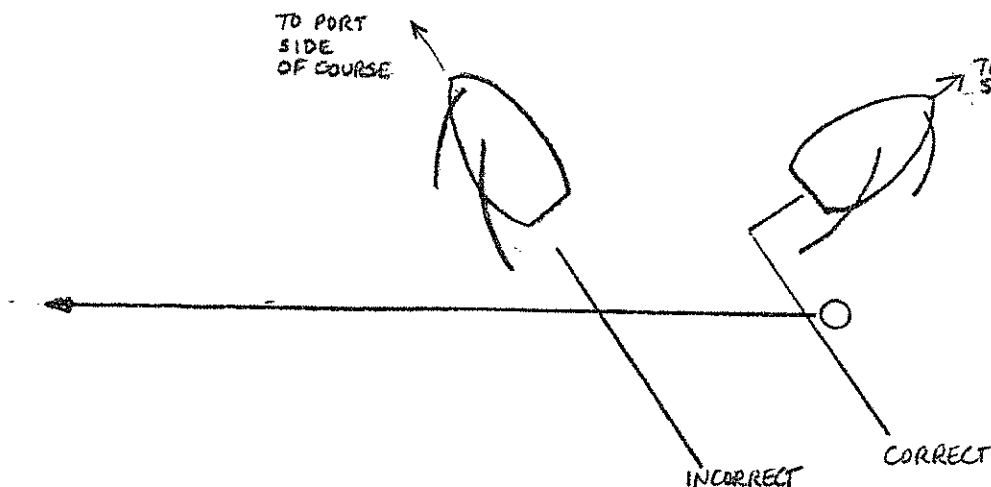


FIG 3.7

STARTING AT  
THE EXTREME  
STARBOARD END

TO PORT  
SIDE  
OF COURSE

TO STARBOARD  
SIDE OF COURSE



has developed after the starting sequence has commenced, particularly during the last five minutes before the start.

Often, the Race Committee will adjust the starting line if they see, from yachts testing the line, that one end is favoured. Always check the line for favour after the Race Committee has made any changes to it. Once the starting sequence has commenced, the starting line will not be altered, but the Race Committee may postpone the race, stop the countdown, and adjust the line. They will then re-commence the starting sequence.

#### c) Distance to the first mark

As we have seen, when one end of the line is favoured over the other, the favoured end is further upwind and thus closer to the windward mark. However, if the start line is square to the wind, it must be remembered that the choice of a starting position on the line is not governed by the relative position of the first mark.

Often, the port mark of the start line forms the leeward mark of the race course and thus the windward mark is set in line with it. The result is that the windward mark is offset from the middle of the start line. The natural assumption is, therefore, that the port end of the start line is closer to the windward mark. See Fig. 3.4.

In fact, if the line is square, both ends of the start line are equidistant from the windward mark. There are two reasons for this. Firstly, the very long distance to the windward mark as compared to the very short distance between two starting marks means that any difference in the actual distance between the windward mark and both starting marks is extremely small.

Secondly, in terms of the actual distance one has to sail to windward to reach the windward mark, any point

dead upwind is equidistant from a square line. See Fig. 3.5. Thus, it does not matter where the relative position of the windward mark is with respect to either end of the starting line.

## 7. The start to windward; initial considerations

### a) Starboard or port tack

It is an almost universal practice of racers to cross the starting line on starboard tack. Because starboard tack yachts have right of way over those on port tack, starting on port tack with a fleet of starboard tack yachts bearing down on you is viewed as suicidal. However, there are times when being on port tack in and around the time of the start may be advantageous.

Just before the start, when you are making your final effort to reach the start line, a port tack approach will allow you to judge where other competitors are and to find a hole in the mass of starboard tack yachts converging between starting marks. The advantage of such a position is simply that you are not caught up in the frantic congestion of the starboard tack yachts. You are, in a way, on the sidelines, looking on. You can see how the fleet is shaping up as the start nears--which competitors are too early, which are going to be too late, and which are on time. Your options are open to pick a position in the parade which is most favourable. See Fig. 3.6.

In addition, if one is intending to start at the port end of the line, a port tack approach followed by a tack onto starboard at or just before the gun may prove advantageous for similar reasons.

Sometimes, especially in local races, it may

well be that the line is favoured so badly that the port end of the start line cannot be laid on starboard tack. Accordingly, a port tack start will be the only option available.

Finally, starting on port tack does offer the advantage of eliminating the backwinding and blanketing effect of the multitude of starboard tack yachts. However, the result is that you become a lone port tackler in a sea of starboard tackers which may well prove disastrous. Note that this advantage may also be gained by starting on starboard and, following the start, coming about onto port tack when the presence of other yachts permits.

In short, port tack starts or approaches should not be simply discarded. There may well be advantages offered which outweigh the associated risks. But as a general rule, and particularly for the beginning racer, unless there is a clear advantage to using port tack, be prepared to start on starboard tack. It is much safer.

If you are going to start on port tack, you should always remember that, no matter what happens, once you have committed to a port tack start you must keep going. If you attempt to tack with a fleet of starboard tack yachts bearing down on you, you will be crushed in their onslaught, and left behind in their wake. Port tack starts require a tremendous amount of determination and, in the face of an oncoming fleet of starboard tack yachts, you must have the courage to always go behind them rather than try to cut across their bows. Remind yourself that a hole will always develop; but always pass behind competitors.

A port tack start is risky. The question is always whether the potential advantage outweighs the risks; if so, the possibility of a port tack start should be considered.

b) Choosing a place on the line

i) Favoured Lines

If the starting line is favoured, obviously the particular spot on the line where you wish to be at the start is the spot which is the most upwind. That point will be the extreme end of the favoured side of the line; that is, right at starting line limit mark.

ii) Square Lines

If the line is square, however, a number of choices of where on the line to start present themselves. Most racers will start, out of habit, at the starboard end of the line, preferably as close to the starboard end mark as they can get. This results in a large number of yachts congested in a small area, the majority of whom do not know the reason why they are where they are. They have simply followed the other competitors and wound up in the starboard end pre-start traffic.

The major reason for starting at the extreme starboard end of the line is that it offers instantaneous freedom to tack onto port tack to get over to the starboard side of the race course following the start. The only reason that you would like to be able to get over to the starboard side of the course immediately following the start is if you are very sure in your own mind that that side of the course will be the one which will be the most advantageous on the first weather leg.

Oddly enough, most people who start at the extreme starboard of the line continue on starboard tack right across the race course to the port side of the course. If they believed that the port side of the course was to be advantageous and therefore the place to be after the start, it seems to make more sense for them to have



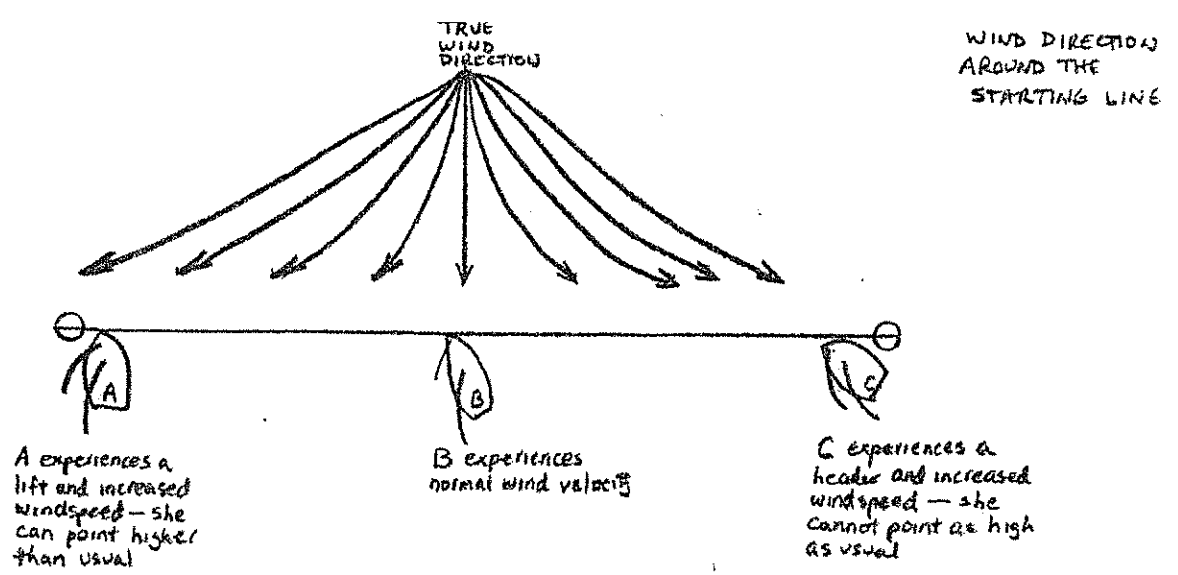


FIG 3.9  
WORKING UP THE  
MIDDLE OF THE COURSE

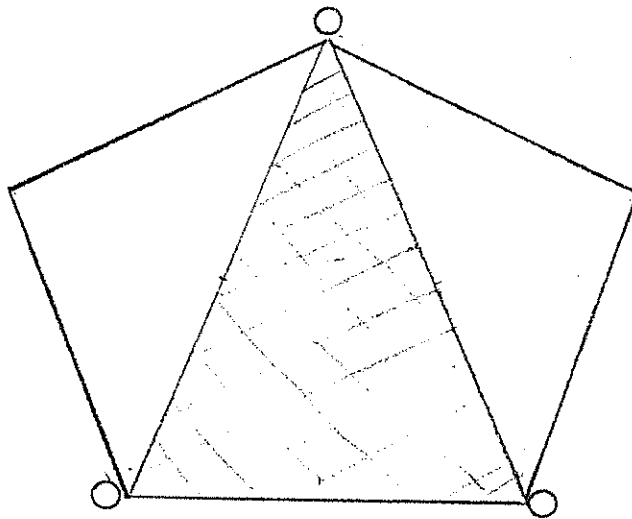
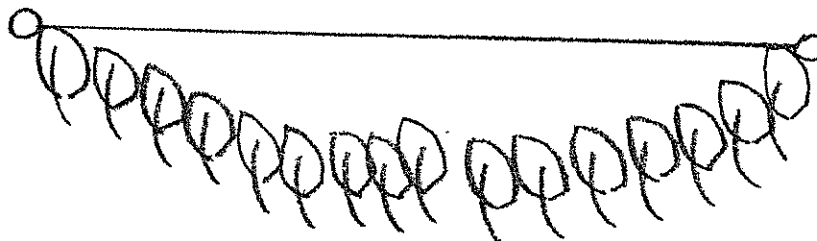


FIG. 3.10  
THE "MID-LINE"  
BULGE



EACH YACHT BELIEVES  
SHE IS ON THE  
STARTING LINE AT  
THE SIGNAL

started at the port end of the line from where they would have been that much closer to their objective. Instead, they started at the point furthest away from their goal and ended up having to sail all the way across the race course.

To reiterate: the sole reason for starting at the extreme starboard end of the starting line is to obtain the freedom to tack immediately onto port and sail to the starboard side of the course. Unless you are very sure that this is what you wish to do, there is no point in starting at the extreme starboard end as a general rule. See Fig. 3.7.

By the same reasoning, starting at the extreme port end (on starboard tack) of the line is reserved for those races when you are very sure that the port side of the race course is going to be the most advantageous of the first beat.

But a start at the port end of the line on starboard tack has one other advantage. The wind in and around the start area, because of the hive of activity and interference caused by the large number of yachts, begins to do funny things. Towards the middle of the line, the wind retains its original speed and direction; that is, it remains square to the line and close to its normal speed. At either end of the line, however, the wind tends to curl outward, away from the line, and increase in speed. At the starboard end of the line, competitors benefit from the increased wind strength, but the curling of the wind means that they cannot point as high as if the wind were blowing in its normal direction. On the other hand, at the port end of the line, yachts benefit from the increased speed of the wind and also from its change in direction in that they are able to point higher than is otherwise possible. See Fig. 3.8.

We have suggested, that starting at either

extreme end of the starting line should be limited to where you are sure that one side or the other of the race course is going to be of better advantage on the first beat.

We have not as yet discussed what factors contribute to a decision that one side of the course is more advantageous than the other. Simply, the more advantageous side of the course (or the "favoured side") is the one that will permit you to get to the windward mark more quickly than if you sailed up the other side of the course. It is beyond the scope of this book to deal completely with this matter and, in fact, you will find this decision will have to be made based on the situation which presents itself to you before each race. But, briefly, there will be three main factors to consider:

- the presence of geographic features, such as islands, peninsulas, channels, etc. which will affect both wind strength and direction and available courses;
- the presence of current, running in a direction not parallel with the wind, which may assist you in sailing to windward if used properly;
- anticipated changes in wind strength and direction, which will be discussed in more detail in the next chapter.

Where do you start if you are not sure which side of the course is going to be advantageous? In such a situation, you will want to start at a spot on the line which will allow you to get over to whichever side of the course turns out to be the most favoured, with a minimum of loss of position. Here, a start in the middle of the line is of great advantage. By starting in the middle of the line and then sailing the first windward leg up the middle of the course, rather than straying to the

extreme starboard/port side, you will be able to sail to whichever side of the course is ultimately the most favourable with the least amount of disruption. See Fig. 3.9.

Such a start should also be used if you believe that neither side of the course will be more advantageous than the other. Remember that there does not have to be a favoured side. If you believe this to be the case in a particular race, a start in the middle of the line followed by a windward leg in which you sail essentially up the middle of the course is a good plan to follow. Should you discover you were incorrect and one side is becoming favoured, it is an easy matter to get over to that side quickly from the middle of the course.

A start in the middle of the line is conservative but it is also non-committal. Such a start does, however, require considerable aggression. It requires that you specifically know where the line is on the water.

What often occurs in yacht racing at the start is a bulging of the competitors along the start line. See Fig. 3.10. The yachts at the extreme ends of the line will start right on the line, but as one gets further away from the limit marks, the fleet tends to hang back from the start line. This occurs because competitors begin lining themselves up with each other's bows, rather than with the start line itself. Although each competitor believes his yacht is right on the line at the time of the gun, the fact is that he may be several boat lengths away from it.

By knowing exactly where the line is on the water, you can take advantage of this. You will be able to push past the front row of yachts who are well below the line to really be on the line yourself and with the result that you will have clear air and a good start.

In short, then, choosing where you want to start on the line, in the case of a line without a favoured end, is largely dependant on where you want to go on the race course after the start.

Particularly when you first begin racing, you will often be very unsure which side of the course after the start will be best. However, here are three hints which may help you to decide and, therefore, make your decision for you as to where on the line to start:

- watch the frontrunners in your class. Where do the leaders appear to have decided to start? This may give you some impetus about where on the line you should be. But beware! Often, many good competitors will give off false clues about where they will be starting -- hanging around one end of the line and then, at the last moment, darting off to the other end, leaving those who would follow them behind.
- watch the way classes which have started before you are making their way up the first leg. To which side, if any, are the leaders tending? This may give you some indication as to where you will want to head. But beware! Often the wind conditions may change between the time you observed the leading classes and the time you begin the weather leg.
- remember there does not necessarily have to be a more favourable side of the race course on the first leg. If there does not appear to be one, start in the middle of the line and work up the middle of the course.

#### c) Clear air

Both with respect to favoured and square start lines, remember that the paramount consideration is clear air after the start. In both situations, once you have found the general area of the start line at which you will want to start, choosing the exact spot as the final

seconds of the countdown tick away, will depend wholly on the issue of interference of other boats. Find a particular spot on the line, in the general area you want to be, that offers a maximum of clear air following the gun.

Clear air means good boatspeed; having clear air following the start means gaining an advantage over your competitors. You may even wish to consider foregoing the best place on the line to start because of the heavy congestion of yachts that appear to be forming there and start instead at the somewhat less optimum spot on the line, confident that you will quickly make up for the deficiency once the line is cleared.

Unfortunately, no general advice can be offered here. Each start depends on the situation you find yourself in at that particular time. But always try to start in such a way that you can obtain clear air quickly.

## 8. The start to windward: starting techniques

### a) Introduction

Having now discussed which tack is preferable and whereabouts on the line you will likely want to be at the start, we shall now look at several different ways of getting your yacht to the start line on time for the start of the race.

### b) Camping on the start line

This is the easiest way to start a yacht race. It involves sailing up to the start line some time during the last minute before the start and then putting the bow head to the wind, releasing the sheets, and simply sitting with the sails luffing until a few seconds before the gun goes. In the last several seconds, the sheets

Sitting on the  
Start Line

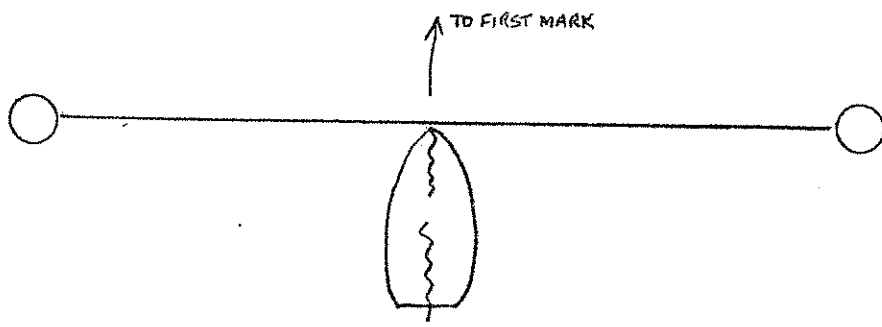


FIG 3.12  
Running the Line

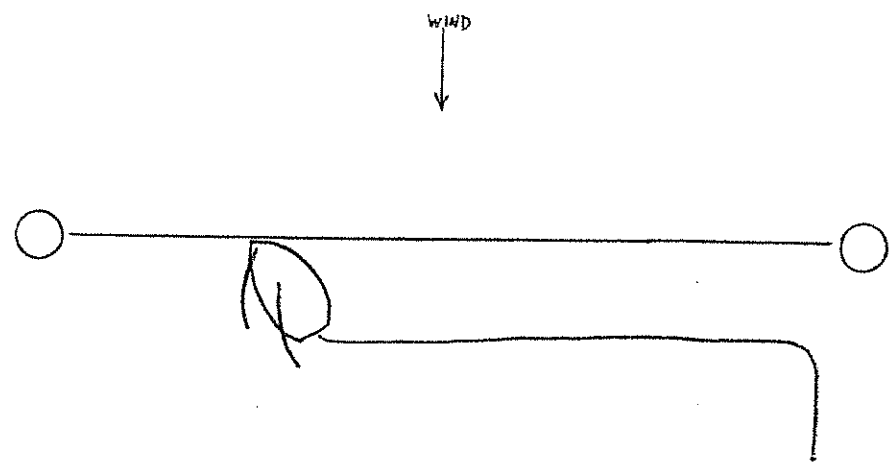
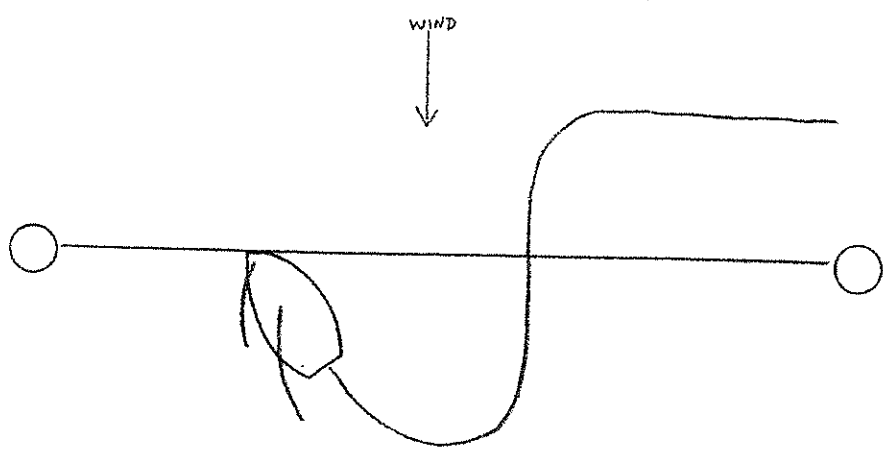


FIG 3.13  
The Dip Start



are trimmed in and you cross the start line.

This technique, which has been especially popular in the Laser Class, is good in large fleets of small boats where manoeuvring before the start is difficult. It allows you to simply pick your spot on the line and then stay there, awaiting the start.

Variations involve going head to wind to windward of the line then drifting back to it or sitting on the line to leeward of the committee boat and then drifting into position by raising the centreboard and blowing sideways.

The advantages and disadvantages of this type of start should be obvious. While it ensures good position at the moment at the start, it is difficult to get boat-speed after the start with a large number of boats bearing down on the line all around and especially to windward of you, all of whom are moving with good speed. The result, in such cases, is that you are often left bobbing aimlessly in an area of confused sea and wind conditions while your competitors sail off. The technique is most effective when your competitors are also using it. See Fig. 3.11.

#### c) Running the line

This method is very dangerous if done improperly. It entails starting at the starboard end of the line with about fifteen seconds remaining and sailing on a reach down the line toward the port end. Just before the gun goes, you luff the yacht up, trim the sheets and head off as the gun goes. Its main advantage is that it gives you plenty of boatspeed after the start enabling you to literally shoot out in front of your competitors.

Its disadvantages are threefold. Firstly, you have absolutely no rights as against competitors approaching



the line to leeward of you. In these situations, you are a windward boat, with competition to leeward. Secondly, if you estimate the time it will take to sail down the line to the spot you wish to start at incorrectly by even a few seconds, you may well out run the start line before the gun goes. Nothing is worse than seeing the limit mark of the start line approaching quickly with many seconds left before the start. Thirdly, the speed at which you reach down the line may well become uncontrollable and you will be faced with an onslaught of leeward yachts that you will simply have no ability to avoid effectively. See Fig. 3.12.

d) The dip start

This type of start is similar in its risk to running the line because with it you also have no rights as against your competitors to leeward. This starting method cannot be used after a general recall if Rule 51.1 (c) is in effect (which it will be unless the sailing instructions expressly provide otherwise). This is the so-called "one minute rule" and provides that yachts cannot be on the windward side of the line once the countdown before the start has entered its last minute if there has previously been a general recall.

The technique has its best advantage when the fleet is bunching at both ends of the start line (indicating a square line) and has left a large gap in the middle of the line. By sailing to windward of and parallel with the line during the last fifteen seconds before the start, it is then a matter of sailing downwind back to the line, crossing it, luffing up, and then recrossing the line with gun from the correct side. See Fig. 3.13.

# Traditional Timed Start

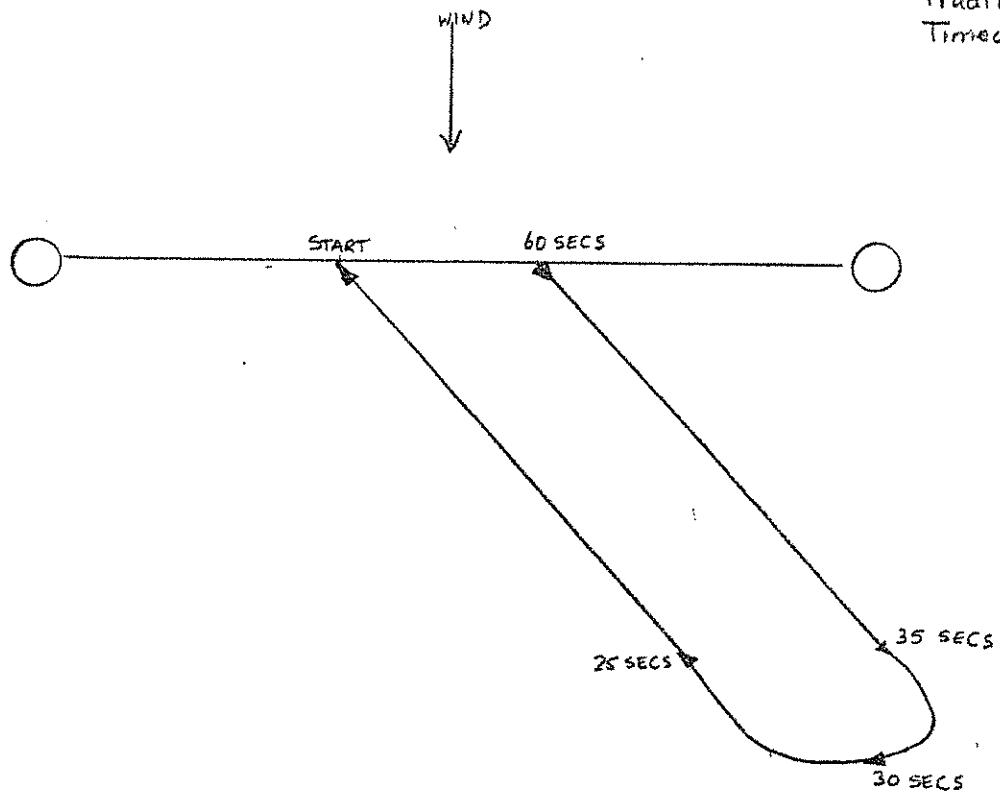
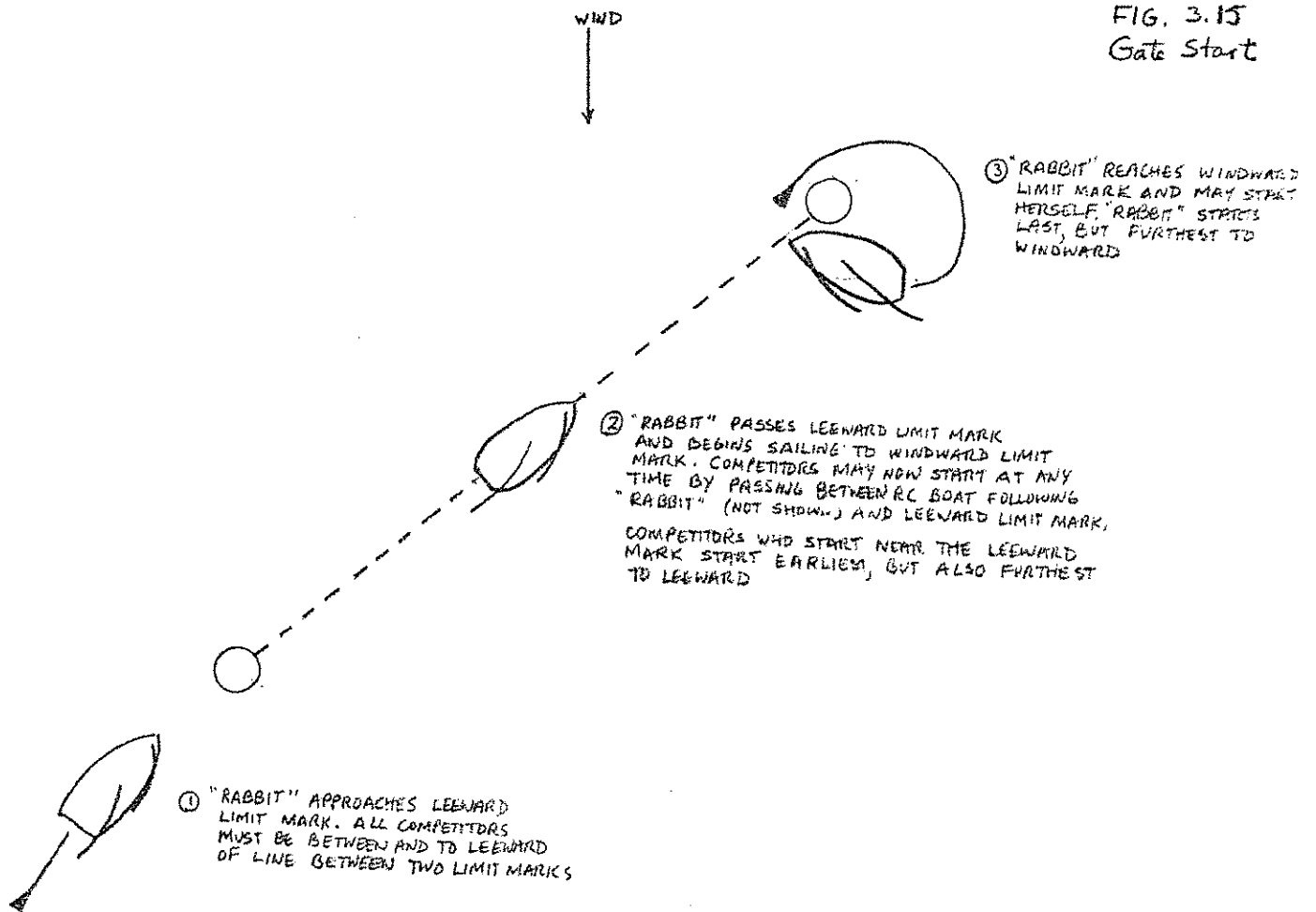


FIG. 3.15  
Gate Start



e) The timed start

The traditional method of explaining this particular starting technique is shown in Fig. 3.14 and may be described as follows. Once you have determined where it is on the starting line you wish to start, you ensure that you are at this point but headed away (downwind) from the line on a broad reach with one minute to go before the start. You continue broad reaching away from the line until thirty-five seconds to start at which point you do a wide arcing gybe . By the time you complete the gybe, there should be approximately twenty-five seconds left to the start and you then reach back to the line hitting it at the time the start gun goes off.

The obvious variables which hamper the execution of this technique as described include possible wind shifts and, more likely, interference from other yachts.

In fact, this technique is virtually impossible to use in large fleets due to this interference from other yachts. However, timing your start is certainly a good idea. What is more accurately required is the ability effectively to judge how long it will take your yacht to sail a specific distance and ensuring that, at a certain given time before the start, you are positioned such a distance from the line that, no matter what happens, you can easily reach the line in the time remaining.

With practise, you should be able to develop a technique which will allow you to make a final approach, with roughly thirty seconds before the start, in which you continually adjust your speed and heading to maintain a proper distance from the start line. The objective, of course, is to be going at top speed just before the gun goes and cross the line with the gun.

In the congested area prior to the start, it is often better to be going too fast than too slow for, while it is always possible to slow the boat down, interference from other yachts may well make it impossible to accelerate.

Accordingly, it is essential that you thoroughly learn how to control your yacht's speed and heading. Remember that the yacht may be slowed by:

- sharp changes in course or violent tiller action; or
- overtrimming (stalling) the jib.

Remember too that how you trim your sails will affect the heading of the yacht:

- the combination of a luffing mainsail and an oversheeted jib will slow the yacht but also cause it to make leeway; and
- the combination of an overtrimmed mainsail and a luffing jib will allow you to maintain your pointing ability but will kill your boatspeed.

The essential skills in learning to properly execute a timed start lie in learning to control the variables which control the yacht's speed and heading.

#### f) The gate start

This type of start is sometimes used in large fleets to avoid general recalls. With five minutes to the start, no boats are allowed to be above a certain windward mark or below a certain leeward mark. The two marks are aligned in such a way as to create a beat between them. One competitor is designated as "the rabbit". The rabbit sails into the starting area so as to pass the leeward marker on a beat and headed toward

the windward marker just before the race is to start. A race committee boat picks up his trail after he passes the leeward mark and follows behind at a close distance. As the committee boat clears the leeward mark, competitors may start by crossing the rabbit's course at any point between the stern of the committee boat and the leeward marker. In other words the starting line expands as the rabbit moves from the leeward to the windward mark. This is the start line which all the boats must cross. The rabbit is then released once it has reached the windward mark. It becomes the last boat to start but it is also the furthest one to windward. See Fig. 3.15.

## 9. Non-windward Starts

### a) Starting on a Reach

Although windward starts are far and away the most common types of starts, you should be aware that yacht races can be started with the competitors heading off to the first mark on any point of sail. It may be that you will be faced with a starting line that has the wind running parallel to it; that is, competitors will be starting on a reach.

The technique to starting in this situation depends on several variables including:

- the length of the leg.
- the position of the first mark with respect to the line.
- the size of the fleet.
- how the fleet is grouping up prior to the start.

In the situation of a long leg and a small fleet, with most competitors starting (as usual) at the windward end, it is best to start at the leeward end of

the line so that you will have clear air and will ultimately be the innermost yacht at the first mark. The reasoning for this will become apparent when we deal with Rule 42.

If the leg is relatively short and there is a large fleet, a start at the windward end is required in order to obtain clear air.

#### b) Starting on a Run

The criterion for position on the line when there is to be a start on a run is the same as in the case of a reaching start. It is generally better to broad reach towards the line and cross on a run for you will have more speed than simply approaching the line on a run. Do not set the spinnaker until you are free from the interference of other yachts. Any yacht that attempts to pass to windward with a spinnaker set should be luffed.

#### 10. Starting in Current

If you sail in an area where there is a prevailing current, you should be aware that the current will affect your boat and must adjust the timing of your start accordingly. If the current is local to your area of sailing, you will be familiar with it and it will not pose much of a problem. If, however, you are in an unfamiliar area, understanding the current will be essential to properly timing your start. A simple technique in assessing the strength and direction of the current is to take a small rubber ball afloat with you. By simply dropping it in the water by a starting mark and watching it drift with the current, you will be able to assess the current's strength and direction. Make several timed

runs to experience the effect of the current on your boatspeed.

If you are unfamiliar with sailing in current, remember that when you are sailing upstream, you will feel you are going much faster than you actually are. The reverse is true when sailing downstream.

#### 11. Recalls

On occasion, one or more yachts may start prematurely; that is, they cross the start line before the start signal. Where only a small number of yachts start early, the Race Committee will attempt to hail them, that they may return to start properly. However, remember that the onus is on each competitor to ensure he has started properly; the Race Committee in these cases, is merely trying to help the infringing yachts. If you continue on, after an early start and without starting properly, you will be listed as never having started the race, even if you eventually are the first competitor across the finish line.

Where the Race Committee feels that there have been so many premature starters as to make it unfair for the other competitors to continue with the race or where they cannot record all the infringing yachts, they will signal a General Recall. In such a case, the starting sequence is re-commenced and the race begun again. See Rule 8.

#### 12. Final Reminders

If there are any general rules to remember in starting, they may be summarized as follows:

- you must remember not to be foolish but also not to be tardy. A good start requires aggression but not to the point of recklessness.

It also requires timing.

- you should try to make the start with good speed but not at the sacrifice of manoeuvrability.
- remember that the main criterion in planning your start is clear air following the start. The best start is not necessarily the one you want if it will not give you clear air once you cross the line. However, the particular area on the starting line at which you start should also be governed by which side of the race course you feel will be favoured on the first leg. When in doubt, start in the middle of the line.
- avoid the temptation to join the pack of starboard end starters. Success in yacht racing comes from sailing your own race, not following someone else. And a successful race begins with an individualized start.

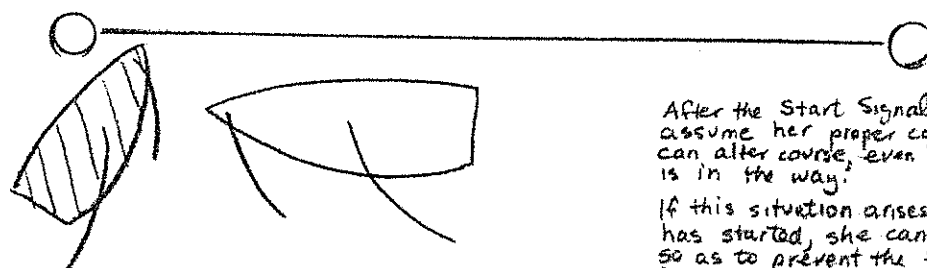
### 13. Rules Applicable in the Starting Area

This section attempts to direct you to rules which are specifically applicable when yachts are in or around the starting area, before or just after the start. You should refer to your Rule Book and examine the exact wording of each specific rule discussed. The commentary here merely seeks to alert you to the existence and summarize the effects of certain rules you should be aware of. Some examples are given for further illustration.

You should note the preamble to Part IV of the Racing Rules, which deals with the rights and obligations when yachts meet. The Racing Rules govern all yachts intending to race as soon as they enter the starting area. Until that time, you must apply International Rules of the Sea that you have learned in previous courses and, with respect to yachts which are not racing or intending to race, you must also apply these rules even after the start.



PROPER COURSE ON  
STARBOARD TACK



After the Start Signal, White can assume her proper course, and, therefore, can alter course, even if the Striped Yacht is in the way.

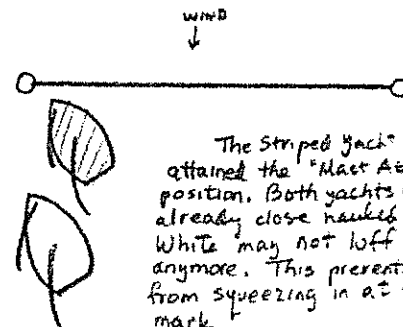
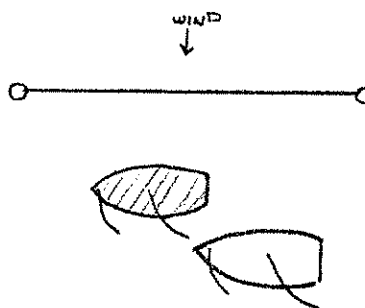
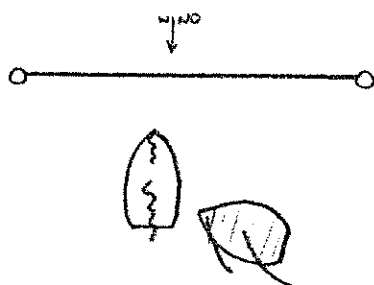
If this situation arises after White has started, she cannot alter course so as to prevent the Striped Yacht from keeping clear.

Before the Start, White may sit head-to-wind as long as she wants and regardless of whether the Striped Yacht has attained "Mast Abeam" position or not.

After the Start, White may remain head-to-wind until the Striped Yacht attains the "Mast Abeam" position. Then she must bear off onto a proper course.

The Striped Yacht has attained the "Mast Abeam" position. White may continue to luff but must do so slowly and not above a close-hauled course.

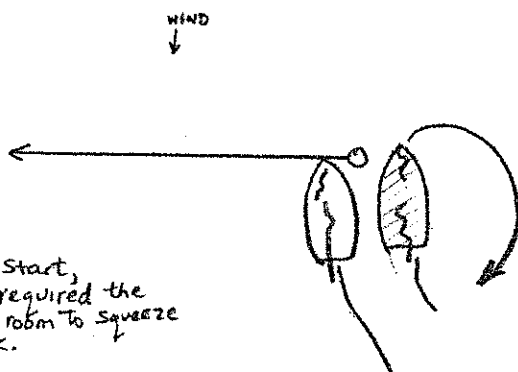
Fig. 3.17  
Rule 40



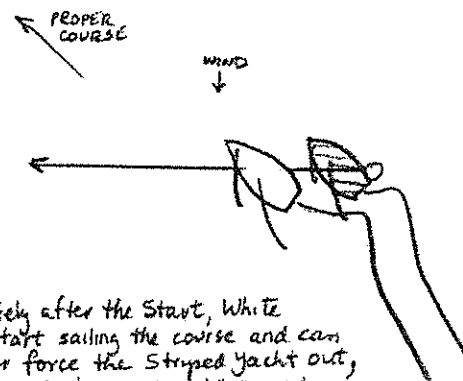
The Striped Yacht has attained the "Mast Abeam" position. Both yachts are already close hauled. White may not luff anymore. This prevents her from squeezing in at the mark.

Fig. 3.18  
Rule 42.4

Before the Start, White is not required to squeeze in at the mark.



Immediately after the Start, White has to start sailing the course and can no longer force the Striped Yacht out, by sailing a higher course. White must, further, give the Striped Yacht room at the mark.



- 35 (b) (i) When one yacht is required to keep clear of another, the right of way yacht cannot alter course so as to obstruct or prevent the other yacht from keeping clear, except when the right of way yacht is assuming a proper course to start. Note the definition of "proper course".

Example:

Assume two yachts approaching one another on opposite tacks. The yacht on starboard tack, at the start, can luff onto a proper course and therefore can alter course even if the yacht on port tack is in the way.

In this situation of starboard versus port after the start, the yacht on starboard tack could not change course. See Fig. 3.16.

- 36 A yacht on port tack must keep clear of a yacht on starboard tack.

- 40 Before a right of way yacht has started and cleared the line, any luff against another yacht must be slow, giving the windward yacht room and opportunity to be clear. The leeward yacht may not luff above close hauled unless the windward yacht has not achieved mast abeam. Note the definition of the "mast abeam" set out in the Rule.

Example:

Assume a yacht is sitting head to wind before the start and another yacht approaches it. As long as the first yacht is ahead of mast abeam, she can remain head to wind. She cannot, at this point, be forced to bear away at any time before or after the start.

After the start, the yacht sitting head to wind must assume a proper course once the yacht approaching her achieves mast abeam. However, before the start, the approaching yacht must keep clear.

Example:

Assume that two yachts are reaching parallel to the start line and the windward yacht has established mast abeam position. The leeward yacht may luff slowly to a close hauled course and the windward yacht must respond. The leeward yacht may not luff above close hauled. After the start, the leeward boat may not luff at all under Rule 38.2. See Fig. 3.17.

- 41.1 A yacht which is tacking must keep clear of a yacht on a tack. Note Rule 41.2. Review the definition of "tacking".

- 42.4 When approaching a start line start, a leeward yacht is under no obligation to give a windward yacht room to pass to leeward of a start mark surrounded by navigable water. After the start signal, a leeward yacht cannot deprive a windward yacht of such room by sailing either above the course to the first mark or above close hauled.

Note the definition of "mark"

This is the so-called "anti-barging rule". a yacht is barging when it approaches the starting line sailing below close hauled and attempts to force its way between a close hauled yacht on the same tack and the starting mark. See Fig 3.18. This rule provides that the leeward yacht does not have to allow the windward yacht room in between it and the start mark.

Note that if this start mark is a committee boat, after the start it becomes an obstruction and the windward boat may then ask for room to clear it. See Rule 43, and the definition of "obstruction:."

- 43 Hailing for Room to Tack at Obstructions

43.1

43.2

When two yachts are on the same tack, but not overlapped, and the one clear ahead and to leeward has to change course to avoid an

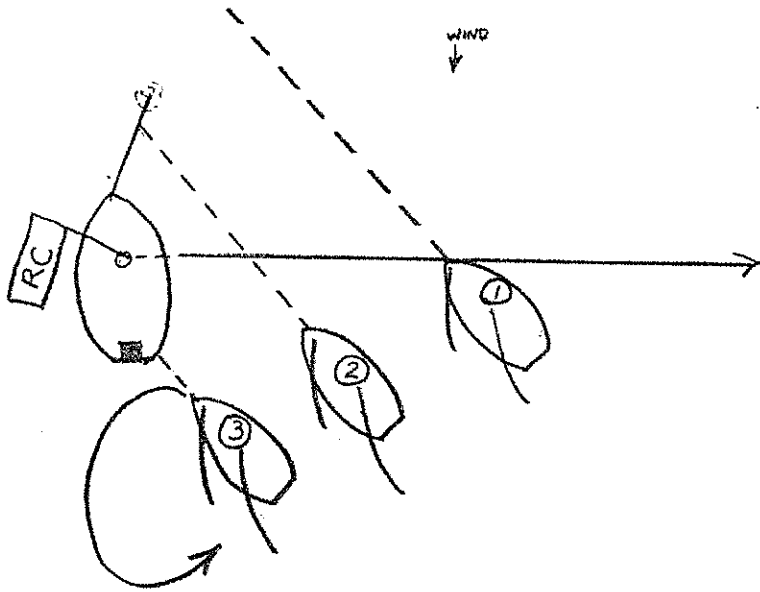
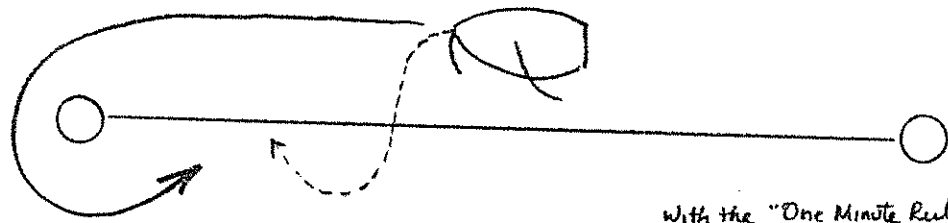
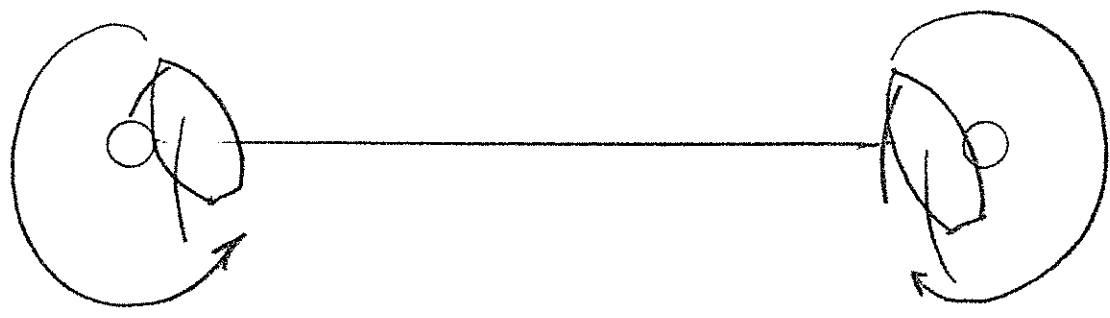


Fig 3.20  
Rule 51



With the "One Minute Rule" in effect,  
a Dip Start is illegal. White must  
round the end of the start line to  
exonerate being to windward of the line  
during the last minute before the start.

Fig 3.21  
Rule 52



obstruction, she may ask the windward yacht for enough room to tack and clear the obstruction. The hailed yacht must then either tack immediately or respond, "You tack" and then keep clear of the tacking yacht.

Note the definitions of "obstructions", "clear ahead" and "clear astern".

- 43.3 (a) When the hailed yacht can fetch the obstruction which is also a mark, the hailing yacht gets no room to tack;
- (b) If the hailing yacht again asks for room, the hailed yacht must give her that room but the yacht which hailed must then retire;
- (c) If the hailed yacht refuses to give room and she fails to fetch the mark herself, she must retire.

Example:

Assume that the start line is between a mark on shore and a buoy in the lake and that two yachts are approaching the shore mark to start. The leeward yacht can ask for room to avoid the shore both before and after the start because the shore is an obstruction.

Example:

Refer to Figure 3.19. In this situation, if the Race Committee boat forms one end of the line, it is a mark. Here, Yacht 1 can clear both the Committee boat and the anchor; Yacht 2 can clear the Race Committee boat but not the anchor; and Yacht 3 can clear neither the Race Committee boat nor the anchor. Yacht 3 must pull out early because she has no rights as against the other yachts. Yacht No. 2 can ask for room at the anchor from Yacht 1 as the anchor is not part of the mark.

The same situation would hold true with a dinghy tied to the stern of the Race Committee boat. You can ask for room to clear it as the dinghy is not a mark and you can hit it without penalty.

- 44 After the start signal, a premature starter returning to start must keep clear of all other yachts which are starting or have started until she is on the pre-start side of the line. Then she regains her full rights. Prestarters retain all rights until it is obvious that they are returning to start.

Note the definition of "starting".

- 51 Normally, restarting requires that you just cross the line properly. It does not matter how. Thus, if you are over early, you can simply pull head to wind, let the fleet go by, and then dip back across the line and restart. However, if the one minute rule is in effect, you must go around the end of the line and restart. See Fig. 3.20.

- 52 You can hit the mooring cable or the attached dinghy of a mark boat that is a mark without penalty. However, if you hit a start mark, you must reround it and you reround without any rights over other yachts.

You should also review the following rules with respect to the administration of the start:

- 4.4 signals for starting a race
- 6 starting line
- 7 start of a race
- 8 recalls.

#### 14. Water Exercises

## STARTING DRILLS

### 1. Familiarization

- 1.1 Locating the starting line in space: Students sail the line attempting to place it relative to objects on shore (or other marks) that they will know precisely where the line is.
- 1.2 Location of the favoured end: Students sit on the start line head to wind to determine which end is favoured.
- 1.3 Advantages of the favoured end: Two boats sit head to wind, one at each end of the line. On command, they sheet in and sail a short distance to a mark. The boat at the favoured end sails less distance (ie. should arrive first).
- 1.4 Controlling boat speed and direction: In pairs, one boat is the Control while the other:
  - a) keeps jib trimmed, lets main out / backwinds main
  - b) keeps main trimmed, lets jib out / backwinds jib
  - c) keeps both sails trimmed, makes violent rudder movements
  - d) keeps sails trimmed, varies centerboard adjustment
- 1.4.1 Additional stop/start/trim drills
- 1.5 Controlling boat speed: Boats come up and stop, nudging a rope representing the starting line.
- 1.5.1 Advantages of good speed: In pairs, one boat sits luffing as other approaches at speed. As second boat draws close, first boat sheets in but is overtaken and passed.
- 1.6 Avoiding the mid-line sag.
- 1.7 Basic inter-boat interference: In triples, two boats interfere with each other as a third sails by both.
- 1.8 Barging.

### 2. Types of Starts NOTE: Keep line square

- 2.1 Laser start: Everyone camps on the line for 30 secs.
- 2.2 Running the line
- 2.3 Dip start
- 2.4 Timed start
- 2.5 Gate or Rabbit starts
- 2.6 Port Tack Starts: Have half fleet start on each tack.
- 2.7 Restarting

### 3. Starting Practice NOTE: Students choose own method of starting

- 3.1 Vary favored end
- 3.2 Vary length of line
- 3.3.1 Short Races: Start followed by 50 yd weather leg and return.
- 3.3.2 Long Races: Normal race but general recall if any late starters

CHAPTER FOURTHE UPWIND LEGS1. Choice of Course after the Starta) The Long Leg First

As we have seen, if the start line is favoured, in that one end of the line is further upwind than the other, the result is a shorter dead upwind course from the favoured end of the line to the first mark.

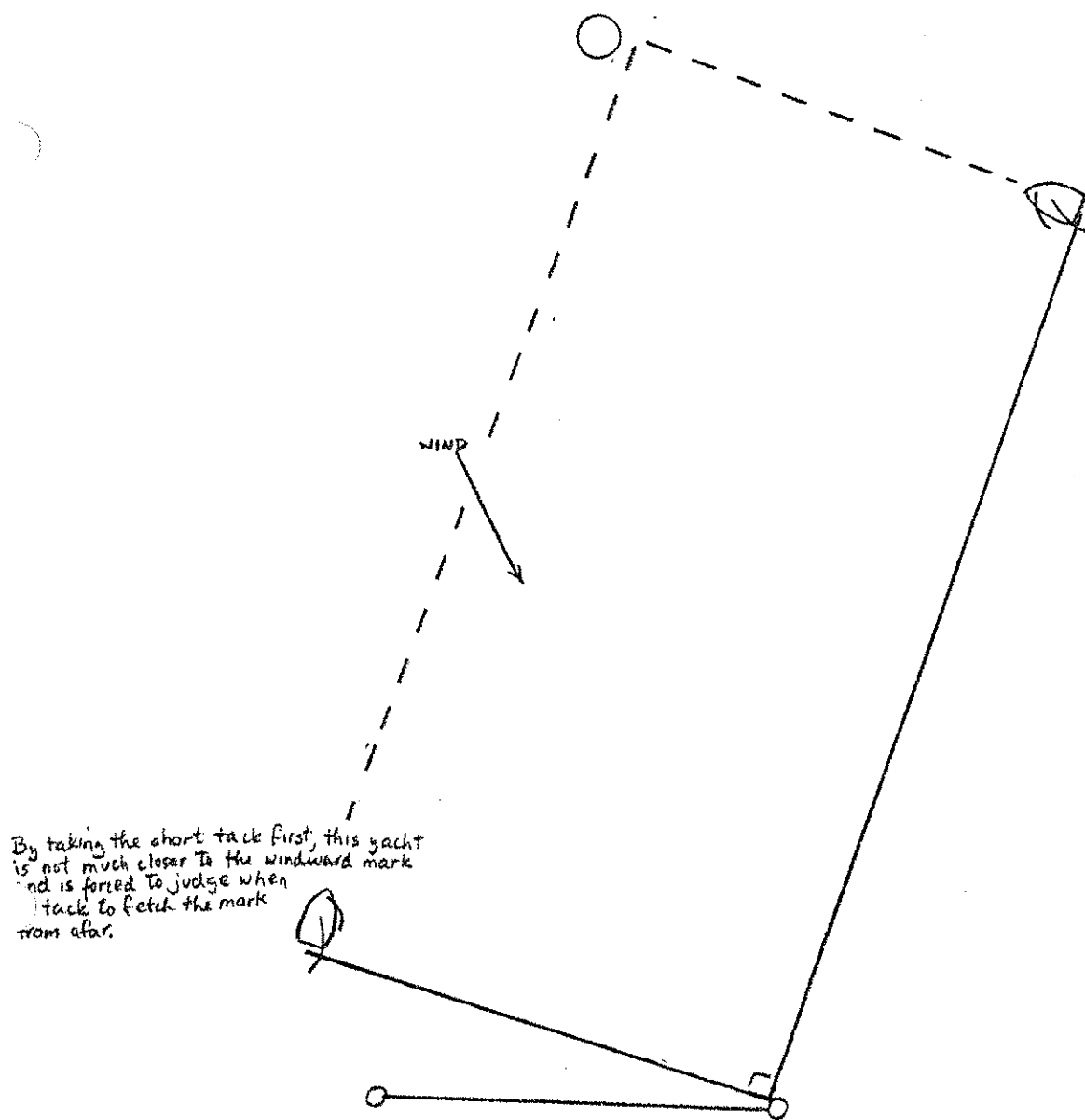
The more favoured the line is, that is, the further the wind is offset from a right angle to the line, the more one tack appears to be (almost) sufficient to get to the first mark. In fact, the other tack, at the extreme, will actually lead away from the windward mark. We can thus speak of a long leg and a short leg on the windward leg. The long leg being the tack which brings us closest to the mark.

The advantages of sailing the long leg first are:

- you will be sailing in the general direction of the windward mark whereas you may be sailing away from the mark on the short leg. The advantage of sailing generally toward the windward mark should be obvious. Should something unexpected occur, for example should the wind suddenly shift drastically, you will be in a position to recover with minimal losses.
- it is easier to decide the right moment to tack to fetch the windward mark when the buoy is close rather than trying to judge the proper time to tack from far away.

Assume a windward leg in which by sailing on starboard tack you can make it almost the entire way to the weather mark. This is not much of an upwind leg, but it does happen. Here, you will be making only one tack. You can either sail a short way on port tack, come about, and sail the remainder of the leg on starboard and hopefully end up at the mark. Or, you can begin on star-

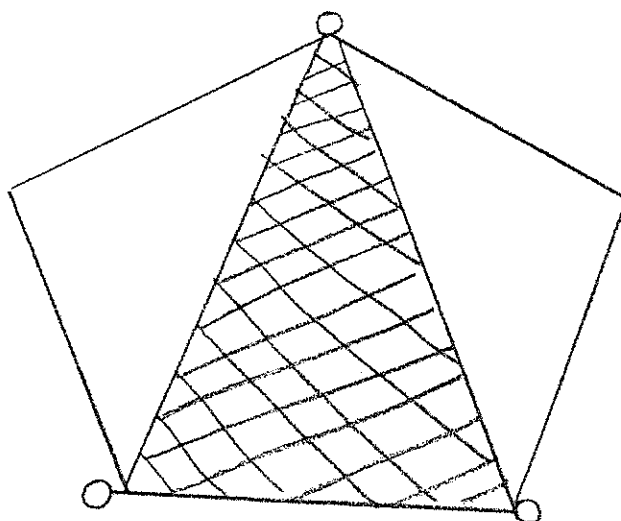




By taking the long tack first, this yacht is sailing towards the windward mark and, being closer to the mark, can judge more accurately when to tack to fetch the mark.

By taking the short tack first, this yacht is not much closer to the windward mark and is forced to judge when to tack to fetch the mark from afar.

Fig 4.2  
Sailing the Middle  
of the Course



board tack and, from a very close distance to the mark, judge the best time to come about onto port that you can round the mark. Obviously, it is much better in trying to determine where to come about and head for the mark from very close to it, rather than from far away. See Fig. 4.1

- by sailing the long leg first, you will be essentially sailing up the middle of the course and, in this way, you will be in a better position, being nearer to the mark, to capitalize on any windshifts which occur later in the leg.

b) Where there is no favoured tack

There are a seemingly infinite number of course choices to choose from when beginning the windward leg. This range of courses places the beginning racer in a difficult position for he will hear talk ashore dealing with the alledged favoured side of the beat and he will see, immediately after the start, a large number of boats heading in the general direction of the port side of the course.

Choosing the particular course you wish to sail to the windward mark has a direct relationship to your relative position when you arrive at that mark; simply put, a disastrous choice of course up the windward leg will result in a poor placing when rounding the windward mark. While the actual course you choose will ultimately depend on the many factors that make each race unique and so no general rules applicable in all cases can be formed, you should be wary not to fall into two very common traps in sailing the upwind leg.

The first of these traps is to attempt to sail up the windward leg of the course with no plan of action at all. The result is that you will sail aimlessly from one side of the course to the other until you eventually reach the weather mark, ahead of those competitors who

like you, have sailed randoming up the leg but happened to have not had as good luck as you. Yacht races are not won on luck, but planning. You must have a plan of attack.

The other pitfall for beginning racers is that of simply being caught up in the onslaught of yachts after the start which head to the port side of the course. We have repeated this point several times now: sail your own race. The same warning can be made with respect to the large number of yachts which may feel that, on later legs, either side of the course is favourable or, more accurately, those competitors who feel that way and the other competitors who simply follow them, lacking anything better to do. You must avoid being caught up with the herd.

Unless you are very sure as to which side of the course is going to be the most advantageous, you should be very conservative in your attack of the weather leg. At the same time, you want to be in position to minimize the damage should you find that the side of the course opposite to the one you have choosen is the more favourable.

Where you are unsure as to what your plan of attack should be, a number of alternatives present themselves. In the small fleet, or where the windward leg is short, the beginning racer can often capitalize on the experience of the leaders in the class by following them up the weather leg.

This advice appears to conflict with our earlier admonition about sailing your own race and not playing "follow-the-leader" with other competitors. Actually, the point has merely been refined. Where you are sure in your own mind how to attack the weather leg, then carry that plan out and avoid being distracted by other yachts, unless it becomes obvious that your choice is wrong. But where you are unsure as to how to attack the leg, then you must make use of other methods to

get up the leg as best you can. In this case, following someone else's game plan may prove effective. But, do not just blindly follow anyone. As suggested, find one of the front runners in your class. Of course, by following him, you will not beat him; but by choosing someone who realistically you have no hope of beating anyway, what harm is done?

This technique cannot be done in a larger fleet where it is difficult to spot the leaders or where the leg is long and the leaders start to pull away by a large distance.

Another, and similar, alternative exists where you are participating in a multi-class event, with a number of classes starting ahead of you. While you are waiting for your start, watch how the other classes, particularly the leaders are working their way up the course. Do they appear to be headed toward one side of the race course, over the other? This may give you some help in establishing your own plan of attack.

In the later stages of the race, a further alternative may present itself. If the wind shifts significantly after the start, the Race Committee may pull the original windward mark and replace it with a substitute mark, which is aligned with the new wind direction. Such a situation indicates a persistent shift has occurred. By recognizing where the new mark has been placed with respect to the old, that is, to its left or right, some insight as to how to attack the windward leg will be gained. The concept of persistent shifts and how to deal with them is discussed later in this Chapter.

But by far the most general option is also the most simple. If you are in doubt, sail up essentially the middle of the course. See Fig. 4.2. Choosing to sail up the middle of the course, while keeping alert to what is going on with the rest of the fleet, allows

you to remain uncommitted to an irrevocable course. You are not out on a limb; yet, at the same time, you do have a plan of action and are also in a good position to get over to whichever side of the course eventually ends up most favourable, if one develops, with a minimal loss of position.

By sailing the middle of the course, you can avoid ending up on the wrong side of the course through mistake, avoid simply following the majority through ignorance, and keep yourself sailing in the direction of the mark. It offers the further benefit that, in those races where a favourable side of the course does not develop, you have the advantage over all the competition who have bet one side or other will be advantageous and now find themselves out of luck.

When in doubt, and in the absence of the other alternatives set out here, sail the middle of the course.

## 2. General Tactics on the Upwind Legs

An Olympic course will have, during its course, three windward legs. The tactics applicable on each of these legs is individual to that particular leg and quite different from the tactics applied on the other legs.

On the first beat, following the start, the first priority is to obtain clear air. Thereafter, the first beat becomes essentially a scramble for position to get as high up in the fleet as possible by the time the first weather mark is reached.

The second beat, by comparison, is a time for making up for distance lost on the initial legs and attempting to catch the neighbouring competitors while, at the same time, keeping an eye peeled for yachts who might be able to pass you.

On the final beat, the tactics become one of

consolidation. The consideration of catching the yachts ahead takes a back seat to making sure that you do not gamble away positions already won. You have to realistically evaluate whether you can catch the competitor ahead and if not, you have to ensure that you protect your present position from the yachts behind.

While the specific tactics that you apply in a particular race will depend upon the situations which present themselves to you, those tactics should be applied within this general framework.

### 3. Tacking

#### a) The First and Second Tacks

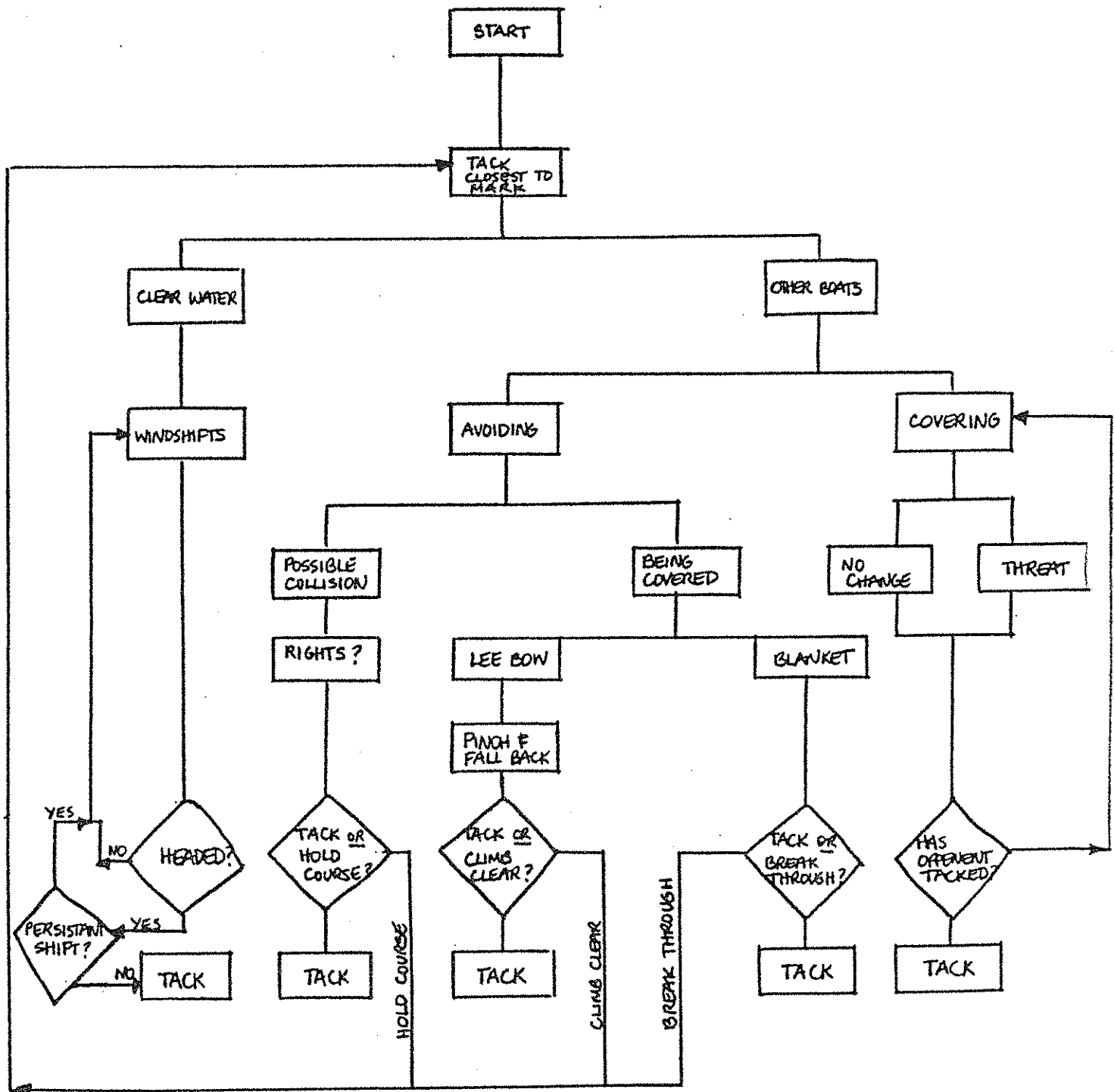
Following the start, the first two tacks on the first beat are essentially for position: to consolidate an initial advantage or to compensate for an initial deficit. The goal is to obtain clear air.

Look at the yachts which are near you, especially those to windward. If they seem to have an advantage, you should consider tacking to try and obtain that advantage as well. If you seem to be in the better position than they are, you will want to stay where you are.

Above all else, during the initial two tacks you have to be very careful about timing when to tack. You have to make sure that when you do make a tack you will be doing so in the smoothest water and with the clearest air available. You do not want to tack into a dead spot, into someone's backwind or blanket, or end up in someone's wake following a tack. Be alert and consider the consequences before you act.

If you are being overpowered by yachts to windward, rather than tack, consider bearing off and getting by them further to leeward.

FLOW CHART OUTLINING MAJOR CONSIDERATIONS  
BEFORE MAKING A TACK -- STRATEGIC AND TACTIC



## b) Tacking Thereafter

There must always be a good reason for making a tack. Do not tack because you have not tacked for awhile, or everyone else seems to be doing it. You must always ask whether the distance you will lose tacking will be compensated by the advantages you will gain after you have tacked.

Here are some common situations to avoid, because they force you to tack for the wrong reasons:

- close crossings between yachts, for they may force an unintended tack;
- disturbed air from other boats, for it may force you to tack from a bad position to a worse position;
- tacking whenever not required in light air; be extra careful in this situation.

Force yourself to ask the question, "Why?" before you tack. If you do not know the answer or the answer seems anything short of overpowering, do not tack. Have an excellent reason, or objective, in mind before you tack.

Figure 4.3 outlines a flow chart of the possible considerations before making a tack.

## 4. Interference from Other Boats

When a yacht is sailing, there is a considerable area of disturbed air and water surrounding it. See Fig. 4.4A. When racing, and particularly when beating, any competitor that finds himself within the area of disturbance of another yacht will be impeded.

When the yacht being adversely affected is to windward of the interfering yacht, the interfering yacht is said to be in the "safe leeward berth" and the windward



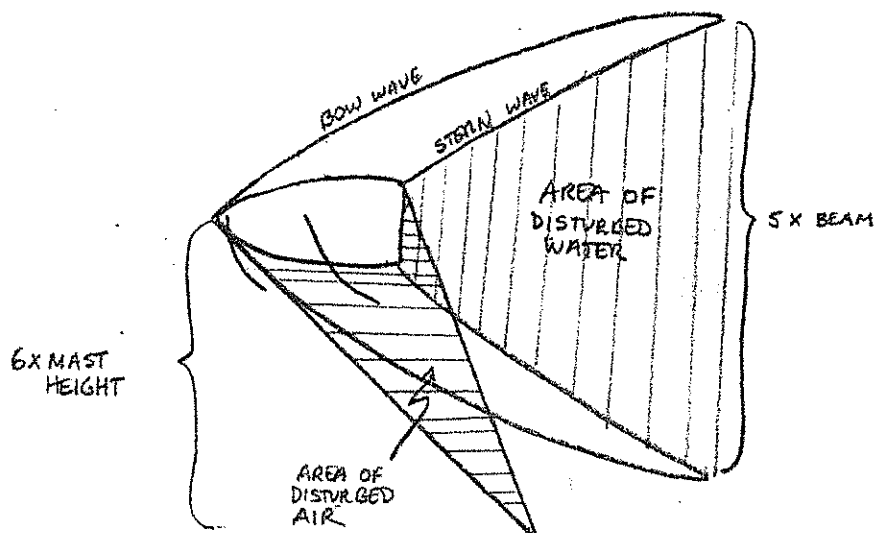


Fig. 4.4B  
The Hopeless Positions

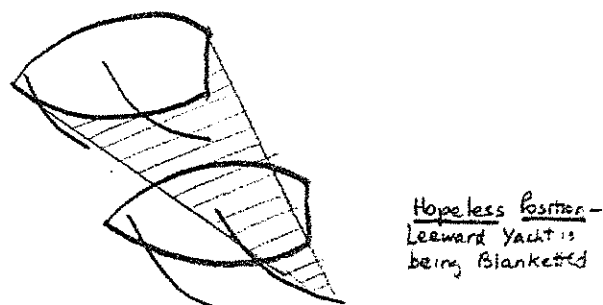
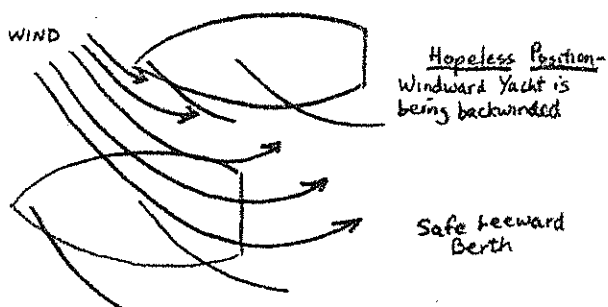
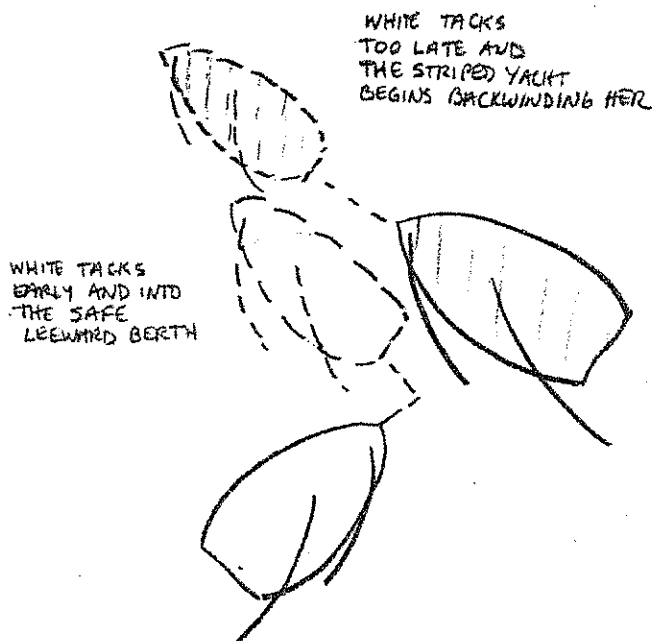


Fig. 4.5  
Danger in Tacking near Other Yachts



yacht is being backwinded or "lee-bowed" by the leeward yacht. When the interfering yacht is to windward of the boat that is being adversely affected, the yacht that is being interfered with is being "blanketed" by the interfering yacht and is in "the hopeless position". See Fig. 4.4B.

When you are approaching another yacht on opposite tacks and you are considering tacking in such a manner that you will end up to leeward of that competitor afterward, you should take special care to ensure that you do not tack into the hopeless position. This will be something that you will have to learn from experience, based on your own yacht's handling characteristics and your skill. But remember that it takes time for a yacht to accelerate after tacking and leave sufficient time for your yacht to regain speed. Your opponent to windward will be overtaking you at full speed at all times while you are completing your tack.

## 5. Covering

### a) Objective

From the preceding section, it would appear that the best tactic up the windward leg is to get your opponent into a situation where he is either being blanketed or backwinded by you. Blanketing and backwinding an opponent on the windward leg are the components of a general tactic known as "covering".

This section discusses what covering is and its advantages. However, some caution should be made from the beginning. Covering is a technique which is used only on those windward legs where consolidation of your position is a concern; that is, on particularly the last windward leg to the finish line. It is not a technique which should be used aggressively on the initial two windward legs,

however, it may have its place in specific instances that arise during the course of those initial legs. In short, you should be considering covering an opponent not simply because he is close by and you happen to be on a weather leg but only when it is to your clear advantage to do so.

As we have said, blanketing and backwinding an opponent is part of the technique known as covering. Covering is based on a simple proposition. That proposition is: In one design racing, when two similar yachts are sailing on the same tack, it must be assumed that they are sailing at the same speed. Therefore, it is impossible for a yacht which is behind to get past a yacht which is ahead if both yachts are on the same tack. Many racers describe the objective of covering as keeping between your opponent and the mark. This is but a corollary to the main principal. If you keep between your opponent and the mark, by staying with him on the same tack, there is no chance of him passing you, everything else being equal.

From this, it is easy to understand what covering involves. If you are in a situation where covering is appropriate and are the lead boat, you will want to stay on the same tack as your trailing opponent for, as long as you are both going in the same direction, he is not going to get any advantage that you will not also obtain and you will be able to impede his progress. It will be impossible for him to get by you, unless you make an error. You are in control of the situation. On the other hand, if you are the person who is behind in such a situation, you will want to be on opposite tacks with the leading opponent, that hopefully you will be able to capitalize on some advantage he, being on the other tack, will not get and he will no longer be interfering with you. This is known as attempting to break coverage.

Coverage may be either "loose" or "close".

If the coverage is loose, the leading yacht simply wishes to remain on the same tack as her trailing opponent. If the opponent tacks, the covering yacht should tack also so that at all times the two yachts remain on the same tack. Close coverage occurs when the competitors are much closer together and the lead yacht can use blanketing or backwinding to interfere with an opponent's progress.

Each of these types of coverage will now be examined in detail.

b) Loose Coverage

As we have said, in a situation of loose coverage the competitors may be some distance apart and the covering yacht, which is also the windward yacht, will simply be following a plan of staying on the same course as the more leeward opponent. When the opponent tacks, the covering yacht continues on that yacht.

When being covered in such a manner, and in fact whenever being covered generally, the opponent has two weapons at his disposal to attempt to break coverage; that is, to obtain the objective of having the two yachts ultimately on opposite tacks.

The first of these defenses is known as "the false tack". To implement a false tack, the yacht which is being covered makes rather obvious preparations to tack, to draw to the attention of the covering yacht that she fully intends to come about. The yacht being covered begins her tack but stops at the head to wind position and bears off quickly back onto her original tack. With luck, the covering yacht, having seen her opponent begin to tack, will have tacked herself and now find herself on opposite tacks with her opponent. The coverage is now broken and should the covering yacht tack back onto

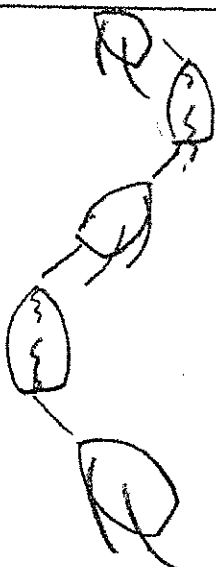


The False Tack

GREY REALISES  
HIS ERROR AND  
TACKS BACK;  
BUT AS HE  
DOES, WHITE  
TACKS FOR  
REAL AND  
ESCAPES

SHE FALSE  
TACKS AND  
GREY IS TRICKED

WHITE IS BEING COVERED



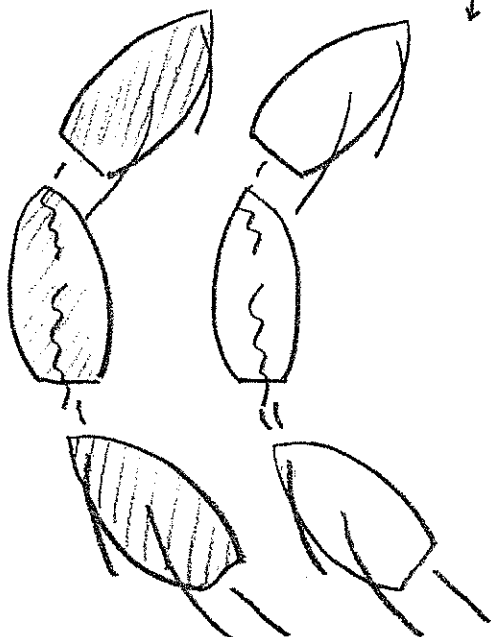
The Double Tack

WHITE  
IMMEDIATELY  
TACKS AGAIN,  
CATCHES GREY UNWARE,  
AND ESCAPES

SHE TACKS AND  
GREY TACKS  
WITH HER

WHITE IS BEING COVERED

Fig. 4.7  
The Double Tack



WIND

Fig. 4.8  
Breaking Coverage

White is being backwinded by the  
Striped yacht.

She tacks to break the coverage.

The Striped yacht tacks as well,  
but is a little slow.

White assumes a Safe Leeward Berth  
on the new tack. The Striped yacht  
is being backwinded

the original tack, her opponent merely has to tack at the same time to again split tacks. See Fig. 4.6.

The second weapon which the covered yacht has at its disposal is the multiple tack. Here, the yacht which is being covered simply tacks normally, at which point the covering yacht will tack as well. Immediately thereafter, in fact simultaneously upon completion of the first tack, the covered yacht then tacks again. Hopefully, if the covering yacht is not alert, the competitors will then be on opposite tacks and, of course, should the covering yacht tack back onto the original tack, her opponent merely has to tack a third time. See Fig. 4.7.

Of course, it may be that the competitor being covered will be able to escape much more easily. A quiet and well executed tack may well catch the covering yacht unaware with the result that the two opponents end up on opposite tacks. In this case, should the covering yacht tack onto the new tack her adversary merely has to tack again leaving the two yachts once again on opposite tacks.

### c) Close Coverage

#### i) Same tack

In close quarters, the covering yacht has two options, depending on its relationship to its opponent. If the covering boat is ahead and to windward, it will cover the other yacht by blanketing her, in addition to merely being on the same course as she is. However, this technique has the danger that the yacht being covered may attempt to establish a lee bow position with respect to the covering yacht, in which case it would then become the controlling yacht. As well, depending on the distance between the two competitors

the covered yacht may try to break coverage using false or multiple tacks as previously discussed.

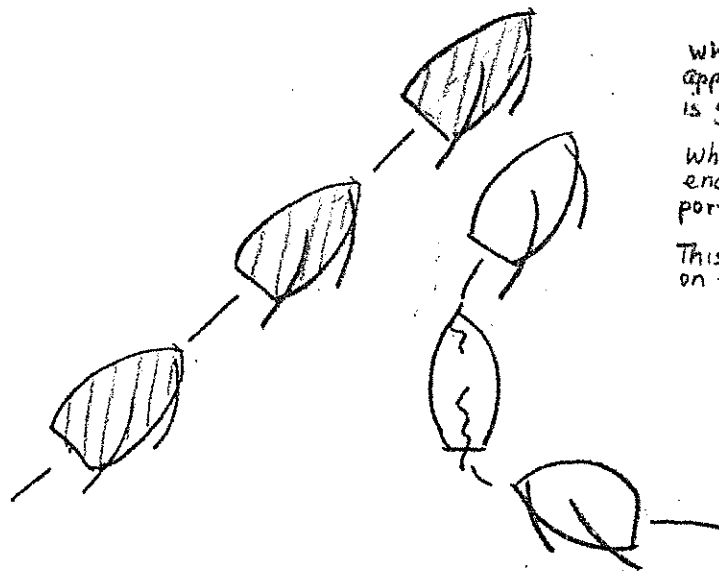
If the covering yacht is ahead and to leeward of the opponent, she will establish coverage by means of backwinding the other yacht. Here, the covered yacht has the immediate option of tacking away to break coverage and, if the covering yacht is not quick enough in responding to this, the situation will result in the covered yacht being able to establish a lee bow position with respect to the covering yacht on the new tack. See Fig. 4.8.

In addition, when the covering yacht establishes control to leeward, the windward yacht may be able to overtake the covering yacht and blanket her, in which case the coverage has been broken.

From this, it should be clear that the positions of controlling and controlled yacht can change very quickly when the competitors are close together. By luffing up, the leeward and blanketed opponent may assume a lee bow position with respect to the covering windward yacht. While on the other hand, the windward but backwinded yacht by superior boat handling can get ahead and begin to blanket the leeward and covering yacht. Great care should be used in these situations.

#### ii) Opposite tacks

Here, we have two competitors approaching each other on opposite tacks. The yacht on port tack has several options. She can attempt to cross ahead of her starboard tack opponent. This will allow her to escape, for if the starboard tack yacht were to tack once the port tack yacht has crossed her bow, she would find herself in a situation of being backwinded by the port tack yacht. See Fig. 4.9.



White see the Striped yacht approaching. The Striped yacht is going to pass ahead of White.

White mistakenly tacks and ends up being blanketed on port tack.

This situation often occurs on the race course.

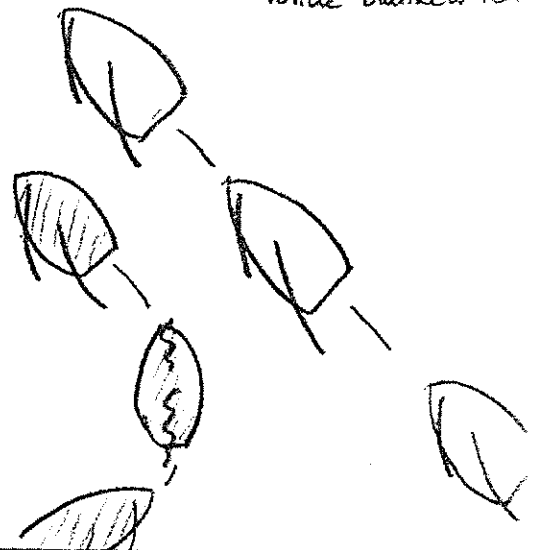
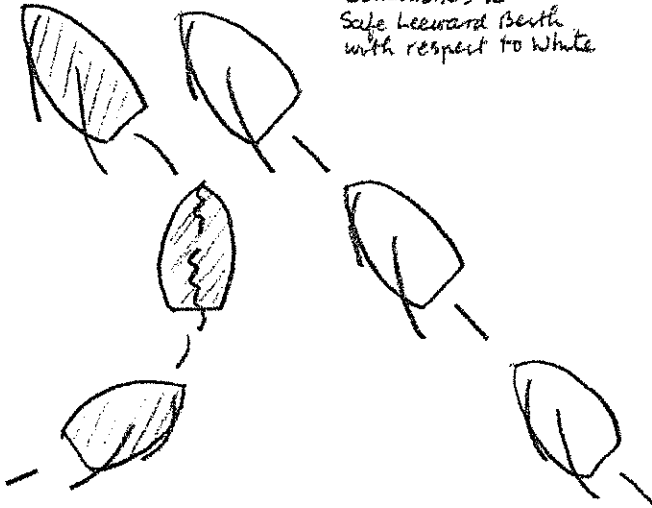
WIND

WIND

Fig 4.10

The Striped yacht tacks early and establishes a safe leeward berth with respect to White

The Striped yacht tacks too late and White blankets her



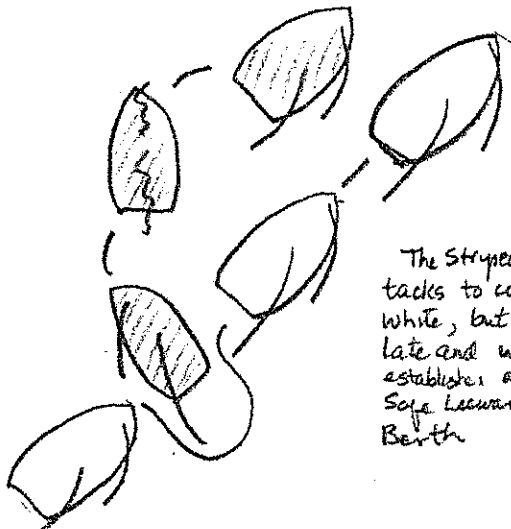
WIND

WIND

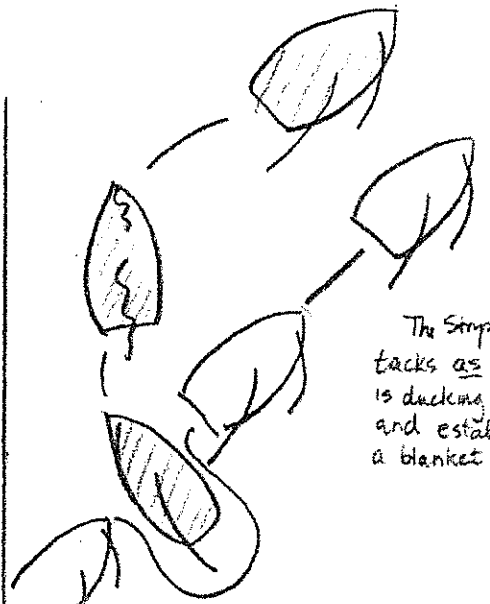
WIND

Fig 4.11

Unable to clear the Striped yacht, White passes behind her



The Striped yacht tacks to cover White, but too late and White establishes a safe leeward berth



The Striped yacht tacks as White is ducking her stern and establishes a blanket or no



The port tack yacht has a second option too. She may tack onto starboard. In this case, great care should be taken to tack into a lee bow position with respect to the opponent rather than into a position where you will be blanketed by the oncoming starboard tack yacht. See Fig. 4.10. Obviously, if the starboard tack yacht sees that the port tack yacht is going to be able to establish a lee bow position following completion of her tack, the starboard tack yacht should tack at the same time with the result that the two competitors head off again on opposite tacks.

The third option which the port tack yacht has is to pass behind the stern of the starboard tack yacht. The danger here for the port tack yacht is that the starboard tack competitor will tack onto port as well with the result that she will begin to blanket the port tack yacht. However, if the starboard tack yacht tacks too late, the situation will be that the port tack yacht will be able to establish a lee bow position. See Fig. 4.11.

#### d) Presence of the Third Boat

The caution is repeated as to the limited usefulness and precise application of covering. Covering can be very effective if done properly at the appropriate time. Incorrectly used, this tactic can spell disaster. The most common mistake is to become involved in a senseless tacking duel prematurely. A tacking duel occurs when two yachts begin a series of false or multiple tacks in a covering situation. Tacking duels have their place but only where it is tactically advantageous to engage the opponent.

The most flagrant misuse of covering and dueling occurs when two competitors become so locked in their combat with each other that they lose track of their positions with respect to the entire fleet. The result may

well be that a third yacht is able to slip by both competitors undisturbed.

Do not engage in covering unnecessarily. Use it when it is tactically advantageous to do so. Always beware that by becoming engaged in a tacking duel, the presence of the third yacht passing both you and your opponent is always a possibility.

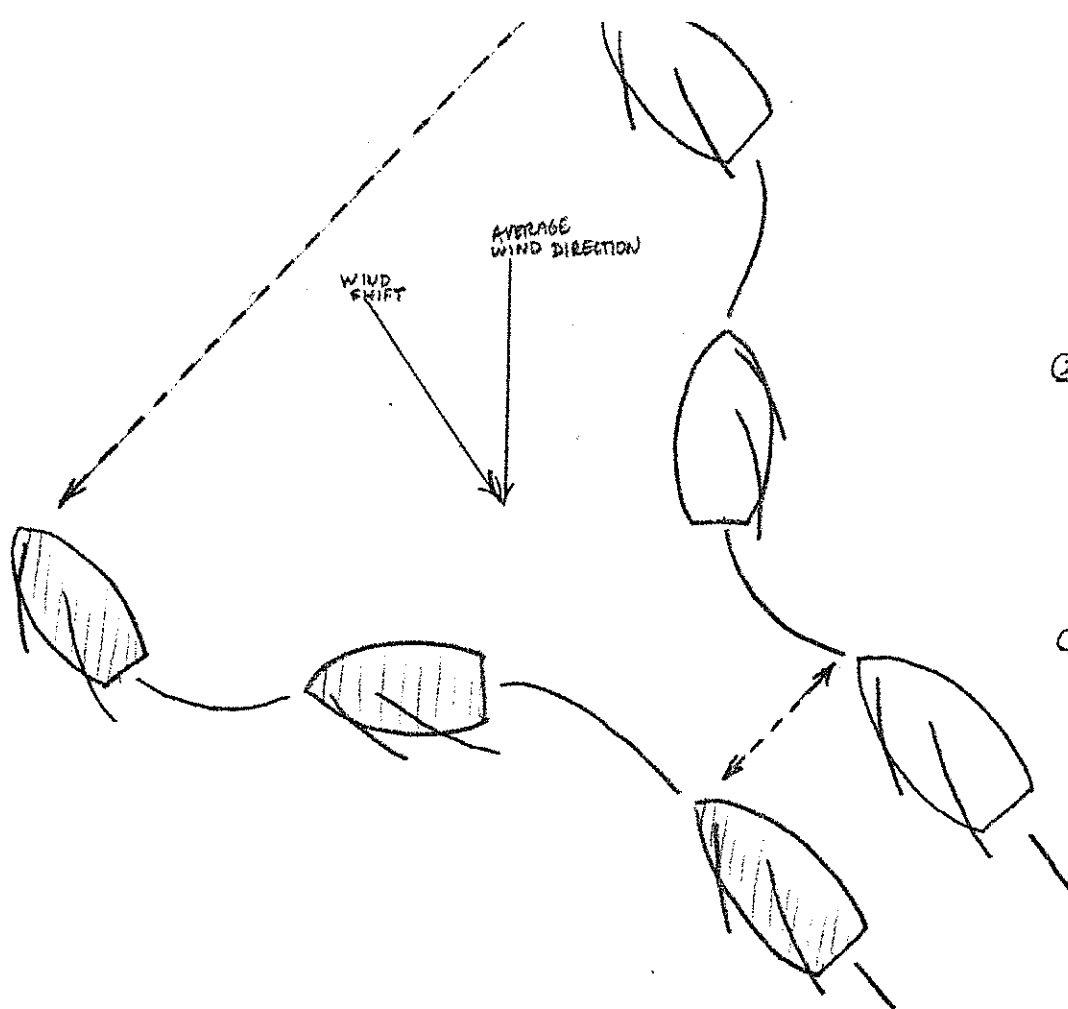
## 6. Wind Shifts

### a) Introduction

It is beyond the scope of this book to deal extensively with weather phenomenon. Refer to Chapter One of Don Giffin's Advanced Sailing Skills for a more detailed explanation of meteorology. Being able to predict what the wind is likely to do, given the climatic and geographical setting of a particular race and the ability to recognize these effects when they occur, especially on the upwind legs, is critical to successful competitions. Applying this knowledge to your advantage in a race is known as strategy.

While knowing whether the wind is going to increase, decrease, or remain steady in speed over the course of the race is important, this section will be dealing solely with changes in the direction of the wind. The topic of predicting likely windspeed is beyond the scope of this book and you are referred to other sources.

So, too, it is beyond the scope of this book to deal extensively with the mechanisms which may cause the wind's direction to change. Suffice to say that the direction of the wind may be altered by topographic factors or by changes in the weather system surrounding the race area. Again, you are referred to books which deal in great detail with this subject.



③ The wind shifts back to its average direction and White tacks back for no other reason other than for purpose of illustration

② The wind shifts and White tacks, to sail the shift as a lift; the Striped Yacht continues on

① White and the Striped Yacht are sailing side by side

Instead, we are going to concentrate solely on two topics: recognition of changes in wind direction on the race course and utilization of windshifts during the race to maximum advantage. In short, we shall be extremely practical in our discussion about windshifts, limiting ourselves to two important questions. How do you know when the wind has shifted and, secondly, what do you do about it. The issue of why the wind changes direction is left to other texts.

#### b) Types of Windshifts

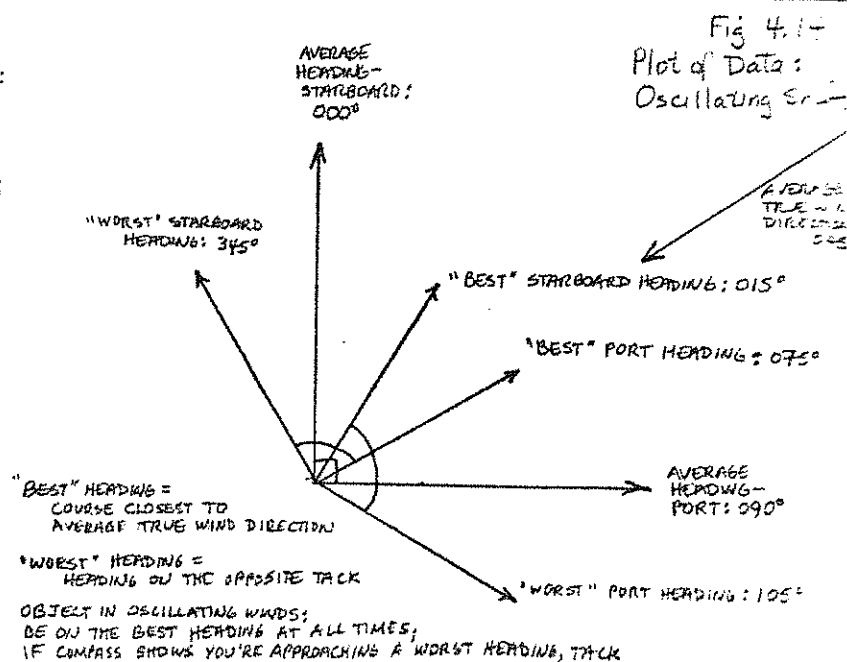
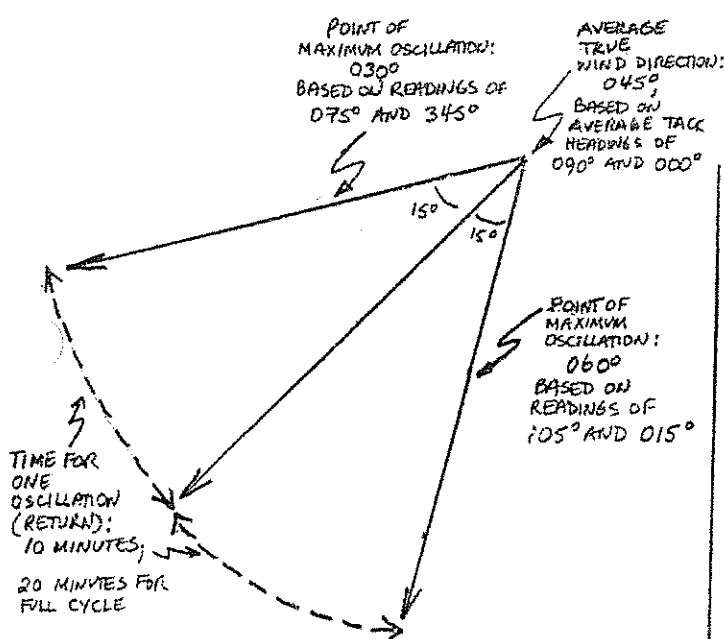
As you are probably aware, the wind is continually changing direction. It may tend to oscillate back and forth about an average direction. For example, we may say that the wind is blowing from the north although actually the wind direction is continually arcing from north north-west past the average northerly direction as far as north north-east and then back again. Such shifts are, not surprisingly, called oscillating shifts. They are usually of short duration and the wind's average direction really never changes.

On the other hand, the wind may shift progressively in one direction. For example, the wind may begin by blowing from the north but then shift steadily eastward over time. This type of change is known as a persistent shift. A persistent shift may occur slowly over a long period of time and results in a permanent change in the wind's average direction.

The importance of being able to recognize and utilize windshifts during an upwind leg is most simply diagrammed rather than described in words. See Fig. 4.12.

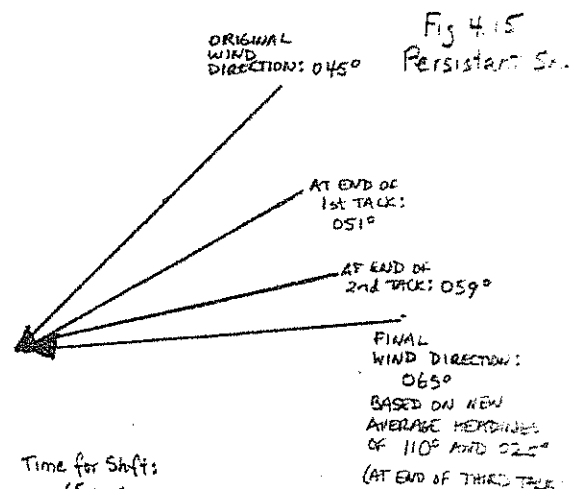
PORT TACK 1 minute intervals	
1st TACK	3rd TACK
090	090
090	090
085	095
080	100
075	105
① Wind is shifting in one direction away from its average direction	
③ Wind begins shifting in the opposite direction	

STARBOARD TACK 1 minute intervals	
2nd TACK	4th TACK
345	015
350	010
355	005
000	000
000	000
② It reaches its point of maximum oscillation and returns to its average direction	
④ Wind reaches its maximum point and returns; cycle repeats	



PORT TACK	
1st Tack	090 ← ORIGINAL AVERAGE HEADING
	090
	092 ← WIND BEGINS TO SHIFT
	094
	096
3rd Tack	104 ← WIND STILL SHIFTING; NOT RETURNING TO ORIGINAL DIRECTION
	106
	108
	110
	110

STARBOARD TACK	
2nd Tack	006 ← WIND CONTINUES TO SHIFT
	008
	010
	012
	014
4th Tack	020 ← SHIFT COMPLETED; NEW AVERAGE HEADING
	020
	020 (ON PORT WOULD BE 110°)



c) Recognizing Wind Shifts: The Compass

The easiest way to recognize and respond to windshifts which are the result of the weather system (rather than local geography) is by making use of a compass. Data is collected with the compass prior to the start of the race and then this data is used during the race to predict what the wind is doing at any given moment. The process of data collection to make these predications possible is as follows.

Begin ashore by affixing two acetate sheets to both bulkheads of your yacht and, when you go afloat, take along a grease pencil. Upon your arrival at the starting area, and prior to the starting sequence, begin sailing up the windward leg, first on one tack, then the other. Record the reading of your heading on the first tack on the windward acetate sheet. Continue for about 5 minutes, recording your heading at one minute intervals. Then come about and do the same thing for the opposite tack. Repeat this process several times before the starting sequence commences.

When the starting sequence nears, you will have some very important data available on the acetate sheets. See Fig. 4.13. These numbers will tell you several things. First of all, by quickly perusing the figures, their average value will become obvious and you will be able to ascertain what the average heading should be on each particular tack. If, while racing, you notice that you have been continuing for some period of time at a heading considerably different than the average expected heading for that tack, you will know that a persistent shift is occurring.

Alternatively, you will be able to determine if the wind is oscillating and, if so, the range and frequency of those oscillations. If you have collected

your data over a measured time, for example writing down a reading on a particular tack at one minute intervals, if the wind is oscillating, you will be able to see a pattern emerge from the repetition of particular headings. That pattern will tell you how far the wind is oscillating, in degrees, and over what period, in minutes. For example, in plotting the data in Figure 4.13, we can see the oscillation occurring over a range of fifteen degrees, approximately every ten minutes. See Fig. 4.14.

Following the start, and thereafter, this information will become invaluable for, assuming no other changes take place, by merely glancing at the compass heading you are on, you will know the whereabouts in the pattern you are and what likely the wind will be doing next and whether you are on the most favoured path for this particular part of cycle; that is, the tack which, when taken at a certain time in the cycle, results in you sailing closer to the average wind direction than would otherwise be possible.

The heading numbers themselves will also reveal if the wind is shifting persistently, quite apart from such a conclusion being drawn during the race based on the average heading. If the data you have gathered follows a pattern of increasing headings on one path and decreasing headings on the other over the entire time you have recorded data, this indicates that the wind is shifting persistently and in which direction. See Fig. 4.15.

#### d) Geographical Interference

It must be remembered that, to this point, we have assumed that no geographical interference with wind direction has been taking place. That is, the suggested conclusions that may be drawn from the data collected with the compass prior to the start are valid without qualification only where the race is being run in a

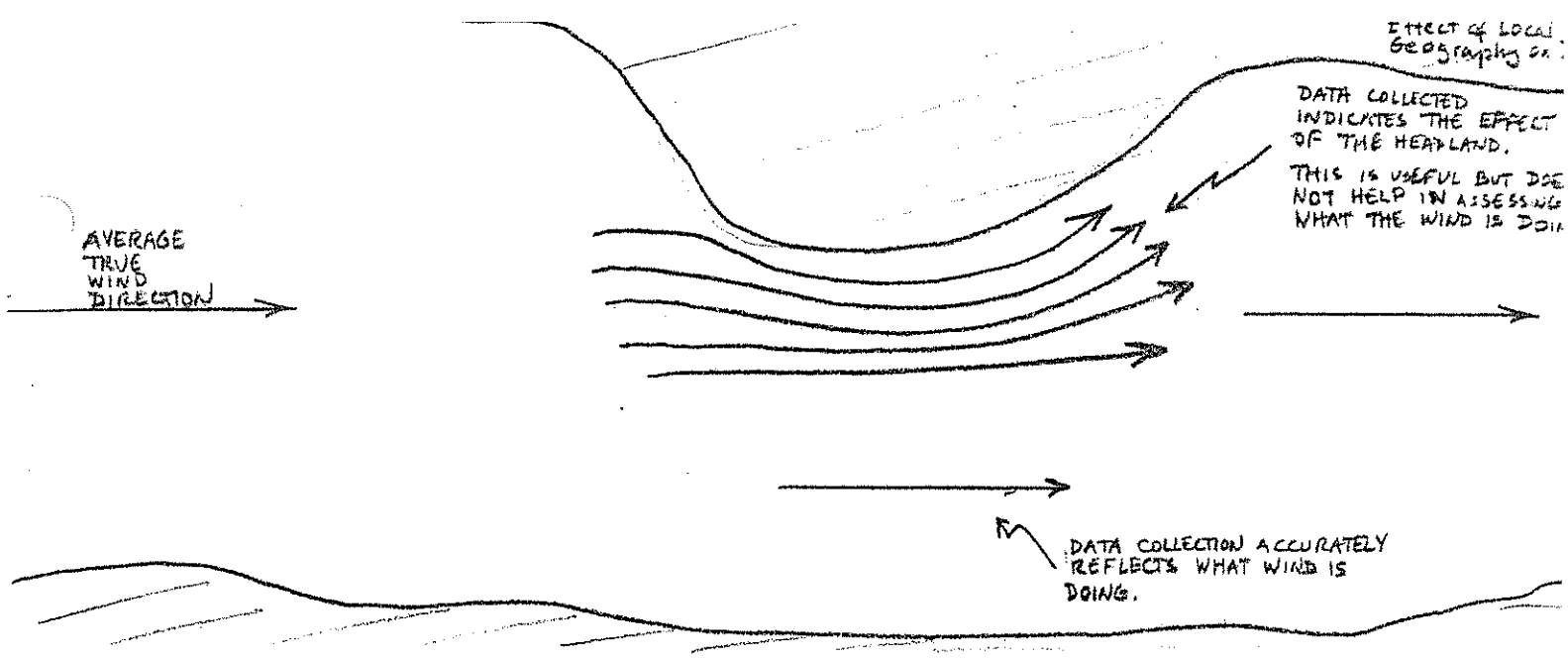
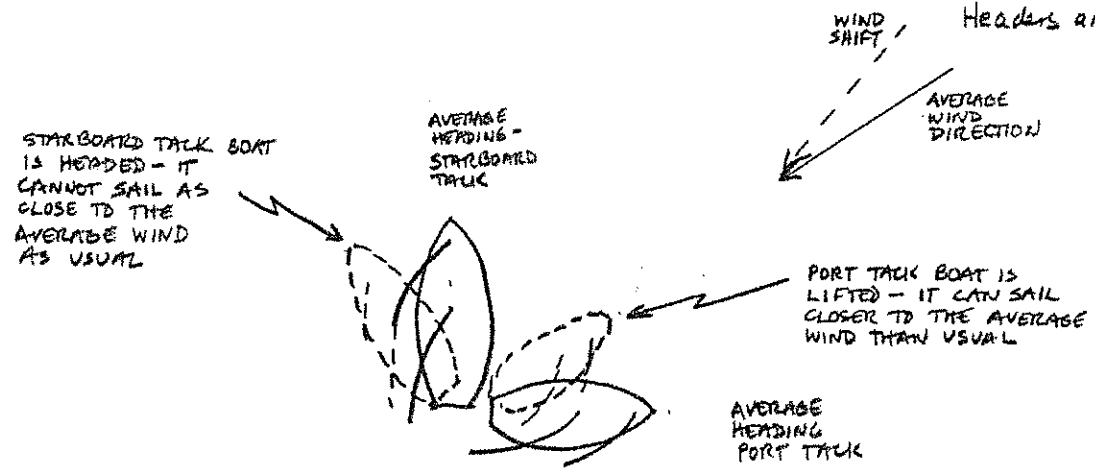


Fig 4.17 - see Fig 4.  
Fig 4.18 -  
Headers and Lifters





location where the local surroundings are not affecting wind direction, such as in the middle of a large lake.

Where the race is being held in a place where wind direction may be affected by the surroundings, some caution must be used in interpreting the data collected and you must consider what degree of influence the local topography will exert. For example, if your readings indicate that a persistent shift appears to be occurring, you must consider whether the cause of that shift is due to a change in weather situation or due to the presence of a jutting shoreline on one side of the course, that is, the shift was caused by geographic influences.

For this reason, it is important to know the local surroundings of the race course, and why it was suggested earlier that, when sailing in strange waters, you obtain a chart of the area. By examining the chart prior to going afloat, you will have some idea of how the wind will be affected by the local geography. Then, when you go afloat, and collect your data, you will be able to consider to what extent your readings are the result of weather system influences, which are not, and plan accordingly. On this point, see Don Giffin's Advanced Sailing Skills. See Fig. 4.16.

Note that the situation may be further complicated by local currents which can cause wind shifts in certain circumstances.

#### e) Oscillating Shifts

As we have seen, the wind may oscillate in direction over a wide arc back and forth about a mean value. See Fig. 4.17. When you are beating and an oscillation occurs which results in the apparent wind moving closer to the bow, this is known as being "headed". Where the oscillation has the result of shifting the apparent wind further aft,

this is known as being "lifted". Obviously, you can point higher when you are being lifted than is the case when the wind is blowing in its average direction. On the other hand, when you are being headed, you cannot point as high as you normally can. See Fig. 4.18. If you are attempting to get to windward as quickly as possible, you want to sail as close to the [average] dead upwind course as you can, without pinching, for the closer to the [average] wind you sail, the less distance you will have to sail to get to the windward mark. Accordingly, a basic strategy has arisen that, if the wind is oscillating, you should always be sailing on the lifts as they will allow you to sail closer to the [average] wind than is usually possible. As a corollary, you should always tack when you are being headed, for a header on one tack is obviously a lift on the other. But remember, this strategy applies when the wind is oscillating.

Let us return to the data collected in Figure 4.13, to repeat its importance. There, as you will recall, the wind was oscillating over fifteen degrees every ten minutes. This information is invaluable following the start.

Assume you start on starboard tack, crossing the starting line on a heading of  $345^{\circ}$ . We know from Figure 4.14 that this means that port tack is the most favourable to be on at this time. It is being lifted and starboard tack is being headed badly. This is the first bit of important information you have gained: you know which tack is being favoured and by how much at any time.

Should you tack? The answer is: No. The oscillation is at its maximum point. This means the wind will start to swing back to its original direction and from there onto its maximum point on the other oscillation; that is, to the point where starboard tack will be lifted to its greatest degree. Therefore, you should stay on starboard tack and wait for the lift to begin. This is the second piece of important information you have gained:

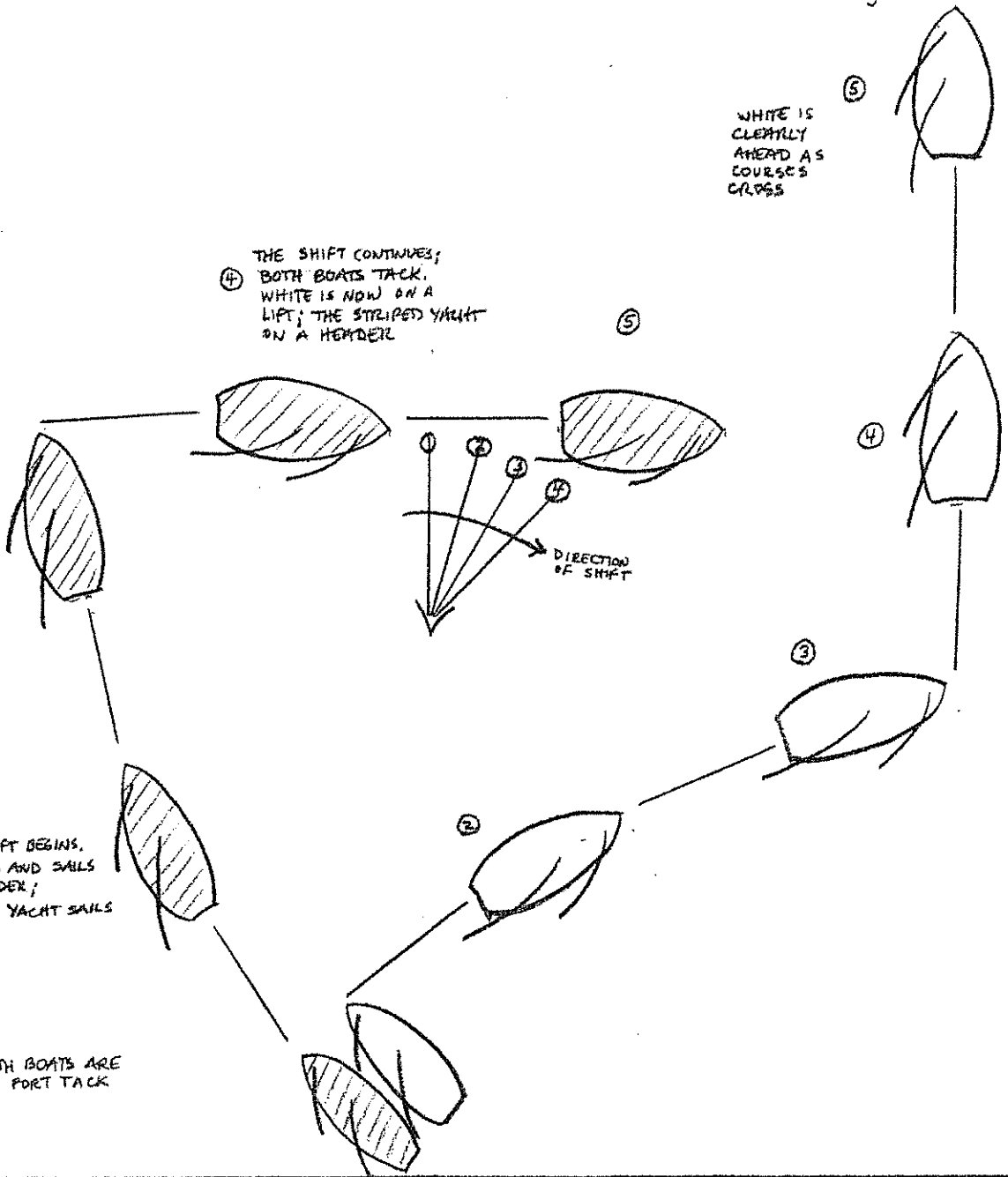
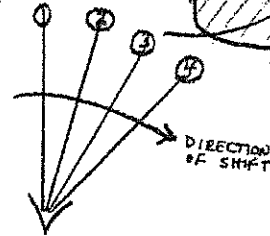
③ THE SHIFT CONTINUES

② THE SHIFT BEGINS.  
WHITE TACKS AND SAILS  
INTO A HEADER;  
THE STRIPED YACHT SAILS  
ON THE LIFT

① BOTH BOATS ARE  
ON PORT TACK

④ THE SHIFT CONTINUES;  
BOTH BOATS TACK.  
WHITE IS NOW ON A  
LIFT; THE STRIPED YACHT  
ON A HEADER

WHITE IS  
CLEARLY  
AHEAD AS  
COURSES  
CROSS



you know what the wind is going to do in the immediate future and can govern yourself accordingly.

#### f) Persistent Shifts

A persistent shift is one in which the wind, when it begins to shift from its average direction, never returns to that average direction but continues to rotate. The shift may be clockwise, in which case it is known as a veer, or it may be anti-clockwise, in which case it is known as a back.

When a persistent shift occurs, you must ignore the adage "tack when headed" that is used to handle oscillating shifts. Figure 4.19 illustrates the reason why.

Those competitors who tack when headed by a persistent shift and sail it as a lift or, when being lifted by a persistent shift continue on the same tack, will find themselves sailing what is known as "the giant circle route" to the windward mark. See Fig. 4.20.

The correct strategy in dealing with a persistent shift is to sail the shift as a header. If you are beginning to be lifted by a persistent shift, tack immediately; if you are being headed by a persistent shift, continue on. The advantage of so doing will be that when you ultimately tack, you will be lifted to a degree much greater than when the shift initially began. This only makes sense as the shift continues over time and the longer you wait before tacking, the more the direction of the wind will have changed. On the other hand, those who tacked initially when headed or continue on when being lifted by a persistent shift will be headed increasingly when they finally tack. In the result they will have sailed a huge arcing course.

### g) Response of the Race Committee

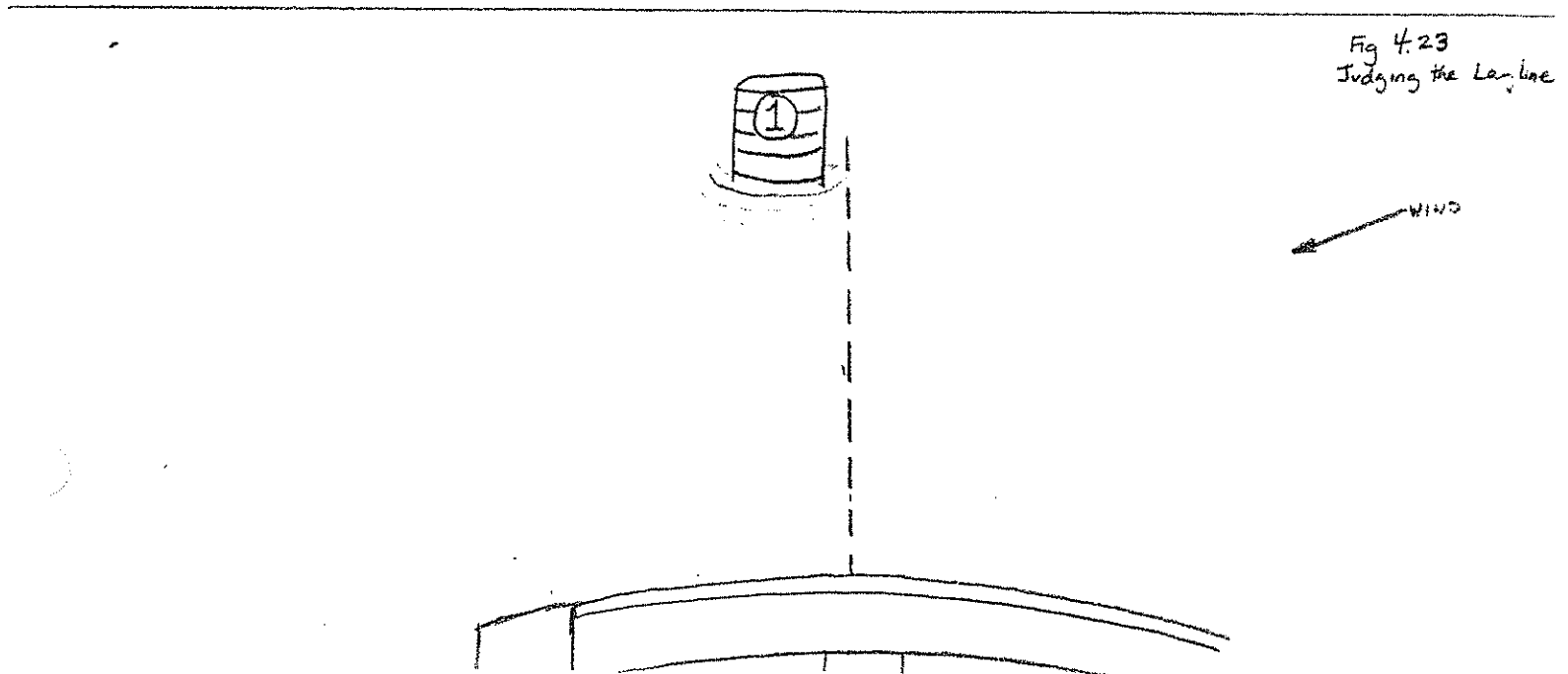
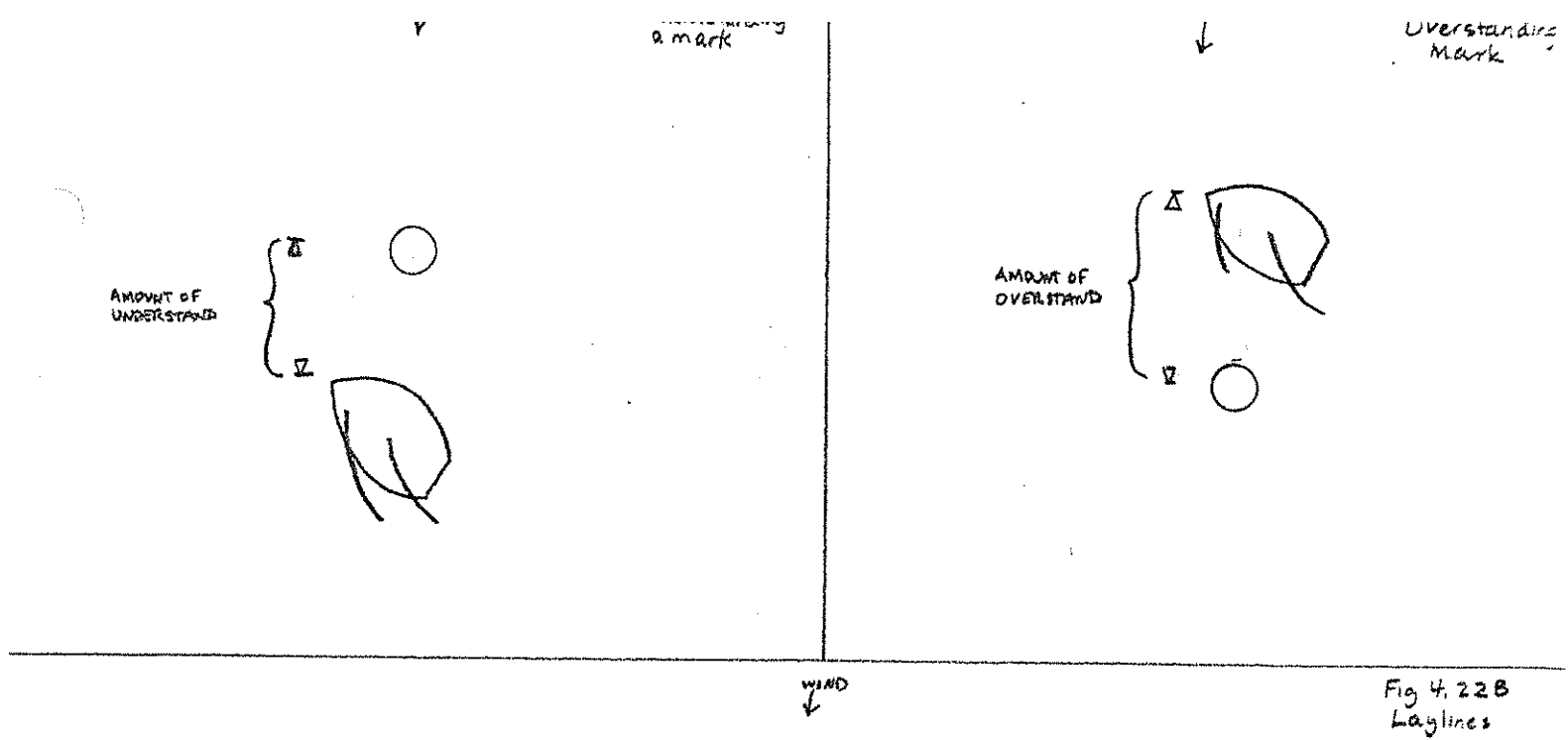
Where there has been a major shift in the direction of the wind, the Race Committee may respond in a number of ways:

- if the shift occurs prior to the starting sequence commencing, they may move the marks to correct the alignment of the course or they may postpone the race and wait to see what the wind is going to do;
- if the shift occurs after the starting sequence has commenced, they may postpone the race to re-align the course; or
- if the shift occurs after the start they may:
  - abandon the race and re-start it;
  - shorten the course and finish the race early; or
  - re-align the windward mark by putting a new mark and signal that the course has been changed, but only prior to the first yacht commencing that windward leg (in other words, they can change the windward leg only after the last competitor has rounded the first windward mark, to become effective on the subsequent windward legs).

## 7. Laying the Windward Mark

### a) Introduction

In racing, the overriding consideration is most usually finishing the race in the least possible amount of time. Accordingly, on the windward legs, it is important that you do not sail further to windward than you have to: in particular, you want to ensure that when you make your final tack towards the windward mark, your course does not carry you upwind of the mark any further than you would otherwise have to sail to fetch it.



When a yacht which is attempting to fetch a weather mark finds herself on a course that will take her further to windward of that mark than is absolutely necessary and she has to bear off to pass by the mark, the yacht is said to have "overstood" the mark. It is a very common occurrence. See Fig. 4.21. On the other hand, there is nothing more sickening than tacking onto a final approach to a windward mark and finding that you will not be able to fetch the mark after all. This can be disastrous where the rest of the fleet is also approaching the mark resulting in you having no room to tack. This is known as "understanding". See Fig. 4.22A.

Most beginning racers have such a fear of "understanding the windward mark that they unconscientiously overstand the mark. This extra distance that they sail is unnecessary and it costs time. Often too, when a competitor has understood a windward mark, he will attempt to pinch, skull, or otherwise try to squeeze around the buoy, again wasting precious time.

#### b) Recognition of the Layline

Precisely fetching a windward mark is called "laying the mark". When you have laid a weather mark exactly, you are said to be on the layline to that mark. See Fig. 4.22B. A layline is a course which will lead you directly to the windward mark.

There are two laylines for any given windward mark, namely, the port tack layline and the starboard tack layline. These laylines extend back down the race course to the point where, from the start line, you could sail on a single beat without having to tack and intercept them. If you tacked at that point, you could then lay the windward mark without having to tack again.

The art of laying a mark takes practise. In

developing your own technique, remember that the question of when to tack for the mark should be determined by the crew and not the skipper. The skipper has other necessary tactical and strategic duties to attend to, especially in the congestion of the weather mark area. As a general rule, when the crew can see that the mark is in line with the stern of the yacht, then it is time to tack for the mark. You will be on the layline. See Fig. 4.23.

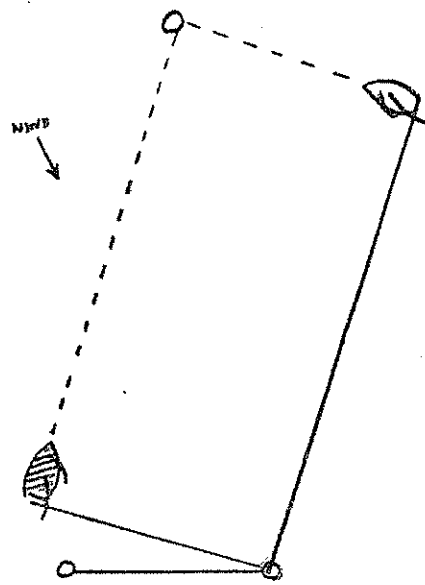
### c) The Starboard Tack Parade

In every race, you will see competitor after competitor, bow to transom, on and around the starboard tack layline approaching the windward mark. This procession is what one author has termed the "starboard tack parade". It is called a parade because, once in it, a yacht simply follows those ahead of her around the weather mark. It is a very safe position to be in for it is unlikely that any yachts will get by you. On the other hand, it is very unlikely that you will be able to catch the competitor ahead of you.

People will often join the starboard tack parade extremely early in the windward leg. In fact, some competitors simply cross the line and sail straight to the layline. This is patently wrong for, it must be remembered that the earlier one joins the starboard tack parade, the more chances to catch any yachts ahead are given up. While you are still not part of the parade, you have the potential to overtake competitors ahead of you. This chance is given up as soon as you join the parade. Thus, the longer you remain outside the parade, the more opportunities you have to catch leading competitors.

Further, you will find it extremely difficult to pinpoint the layline from anywhere but a close distance from the windward mark. Competitors who join the parade early, already demonstrating a conservative nature, will

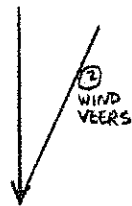




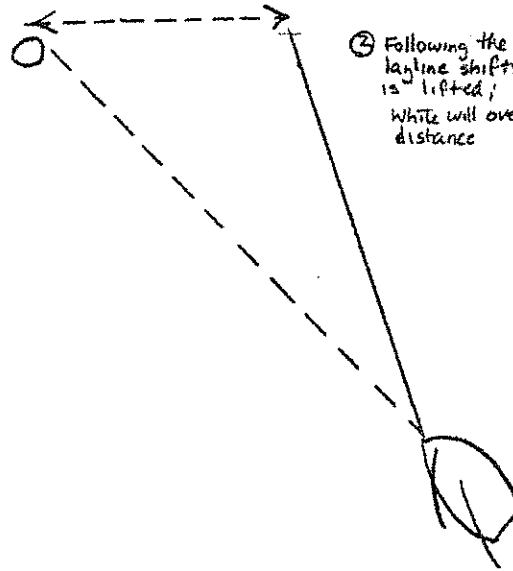
The layline can be judged much more accurately, the closer you are to the mark.

Fig 4.25  
Entering the Parake Early

① INITIAL WIND DIRECTION



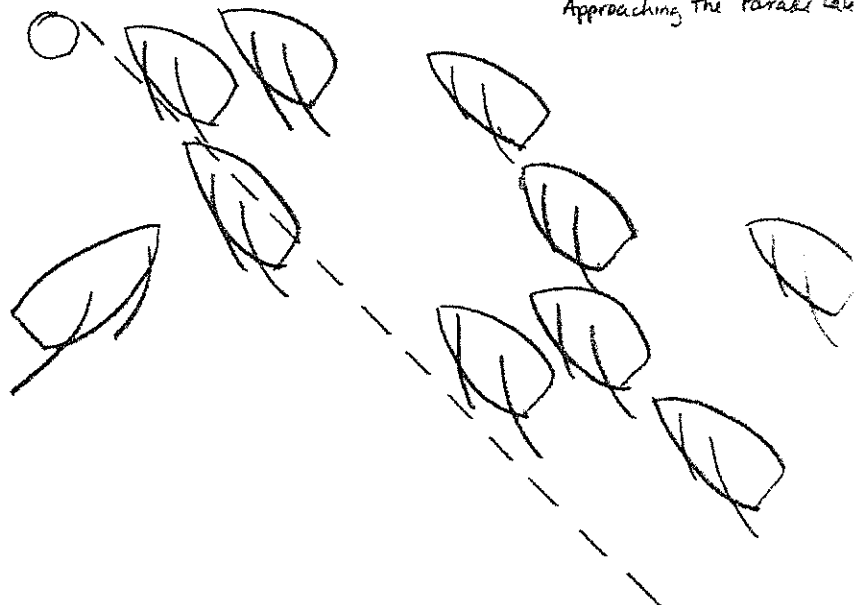
② Following the windshift, the layline shifts, Starboard tack is lifted, White will overstand by a large distance



① WHITE TACKS ONTO THE LAYLINE EARLY

Fig 4.26  
Approaching the Parake Late

WIND



likely also be conservative as to where they believe the layline to be. The result usually is that they tack too late and overstand by a large distance, wasting time. Remember, it is easier to judge the layline precisely the closer you are to the windward mark. See Fig. 4.24. Since the starboard tack parade forms in and around the starboard tack layline, avoid joining the parade until as late as possible; that is, as far up the windward leg as possible, to ensure that you are in a good position, relative to the mark, to estimate the position of the layline accurately when you are ultimately forced to join the parade.

Finally, remember the earlier you tack onto the layline, the more locked into that plan of action you become should the wind veer, either progressively or in an oscillating manner. Competitors who join the parade early will be unable to capitalize on such a shift and will overstand the mark. See Fig. 4.25.

From all of this, it should be readily apparent why you do not want to join the starboard tack parade any earlier than you are forced to. To reiterate:

- by joining the parade late, the option is still open to catch competitors ahead (though the danger is also there of being caught yourself by other yachts);
- it is easier to more accurately judge the layline the closer to the mark you are; and
- by staying out of the starboard tack parade until you have to, the ability to capitalize on wind shifts, particularly veers, is still available.

As a general rule, try to enter the starboard tack parade as late as possible; that is, as close to the windward mark as possible. When exactly you enter the parade will depend on the tactical circumstances in which you find yourself. On each windward leg of

each race. However, you may be confident of two things. Firstly, a hole in the seemingly solid line of starboard tack boats will always develop no matter how bunched the parade appears to be as you make your approach to it. There will always be some place for you. Secondly, you may be confident that most of the yachts on the starboard tack parade, and particularly those who have entered the parade early, will have overstood the mark to a considerable degree. Thus, they will be to windward of the layline, leaving you plenty of room to tack to leeward of them and still be able to round the mark.

Several cautions should be made, however, about entering the parade late in the leg:

- when approaching the starboard tack layline on port tack you must be sure that you complete your tack onto starboard without interfering with other yachts. Remember you will have no rights with respect to the starboard tack yachts either before or during your tack;
- as the inside boat, you will be able to hail for room to get around the weather mark. See the discussion on Rule 42 in this Chapter. But you must establish your position well in advance of the mark as required by the Rule; and
- make sure that when you tack to leeward of the starboard tack yachts, you tack into a safe leeward position with respect to them and not into a position where you will be blanketed by a windward starboard tack parader. Pick where and when you are going to tack carefully. Remember that following your tack, it will take several seconds to get back up to full speed. Be aware of being overtaken to windward during that time.

See Fig. 4.26.

#### d) The Effect of Current

If you are racing where there is a prevalent current, the importance of entering the starboard tack

parade late in the windward leg is even more important because competitors will be affected adversely relative to the layline by the current. If the current is running the same direction as the wind is blowing, yachts which are initially on the layline will end up to leeward of it. The reverse is true if the current is running against the direction of the wind. In this case, overstanding the mark will be prevalent.

Where you tack should depend on your understanding of where the current will have taken you by the time you reach the mark. The result may well be that you will be required to tack to windward of the layline in order, by the time you reach the weather mark, that you will have been carried directly to it.

#### 8. Rounding the Windward Mark

Rounding the weather mark may be broken into three components: the approach, the rounding, and the exit.

##### a) The Approach

We have already discussed when, as you approach the mark, you should enter the starboard tack parade as it proceeds along the layline. Some further comment should be made about the situation when you are rounding the windward mark in a yacht equipped with a spinnaker. The presence of the spinnaker complicates matters because its launch requires a considerable amount of co-ordination between skipper and crew.

When the final tack is made at the layline onto starboard and the yacht is sailing towards the mark, the spinnaker pole should be set. This will require that the skipper keep the yacht flat while the crew is setting the pole. You should consider a self-launching pole if your class rules permit. Avoid the situation of rounding the

mark onto an offwind leg, then setting the spinnaker pole, and then raising the spinnaker. You should be prepared to raise the spinnaker as you round the windward mark and begin to bear off.

b) The Rounding

You should attempt two things as you round the windward mark. Firstly, you should endeavour to make the rounding as smooth as possible with a minimum loss of boatspeed. Specifically, avoid a violent tiller action to bear the yacht off as you round. Instead, use the techniques you have learned in sailing a yacht without a rudder; that is, on rounding the weather mark roll the yacht to windward to make it bear off. Let the mainsheet out; use the jib to pull the yacht around. Always beware of hitting the windward mark with the boom as you carry this manouver out.

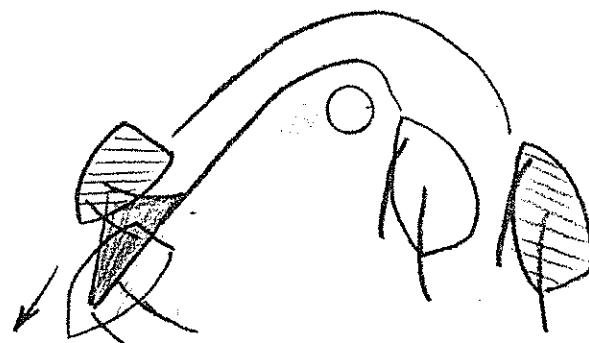
When rounding the windward mark, you should attempt to be the "inside boat". What this means is that if there are several competitors rounding at the same time, you should attempt to be closest to the mark; that is, the most leeward of the group. The reasons for this are obvious. Firstly, you will have the least amount of distance to sail upwind to get around the mark whereas the competitor on the extreme outside of the group (the most windward yacht) will have sailed the furthest upwind. Remember that extra distance sailed upwind is distance sailed unnecessarily and costs time. Secondly, on rounding the mark, being the innermost yacht gives you the largest range of courses available whereas competitors progressively further away from the mark have successively fewer course options.

If you are going to be the inside yacht of a group, on rounding the mark make sure that you have established an overlap on the outside yachts early so

AS INSIDE BOAT

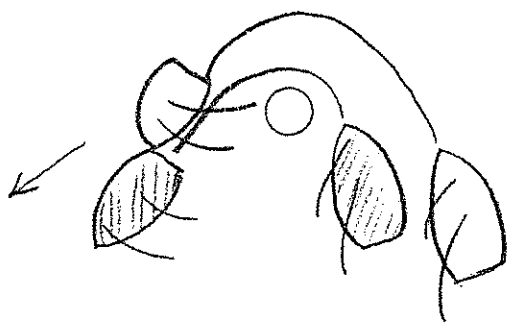


CORRECT:  
WHITE ROUNDS, THEN BEARS  
OFF SHARPLY, OUT OF THE  
BLANKET ZONE OF THE  
STRIPED YACHT



INCORRECT  
WHITE ROUNDS, THEN HEADS  
OFF TO THE NEXT MARK BEING  
BLANKETED BY THE STRIPED YACHT

AS OUTSIDE BOAT



CORRECT:  
WHITE ROUNDS AS CLOSE TO THE  
STRIPED YACHT AS SHE CAN  
AND BEARS OFF ON TOP OF HER  
AS FAR AS SHE CAN.  
WHITE BLANKETS HER OPPONENT



INCORRECT:  
WHITE ALLOWS THE STRIPED  
YACHT TO GET CLEAR OF  
HER BLANKET ZONE

that you will be able to get room to round the mark.  
Refer to the discussion on Rule 42 below.

c) The Exit

Your immediate priority upon rounding the windward mark should be to obtain clear air. If you have a spinnaker, it should be hoisted immediately. In fact, it should be already setting as you bear off.

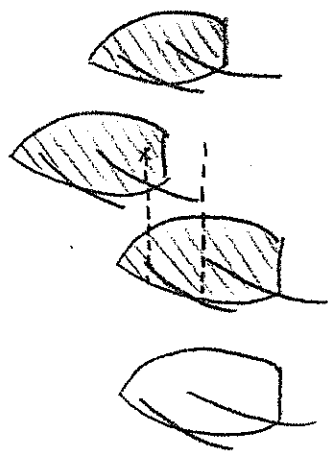
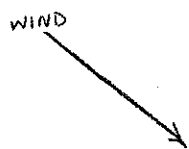
Once clear air has been established, your next priority is to establish the fastest course to the next mark. Such a course will be discussed in the following Chapter.

Figure 4.27 shows some examples of the correct and incorrect ways to round weather marks.

9. Rules Applicable to the Upwind Legs

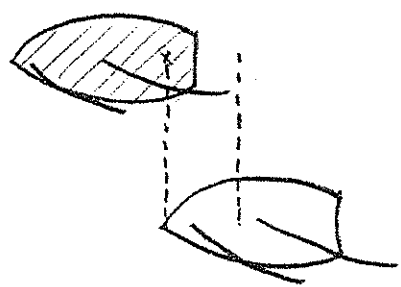
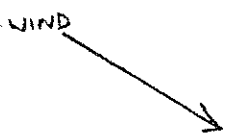
The same caution that was made regarding this section in the foregoing chapter is repeated here. There is no substitute for reading the actual text of the racing rules. What follows is merely an attempt to draw to your attention rules which might be particularly applicable on upwind legs of the course. Remember, there are, of course, no special rules governing the upwind legs as opposed to any other leg of the course. The examples given here are merely specific applications of the rules to the upwind legs.

- 35      When one yacht is required to keep clear of another, the right of way yacht cannot alter course so as to prevent the other yacht from keeping clear (except when they are on the same tacks under Rule 38).
- 36      Port tack yacht must keep clear of starboard tack yacht.
- 37      On the same tack:



White cannot luff  
as one of the Striped yachts  
cannot respond as another  
yacht has reached the  
"Mast Abeam" position with  
respect to her.

Fig 4.29  
Rule 38



White overtakes to leeward  
but cannot luff for as  
soon as the overlap was  
established, the Striped yacht  
was already past Mast Abeam



- 37.1 and when overlapped, a windward yacht shall keep clear of a leeward yacht;
- 37.2 and when not overlapped, a yacht clear astern shall keep clear of a yacht clear ahead. Note definition of "clear ahead" and "clear astern";
- 37.3 when a yacht establishes an overlap to leeward from clear astern, she shall allow the windward yacht ample room and opportunity to keep clear. Note definition of "overlapped".

38

A yacht clear ahead or to leeward may luff as she pleases providing:

- she has the right to luff all yachts that would be affected by her luff. See Rule 38.6.

Example:

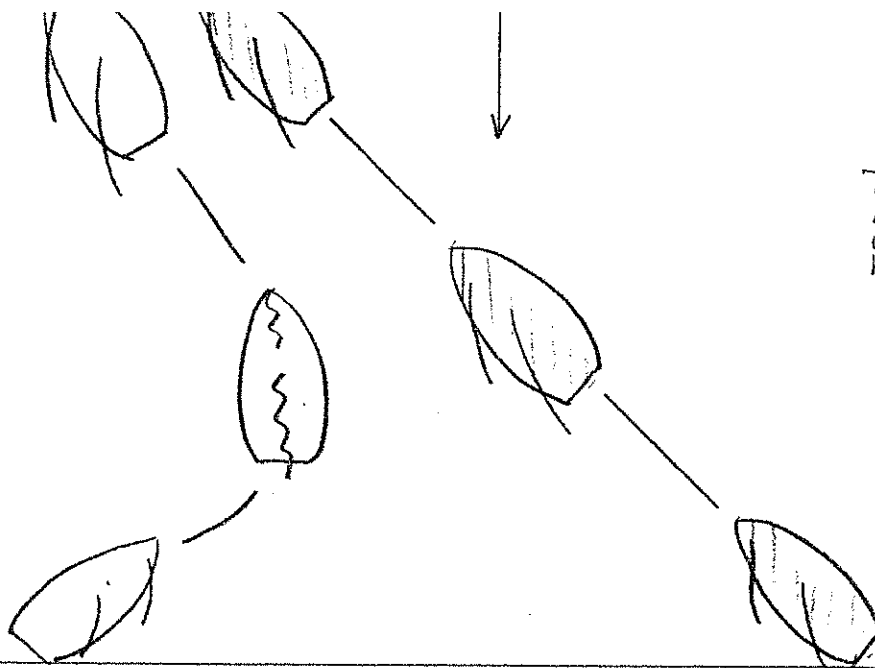
Where there are several yachts that will be affected by the leeward yacht's luff, successive leeward yachts must have rights over their corresponding windward yacht. See Fig. 4.28.

or

- if the situation involves an overlap, the yacht to leeward may luff only if the helmsman of the windward yacht has not been forward of the leeward yacht's mast and has not hailed "mast abeam" or words to that effect. If this occurs, the leeward yacht must resume or maintain her proper course. See Rules 38.2 and 38.4.

Example:

Assume two competitors on the same tack with a yacht to windward overtaking the yacht to leeward. The leeward competitor may luff up until the point when the overtaking windward yacht achieves mast abeam position. At that point, the leeward yacht must resume her proper course.



The Striped Yacht need not begin to keep clear until White has completed her tack

Fig 4.31  
Rule 41

The Striped Yacht need not begin to keep clear until White has completed her tack

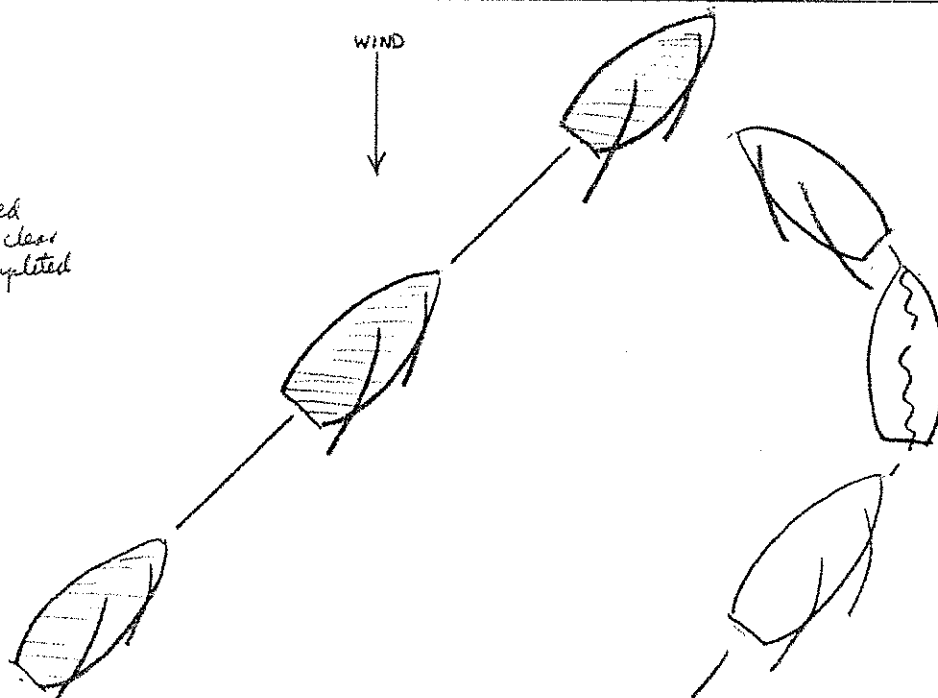
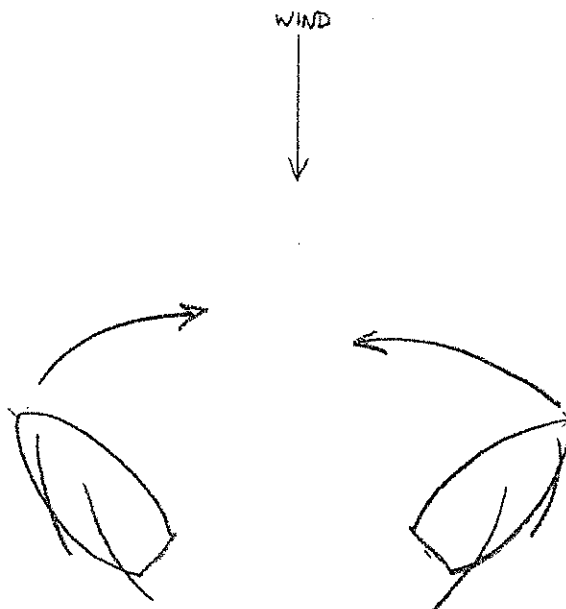


Fig 4.32  
Rule 41

Two yachts tacking simultaneously



Example:

Assume two competitors on the same tack but with the overtaking yacht to leeward. The overtaking leeward yacht can never luff the windward competitor because, at the point the overlap is established, the helmsman of the windward yacht is mast abeam. See Fig. 4.29.

## 41 Changing Tack

Note the definition of "tacking" and "on a tack".

41.1 A yacht which is tacking must keep clear.

41.2 A yacht cannot tack into a position that will give her right of way over another yacht unless she tacks into that position far enough away from the other yacht that her tack is completed before the other yacht has to begin yielding right of way.

Example:

Assume two competitors on opposite tacks. The port tack yacht can tack ahead and to leeward of its starboard tack competitor only if the starboard tack yacht does not have to begin to keep clear until after the tack has been completed. See Fig. 4.30.

Example:

Assume two boats on port tack. The leeward yacht cannot tack onto starboard and then claim right of way under Rule 36 until her tack has been completed. See Fig. 4.31.

41.3 When two yachts tack simultaneously, the one on the other's port side must keep clear. See Fig. 4.32.

42 See the following section.

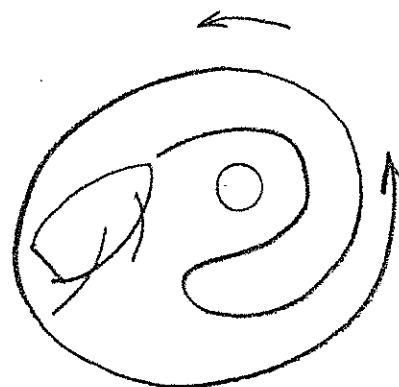
## 43 Hailing for Room to Tack at Obstructions

43.1

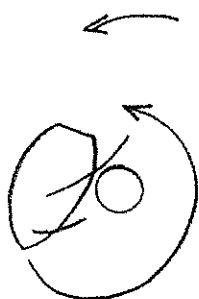
43.2 When two yachts are on the same tack, but not overlapped, and the one clear ahead and to leeward has to change course to avoid



INCORRECT



CORRECT



Hitting the Mark  
after rounding



Hitting the Mark  
Before rounding



Hitting the Mark  
on the Wrong Side

an obstruction, she may ask the windward yacht for enough room to tack and clear the obstruction. The hailed yacht must then either tack immediately or respond, "You tack" and then keep clear of the tacking yacht.

Note the definitions of "obstructions", "clear ahead" and "clear astern".

- 51 A yacht must round the course marks in such a way that, if a string were tied to her stern and was drawn tight, it would lie on the correct side of all the marks. Passing on the wrong side of a mark must be corrected. See Fig. 4.33.

Note that as you reround to exonerate yourself, you have no rights. See Rule 45.

- 52.2 When a yacht touches a mark, exoneration is required by completing one entire rounding of the mark leaving it on the required side and then rerounding it correctly. See Fig. 4.34.

## 10. Rule 42

### a) Introduction

Rule 42 causes both competitors and Protest Committees alike considerable consternation. Accordingly, we are going to spend some time dealing with it in detail.

The Rule deals generally with the subject of passing and rounding marks and obstructions. We shall not be dealing with starting marks in our discussions here. You are referred to the previous Chapter in its reference to Rule 42.4.

You should note to begin with that Rule 42 is found in Section "C" of Part IV of the Racing Rules and that the preamble to that section provides that the rules contained in Section "C" override any other rules that might be applicable in a given situation, except for Rule 35, which deals with limitations on altering course.

That is, if a conflict between two or more rules as to which governs the rights of certain competitors in a particular case arises and one of those rules is found in Section "C", the Section "C" rule is the one which applies, unless Rule 35 is involved.

Rule 42 deals essentially with three situations: when a group of yachts are passing a mark and the competitors are overlapped; when a group of yachts are passing a mark and the competitors are not overlapped; and when a group of yachts are passing obstructions. We shall deal with each of these cases in turn. For simplicity, we shall deal with situations where only two competitors are rounding the mark or passing the obstruction together. Although, except where indicated, the results are the same where more than two yachts are involved.

To fully understand the subtleties of Rule 42, you should review the definitions of "clear ahead", "clear astern", and "overlap" at this point.

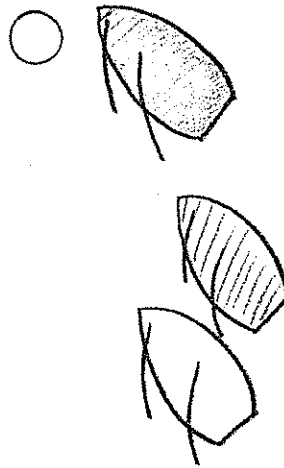
#### b) Room at Marks when Overlapped

##### i) General Rule

When two competitors are approaching a mark, and they are overlapped, Rule 42.1(a) sets out the general obligations as between them. In such a case, the outside yacht must give the inside yacht room to round the mark. For clarity, by "outside yacht" we mean the yacht furthest from the mark and by "inside yacht" the competitor who is closest to the mark. There are however a number of exceptions to this general rule.

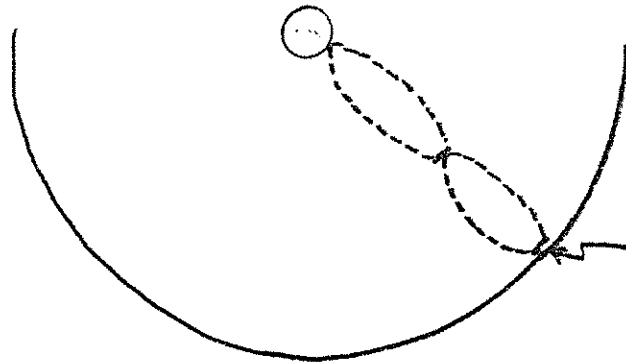
##### ii) Exceptions

The first of these exceptions is contained in Rule 42.3 (a)(i). The outside yacht is not required to

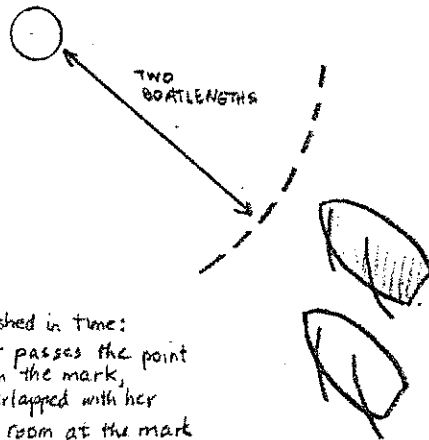


White asks the Striped Yacht for room to round the mark.  
To give that room, the Striped Yacht must ask Grey for room.  
As Grey is not required to give the Striped Yacht room at the mark, the Striped Yacht cannot give, and therefore need not give, White room at the mark.

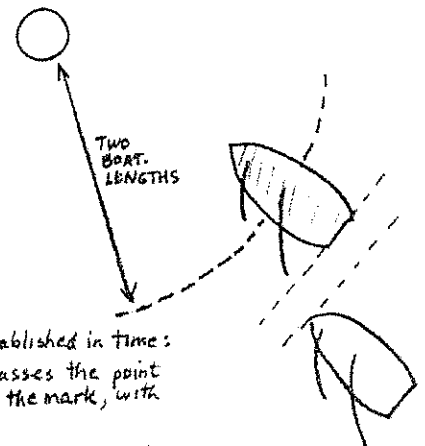
Fig 4.36  
Rule 42.3 (a) (2)



The point two-boatlenghs distant from the mark.  
The arc merely shows where this point is at different angles to the mark.



The overlap established in time:  
As the Striped Yacht passes the point two boatlenghs from the mark, White is already overlapped with her. White is entitled to room at the mark.



The overlap not established in time:  
The Striped Yacht passes the point two boatlenghs from the mark, with White clear astern.  
White is not entitled to room at the mark, even if she establishes an overlap before the Striped Yacht reaches the mark.

give the inside yacht room where the outside yacht is unable to give this room.

This exception would only apply where, for example, there are three yachts rounding a mark simultaneously. The first competitor asks for room to round the mark from the second competitor and to give that room the second competitor must ask room from the third competitor. If the second competitor does not have the right to request room from the third competitor for any reason, then obviously the second yacht is unable and therefore not required to give room to the first yacht. See Fig. 4.35.

Secondly, an outside yacht is not required to give room to an inside yacht at a mark if the inside yacht does not establish an overlap until the outside yacht is closer than two of her overall lengths from the mark.

This exception, which is contained in Rule 42.3(a)(ii), is known as the "two boatlengths rule". If an inside yacht wants room at a mark from an outside yacht, she must establish an overlap with that outside yacht prior to the outside yacht reaching a point which is two of her lengths from the mark. If the overlap is not established until the outside yacht is within two boatlengths of the mark, then the inside yacht is not entitled to room. See Fig. 4.36.

Note that there is a further exception to this exception; that is, there is a situation where, even though the inside yacht did not establish her overlap with the outside yacht before the outside yacht reached the two boatlengths point, the outside yacht is still required to give the inside yacht room to round the mark. The general rule that the outside yacht must give the inside yacht room at the mark will apply if either yacht has completed a tack within two overall lengths of the



mark, regardless that the overlap is established after the outside yacht has passed the two boatlengths point. See Rule 42.3(a)(ii).

Example:

Assume two competitors approaching the weather mark on opposite tacks. The yacht on port tack comes about close to the mark and completes her tack between the other yacht and the mark; that is, she becomes the inside yacht. It is not until she has completed her tack that the two yachts become overlapped and the outside yacht is far past her two boatlengths point. However, in this case, the two boatlengths rule does not apply because the tack was completed after the outside yacht had passed her two boatlengths point. The inside yacht can ask for room and she can do so under two rules: either Rule 42.1(a) (the general rule regarding rounding when overlapped), or Rule 37.1 (which deals with the rights of leeward yachts over windward yachts). See Fig. 4.37. Note that the inside yacht has no rights either before or during her tack.

The third case where an outside yacht is not required to give an inside yacht room to pass between she and the mark is set out in Rule 42.3(b). This exception simply is to the effect that a yacht clear ahead shall be under no obligation to give room to a yacht clear astern before an overlap is established.

Rule 42.3(b) really is not a true exception to the general rules we have been discussing, so much as a re-statement of the limited applicability of this general rule. In some ways, it merely re-states the obvious: you cannot make use of the general rule and as an inside yacht ask an outside yacht for room at a mark, unless you fall squarely within its purview. The general rule applies only when two yachts are overlapped. Rule 42.3(b) simply says you cannot make use of the general rule before

As White completes her tack passed the two boatlengths point, Rule 42.1 (a) and Rule 37.1 apply: White is entitled to room.

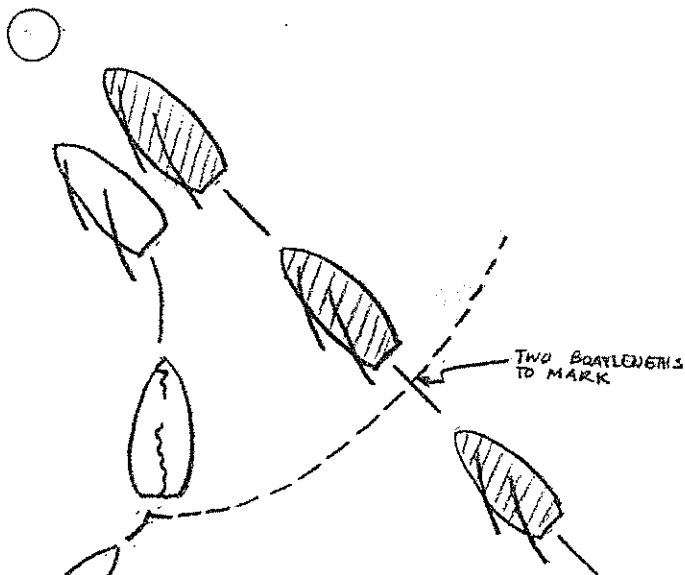


Fig 4.38  
Rule 42.3 (a)

White completes her tack before she is within two boatlengths of the mark.  
The Striped Yacht tries to duck White's stern but is not entitled to room.

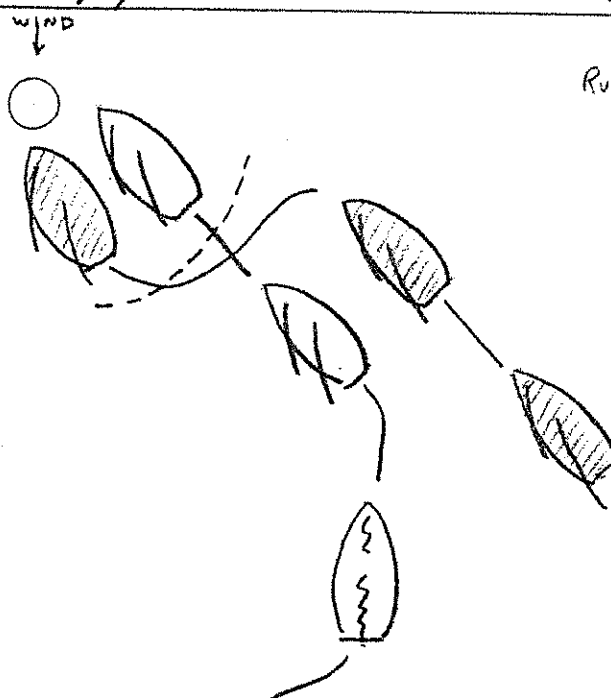
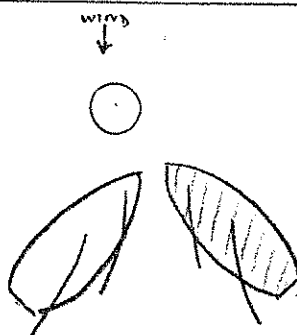


Fig 4.39  
Rule 42.1 (c)



The presence of the mark does not change the rights and obligations here. White as port tack yacht must keep clear.

that overlap is established (and established in time).

Example:

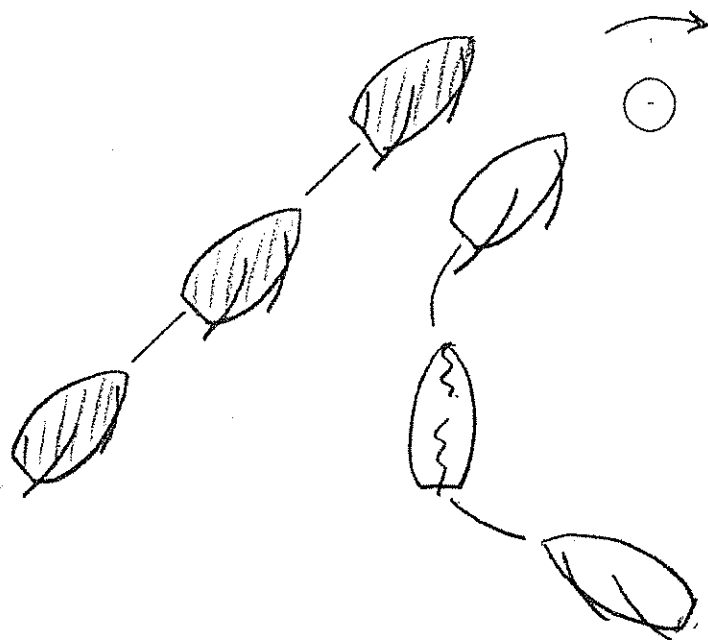
Assume two competitors approaching the mark on opposite tacks. The port tack yacht comes about before the two boatlengths point and passes that point with very little speed. The second yacht is overtaking the other quickly and attempts to go by to leeward. The yacht which has just tacked becomes the outside yacht but is under no obligation to give the overtaking inside yacht room at the mark. See Fig. 4.38. Note that if the port tack yacht had completed her tack past the two boatlengths point, the overtaking inside yacht has rights before the first yacht tacks under Rule 36; during the tack under Rule 41; and after the tack under Rules 37.1 and 42.3(a)(ii).

Finally, an outside yacht is not required to give an inside yacht room to pass between she and the mark if the two yachts are on opposite tacks or when one of them will have to tack to round the mark. This exception is contained in Rule 42.1(c).

Again, Rule 42.1(c) is more a re-statement of the general rule regarding the obligations of the outside yacht to give room at the mark to an inside yacht than an actual exception to the general rule. The general rule imparts the obligation of giving room on the outside yacht when she and the inside yacht are overlapped. Overlaps, by definition, can only exist between yachts on the same tack. Thus when Rule 42.1(c) provides that the outside yacht need not give the inside yacht room if the two competitors are on opposite tacks, really it is just clarifying that the general obligation of Rule 42.1(a) applies only as between yachts on the same tack.

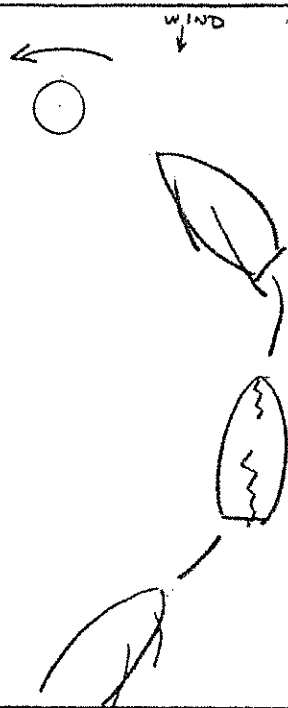
Example:

Assume two competitors approaching the mark on opposite tacks. The starboard tack yacht does not have to yield room



White has no rights  
as she tacks to  
fetch the mark but  
has rights before  
and possibly after her tack

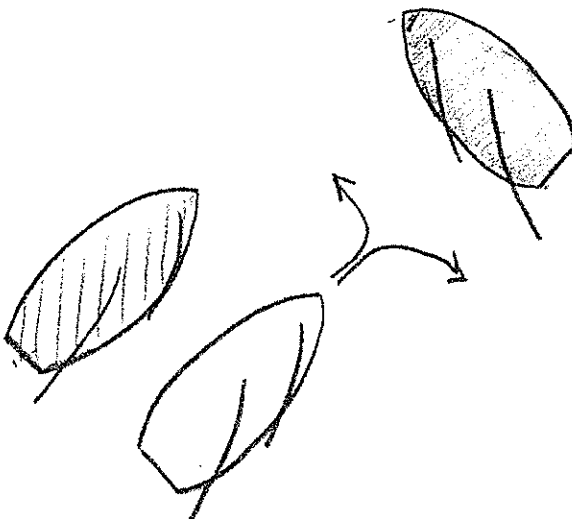
Fig 4.41  
Rule 42.2



The presence of the mark  
makes no difference to  
rights and obligations here

As tacking yacht, white  
has no rights and she must  
have completed her tack  
before the striped yacht  
must begin to keep clear

Fig 4.42  
Rules 42.3(a)(ii)  
and 42.3(f)



Grey is an obstruction as far  
as white is concerned.

She can either as the Striped Yacht  
for room to tack to clear the  
obstruction, or she can bear off  
below Grey's stern

If she bears off, she must give  
the Striped Yacht room to  
pass behind Grey as well.

to the approaching port tack yacht because, as both yachts are on a beat, Rule 42.1(c) says that Rule 36 (the opposite tack rule) governs! See Fig. 44.39.

Example:

Compare this last example with the situation in Figure 4.40. Here the inside starboard tack yacht cannot claim room while she is tacking to fetch the mark although she otherwise has rights both before and after her tack.

iii) Obligations

Once an inside overlapping yacht has fallen into Rule 42.1(a) and the outside yacht is required to give her room to pass the mark, those rights cannot be lost simply because, at some later point after the yachts have passed the two boatlengths point, for one reason or another, the overlap is broken. Rule 42.3(c) provides that when an outside yacht is overlapped by an inside yacht at the time she passes the two boatlengths point, she must give the inside yacht room even though the overlap subsequently is broken. Where this situation may occur is in gusty conditions or where there are waves and the yachts are repeatedly accelerating and deaccelerating and overlaps are being established and broken.

The obligation to the inside yacht as far as the outside yacht is concerned is to give the inside competitor sufficient room to pass the mark. This includes room for the overlapping inside yacht to tack to gybe when such an act is an integral part of the rounding manouver. See Rule 42.1(a).

However, the inside yacht has obligations towards the outside yacht as well. Under 42.1(b), when an inside yacht will have to gybe in order to assume proper course

to the next mark after rounding, she must gybe at the first reasonable opportunity. Where this rule might come into play at weather marks is when rounding from a beat onto a run.

Further, you should note Rule 42.1(d). Although this Rule is used mostly in team racing, you should be aware that a leeward outside yacht may luff a windward inside yacht to windward of the mark. If she desires to take this course of action, she must hail to that effect and begin her luff before she passes the two boatlengths point. She must also pass to windward of the mark. In the normal course of events, you would not use this tactic very often, if ever.

#### iv) Summary

In summary then, the situation when two competitors are overlapped and are approaching the windward is as follows:

- The general rule is that the outside yacht must give the inside yacht room to pass between she and the mark under Rule 42.1(a).
- This general rule is subject to a number of exceptions. An outside yacht is not required to give room at the mark to an inside yacht where:
  - the outside yacht is unable to give the required room under Rule 42.3(a)(i);
  - the inside yacht does not establish her overlap before the outside yacht passes a point two of her boatlengths distant from the mark, however, this exception does not apply when either yacht has completed a tack after the two overall boatlengths point and in which case, the outside yacht must give room at the mark to the inside yacht under Rule 42.3(a)(ii);
  - where the overlap has not yet been established under Rule 42.3(b); and

- where the two yachts are on opposite tacks or when one of them will have to tack to round the mark under Rule 42.1(c).
- Once the inside yacht has established its right to room, that right cannot be lost, even if the overlap is broken after the two boatlengths point has been passed under Rule 42.3(c).

c) Room at Marks When not Overlapped

The rules when competitors are rounding marks close together, but not overlapped, are much easier to understand, simply because the situation they deal with is less hectic. Rule 42.2 is the applicable rule. Generally, when yachts are about to round a mark close together but not overlapped, the yacht clear astern must keep clear when the yacht clear ahead either remains on the same tack (as in bearing off onto a reach) or gybes (as when rounding from a beat to a run).

However, where the yacht clear ahead tacks to round the mark, the tacking yacht is subject to Rule 41 and must keep clear. At the same time, while the yacht clear ahead is tacking, the yacht clear astern cannot luff above a close hauled course so as to prevent the yacht clear ahead from keeping clear.

Example:

Assume two competitors approaching the windward mark on port tack. The yacht clear ahead has to tack first in order to round the mark. She must keep clear of the second yacht while she is tacking as Rule 41 will be in effect. If the yacht clear ahead thinks that she can make her tack and keep clear of the second yacht without difficulty, she may do so and the yacht clear astern must then not luff above close hauled to prevent her from keeping clear. See Fig. 4.41.

#### d) Room to Pass at Obstructions

Rule 42 applies to obstructions as well as marks and the comments that we have made about the rights of competitors when overlapped or when not overlapped apply equally here.

The only qualification to this is that, when competitors are overlapped and about to pass an obstruction, the inside yacht need not establish her overlap with the outside yacht before the outside yacht passes the point two of her boatlengths from the obstruction in order to obtain room where:

- the obstruction is a continuing one, such as a shoal, the shore, or another yacht; and
- at the time the inside yacht does establish her overlap, there is room for her to pass between the outside yacht and the obstruction safely.

If both these conditions are met, the general rule applies and the outside yacht is required to give the inside yacht room regardless of when the overlap was established. See Rule 42.3(a)(ii) and Rule 42.3(f).

#### Example:

Assume two competitors on port tack with a third yacht approaching them on starboard tack. The starboard tack yacht becomes an obstruction and the inside leeward yacht can ask for room either to tack or to bear off. If she does go behind the stern of the starboard tack yacht, she must give enough room for the windward port tack yacht to follow her. See Fig. 4.42.

You should review (hailing for room at obstructions) and the definition of "obstruction".

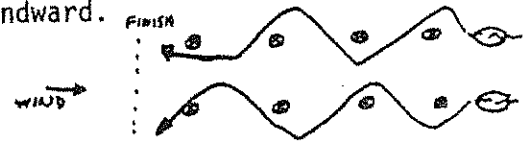
#### 11. Water Exercises



## UPWIND DRILLS

### 1. Locating the Layline

- 1.1 Layline familiarization: Set up a windward leg but add a third mark at the layline. Boats tack at second mark.
- 1.2 Same course as in 1.1 but layline assist is removed. Students must pick layline for themselves.
- 1.3 Paired slalom: Set up two lines of marks to windward. Boats race up the course; emphasise layline.



### 2. Covering: Attack and Defense

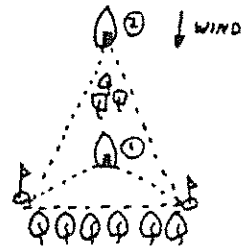
- 2.1 Boat on boat, leeward tries to obtain safe leeward berth.
- 2.2 Boat on boat, windward and astern tries to break free by tacking; leeward and ahead covers.
- 2.3 Pairs drills: backwinding, blanketing, response.
- 2.4 In triples, two boats duel while a third tries to pass both.
- 2.5 Paired races to windward; marks to starboard.

### 3. Upwind Rules

- 3.1 Paired slalom race; both boats on same course.

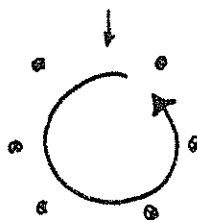


- 3.2 Closing triangle: Boats must stay within triangle formed by crashboat and two marks. Boats are eliminated as they commit fouls. Crashboat moves slowly upwind until one boat remains.



### 4. Practising Upwind Tactics

- 4.1 Race consisting of short windward leg and return (emphasis on starting and tactics)
- 4.2 Race consisting of long windward leg and return (emphasis on strategy)
- 4.3 Magic Circle drill: Boats must remain inside perimeter marks, moving always anticlockwise. Boats are eliminated as they commit fouls (emphasise rules).



## CHAPTER FIVE

### THE OFFWIND LEGS

#### 1. Technique on the Offwind Legs

##### a) Introduction

For many racers, the offwind legs are a time to relax. They have had to work hard up the windward leg and view the offwind legs as an opportunity to release their concentration. You will see many competitors actually breathing a sigh of relief as they bear off around the weather mark. Unfortunately, for these competitors, victory will remain elusive for the rewards of aggression on the offwind legs are many positions gained. The offwind legs are far from being the easy part of the race; in fact, if anything, they are the time when you must work the hardest, not at keeping the yacht flat or picking the windshifts, but in maintaining absolute maximum boatspeed.

Success on the offwind legs requires a fundamental understanding of the nature of yacht racing. Yacht racing is a race against the clock; the amount of distance that you sail during the race is irrelevant. What matters is not how far you sail to get to the finish line, but how quickly you get there and often the fastest course on the offwind legs is not the shortest course to the next mark. In this, the offwind legs are quite different from the upwind legs; but once this dichotomy is understood, the proper approach to the offwind legs is not hard to understand.

On the offwind legs, the shortest time between two points is not necessarily a straight line. The "rhumbline" is a term which refers to a straight line course drawn all the way around the race course from one mark to the next. On the offwind leg, often the

Bulge to Windward on First Reach

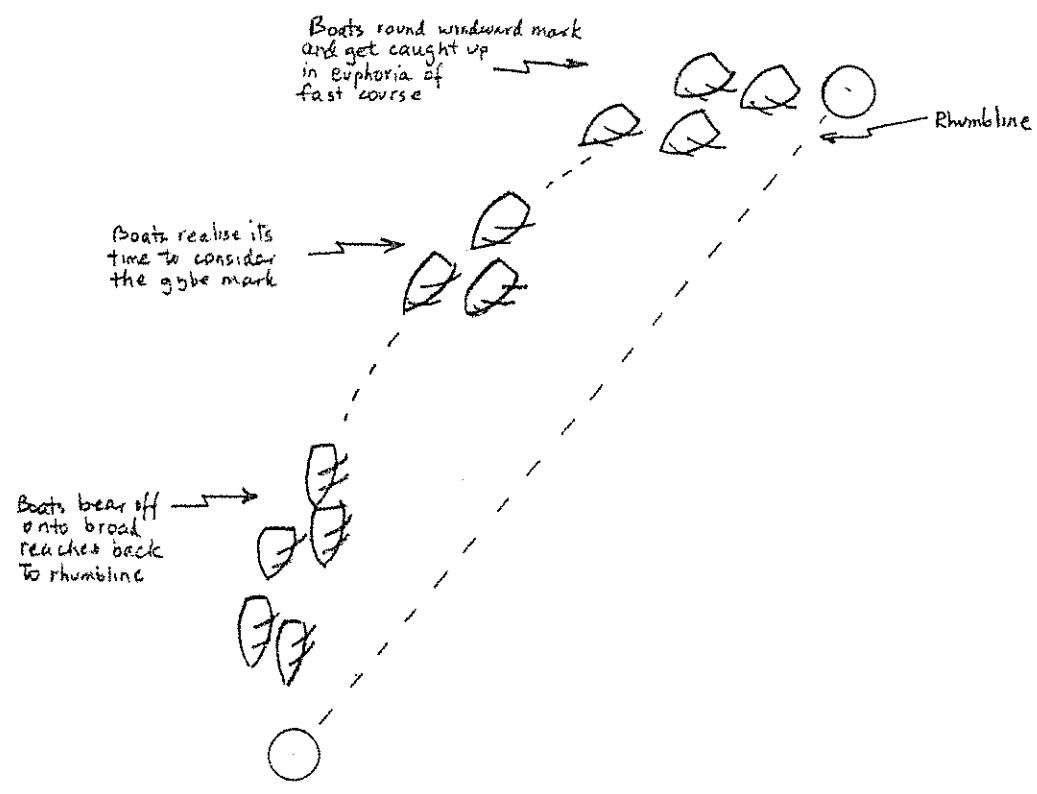
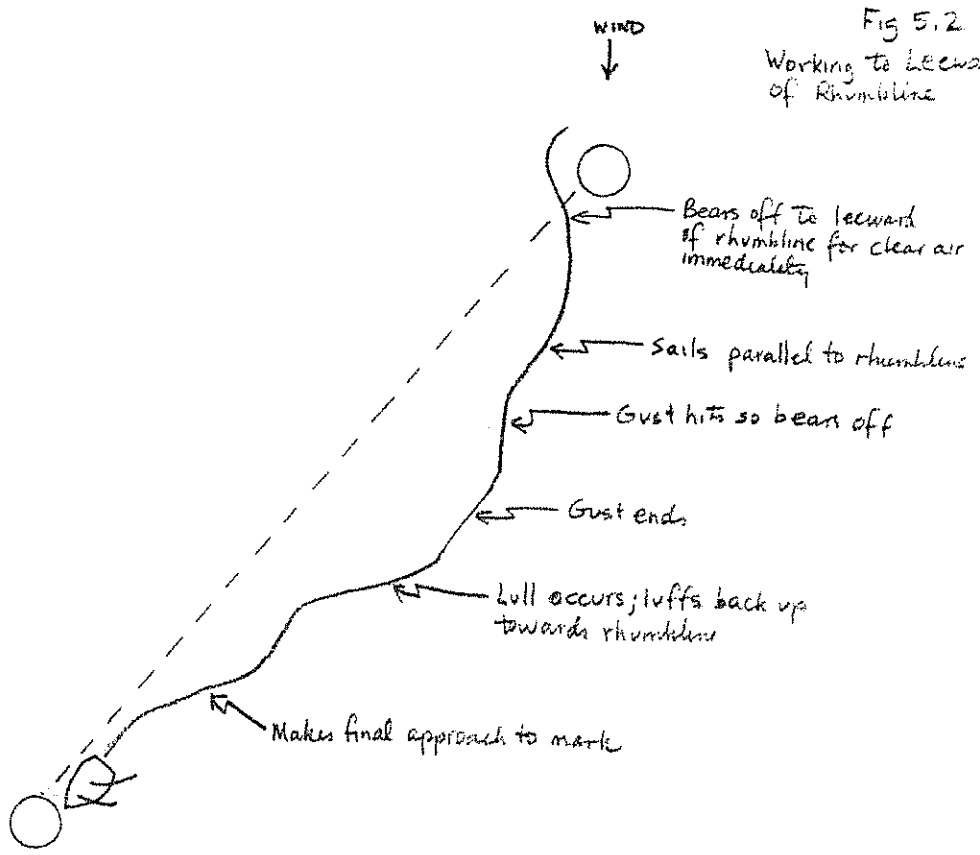


Fig 5.2 Working to Leeward of Rhumbline



fastest course is to abandon the rhumbline for a course that will get you to the next mark more quickly.

b) Reaching

i) The First Reach

We have already discussed priorities on rounding the weather mark. We have suggested that the first priority is clear air and that the second priority is to assume fastest course to the next mark.

If you watch what happens when the fleet rounds the weather mark, you will see that it essentially follows the pattern shown in Figure 5.1. As competitors round the weather mark, they are caught up in the sudden acceleration that occurs as they begin the reach. Remembering that fastest is best, they continue this course which eventually leads them to windward of the rhumbline on a fast but close reach. Many competitors become caught up in this parade and follow the yachts ahead and near them to windward of the rhumbline as well.

Eventually, these competitors realize that they are too far to windward and must begin to bear off back to the rhumbline and back to the gybe mark. At this point, they suddenly lose all of their boatspeed as they assume very broad reaches towards the gybe mark. You must make a conscious effort not to get caught up in this bulge to windward of the rhumbline.

On rounding the windward mark and once clear air has been established, you must then proceed to establish the fastest course to the gybe mark. If the leg is short in length or the wind is moderately strong, and you are able to plane easily or if there are no other yachts close by, it is generally best to sail along the rhumbline to the gybe mark. This is the fastest course; it is also the

shortest but only coincidentally.

By making use of the gusts to sail on a fairly broad reach to leeward of the rhumbline and then luffing up in the lulls, back toward the rhumbline, the yacht can be kept moving its fastest over the entire leg. Following this technique results in a weaving course which should lead initially to leeward of the rhumbline. See Fig. 5.2.

As a result of such an approach to the first reach, when the majority of the fleet, which is to windward of the rhumbline, bears off to come towards the gybe mark, you will not only be travelling on a faster point of sail as you luff up towards the mark but will also be inside yacht at the mark.

If the wind is light or you are expecting it to shift persistently aft, (that is, veer), sailing initially to leeward of the rhumbline will again enable you to approach the gybe mark on a faster point of sail than if you were coming to the mark from windward of the rhumbline.

Only if the wind is persistently shifting forward, (that is, backing), should you try to go to windward of the rhumbline initially to leave the most advantageous sailing angle for late in the leg, as you approach the mark.

Whatever your particular course on the first reach, you should ensure that you are to leeward of the majority if not all the yachts around you to ensure that you will be the innermost competitor at the gybe mark.

## ii) The Second Reach

On the second reach, your priorities should again be firstly to obtain clear air following the rounding of the gybe mark and secondly to assume the fastest course to the next mark. Again, you will want

to be the inside yacht at the leeward mark.

Selection of the fastest course should be based on the following considerations:

- if the leg is short, the wind strong enough for continual planing, or there are no other competitors close by, sail the rhumbline;
- if the wind is varying in strength or expected to shift persistantly forward (that is, veer), work towards the inside of the course initially (but on the second reach this means going to windward of the rhumbline), and head back toward the rhumbline as the leg progresses;
- if the wind is light or expected to shift persistently aft (that is, back), work initially to leeward of the rhumbline and head back as the leg progresses.

No matter what course you sail, always keep that part of the fleet which is close to you, to leeward; that is, always stay closer to the inside of the course than they are. Be very careful of being blanketed. Remember to try to be innermost boat at the leeward mark.

You will find that the fleet, particularly if the class is flying spinnaker, will have a tendency to bulge to leeward of the rhumbline on this leg. Avoid being caught up in this. See Fig. 5.3.

### c) The Run

The choice of courses following rounding the windward mark onto the run is the same as on both reaches: to obtain clear air first followed by assuming the fastest course to the next mark.

What exactly the fastest course to the leeward mark will be is dependent upon a number of factors: the individual boat involved; the wind and wave conditions at the time; and the angle at which the true wind meets the rhumbline.

Deviation from a course straight down the rhumb-line will produce increased speed, particularly if the rhumbline and the true wind direction are parallel. The angle that you will want to luff up from the rhumbline decreases both as the speed of the wind increases and the angle the direction the true wind makes with the rhumbline increases.

Obviously, as the windspeed increases, you will be able to get up on plane or surf on the waves meaning that the extra distance sailed by deviating from the rhumbline will not result in any saving of time. Under heavy wind conditions, luffing up from the rhumbline, which will result in a number of gybes being required over the leg which could be disastrous.

As the direction of the true wind and the rhumb-line begin to form an increasingly large angle with one another, the course down the rhumbline becomes less of a run and more of a broad reach. Accordingly, the rhumb-line course becomes quicker to the point where the time it takes to sail a greater distance on a close reach down the run is greater than the time it takes to sail the lesser distance on a broader and slower reach along the rhumbline.

You should sail the run as you sail the weather leg in terms of applicable strategy. That is, you should make use of windshifts to always ensure you are on the fastest point of sail in the direction of the mark. Often, this will require you to "tack downwind", an imprecise phrase which really means that you sail the run by taking a number of broad reaches, gybing at the times where, if you were on a windward leg, it would be appropriate strategically to tack. The precise angle to the rhumbline of these broad reaches will depend upon a number of factors but the utilization of windshifts to determine when to gybe will employ the same technique you used on the weather leg.

On the run, you should be continually adjusting your course to maintain both the best possible speed and the best possible course to the leeward mark. If one gybe is more favoured than the other, in terms of either speed or course, then the situation is similar to the situation of a "long tack" on the weather leg: you should take the "long gybe" first as it will bring you closer to the leeward mark or move you down the course more quickly.

As you approach the leeward mark, you should assume a gybe which will take you into the mark with the best speed and as the inside yacht for rounding.

d) When Not to Set the Spinnaker

You will undoubtedly be racing in conditions from time to time where a decision will have to be made as to whether the spinnaker should be hoisted or not. Particularly on the reaches, the main consideration is the heading that the boat will be able to maintain with the spinnaker up. You may not be able to stay on the rhumbline if you raise the spinnaker.

A second consideration is whether the windspeed is either too great or too light to justify the use of the spinnaker. The problem in heavy air is obvious: the threat of uncontrollable heel or capsize. In light air the problem is more subtle. You may well be able to achieve better boatspeed with the spinnaker in the bag and the jib properly drawing than destroying the slot with a limp spinnaker which keeps falling in on itself.

The criteria for when not to set the spinnaker will have to be something that you develop based on your own experience with your own yacht. However, you should not hesitate to douse the spinnaker if you feel that it is causing you more harm than good.

You may well decide that you will use the



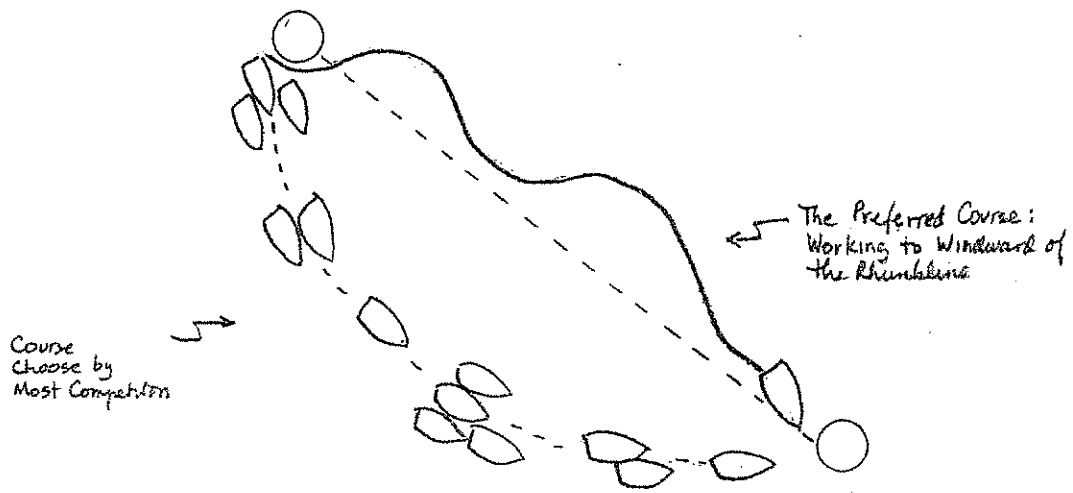


Fig 5.4  
Blanketing on the  
Offwind Legs

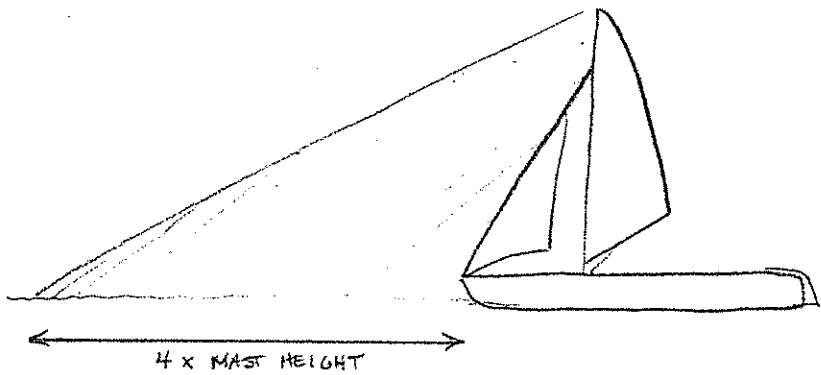
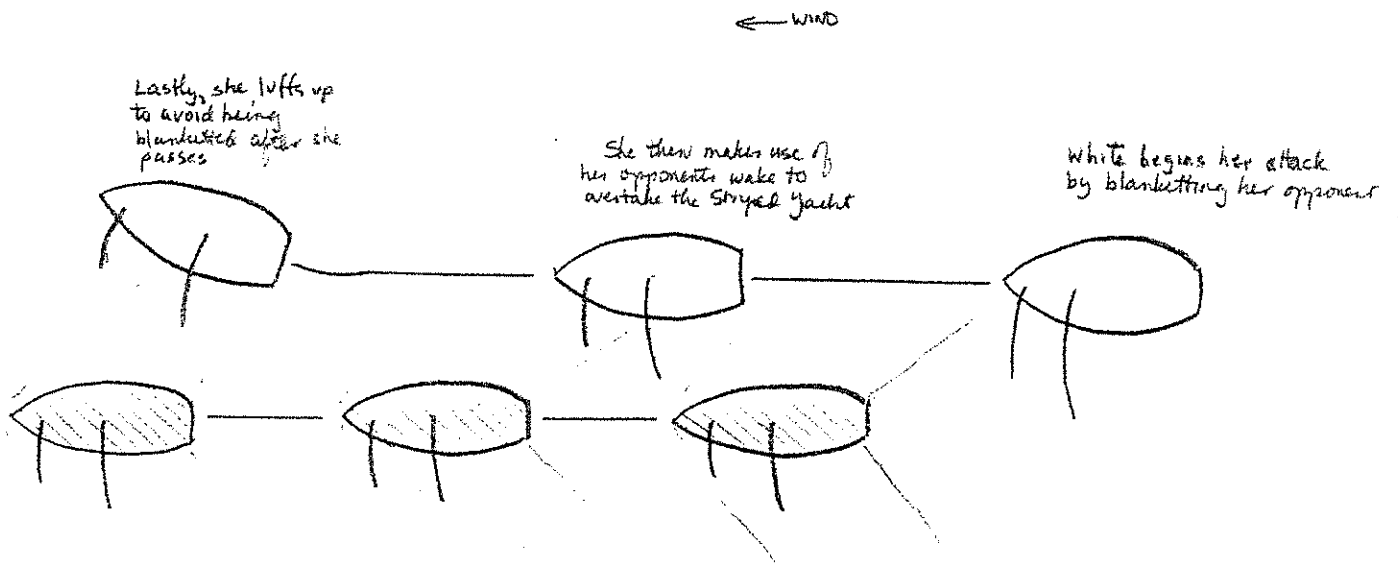


Fig 5.5  
The Attack to Windward



spinnaker for part of the reach and take it down at some other point within the same leg. For example, you might sail the first reach with the spinnaker up as you work to leeward of the rhumbline and until you reach the point where you have to head up to round the mark. At that point it may be necessary to douse the spinnaker. Or, you may sail the first part of the second reach without the spinnaker and hoist it as you bear off from windward of the rhumbline towards the leeward mark.

## 2. Tactics on the Offwind Legs

### a) Blanketing

As we have seen in the chapter on the upwind legs, a yacht creates an area of disturbed air and water flow around her. Remember that, as the course sailed becomes broader, the area of disturbed air flow moves towards the bow as the mainsail moves outboard so that on a dead run, the area of disturbed air flow is actually directly ahead of the yacht. See Fig. 5.4.

### b) Reaching

#### i) Attack to Windward

In this situation, we have an overtaking windward yacht. The attack to windward consists of attempting to blanket the leeward competitor slow him down, and pass. The problems with such an attack are obvious.

Firstly, the attacking windward yacht must be very close to the defending leeward competitor in order for her wind shadow to be effective. In fact, this distance must be usually less than four boatlengths.

Secondly, the defending yacht has the weapon of luffing rights to ward off a windward attack. Thirdly, in order to get by to windward, the attacking competitor must sail through the wave disturbance of the leeward yacht and then past the point where she is vulnerable to being lee-bowed by her opponent.

Accordingly, you must develop a technique of using the blanket zone to first slow the opponent and then make use of his stern waves to accelerate past him. Until you pass the mast abeam position. At this point, you must then luff up sharply to avoid being caught in other yacht's backwind. See Fig. 5.5.

#### ii) Attack to Leeward

In this case, we are dealing with an overtaking leeward yacht, which has no blanketing weapon to use. In fact, the only weapon that she has is to make use of the defending yacht's wake. The problem with a leeward attack is, of course, the blanket zone of the defending competitor which the attacker must sail through. Remember that the windward defending yacht may not bear off on top of the overtaking leeward yacht to defend herself. Remember also that the attacking leeward yacht may not luff her windward opponent.

#### c) Running

The comments made above with respect to attack and defence apply equally to competitors on a run. In addition, with a windward attack, a passing yacht must be careful to avoid being blanketed by her trailing opponent. Once the attack is complete, all the leeward yacht has to do is luff up onto exactly the same course as the leading yacht and put her blanket zone to good use.

#### d) The Presence of the Third Boat

The comments made in the chapter on the upwind legs about the possibility when duelling of third yachts getting past both competitors is equally applicable here. Do not become involved with another yacht unnecessarily; do so only if there is a clear tactical advantage to be gained. Duelling, because it involves two competitors interferring with one another, of necessity slows both yachts down. Whenever you become involved in a duelling situation, be alert to the possibility of other competitors capitalizing on your situation and getting by themselves.

If, as overtaking the yacht, you can get by your slower opponent by some means other than duelling with him, it is highly recommended that you do so. For example, by planning a leeward attack that takes you well below the effective wind shadow of the windward defending yacht, the problem of her interference as you pass is avoided.

### 3. Mark Rounding Technique

#### a) The Gybe Mark: Reach to Reach

##### i) Rounding Alone

Whenever you are rounding a mark, you should do so with the least amount of disruption possible in the yacht's progress. Just as when you round windward marks, you should attempt to round the gybe mark by using the sails and centreboard, and by heeling the boat to windward, rather than through violent tiller actions. The result will be a rounding with a minimum loss of boatspeed. When rounding alone, the rounding should be smooth and carve an evenly spaced arc about the mark. Watch that you do not catch the boom on the mark as you round.

ii) Rounding in a Crowd

The objective of rounding the gybe mark properly when other competitors are rounding with you remains the same as when you were rounding the mark alone: you will want to round with a minimum loss of boatspeed; the mechanics of the rounding are also the same. However, the presence of other yachts necessitates that some thought be given to tactical aspects of the rounding and often these considerations, primarily being the protection of your present position and the gaining of new positions, will override the objective of a smooth easy rounding.

You will find yourself in one of two situations. Either you will be the innermost yacht with other competitors rounding outside of you or you will be the outside yacht with one or more competitors rounding between you and the mark.

The situation of rounding as the innermost competitor will be considered first, as it is the most advantageous position to be in. Other yachts will have to give you sufficient room to round the mark, provided you establish your overlap in time and, once you have rounded, you will have the advantage of clear air on the second reach.

If you have sailed the first reach with the objective of being the innermost yacht in mind, as you approach the mark, the final touches of this scheme must be put into place. Remember, you must establish an overlap on the outside (windward) competitor before that competitor reaches the point two boatlengths distant from the mark. If this overlap is broken once you pass this point, it is of no consequence with respect to your rights to room at the mark. But the overlap must be established in time or you are entitled to nothing. Be careful when you are establishing your overlap that you do not end up being blanketed by the windward yacht; try to attain a safe leeward berth with respect to him. Do not forget to hail

for the required room and, when making a rounding, take as much room as you need.

Figure 5.6 shows how the advantage gained by being innermost competitor at the gybe mark can be maximized. As you approach the mark, make obvious indications that you will be making a wide sweeping turn as you round. But, as you reach the point where the gybe must be made, swerve quickly around the mark, leaving the windward yachts to round outside of what they expected your course to have been. You will not only be ahead but have clear air as you enter the second reach.

In a situation where you are an outside yacht with competitors rounding between you and the mark, you must, of course, give the inside yacht sufficient room at the mark provided that the overlap was correctly established.

If it is not, in response to the inside yacht's hail for room, you should respond by saying, "no room", or words to that effect. If the inside yacht still claims she has the rights to room at the mark, you must decide whether to give the room or not. This decision should be based on the following test:

- if you believe the inside yacht is not entitled to room because she did not establish the overlap in time, you should refuse to give the inside yacht room. Her remedy will then be to protest and, in such a situation, the onus is on her to prove that a overlap was properly established. See Rule 42.3(d); or
- if you believe that the inside yacht is not entitled to room because, although you and the other competitor were overlapped some distance from the mark, at some point before you reached two boat-lengths distant from the mark the overlap was broken and was not re-established until after that point, you should give the inside yacht the room she requests for, if you deny her room and she protests, the onus is on you to establish that the overlap was broken. See Rule 42.3(e).

The distinction here is often a subtle one: when does a protest in these situations revolve around the issue of whether the overlap was established in time and when is the issue that the overlap was broken before the two boatlengths point was reached? Obviously this makes a big difference as to who has the uphill battle in the protest hearing. If there is a rule of thumb to follow, it is this: unless the situation is clear, play it safe as the outside competitor. Give the required room and consider protesting afterward. In that way, the worst that can happen is that the protest is dismissed; whereas, if you refuse to give the room asked for, you may well be disqualified.

In any event, when rounding as the outside yacht, you still have an opportunity to capitalize on the rounding if the inside yacht does not round properly. See Fig. 5.7. If the inside yacht rounds wide of the mark, by cutting in sharply behind her transom, you can gain the inside and windward position coming away from the mark, after the gybe. But beware of luffs from the inside yacht and avoid getting stuck in its backwind, following the rounding.

Also beware of a situation where the inside competitor forces you to round wide of the mark by indicating that she will be rounding wide herself and then cutting in close to the mark leaving you well to leeward.

The main weapon the outside windward yacht has, of course, is to blanket the inside leeward competitor. But again, you must be careful to avoid letting the leeward yacht establish a lee-bow position.

As a final note, remember that no matter how tactically precise your rounding is, a poorly executed gybe will lose all of this advantage for you.

WIND →

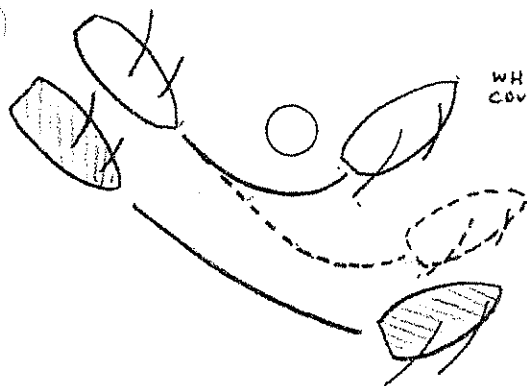
Rounding the Gybe  
Mark as Inside Yacht

FROM  
WINDWARD  
MARK

TO  
LEEWARD  
MARK

WHITE'S ACTUAL  
COURSE

COURSE THE  
STRIPED YACHT  
EXPECTS WHITE  
TO SAIL

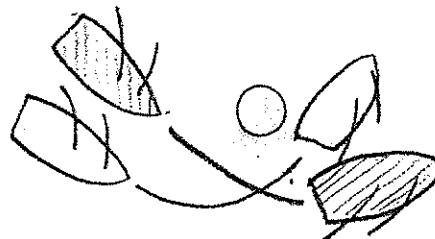


WIND →

Rounding the Gybe  
Mark as Outside

FROM  
WINDWARD  
MARK

TO  
LEEWARD  
MARK



White is forced to round outside the Striped Yacht.  
The striped yacht rounds poorly; White slows;  
cuts behind the stern of the Striped Yacht;  
and heads to windward of the thumbline.

CORRECT

WIND ↓



White follows the "In Wide / Out Close" Rule.  
She luffs up as she rounds the mark — not  
afterwards — so that she leaves the mark  
on a beat, not on a reach.

INCORRECT  
WIND ↓

Fig 5.3

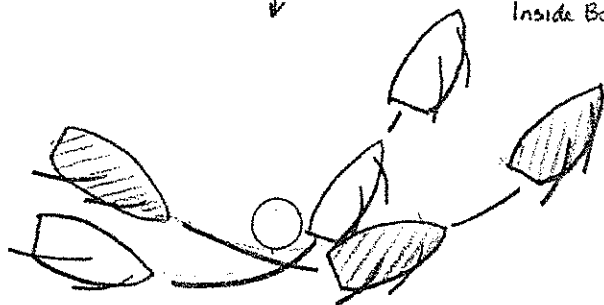
Rounding the  
Leeward Mark



Here White rounds up after  
she leaves the mark.

WIND ↓

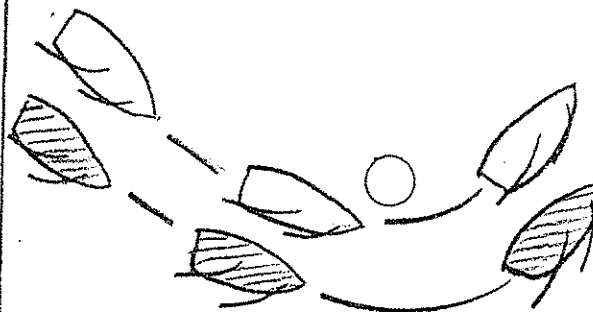
Fig 5.9  
Incorrect Rounding:  
Inside Boat



The Striped Yacht rounds the mark  
and then luffs up, leaving White  
room to luff up between she and  
the mark.

WIND ↓

Fig 5.10  
Incorrect Rounding:  
Outside Boat



The Striped Yacht starts out even with White  
but, by rounding on the outside, she is  
forced to sail further distance to round  
the mark and ends up behind and to  
leeward on the beat.



## b) The Leeward Mark: Reach to Beat

### i) Rounding Alone

The basic addage when rounding the leeward mark is to begin the rounding wide of the mark and come out of the rounding close to the mark. See Fig. 5.8.

Rounding the leeward mark calls for good co-ordination on the part of the skipper and the crew. Assuming you do not have a spinnaker to worry about, as the mark is approached, the crew should make such adjustments as are necessary to the yacht's tuning to set it up properly for the beat. For example, the centreboard must be lowered, the jib fair leads moved aft; the cunningham tightened and the traveller pulled to windward. The skipper's job on rounding is to ensure not that the yacht rounds the mark and then luffs up onto a beat, but that the yacht completes the rounding on a beat.

As with all marks, the rounding should be smooth and with as little disturbance to the boatspeed as possible. Again, use the sails, centreboard, and heeling angle to make the yacht round up as you desire. The yacht will have a tendency to heel as it luffs up and therefore be prepared to start hiking, hard.

When a spinnaker has been flown on the second reach, its take-down should occur as the yacht is rounding the mark and not before. The crew can take the pole down after the rounding. The skipper's job while the crew is putting the pole away should be to keep the yacht flat.

### ii) Rounding in a Crowd

Just as with rounding the gybe mark in the presence of other competitors, rounding the leeward mark in traffic means that tactical considerations enter the picture. Again, you will be rounding in one of two

situations: either as the innermost yacht or as an outside yacht with other competitors rounding between you and the mark.

When rounding as the inside yacht, your primary tactical concern is preventing other competitors from wedging themselves between you and the mark following the rounding; that is, ending up to weather of you. Your rounding therefore should follow the "in wide, out close" rule. If an outside yacht is able to get inside and to windward of you, bear off slightly and obtain clear air to avoid being blanketed.

If you round the mark to windward and inside of a competitor who has established a safe leeward berth and is backwinding you, consider tacking immediately following the rounding of the mark to obtain clear air. Exercise caution in doing this, however, as tacking immediately will lead you back into the fleet of competitors coming down on the second reach.

When rounding as outside and leeward yacht, you should make every effort to become the inside and windward competitor, following the rounding. If the inside windward yacht leaves room between herself and the mark, capitalize upon it by cutting sharply behind her stern and to windward of her. See Fig. 5.9. Avoid ending up being backwinded by your opponent; tack if you have to to obtain clear air.

If you are forced to round the mark as the outside yacht, abandon any hope of being able to sail through the lee of the windward inside yacht. To begin with, by being the outside competitor, you will be forced to sail a longer arc around the mark and will end up well behind the inside yacht who is not required to sail as far to round the mark. Secondly, you will be blanketed by the inside windward yacht. Thirdly, the rounding itself will be governed by the inside competitor's plan rather than by yours. See Fig. 5.10.

Protecting a  
Small Lead

White rounds ahead of  
the Striped yacht. She then  
simply duplicates what the  
Striped yacht does after rounding.

If the Striped yacht tacks, White tacks;  
If the Striped yacht proceeds on  
port tack, White continues

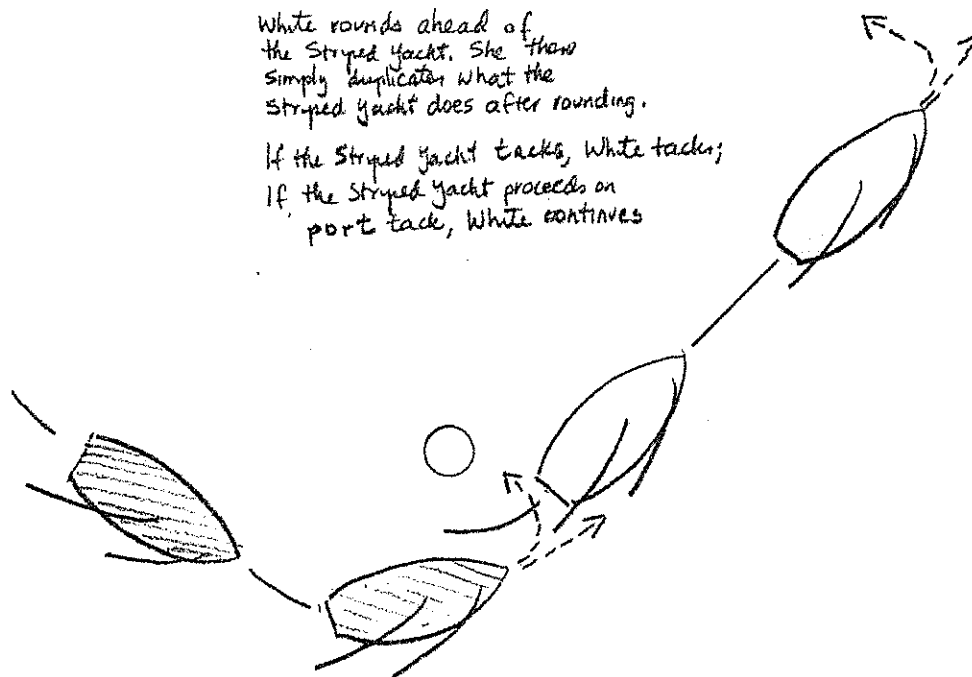
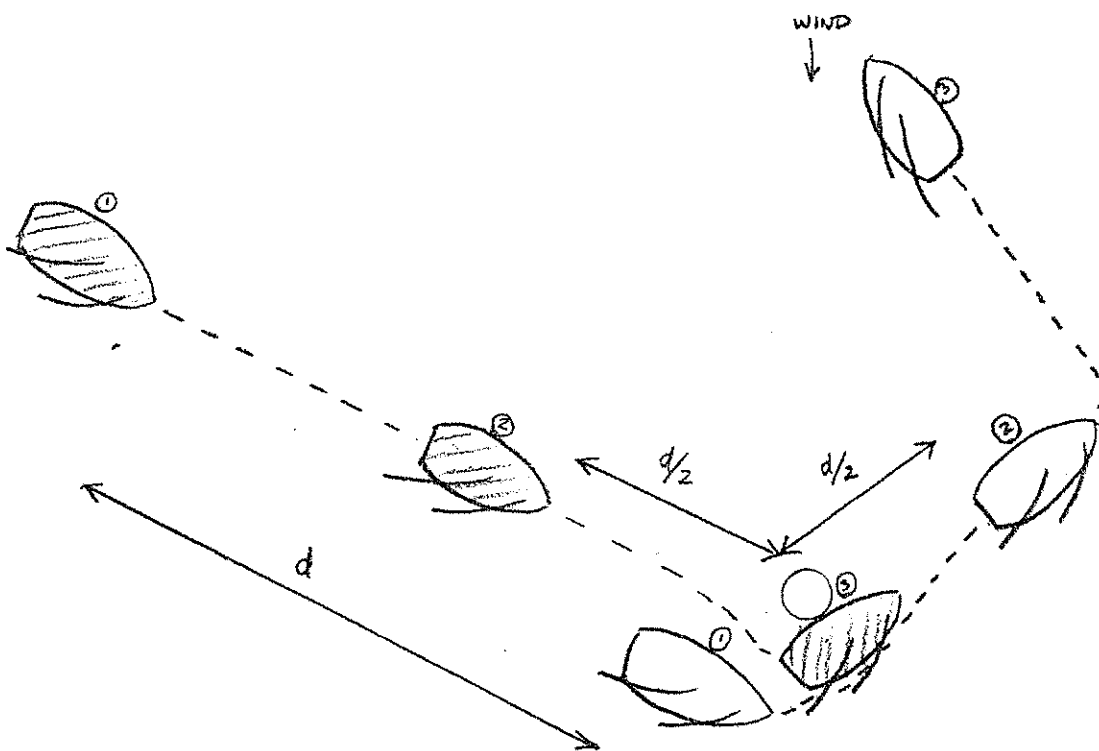


Fig 5.12  
Protecting a Large Lea



① White reaches the lee mark with a lead equal to 'd'

② White rounds and sails to the point where the mark is halfway between she and the Striped yacht. Here she tacks.

③ By the time the Striped yacht reaches the lee mark, White is directly upwind of it with a clear view of her opponent.

If the Striped yacht tacks as she rounds, White has her covered; if the Striped yacht remains on port tack, White tacks.

iii) Protecting a Lead

Upon rounding the leeward mark, it may become tactically advantageous to think about consolidating your present position, to think about protecting your lead over your competitors behind, rather than catching competitors ahead. The matter of covering becomes relevant.

Where you round the leeward mark with a small lead over the nearest competitor, covering that other yacht is an easy matter. You simply have to round the mark and proceed on a beat, having your crew keep an eye peeled for what your competitor is doing as he rounds the mark. If the other yacht tacks, you simply tack and cover her. On the other hand, if your competitor continues on the same tack you are on, you have him covered already. See Fig. 5.11. As someone who is being covered in such a situation, the comments made in the preceeding chapter on duelling apply here. Remember to always think about the presence of other competitors on the course who may pass you both if you engage in unnecessary interference with one another.

Where you round the leeward mark with a large lead, your approach toward protecting your lead should be somewhat different. Often the distance between you and your competitor will be such that it will be difficult to keep an eye on him. In such a situation, the following technique is of use.

As you round the leeward mark, make a mental note of the approximate distance between you and your competitor. As you pass the mark and head up the windward leg, sail on port tack until the distance between you and the mark and the distance between you and your competitor and the mark is approximately equal; that is, the mark bisects the lead you have. At this point, tack. By proceeding on starboard tack, you will be heading back

towards the mark or, more precisely, towards a point directly upwind of the mark. Your competitor should be rounding the leeward mark just as you reach this point.

As he rounds, your competitor has two options. He may round and continue on a port tack beat in which case you simply have to tack onto port as well and cover him. Alternatively, he may round the mark and tack onto starboard, in which case you and he will both be on the same tacks. See Fig. 5.12.

Again remember to consider the presence of other competitors who might get by you both if you engage in a tacking duel.

c) The Leeward Mark: Run to Beat

The comments made about rounding the leeward mark from a reach to a beat apply with equal force when rounding the leeward mark following the run and will not be repeated. Both the considerations and the technique involved are the same.

#### 4. Kinetics

Because position on the offwind leg is as much determined by tactics as by pureboatspeed, these legs lend themselves to attempts by competitors to increase the speed of their boats otherwise than by the natural action of the wind on the sails and the water on the hull. This is known as "kinetics".

At the time of this writing, the IYRU is still considering what to do with this issue. This book will not deal with the subject in any definitive or descriptive manner to avoid the situation of the commentary becoming dated and the reader being misled.

You are referred to Rule 60 and Appendix 2 of the Racing Rules where the IYRU will ultimately deal with these matters. You should become familiar with

what constitutes pumping, ooching and rocking; with what is permissible and what is not. Suffice to say that considerable advantage can be gained by using these techniques be they ultimately declared legal or illegal by the IYRU.

## 5. Rules Applicable to the Offwind Legs

The rules applicable to the offwind legs are, in fact, the same ones applicable to the upwind legs. Examples of the specific application of these rules to the offwind legs follows. Again, you are referred to the Racing Rules themselves and encouraged to study the actual wording of the rules, that you may decide for yourself on their applicability.

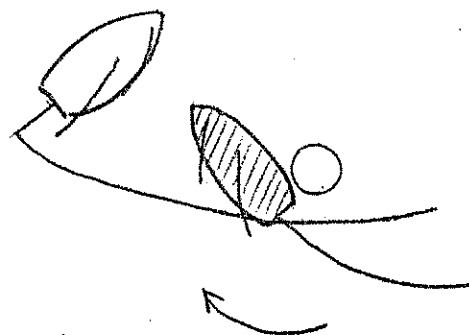
- 35 When one yacht is required to keep clear of another, the right of way yacht cannot alter course so as to obstruct it except:
- (a) to the extent permitted by Rule 38.1; or,
  - (b) (ii) when the right of way yacht is assuming a proper course following a mark rounding.

### Example:

Assume two competitors approaching the leeward mark with marks to starboard and both competitors are about to round onto a beat. The first competitor rounds the mark wide and tacks onto port. The second yacht rounds the mark more closely than the first and hits the first yacht. The first competitor is disqualified under Rule 36. See Fig. 5.13.

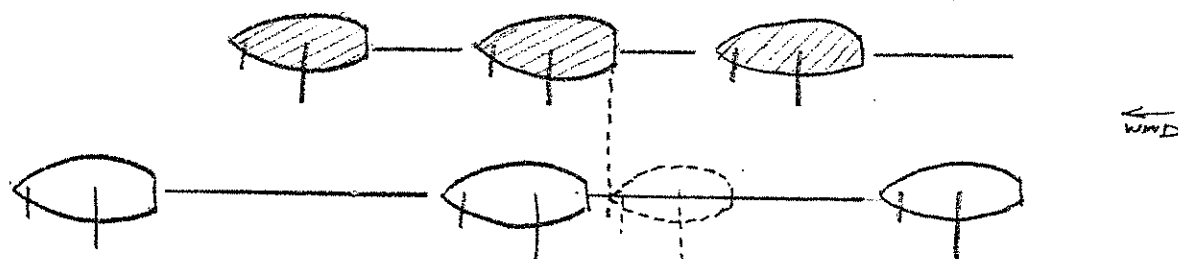
If the buoy had not been there, the second competitor would have been disqualified under Rule 35.

- 37 Keeping clear on same Tacks:
- 37.1 When overlapped, the windward yacht must keep clear of the leeward yacht.
  - 37.2 A yacht clear astern must keep clear of the yacht clear ahead.



White rounds wide and then tacks onto port.  
The Striped yacht, on starboard, luffs up as she is rounding the mark and, in altering course, hits White.  
White is disqualified under Rule 31.

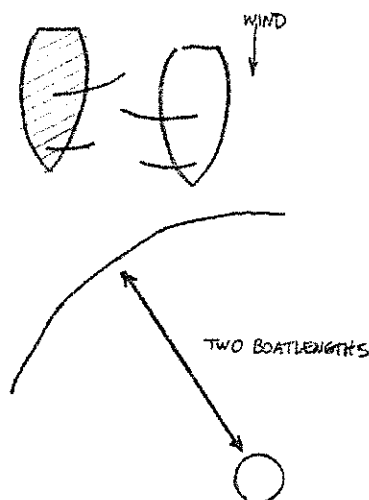
Fig 5.14  
Rule 37.3



White overtakes the Striped yacht to leeward. She may not luff. As soon as the overlap formed, the Striped yacht was passed the Mast Abeam position.

However, White could luff by drawing alongside the Striped yacht, gybing to break the present overlap then gybing again to create a new overlap — one in which the Striped yacht has never been Mast Abeam.  
Note that the windward yacht cannot sail below her proper course to attack White.

Fig 5.15  
Rule 42.1 (2)



The Striped yacht must give White room, even though she is on starboard and White is on port.

- 37.3 A yacht establishing a leeward overlap from clear astern must allow a windward yacht ample room and opportunity to keep clear.

Example:

Assume two competitors on the same tack and on a run. The overtaking yacht attempts to pass to leeward. She may only luff up to the proper course because as soon as the overlap is established, the overtaken yacht was in a "Mast Abeam" situation. See Fig. 5.14.

- 38 A yacht clear ahead or to leeward may luff as she pleases providing:

- she has the right to luff all yachts that would be affected by her luff. See Rule 38.6.
- if the situation involves an overlap, the yacht to leeward may luff only if the helmsman of the windward yacht has not been forward of the leeward yacht's mast and has not hailed "mast abeam" or words to that effect. If this occurs, the leeward yacht must resume or maintain her proper course. See Rules 38.2 and 38.4.

Note that an overlap does not exist, for the purposes of Rule 38, unless the yachts are separated by less than two boatlengths and that any overlap that does exist may be broken by one of the yachts gybing. A new overlap may begin subsequently. See Rule 38.3.

Example:

Assume the same facts as in the previous example. As the overtaking leeward yacht passes the point where the overtaken windward yacht is "mast abeam" she gybes and then gybes again. Now the overtaking leeward yacht has luffing rights over her competitor. The first gybe broke the overlap and the second gybe established a new overlap. In the new overlap, the windward yacht has never been ahead of the mast abeam position.

Example:

The windward yacht must call "mast abeam"



or the leeward yacht may continue luffing right to head to wind. Once the windward yacht has hailed, the leeward yacht must assume her proper course. Alternatively, the leeward yacht could bear off to more than two boatlengths to leeward and then re-attack under a new overlap established by Rule 38.3.

- 39 Yacht on the free leg of the course cannot sail below her proper course within three boatlengths of either a leeward yacht or a yacht which is steering to pass to leeward.
- 41 Changing Tack - Gybing
  - 41.1 A yacht which is gybing shall keep clear of a yacht on a tack. Review the definition of "gybing".
  - 41.2 A yacht shall not gybe into a position which will give her right of way over another yacht unless she does so far enough away from the second yacht that the second yacht does not have to begin to keep clear until after the gybe of the first yacht has been completed.
  - 41.4 When two yachts both gybe at the same time, the one on the other's port side shall keep clear.
- 42 See the next section.
- 51 A yacht must round the course marks in such a way that, if a string were tied to her stern and was drawn tight, it would lie on the correct side of all the marks. Passing on the wrong side of a mark must be corrected.
 

Note that as you reround to exonerate yourself, you have no rights.
- 52.2 When a yacht touches a mark, exoneration is required by completing one entire rounding of the mark leaving it on the required side and then rerounding it correctly.

## 6. Rule 42

The discussion in the previous chapter regarding Rule 42 will not be repeated. The summary of the rule set out in that chapter, as it applies to the offwind legs

is as follows.

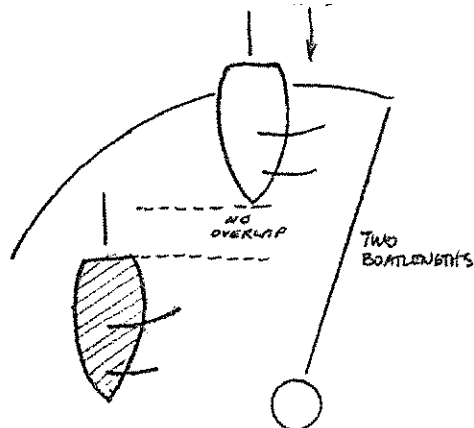
The general rule is that, when two yachts are overlapped, the outside yacht must give the inside yacht room to pass between she and the mark under Rule 42.1(a). This general rule is subject to a number of exceptions. An outside yacht is not required to give room at the mark to an inside yacht where:

- the outside yacht is unable to give the required room under 42.3(a)(i);
- the inside yacht does not establish her overlap before the outside yacht passes a point two of her boatlengths distant from the mark under Rule 42.3(a)(ii); or
- where the overlap has not yet been established under Rule 42.3(b).

Note the two major changes in the case of rounding a mark when overlapped on the offwind legs as compared to the upwind legs. Firstly, the "exception to the exception" in Rule 42.3(a)(ii) which provides that an inside yacht is still entitled to room, even if her overlap is not established in time if either yacht completes a tack after the two boatlengths point is clearly inapplicable on the offwind legs. Secondly, Rule 42.1(c) which provides that the inside yacht is not entitled to room where the two yachts are on opposite tacks on a beat or when one of them will have to tack to round the mark is also not applicable.

Remember that once the inside yacht has established its right to room, that right cannot be lost even if the overlap is broken after the two boatlengths point has been passed under Rule 42.3(c).

When yachts are about to pass a mark and are not overlapped, the yacht clear astern shall keep clear during the rounding manouever when the yacht clear ahead remains on the same tack or gybes. The one exception to this general rule is that the yacht clear ahead, if it tacks to round the mark, is subject to Rule 41. However, the yacht clear



The Striped Yacht must give White enough room to gybe as she rounds the mark

WIND  
↓

Fig 5.17  
Rules 42.1 (a) and 42.



White must keep clear, even though on starboard tack

astern may not luff above a close hauled course so as to prevent the yacht clear ahead from tacking.

Example:

Assume two competitors approaching the leeward mark following the run on opposite tacks. The outer yacht is on starboard and the inside yacht on port. The port tack yacht has rights to room, provided it establishes its overlap in time, because Rule 42.1(a) overrides Rule 36. See Fig. 5.15.

Example:

Assume a number of competitors rounding the gybe mark. The innermost and most leeward yacht may not luff the other yachts past the mark because Rule 42.1(b) overrides Rule 37.

Example:

Assume two competitors approaching the leeward mark on starboard tack and passing the two boatlengths point without an overlap being established. The yacht clear astern must give the yacht clear ahead room to gybe as it is part of the rounding manouever even though an overlap does not exist, pursuant to Rule 42.2(a). See Fig 5.16.

Example:

Assume the same facts as in the above example. The yacht clear ahead has now made her gybe and is on port tack while the yacht clear astern is approaching the mark on starboard. The clear astern starboard tack yacht must keep clear for two reasons. Firstly, the overlap was not made in time and therefore she cannot avail herself of Rule 42.1(a). Secondly Rule 42.2 overrides Rule 36. See Fig. 5.17.

Example:

Assume a number of competitors coming in to the leeward mark. The inside yacht can only get room if all the yachts who will be affected by her request for room can obtain room over all the successive leeward boats. If such is not the case, the most inner yacht gets no room under Rule 42.3(a) (i).

7. Water ExercisesOFFWIND DRILLS1. Choosing a Course

- 1.1 For both first and second reaches: In triples, one boat sails rhumbline, one sails below rhumb, one sails above rhumb then all three round mark.
- 1.2 In gusty conditions, repeat 1.1 but in pairs: One boat sails rhumb, other boat plays wind and waves.
- 1.3 On the run: In pairs, one boat sails rhumb other tacks downwind.

2. Duelling on Offwind Legs

- 2.1 Blanketing/backwinding drills.
- 2.2 Surfing/Planing drills
- 2.3 Attack/Defense drills using these techniques.

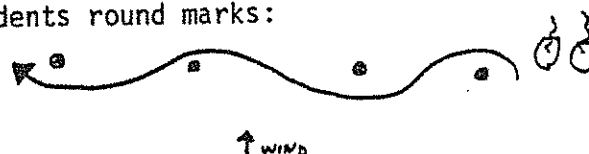
3. Mark Rounding

- 3.1 Repeat following for both gybe and leeward marks:

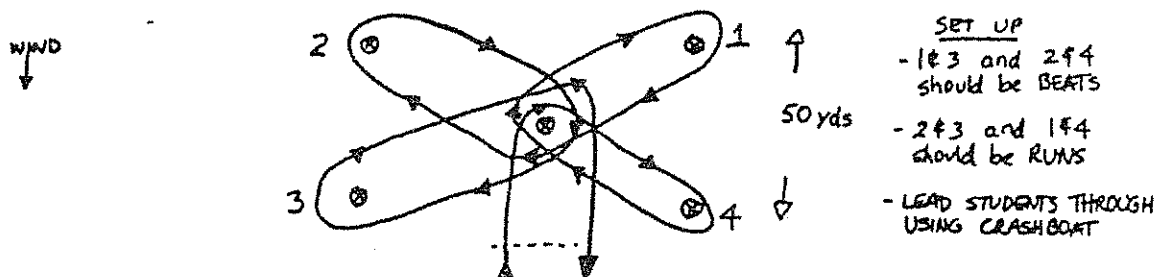
- 3.1.1 Coachboat leads students single file through proper rounding.
- 3.1.2 Students repeat rounding without assistance.
- 3.1.3 Students round marks in traffic from other boats.

- 3.2 Set up a slalom course; have students round marks:

- 3.2.1 alone
- 3.2.3 in pairs
- 3.2.3 in heavy traffic



- 3.3 Set up Pandora's Box (as shown; all marks to starboard). The object is to go around the box, always passing around the center pin before going from one corner to the next. Can be varied as listed in 3.2.

4. Practise of Offwind Tactics

- 4.1 Races with very short reaches (emphasise mark roundings)
- 4.2 Races with long reaches (emphasise attack/defense)
- 4.2.1 For variation on 4.2, stop anyone who gets ahead and have them go to the back of the fleet.

## CHAPTER SIX

### THE FINISH

#### 1. Introduction

Often beginning racers lose many positions in the final stages of the race due to a misunderstanding of how to finish properly. You should realize that there are two types of finishing techniques. The first, and the most common, has as its objective finishing the race in the fastest time possible. The reasons for wanting to finish quickly are obvious. The faster you complete the race course the more competitors you will beat across the finish line.

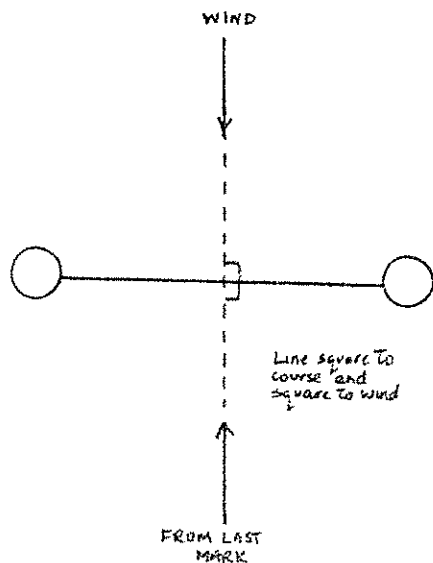
However, there is a second type of finishing technique; finishing in the best position. Sometimes, such as in the closing races of a series or in team racing, finishing in the best position is not equivalent to finishing in the fastest time. Both these techniques will be discussed in this chapter.

#### 2. Types of Finish Lines

Finish lines are always perpendicular to the race course but they may not necessarily be square to the wind. The final leg of the race may be a reach, run, or beat. In the last two cases, the finish line will be perpendicular to the course and the wind. But in the first case, where the finish line is at the end of a reach, the line will be square to the race course only. See Fig. 6.1.

Assuming that you wish to finish in the best possible time, you should recognize as you begin the final leg of the course whether the finish line will be square to the wind and, if not, which end of the line will be favoured; that is, the end to which you can sail to earlier than if you sailed to the other end of the line.

Finish Lines Square To Course



Distance by which port limit mark was placed too far upwind; the starboard pin is further downwind. It can be reached more quickly; it is the favoured end. Compare Fig. 3.2

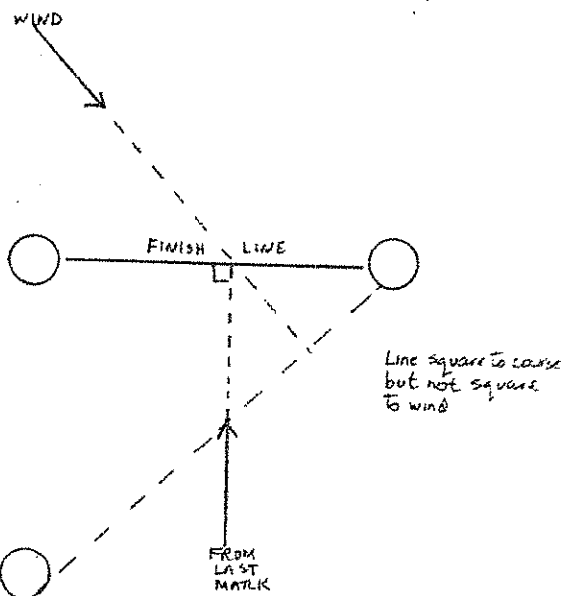
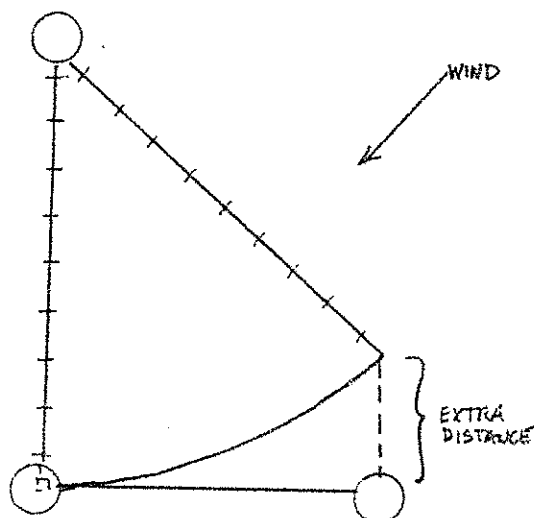
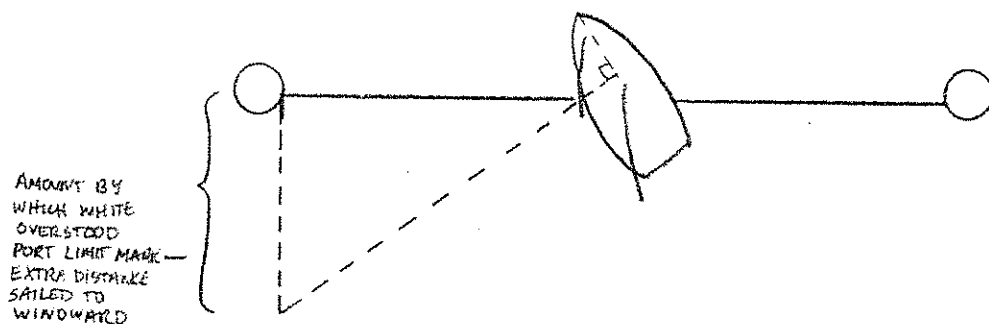


Fig 6.3A  
Favoured Finish Line on a Reach



The finish line at the end of a reach and is square to the course. But the starboard limit mark is offset; the port limit mark being simply the old leeward mark. Sailing to the starboard end requires more distance to be sailed. Compare Fig 3.4 and 3.5

Fig 6.2  
Finishing in the Middle of the Line



### 3. Finishing in the Fastest Time

#### a) Finishing Technique Generally

Assuming the finish line is square to the wind, you should plan your approach to the line so as to cross it at one end or the other. Do not finish in the middle of the line for to do so means that you have overstood one or other of the limit marks; that is, you have sailed extra distance unnecessarily and spent longer in finishing the race than you should have. See Fig. 6.2.

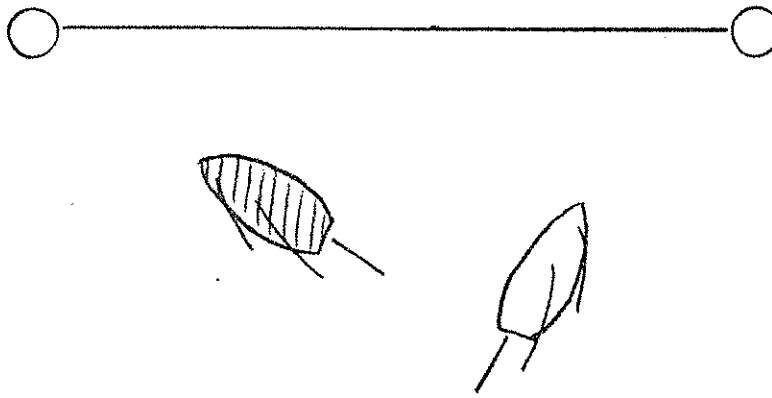
Particularly where the finish line is at the end of a windward leg, you should avoid overstanding the line by finishing anywhere but at any extreme end. If the line is square to the wind, you should finish at the limit mark closest to the side of the course you have been sailing on the final beat. Lay this limit mark as if it were a windward mark, for really that is what it is.

If the finish line is not square to the wind (which is difficult to determine, except in extreme cases), you will want to finish at the limit mark which requires the least amount of time to be expended sailing on the last leg of the race to reach it. In other words, you will want to finish at the favoured end of the finish line. Where the finish line follows a windward leg, the favoured end of the line is at that limit mark which is the furthest to leeward of the two, requiring less distance to be sailed dead upwind to reach it on the final leg.

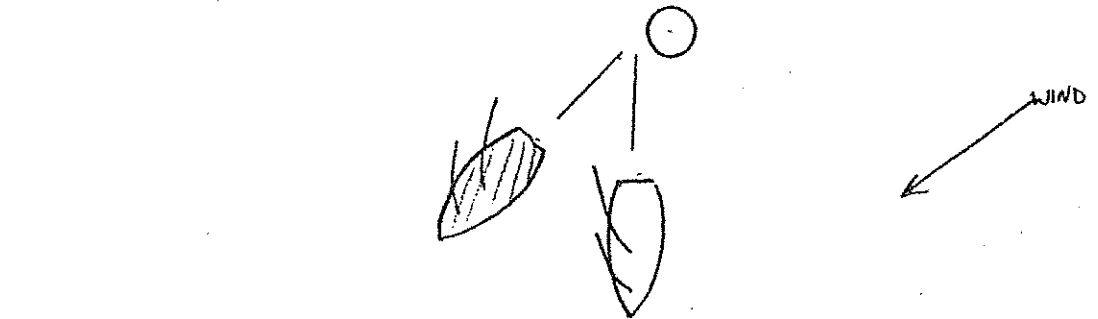
In the case of a reaching finish, the favoured end of the line will be the most windward limit mark, as, by sailing towards it on the final leg, you will be the most windward competitor and therefore have clear air. In addition, the more windward mark of the two finish line limit marks will be closer to the gybe mark than the more leeward limit mark. See Fig. 6.3A.



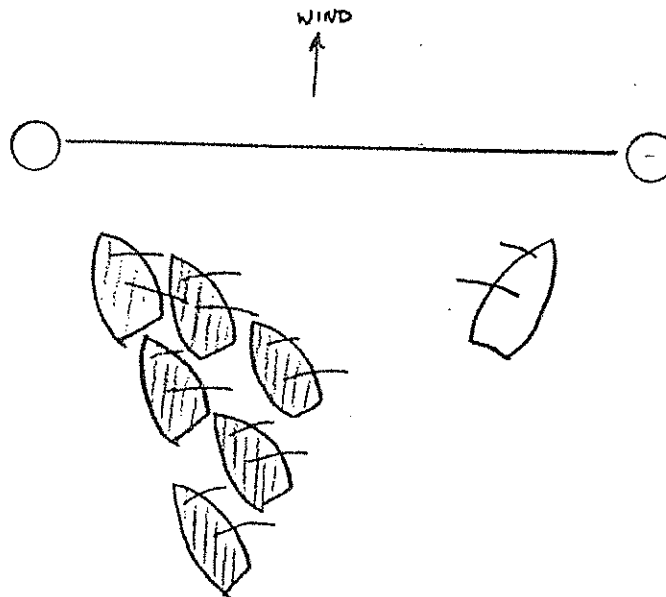
Windward Finish;  
White sails for the  
Favoured End



Reaching Finish:  
White has clear air  
as Woodward yachts  
and is sailing the  
shortest course to the  
Finish



Running Finish:  
White avoids the  
crowd



## b) Examples

Figure 6.3B shows various types of finishes in different situations.

### 4. Finishing in a Preferred Position

#### a) When required

There may be circumstances in which finishing in the fastest time is not as advantageous as finishing in a particular position. This will generally occur in two situations.

The first case occurs in the final race or races of a multi-race series. From looking at the scoreboard, you may determine that you will be able to pick up several places in the overall standings if you beat a specific competitor or, alternatively, you may be able to protect your current position provided you finish ahead of a specific competitor.

In other words, as your overall position in a series is dependant upon your cumulative score and the cumulative score of others, by determining what position you have to finish in to accumulate certain points and what position your competitors must finish in in order not to accumulate certain points, you can ascertain where it is that you are required to finish in a specific race or where it is that your competitor is required to finish in that race in order that you obtain your desired finishing position over the entire series of races.

On the race course in such cases, it becomes a priority to ensure that you, or your competitor, finish where you or they are required to, that the final scoring will be in your favour. It may be that finishing ahead of a certain competitor, regardless of the specific position in which you finish with respect to the rest of the fleet, becomes the overriding concern.

The topic of scoring is dealt with in detail in the following chapter.

The other situation where finishing in a preferred position is relevant is in team racing where it is the cumulative finish of the entire team which is important, rather than the individual finishes of each team member. For example, in a team race, you may decide it is more advantageous to finish third and in the process force a member of the opposing team to finish fourth so that a member of your team can get by you both and finish second. In such a case, a second and third place finish is better for your team than a second and fourth place finish.

In these situations, the technique required to finish in a preferred position becomes one of gaining control of the opponent whose finishing position you are required to affect and maintaining that control across the finish line.

#### b) Control on the Final Beat

The following discussion on controlling an opponent assumes, as is the most common case, that the finish line follows a windward leg.

##### i) Same tacks

When you and your opponent are on the same tack, your objective is to stay between him and the finishing line. This is done simply by covering the opponent. You should review the previous discussion on covering.

##### ii) Opposite Tacks

In this situation, you and your opponent are approaching each other on opposite tacks. If you are on starboard tack, you have several options including:

- crossing ahead of your opponent and tacking to windward of him so as to blanket him;
- tacking onto port and into a lee bow position with respect to your opponent; or
- forcing your opponent to tack into your blanket zone on starboard and continuing to cover him thereafter.

If you are on port tack and your opponent is on starboard, your options become:

- tacking onto starboard and into a lee bow position with respect to your opponent; or
- crossing ahead of your starboard tack opponent, tacking onto starboard yourself to windward of him, and blanketing him and continuing to cover him thereafter.

Always be careful when tacking with another yacht close or having another yacht tack close to you to avoid a blanketing or backwinding situation result to your detriment. It may be safer to cross behind the stern of the starboard tack yacht and, if the opponent tacks, try to establish a safe leeward berth.

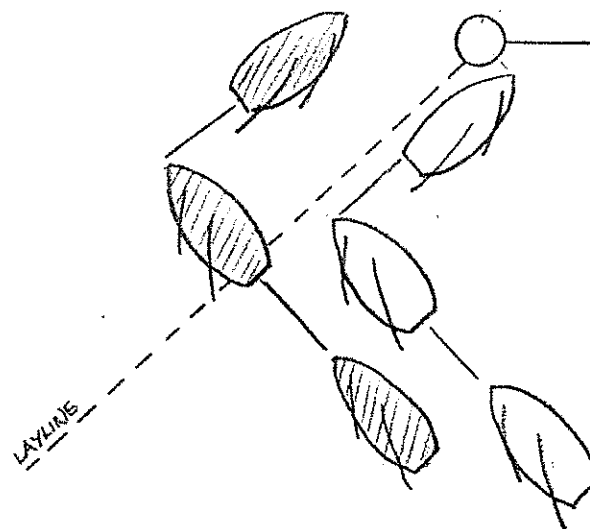
#### c) Control at the Finish Mark

As you approach the limit mark, the techniques for controlling a competitor remain the same. However, the presence of the lay line adds to your available options.

##### i) Same Tacks

If you and your opponent are on the same tack, the presence of the lay line presents the following options:

- if you are to windward of your opponent, either blanket him or, if he has attained a lee bow position, stay with him and force him beyond the lay line to the limit mark. Once you reach the lay line, tack and the



Control near the  
Finishing Mark

The Striped yacht is ahead  
of White but White forces  
her passed the layline  
to the Finish line and  
the Striped yacht overstands  
the line; White finishes ahead

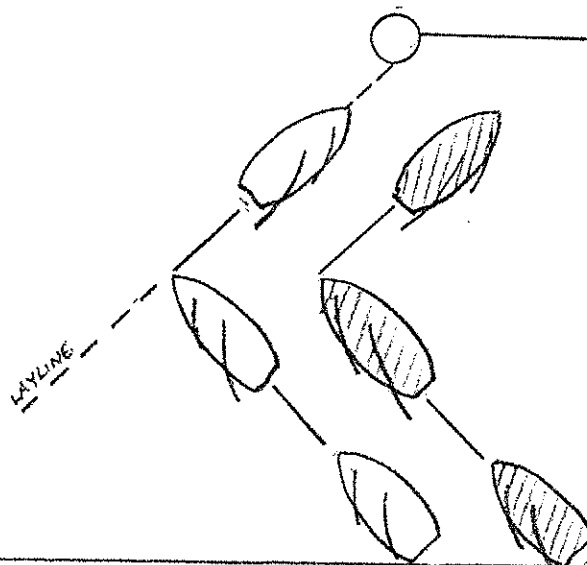


Fig 6.5  
Loss of Control  
at the Finish Mark

The Striped yacht  
tacks too soon.  
White tacks with her  
on the layline. She will  
claim room at the finish  
mark and cross ahead  
of the Striped yacht

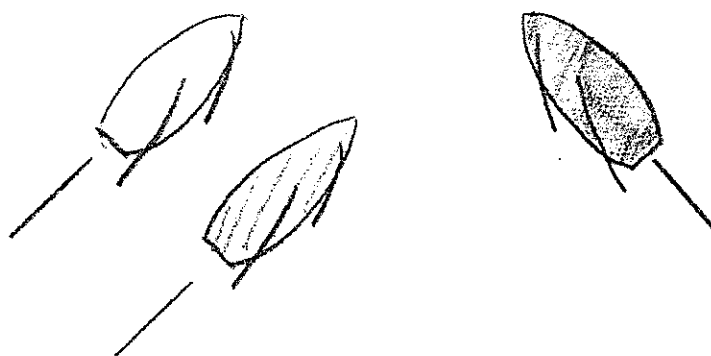


Fig 6.6  
The Presence of  
the Third Yacht

By considering her options  
carefully, White can  
maximise this situation to  
her best advantage.  
Assume White will clear Grey.

result will be that he will overstand the mark when he tacks. See Fig. 6.4.

- if you are to leeward of your opponent and in a lee bow position, stay with him but, as soon as he tacks for the mark, tack yourself. Then, as you approach the mark, you will be the innermost yacht and will be able to claim room at the finishing mark. See Fig. 6.5.

## ii) Opposite Tacks

If you and your opponent are on opposite tacks, the situation is again one of making maximum use of the lay line:

- if you are on starboard tack, force the port tack yacht to tack and then employ the techniques just described for competitors on the same tack.
- if you are on port tack, either duck to leeward of your opponent's stern and try to lay the mark, if possible, or, alternatively, tack and use the techniques just described for competitors on the same tack.

## d) Presence of the Third Boat

When you are attempting to finish in a preferred position, the danger of a third competitor getting past you and your opponent is not really a concern unless it is a competitor whom you would also like to beat.

However, the presence of a third yacht may provide some tactical advantage to be used against the competitor you are attempting to control. The third yacht may induce a competitor to tack disadvantageously or her position may be used to gain a tacking advantage over your opponent. See Fig. 6.6. The specific use a third yacht may be put to will depend on the particular facts which present themselves in each race.

## 5. Shorten Course or Abandonment

You should be aware that, after the starting signal, the Race Committee may shorten the course and finish the race at the upcoming mark. They will signal competitors as they round the preceeding mark, that the upcoming leg will be the final leg of the course. Likewise, the Race Committee can abandon the race at any point. Either of these steps may be taken for reasons of safety or because the conditions do not permit fair racing. For example, it may be dead calm. See Rule 5.

## 6. Time Limits

The sailing instructions will provide a time limit for the race. If the first place yacht does not complete the race within the time limit, the race is deemed invalid. See Rule 10.

## 7. Rules Applicable to the Finish Area

Review the definition of "finishing" and see Rule 6 regarding the finish line.

Note the preamble to Part IV of the Racing Rules which provide that the rules are in effect until a yacht finishes or retires and has left the vicinity of the race area.

## CHAPTER SEVEN

### SCORING AND HANDICAPPING

#### 1. Scoring

Regattas consist of more than just a number of individual races. In the end, a winner for the series must be declared. Accordingly, numerous scoring systems exist which assign to a competitor a point score relative to his finishing position in each race and a corresponding cumulative point total is kept over all the races that a winner may ultimately be decided.

The Olympic scoring system is set out in Appendix 5 and you should become familiar with it as it is the most frequently used. With this scoring system, competitors receive increasingly higher points as they finish further down in the fleet. In the end, the winner is the competitor with the lowest total number of points over the series. Usually if there are more than three races, a competitor's worst finish is ignored in calculating his total points score.

Other scoring systems do exist and you should check the sailing instructions for the particular regatta you are involved in to ensure you are familiar with the scoring system being used.

As the regatta progresses, and in particular before the last one or two races, your score and the score of your nearest competitors should be compared to determine the possible combinations of finishing positions and attendant point accumulations that may result in positional changes as between yourselves.

This information will allow you to plan your tactics in the final races. For example, to finish third in the regatta, you may have to beat a certain competitor by at least two places. Your tactics during the race,



therefore, will not be necessarily to win the race, but only to ensure you stay ahead of your rival by the required number of boats.

The situation may become extremely complex in some cases. You may have to beat X by two places but he will have to beat Y by one place etc. in order for what you desire in the points allocation to occur. Here, it is usually best to just go out and sail the best race you can and let the placings fall where they may.

Remember when you are doing these calculations to consider the effect of you and your rival dropping your worst scores.

Note Rule 11 regarding ties.

## 2. Handicapping

In one design racing, that is, races involving a single class of yachts, all of the yachts are considered equal and the winner is assumed to have won through the use of better skill in the race. However, where yachts of a number of different classes are competing, often referred to "open class racing", some system must be devised to equalize the differences between individual classes.

For example, a Tornado is much faster than a Laser. If both yachts are competing in an open class race, there must be some system to take away the advantage the Tornado sailor has in owning a yacht with such superior boatspeed. We already know that Tornados are much faster than Lasers; what we wish to know is whether this particular Laser sailor is slower than this particular Tornado sailor in this race.

Accordingly, time handicapping systems have been developed to attempt to eliminate the advantage that one class of boat has over another when they compete against each other.

There are a number of different handicapping systems. In dinghy racing, the most common one is the Portsmouth Handicapping System. In this regime, each class is assigned a handicap number. As each yacht finishes the race, her time in completing the course, or "elapsed time", is recorded. Thereafter, her elapsed time is divided by the handicap number assigned to her class giving a result which is known as her "corrected time". The corrected time between all of the yachts competing in the race is then compared and the competitor with the lowest corrected time is declared the winner with the successive positions in the race assigned on the basis of lowest corrected time thereafter.

The result of handicapping may well be that the Tornado sailor who finishes many minutes ahead of the Laser sailor in elapsed time will, after the application of the handicap, finish many minutes behind him on corrected time.

Unfortunately, the system is not perfect and there can be no truly perfect test of the abilities of two sailors other than to put them into a one design race and see which of them crosses the finish line ahead of the other.

## CHAPTER EIGHT

### PROTESTS

#### 1. Introduction:

Many beginning racers are often afraid or at least hesitant to protest following an incident on the race course. Usually they do not know a rule was infringed or they do not want to become involved in a lot of hassle over a "little bump" on the race course.

As has already been pointed out, there is no excuse for ignorance of the racing rules and each competitor has a responsibility to observe and enforce them. In fact, the rules themselves recognize this obligation of competitors. Rule 68.1 provides that a third yacht, who witnesses an incident between two yachts involving an infringement of the rules (such as a collision), where there is no protest resulting, may protest both the yachts. In such a case, Rule 33.2 provides that both competitors will be disqualified. If there has been contact between yachts while racing, somebody must be disqualified.

This chapter deals with how to protest properly.

#### 2. Requirements of a Valid Protest

Rule 68.3 sets out the procedure to follow if you feel a rule has been infringed during a race. As a matter of practise, you should note the sail number of the yacht or yachts involved and call out for any witnesses to the incident. Do not engage in a discussion during the race with the infringing yacht. However, if possible, you should indicate to her that you will be protesting.

You should then hoist code flag "B" immediately. There are commercially available protest flags but anything

red, such as a rag will do in an emergency. If you are sailing a single handed boat, the code flag may be raised at the first reasonable opportunity. Remember to check, before you cross the finish line, that code flag "B" is flying and is visible. On the other hand, if you are the yacht being protested, you should check to make sure that the protesting yacht fulfills this requirement.

A yacht who is unaware it is involved in a protest is not required to fly a protest flag. However, if you are being protested and feel the other yacht was in the wrong, you should fly a protest flag yourself.

At the finish line, report to the Race Committee and inform them which yacht you are protesting.

Once you get ashore, check the sailing instructions as to the time limit in which protests must be filed. It is usually a maximum of two hours after the Race Committee has returned to shore following the last race of the day. Obtain a protest form from the Protest Committee and fill it out completely. Note that if the form is not properly filled out, the protest may be thrown out.

You should, at this time, find out when the hearing will be held and talk to your witnesses, getting them organized to attend the hearing.

Make sure that your protest form is in on time and that you know the details of when and where the protest hearing will be heard.

### 3. Mechanics of a Protest Hearing

The procedure which is followed at a protest hearing is set out in Appendix 6. Generally, the hearing will follow the following format:

- the Protest Committee will read the protest forms which have been filed and clear away any preliminary matters. A representative

from both yachts involved, usually the skipper, is present.

- the protesting skipper will give a verbal description of the incident. The protested skipper may ask questions of the protesting yacht but may make no comment on the account given.
- the protested skipper then gives his side of the story in a similar manner and the protesting yacht may ask him questions.
- it is unlikely that crew members will be brought into the hearing, although they may be. Usually they will have nothing further to add and will simply reiterate their skipper's story.
- the Protest Committee, if it has not already done so, will ask what questions of the parties it feels are required.
- witnesses are then heard; first those of the protestor and then those of the protestee. Either party, or the Protest Committee may ask the witnesses questions to clarify the facts.
- each party makes a final summation, dealing with the facts and rules which each feels is relevant.
- the Protest Committee then deliberates, often with the parties excluded from the room, and a decision is then read to both parties. The protest form is then completed and the decision posted.

#### 4. Alternative Penalties

The general rule is that where there has been contact between yachts while racing, one yacht must be disqualified. However, you should be aware that alternative penalties to disqualification for rule infringement are provided for. Appendix 3 sets out two types of alternative penalties.

The first of these alternative penalties is the so called "720 degree rule" which enables a yacht, which acknowledges she has infringed a rule, to exonerate herself by making two full 360 degree turns on the same leg of the course in which the infringement occurred. The other alternative penalty is a percentage penalty whereby the yacht acknowledging infringement flies code flag "I" and receives a points penalty equivalent to the score of the position of her actual finish in the race plus 20% of the number of starters, to a minimum of three places and a maximum of one more than the number of starters.

Always check the sailing instructions to see if an alternative penalty is in effect and become familiar with their requirements that you may take advantage of them properly.

#### 5. Yacht Materially Predjudiced

Where a competitor feels his finish in a race was affected by circumstances beyond his control and the direct result of some action of another competitor or the Race Committee, either he or the Race Committee on its own initiative and on his behalf may launch a protest as a yacht materially prejudiced and in which case the Protest Committee can, after a hearing, take such action as it deems fit to satisfy the situation. See Rule 12.

#### 6. Final Comments

Two final comments should perhaps be made regarding protest. Firstly, while we have said do not be afraid to protest, it should also be said that one should not protest unnecessarily. Do not go around the race course looking for trouble and protesting on

technicalities. In the result you will quickly find yourself without friends amongst your fellow competitors and, in addition, you will find that they will start playing very strictly as regards the application of the rules with you.

Secondly, unless an alternative penalty is in place, if you clearly have infringed a rule, retire; or rather less subtly, "if you foul out, get out". If you are clearly in the wrong, there is no point in continuing to race. All you are doing is wasting energy afloat and you will be wasting the time of the Protest Committee later ashore.

## CHAPTER NINE

### TEAM RACING

It is beyond the scope of this book to even attempt to deal competently with the subject of team racing. However, for the sake of completeness, a brief description is necessary.

Team racing is quite different from normal yacht racing in that the competitors are divided essentially into two teams on the race course. (However, there may be more than two teams competing in an event, in a similar manner to a hockey or baseball tournament).

The courses in team racing are generally fairly short and what matters is not how the individual team members finish in the race but the cumulative score of all members on the team as compared with the cumulative score of all members on the opposing team. Accordingly, the objective is not to win the race for oneself but to compete in such a manner as to ensure the best possible overall team score once the finishes of all members of the team are considered. This leads to some considerably different tactics than in individual racing.

You should also be aware that there are special rules covering team races, which are contained in Appendix 4.



## CONCLUSION

Success in yacht racing requires three things:

- basic sailing skills honed to an extremely high degree of proficiency;
- the mental skills of tactics and strategy developed to an equally high degree; and
- a thorough and complete knowledge of the racing rules.

It has been assumed throughout the course of this book that you are already an excellent sailor; otherwise you would not be interested in competing. But you must remember that the skills you have learned must be practised continually, so that you do not lose your "edge". Simply because you are now moving on to racing, do not neglect the basics that go into making your yacht move quickly through the water. One poor tack can cost you a race.

Knowing the rules well is the next most important tool in successful racing. No materials can take the place of the rulebook itself in teaching you what the rules of racing are. Read and re-read the rules; know them. On the water you must develop the ability to instantly analyse a situation and decide upon your rights and liabilities. One moment's hesitation or an advantage not capitalized upon can be disastrous.

This book has attempted to address the third tool you need to compete competently: basic tactics and strategy. Hopefully it has done so. But no book can take the place of practical experience on the water, racing. To really learn and then improve your racing skills, you must race. Merely reading about what you should be doing on the race course is not enough; you must learn to recognise and react to the situations which commonly occur in real life, during the race itself.

A successful race is the result of more than just the sum of its parts. It is an integrated whole: good starts do not just happen, for example, they are the result of knowing the basic tactics involved; of knowing how the rules will allow you to obtain your objective; and of being able, in the dying seconds before the gun, to make your yacht move where and how you want it to. The same can be said of successful upwind and offwind legs of a race as well as its finish.

Practising the two physical component skills -- basic sailing skills and basic racing skills -- whether individually, through specific water drills, or holistically, through practise races, is important. But the key to becoming a successful competitor is to put all of that practise to work and often, by competing. You will never win if you do not race.

There are, perhaps, two final but opposed messages for this book. The first is: always sail your own race. Avoid being caught up in the crowd at the starboard end of the start line; avoid the starboard tack parade; avoid the bulge of competitors outside the rhumbline on the reaches; avoid playing "follow the leader" up the beats. You will never win while you are following your opponent. Sail your own race, not someone else's.

But, on the other hand, do not be reckless. Do not try something really wild unless you have nothing to lose; gambles rarely pay off. The less chances you take, the risks you expose yourself to.

This trade-off is always present in yacht racing and is always irreconcilable. In some ways, this conflict reveals the very essence of this aspect of sailing. Yacht racing forces you to continually make decisions and, in each decision you make, the potential for gain must be weighed against the potential for loss. If you analyse a situation correctly and make the right decision, then you gain the advantage over competitors who made the wrong choice. But that advantage will last only until the next choice has to be made. Such is the very nature of the game.

In such an unpredictable reality, perhaps the most that can be said is: Good luck.