

RHKYC Mark-Laying Course



Introductory Course Content

- Mark-Laying Core Competencies
- Importance of Sailing Instructions (SIs)
- Typical Course Configurations, Mark-Naming and Colour Conventions.
- Race Management Signalling (flags and sounds) – why, where, when, how? Course Change ('C flag'), Rule 42 ('O/R' flags), Shorten Course ('S' flag), Missing Mark ('M' flag), General Recall ('1st Sub'), Race Abandoned ('N' flag)
- Mark-Laying Equipment and Terminology
- RIB and personal equipment checks.
- Mark-Laying Procedures – 'dropping', 'streaming-in' and recovering.
- Fouled Prop Procedures
- VHF Radio Use.
- Wind and Tidal Stream Measurements
- Garmin GPS73 SOPs and Classroom Exercise.
- On-Water Practice Session (approx 3hrs)

34 Mark Boat Officer Competences

Mark boat officers should be able to consistently demonstrate performance of the following **in rough conditions of open water, winds up to 25 knots with 2 m waves and current up to 2 knots in any direction**

Boat handling - be able to:

- 1 operate a power boat in rough conditions
- 2 standby 5m – 10m from a fixed object (an anchored mark)
- 3 standby 5m – 10m from a drifting object (yacht or person)
- 4 steer to a given compass direction.
- 5 steer to a waypoint given the bearing and distance from a reference position.
- 6 steer to a waypoint given by latitude and longitude.
- 7 come along side an anchored boat in **reasonable** wind and sea conditions to safely transfer objects and people.
- 8 come along side a wharf or jetty.
- 9 anchor in the intended position taking into account current, wind, waves and water depth.
- 10 retrieve the boat's anchor using a retrieval ball within 2 minutes of being given the instruction.

Mark Laying - be able to:

- 11 inflate and deflate marks in no longer time than would be taken on land.
- 12 lay a mark within 20m of a given position consistently, without problems within 2 minutes, with the mark upright and with allowance made for current, waves and wind.
- 13 retrieve a mark (anchored in 30 m of water) when standing nearby within two minutes of being given the instruction.
- 14 retrieve a mark using the retrieval buoy method.
- 15 read the supplied tables to obtain the distance and bearing to the reference point of each mark of the course given the course axis and the distance to mark 1
- 16 stream and tow a mark to facilitate dropping in a desired position. (e.g. for a gate mark, start mark or finish mark)
- 17 be one of two boats to lay a pair of gate marks the correct distance apart and at the correct angle, with allowance made for current, waves and wind.
- 18 correct a gate mark position to achieve the correct orientation and distance.
- 19 replace a mark with a small buoy and vice versa.

GPS Usage – be able to:

- 20 enter a latitude and longitude of a given position.
- 21 enter the boats position into the GPS using the Mark function (“ping” a position)
- 22 rename waypoints
- 23 save a new waypoint given a range and bearing from an existing waypoint
- 24 use the MOB function to identify a reference position
- 25 retrieve from the GPS the latitude and longitude of saved waypoints and present position.

Laser Range Finder Usage – be able to:

- 26 Set a laser range finder to metres and be able to use it to find the distance to an object.

Recording – be able to:

- 27 measure and record wind speed and direction from a drifting boat and graph to obtain trends.
- 28 measure and record current data
 - (i) using a tide stick
 - (ii) using the GPS in strong current.
- 29 record mark roundings with times.

Using a radio – be able to:

- 30 use correct procedures when transmitting and receiving radio communications.

Signal RRS information during a race – be able to:

- 31 anchor in the correct position to signal a course change, or Flag O/R or (shorten course), Flag M
- 32 know the correct flags and signals (visual and sound)
- 33 signal Postponement or abandonment.
- 34 display the correct signal within 30 seconds of the instruction.

HONG KONG RACE WEEK

a constituent event of the ASAF Youth Cup

14 to 19 February 2017

Image: iStock / Guy Newson

For further information go to
www.hongkongraceweek.com

or contact Nikki Claringbold at
info@hongkongraceweek.com



Organiser



Hong Kong
Sailing Federation
香港帆板總會

Supported by



L Leisure and Cultural
Services Department



Asian Sailing
Federation



SAILORS
SEA

Co-organiser



THE HONG KONG
POLICE FORCE

Subvented by the Home Affairs Bureau (Arts and Sport Development Fund)

Sailing Instructions (SIs)

'The Sailing Instructions are extremely important and must be prepared with great care. The effective operation of the regatta, the responsibility and authority of the officials and the all important link to the Racing Rules and, if appropriate, the Appeal Authority, are governed by these instructions. It is equally important that the Race Officer and all the officials associated with the actual conduct of the regatta be thoroughly conversant with them.'

ISAF Race Management Manual

Always review the SIs the day before turning up to mark-lay at an event!

The SIs for HKRW(2016) run to twenty-one pages(!), thankfully as mark-layers we only need be concerned with a few.....



Organizer



Subvented by

民政事務局
(體育及藝術發展機構)
Home Affairs Bureau
(Arts & Sports Development Fund)

Co-organizer



Hong Kong Race Week

Incorporating the ASAF Youth Sailing Cup

16 - 21 February 2016

Organising Authority: Hong Kong Sailing Federation (HKSF)

Co-organizer: Royal Hong Kong Yacht Club (RHKYC)

Venue: RHKYC Middle Island Clubhouse, Hong Kong

SAILING INSTRUCTIONS

Abbreviations

[NP] A breach of this rule will not be grounds for a protest or request for redress by a boat.
This changes RRS 60.1(a).

[DP] Rules for which the penalties are at the discretion of the International Jury.

1. RULES

1.1 The regatta will be governed by the rules as defined in *The Racing Rules of Sailing 2013 - 2016* (RRS).

1.2 The Notice of Series for the ASAF Youth Sailing Cup 2015 - 16 will apply.

1.3 The prescriptions of the HKSF will apply and will be posted on the Official Notice Board (ONB).

1.4 The class rules of each class racing will apply. These may be changed, where permitted, by these Sailing Instructions (SIs).

Supported by



2.4mR	B
470	F
420	E
29er	Q
RS:X Youth	J
RS:One	W
Techno 293	T

9.2 An appropriately marked flat-board signal may be used as a substitute for any flag.

10. RACING AREAS

10.1 Appendix A shows the location of the racing areas. The race area for each class/fleet for each day will be posted on the ONB by 0830hrs on that day. The race committee will assign fleets to areas based upon the weather conditions, the available resources and the number of races completed by each fleet in order to provide as far as reasonably possible an equal and fair regatta to all boats.

11. THE COURSES

11.1 The diagrams in Appendix B show the courses, including the course designation, approximate angles between legs, the order in which marks are to be passed, and the side on which each mark is to be left.

11.2 The approximate compass bearing from the committee boat to Mark 1 may be displayed by the signal boat.

12. MARKS

12.1 Marks are described in Appendix B.

12.2 New marks, as provided in SI 14.1, are described in Appendix B.

12.3 The starting and finishing marks will be a race committee boat at one end of the line and either an inflatable buoy or another race committee boat at the other end.

12.4 A race committee boat signaling a change of a leg of the course is a mark as provided in SI 14.2.

12.5 In any course, the gate may be replaced by a single mark to be left to port.

13. THE START

- 13.1 RRS 26 applies with the warning signal made five minutes before the starting signal.
- 13.2 If flag U has been displayed as the preparatory signal, no part of a boat's hull, crew or equipment shall be in the triangle formed by the ends of the starting line and the first mark during the last minute before her starting signal. If a boat breaks this rule and is identified, she shall be disqualified without a hearing but not if the race is restarted or resailed or postponed or abandoned. This changes RRS 26 Starting Races and RRS 63.1. When flag U is used as the preparatory signal RRS 29.1 Individual Recall does not apply. The scoring abbreviation for a flag U penalty is UFD. This changes RRS A11 Scoring Abbreviations.
- 13.3 The starting line will be between staffs displaying orange flags on the starting marks when they are both committee boats or between the staff displaying an orange flag at the starboard end and the course side of the port-end starting mark. An orange inflatable mark may be laid close to the committee boat as an Inner Distance Mark. Boats shall not pass between the committee boat and this Inner Distance Mark.
- 13.4 Boats whose warning signal has not been made shall avoid the starting area during the starting sequence for other races. Boats may be protested by the race committee for failing to comply with this SI. [DP]
- 13.5 A boat starting later than 4 minutes after her designated starting signal will be scored Did Not Start (DNS) without a hearing. This changes RRS A4 and A5.

14. CHANGE OF THE NEXT LEG OF THE COURSE

- 14.1 To change the next leg of the course, the race committee will lay a new mark (or move the finishing line) and remove the original mark as soon as practicable. When in a subsequent change a new mark is replaced, it will be replaced by the original mark.
- 14.2 Except at a gate, boats shall pass between the race committee boat signaling the change of the next leg and the nearby mark, leaving the mark to port and the race committee boat to starboard. This changes RRS 28.
- 14.3 When more than one class is racing and the change does not apply to all classes, the class flag of the class(es) whose course is being changed will also be displayed.

15. THE FINISH

15.1 The finishing line will be between staffs displaying orange flags on the finishing marks when they are both committee boats or between the staff displaying an orange flag at one end and the course side of the other finishing mark.

16. TIME LIMITS AND TARGET TIMES

16.1 The race target time for the first boat in each class and the time limit for each class are:

Class	Time Limit	Target Time	Finish Window
Optimist Green Fleet	60 min	30 min	20 min
Optimist Main Fleet	60 min	40 min	20 min
Laser Radial	65 min	45 min	15 min
Laser 4.7	65 min	45 min	15 min
2.4mR	65 min	45 min	15 min
470	65 min	45 min	15 min
420	65 min	45 min	15 min
29er	50 min	30 min	10 min
RS:X Youth	50 min	30 min	10 min
RS:One	50 min	30 min	10 min
Techno 293	50 min	30 min	10 min

16.2 Boats failing to finish within the time stated in the Finish Window of the first boat in her class will be scored Did Not Finish (DNF) without a hearing. This changes RRS 35, A4 and A5.

16.3 The race shall be abandoned if no boat has finished within the time limit.

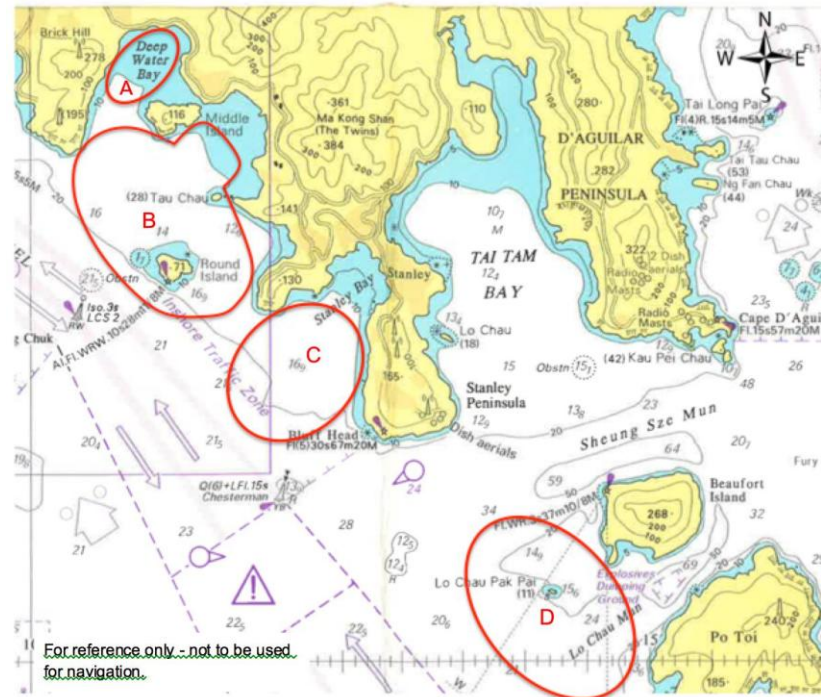
16.4 Finishing on the water: When more than 75% of the boats in a race have finished, the race officer may finish the balance of the boats at the last mark or on the course. The method of finishing and the finish positions awarded each boat thereby will be determined by the race officer on behalf of the race committee. This changes RRS 28. [NP] [DP]

17. PENALTIES

17.1 For 29ers, RRS 44.1 is changed so that the Two-Turns Penalty is replaced with a One-Turn Penalty.

17.2 A boat that has taken a penalty under RRS 44.1 or under SI 19.1, or retired shall

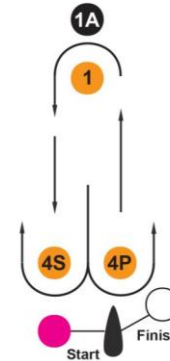
APPENDIX A – RACING AREAS



APPENDIX B – COURSES

Windward / Leeward Courses

L2 SHORT	Start – 1 – 4S/4P – 1 – 4P – Finish	L2 LONG	Start – 1A – 4S/4P – 1A – 4P – Finish
L3 SHORT	Start – 1 – 4S/4P – 1 – 4S/4P – 1 – 4P – Finish	L3 LONG	Start – 1A – 4S/4P – 1A – 4S/4P – 1A – 4P – Finish
L4 SHORT	Start – 1 – 4S/4P – 1 – 4S/4P – 1 – 4S/4P – 1 – 4P – Finish	L4 LONG	Start – 1A – 4S/4P – 1A – 4S/4P – 1A – 4S/4P – 1A – 4P – Finish



Notes for Windward / Leeward Courses

Mark 1 (SHORT courses only) will be an orange inflatable buoy which shall be rounded to port.

Mark 1A (LONG courses only) will be a black inflatable buoy which shall be rounded to port.

Gate marks 4S/4P will be orange inflatable buoys. At the gate, boats shall pass between the marks and round either mark. The gate may be replaced by a single mark which shall be rounded to port.

A new mark will be an inflatable buoy with a yellow cover when replacing an orange mark, or an inflatable buoy with a black cover and white stripe when replacing a black mark.

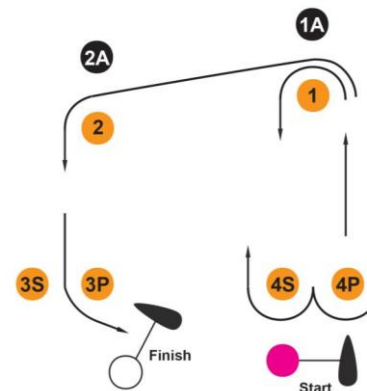
The port-end starting mark will be an inflatable buoy with a pink cover or a race committee boat.

The port-end finishing mark will be an inflatable buoy with a white cover or a race committee boat.

Inner Loop Trapezoid Courses

I2 SHORT	Start – 1 – 4S/4P – 1 – 2 – 3P – Finish
I3 SHORT	Start – 1 – 4S/4P – 1 – 4S/4P – 1 – 2 – 3P – Finish
I4 SHORT	Start – 1 – 4S/4P – 1 – 4S/4P – 1 – 4S/4P – 1 – 2 – 3P – Finish

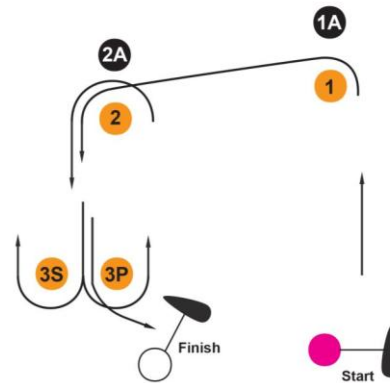
I2 LONG	Start – 1A – 4S/4P – 1A – 2A – 3P – Finish
I3 LONG	Start – 1A – 4S/4P – 1A – 4S/4P – 1A – 2A – 3P – Finish
I4 LONG	Start – 1A – 4S/4P – 1A – 4S/4P – 1A – 4S/4P – 1A – 2A – 3P – Finish



Outer Loop Trapezoid Courses

O2 SHORT	Start – 1 – 2 – 3S/3P – 2 – 3P – Finish
O3 SHORT	Start – 1 – 2 – 3S/3P – 2 – 3S/3P – 2 – 3P – Finish
O4 SHORT	Start – 1 – 2 – 3S/3P – 2 – 3S/3P – 2 – 3S/3P – 2 – 3P – Finish

O2 LONG	Start – 1A – 2A – 3S/3P – 2A – 3P – Finish
O3 LONG	Start – 1A – 2A – 3S/3P – 2A – 3S/3P – 2A – 3P – Finish
O4 LONG	Start – 1A – 2A – 3S/3P – 2A – 3S/3P – 2A – 3S/3P – 2A – 3P – Finish



Notes for Trapezoid Courses

Marks 1 and 2 (SHORT courses only) will be orange inflatable buoys which shall be rounded to port.

Marks 1A and 2A (LONG courses only) will be black inflatable buoys which shall be rounded to port.

Gate marks 3S/3P and 4S/4P will be orange inflatable buoys. At a gate, boats shall pass between the marks and round either mark. A gate may be replaced by a single mark which shall be rounded to port.

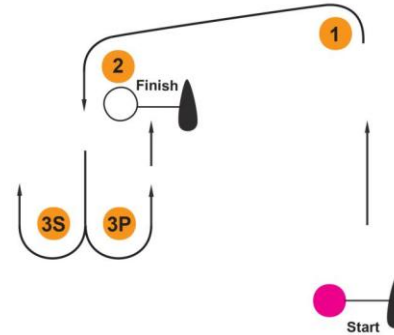
A new mark will be an inflatable buoy with a yellow cover when replacing an orange mark, or an inflatable buoy with a black cover and white stripe when replacing a black mark.

The port-end starting mark will be an inflatable buoy with a pink cover or a race committee boat.

The starboard-end finishing mark will be an inflatable buoy with a white cover or a race committee boat.

Optimist Main Fleet Course

OP1	Start – 1 – 2 – 3S/3P – Finish
-----	-----------------------------------



Notes for Optimist Main Fleet Course

Marks 1 and 2 will be orange inflatable buoys which shall be rounded to port. Gate marks 3S/3P will be orange inflatable buoys. At the gate, boats shall pass between the marks and round either mark. The gate may be replaced by a single mark which shall be rounded to port.

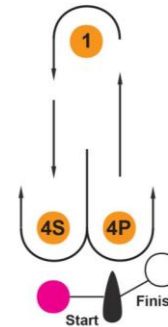
A new mark will be an inflatable buoy with a yellow cover.

The port-end starting mark will be an inflatable buoy with a pink cover or a race committee boat.

The port-end finishing mark will be an inflatable buoy with a white cover or a race committee boat.

Optimist Medal Race Courses

M2	Start – 1 – 4S/4P – 1 – 4P – Finish
M3	Start – 1 – 4S/4P – 1 – 4S/4P – 1 – 4P – Finish
M4	Start – 1 – 4S/4P – 1 – 4S/4P – 1 – 4S/4P – 1 – 4P – Finish



Notes for Optimist Medal Race Courses

Mark 1 will be an orange inflatable buoy which shall be rounded to port. Gate marks 4S/4P will be orange inflatable buoys. At the gate, boats shall pass between the marks and round either mark. The gate may be replaced by a single mark which shall be rounded to port.

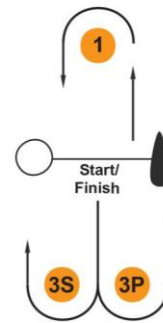
A new mark will be an inflatable buoy with a yellow cover.

The port-end starting mark will be an inflatable buoy with a pink cover or a race committee boat.

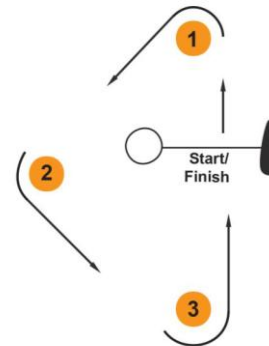
The port-end finishing mark will be an inflatable buoy with a white cover or a race committee boat.

Optimist Green Fleet Courses

G1	Start – 1 – 3S/3P – Finish
G2	Start – 1 – 3S/3P – Start/Finish – 1 – 3S/3P – Finish



G3	Start – 1 – 2 – 3 – Finish
G4	Start – 1 – 2 – 3 – Start/Finish – 1 – 3 – Finish



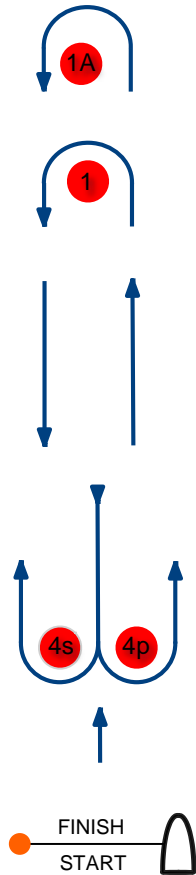
Notes for Optimist Green Fleet Courses

Marks 1, 2 and 3 will be orange inflatable buoys which shall be rounded to port. Gate marks 3S/3P will be orange inflatable buoys. At the gate, boats shall pass between the marks and round either mark. The gate may be replaced by a single mark which shall be rounded to port.

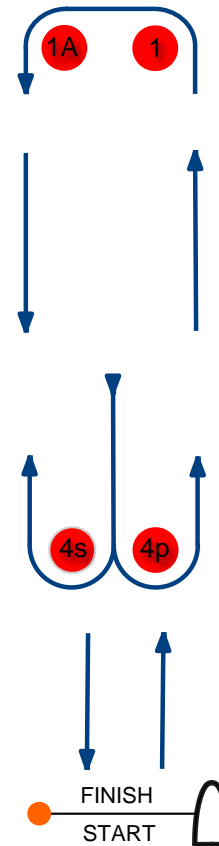
The port-end starting/finishing mark will be an inflatable buoy with a white cover or a race committee boat.

Typical W/L Courses

Gate and Extended Mark (1A)

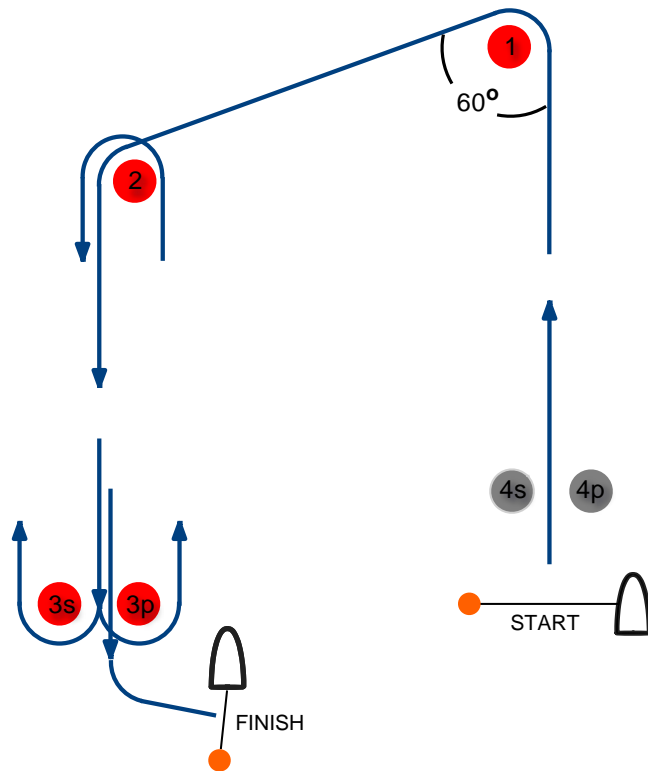


Gate and Offset Mark (1A)

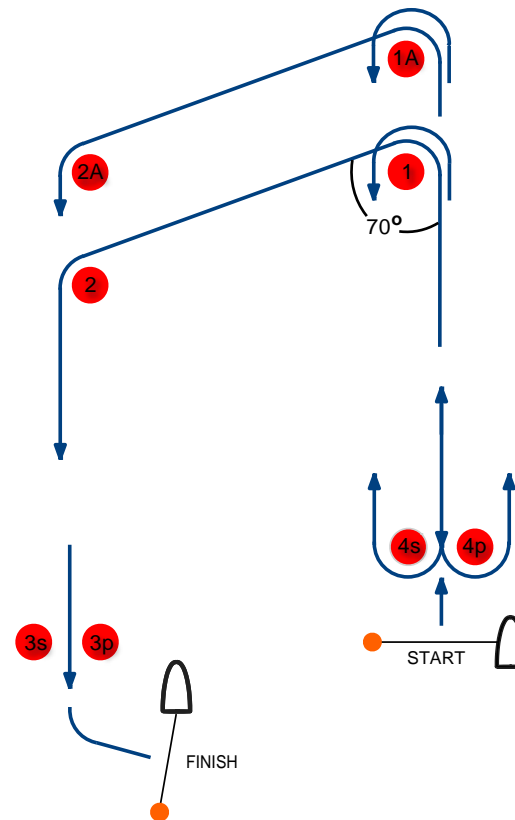


Typical Trapezoid Courses

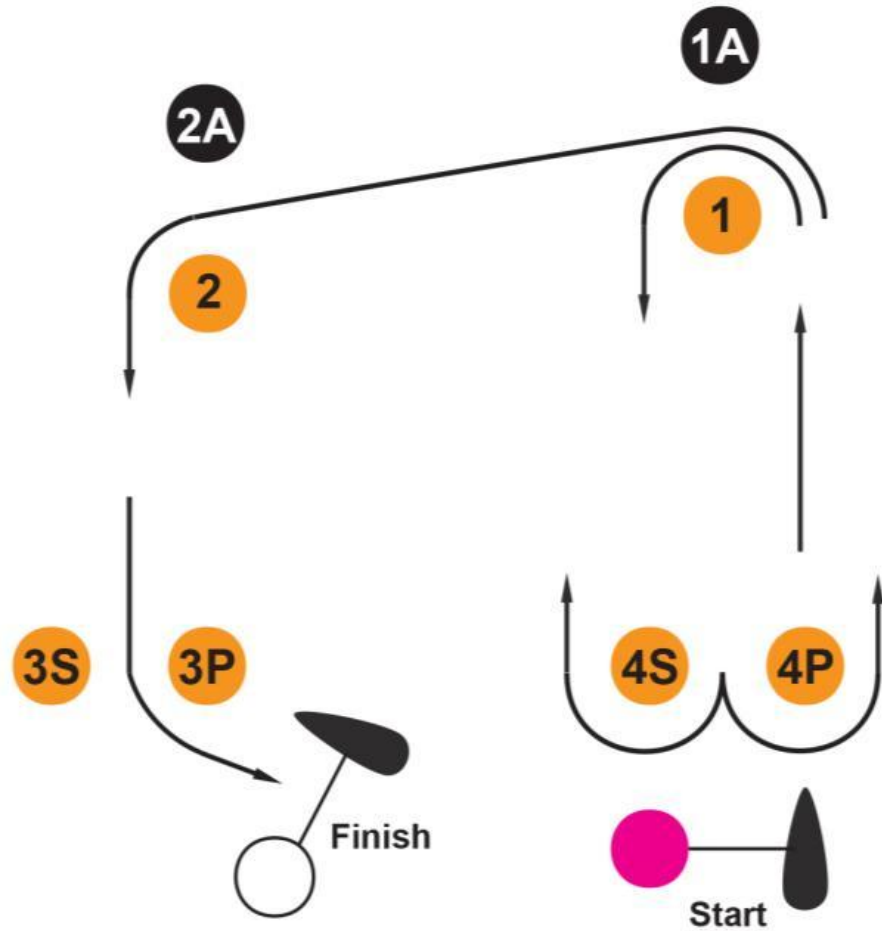
60 Degrees Outer Loop With Gates



70 Degrees Inner Loop With Gates and Extended Marks 1A/2A



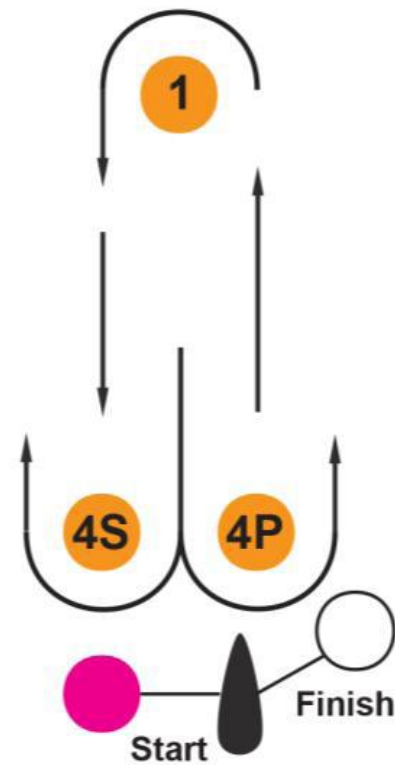
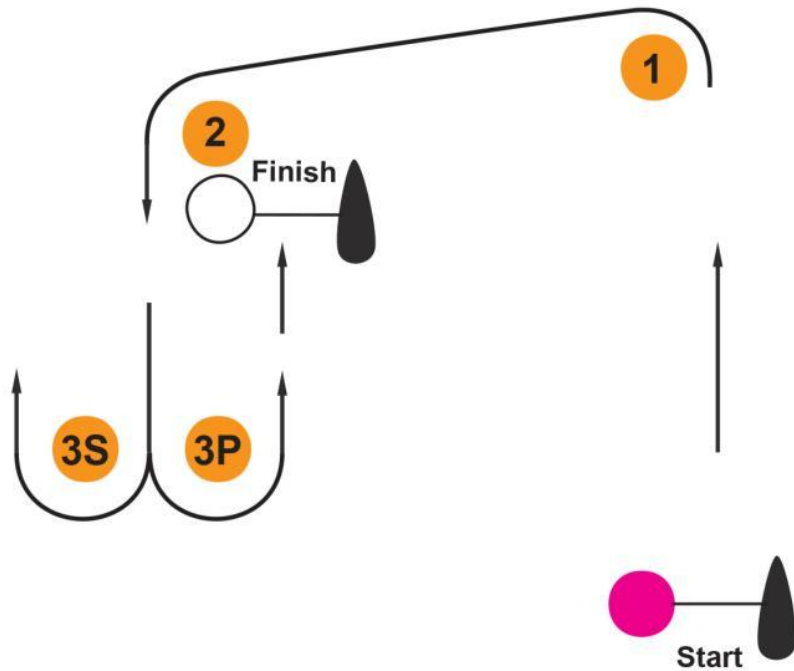
HKRW Trapezoid Course



OPTIMIST Courses

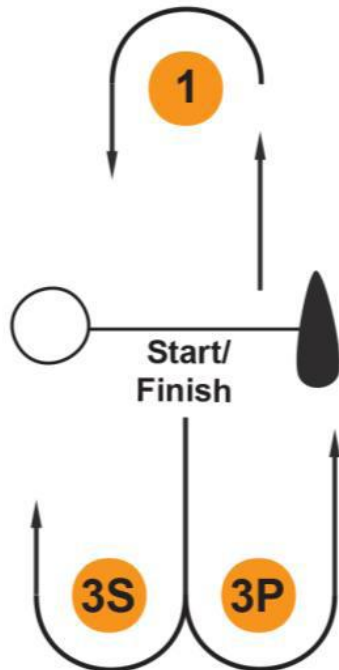
Main Fleet

Medal

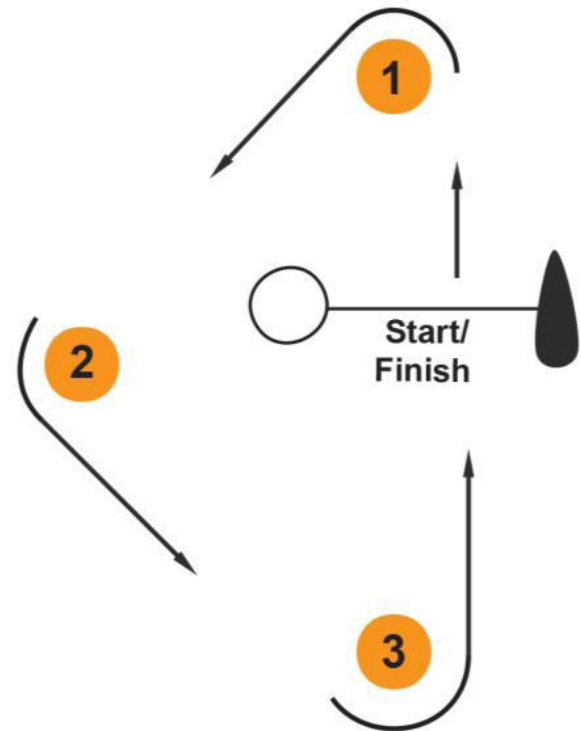


OPTIMIST Courses

Green Fleet W/L



Green Fleet Triangle



Race Management Signalling

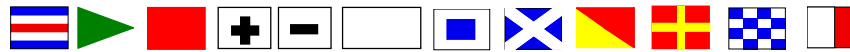
Sounds















Flags














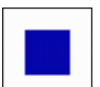

Visual Signals displayed by Mark Boats















Change of Course - Flag C		
	(- - - - -) Repetitive sounds while the signal is displayed	The position of the next <i>mark</i> has been changed. This signal is displayed with a red or green shape or flag for sailboards or with a board displaying the compass bearing of the next mark for other classes. Displayed with a board showing a “+” means the length of the leg has been increased. Displayed with a board showing a “-” means the length of the leg has been reduced.
  Example	(- - - - -) Repetitive sounds while the signal is displayed	Displayed on sailboard courses, means the next mark is to starboard of the original.
  Example 	(- - - - -) Repetitive sounds while the signal is displayed	This signal means the direction of the next leg for the laser class is 040° and it has been lengthened. Use 000 for due north.
Shorten Course – Flag S		
	• •	The course has been shortened. Rule 32.2 is in effect. Display as soon as the leading boat can hear and see the signal. Two sounds once for the first boat only.
Mark Missing – Flag M		
	(- - - - -) Repetitive sounds while the signal is displayed	The object displaying this signal replaces a missing <i>mark</i> .
Changes to Rule 42 – Flags O and R for 470 and Finn classes		
 O  R	(- - - - -) Repetitive sounds while the signal is displayed	Flag O turns Off aspects of Rule 42. Flag R Returns all of Rule 42.
Abandonment – Flag N and N over H		
	• • •	All races that have started are <i>abandoned</i> . Return to the starting area.
 	• • •	All races are <i>abandoned</i> . Further signals ashore.

RHKYC Standard Sailing Instructions – Flag Signals

	P	<p>↑● 4 mins to start</p> <p>↓● 1 min to start (long sound signal)</p>
	X	<p>↑● Individual recall. Stays up for 4 mins max or until OCS boat completely recrosses start line.</p>
	1 st substitute	<p>↑●● General recall.</p> <p>↓● New warning signal in 1 min.</p>
	AP	<p>↑●● Races not started are postponed.</p> <p>↓● New warning signal in 1 min.</p>
	AP over H	<p>↑●● Races not started are postponed. Further signals ashore.</p>
	AP over A	<p>↑●● Races not started are postponed. No more racing today.</p>
	N	<p>↑●●● Race abandoned. Return to start area.</p> <p>↓● New warning signal for restart in 1 min.</p>

	N over H	<p>↑●●● All races abandoned. Further signals ashore.</p>
	N over A	<p>↑●●● All races abandoned. No more racing today.</p>
	C	<p>●●●●● Position of next mark has been changed (repetitive sounds).</p>
	M	<p>●●●●● The object displaying this signal replaces a missing mark (repetitive sounds).</p>
	S	<p>↑●● Shortened course.</p>
	Blue flag	<p>Committee boat is in position at the finishing line.</p>

RHKYC Standard Sailing Instructions – Flag Signals

	1	Course numeral pennants. Display by warning signal at the latest. No sound.
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	0	
	Orange flag	<ul style="list-style-type: none"> ↑● Attention signal. Displayed 5 mins before warning signal. Committee boat end of start/finish line.
	Y	<ul style="list-style-type: none"> ↑● Wear a personal flotation device.


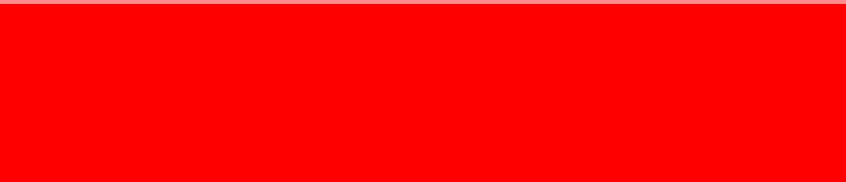

	L	<ul style="list-style-type: none"> ↑● Ashore: There's a notice to competitors. ↑● Afloat: Come within hail/follow this boat.
	D – Dragon	<ul style="list-style-type: none"> ↑● 5 mins to start
	G – Etchells	<ul style="list-style-type: none"> ↓● Start
	H – Laser	<ul style="list-style-type: none"> ↑● 5 mins to start
	J – J/80	<ul style="list-style-type: none"> ↓● Start
	K – Impala	<ul style="list-style-type: none"> ↑● 5 mins to start
	O – Optimist/ Sportsboat	<ul style="list-style-type: none"> ↓● Start
	Q – 29er	<ul style="list-style-type: none"> ↑● 5 mins to start
	R – Ruffian	<ul style="list-style-type: none"> ↓● Start
	T – Pandora	<ul style="list-style-type: none"> ↑● 5 mins to start
	V – RS Feva	<ul style="list-style-type: none"> ↓● Start
	W – All Boats	<ul style="list-style-type: none"> ↑● 5 mins to start
	Naval 6 – Flying 15	<ul style="list-style-type: none"> ↓● Start

General Recall Signal – 1st Substitute Flag

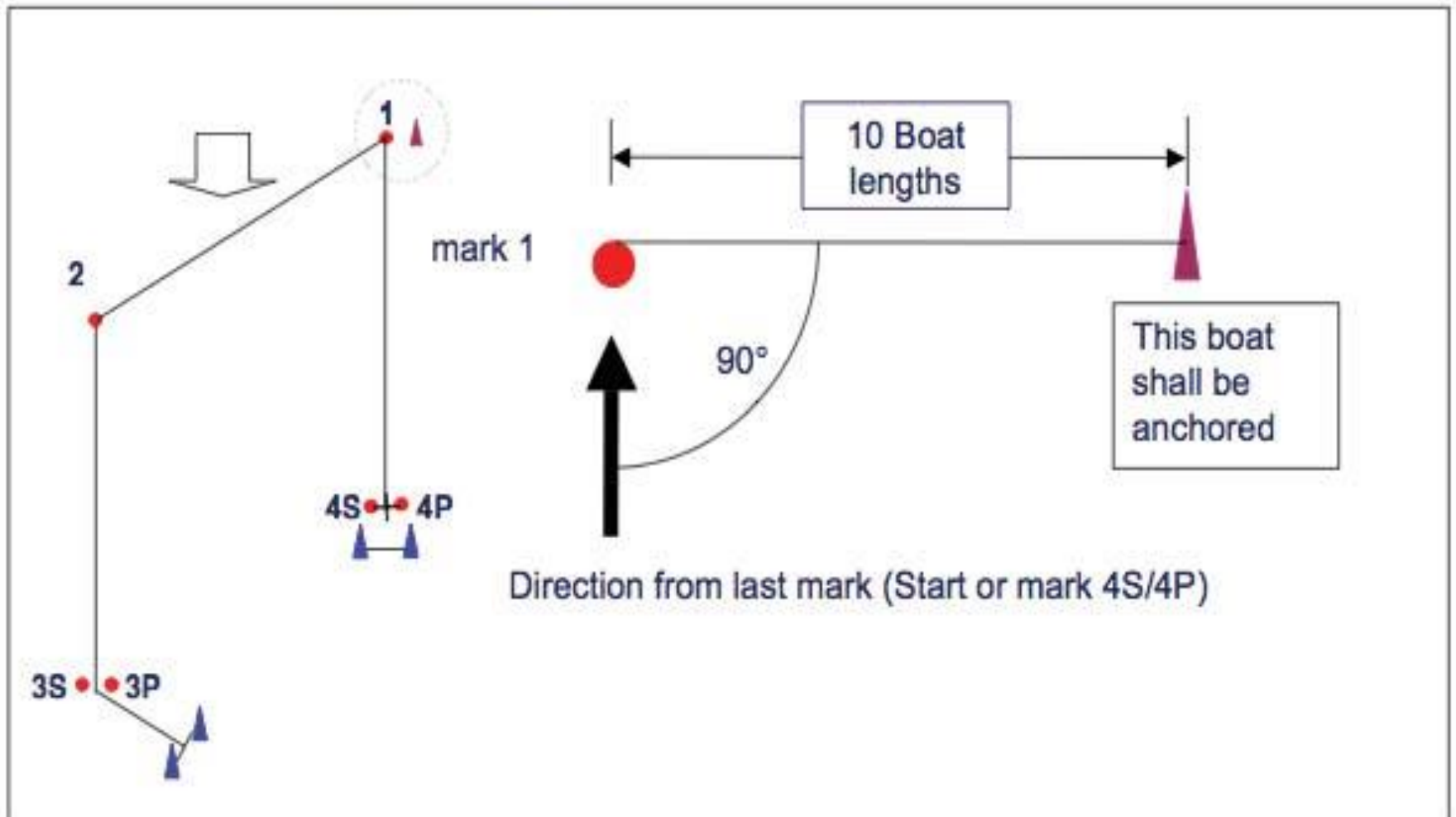


- Why – all OCS boats cannot be identified.
- When – after the General Recall flag is hoisted on the Signal Boat with two sounds and leading boats have not returned to the starting area.
- Where – drive diagonally across the front of the Fleet displaying the 1st Substitute Flag on a pole or whiteboard and make repeated sounds to draw competitors attention.

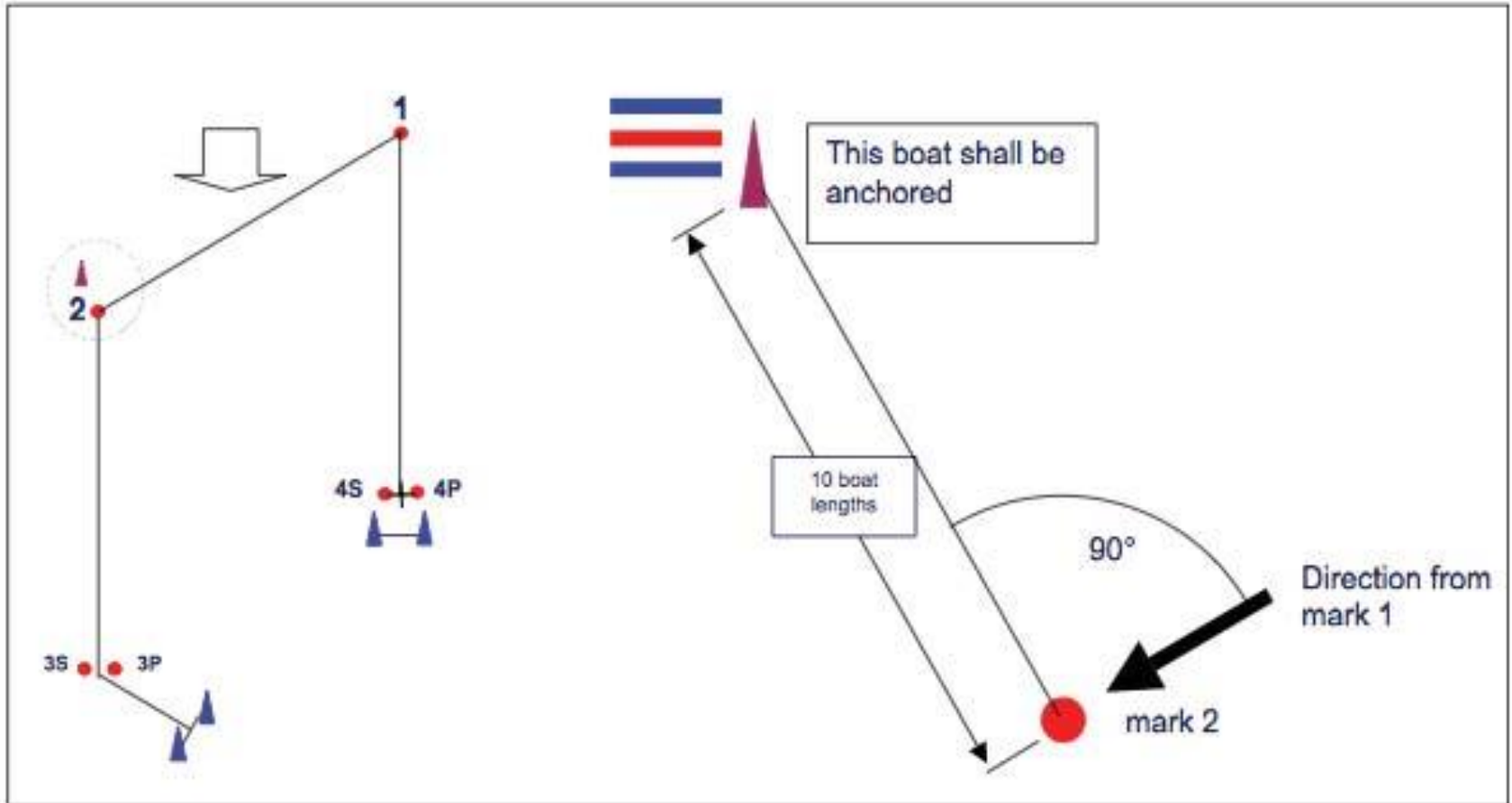
Course Change Signal – ‘C’ Flag

- 
- Why – change in wind direction (persistent shift > 15 degrees) or wind speed requires a change to the next leg of the course.
 - When – before the leading boat completes the present leg of the course.
 - Where – 50m abeam a rounding mark at an angle of 90 degrees to the present leg of the course, or 30m below the middle of a Gate.
 - **NO** requirement to anchor, just ensure the course-change board is visible to the competitors at all times.
- 
- 

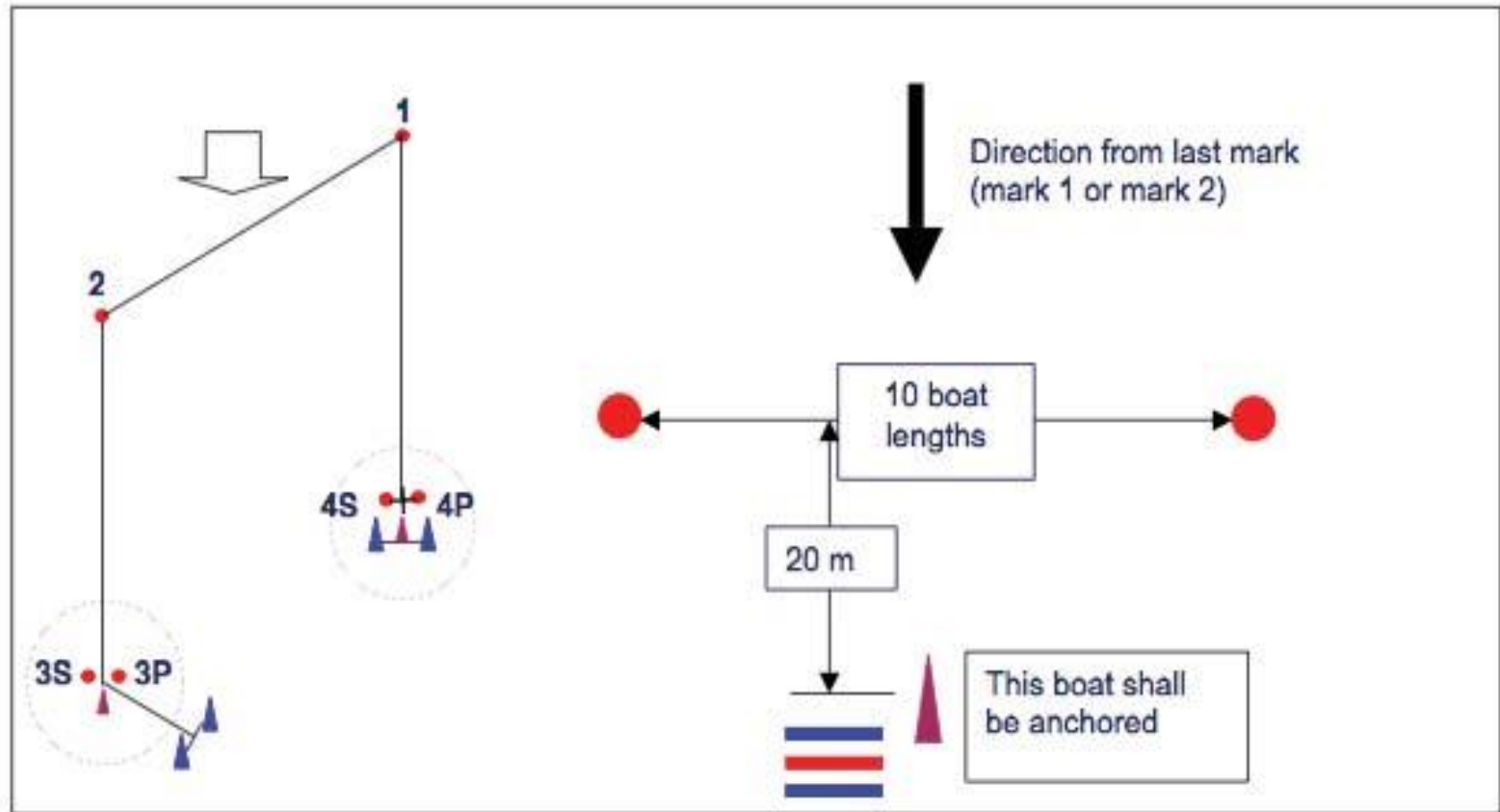
Boats approaching mark 1 from the start or mark 4S/4P



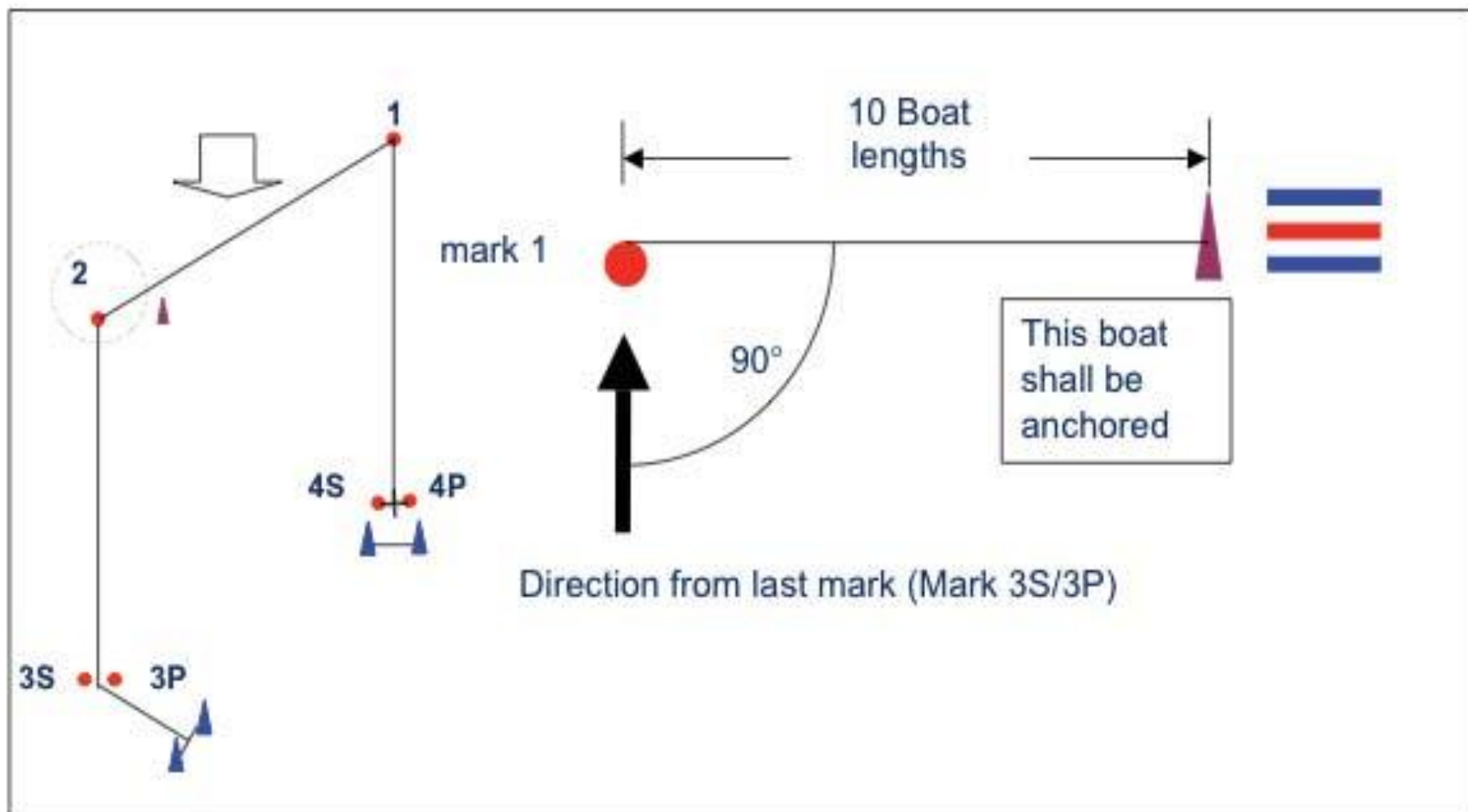
Boats approaching mark 2 from mark 1



Boats approaching mark 3S/3P from mark 2 or mark 4S/4P from mark 1



Boats approaching mark 2 from mark 3S/3P



Rule 42 Turned Off Signal – ‘O’ Flag



- Why - normally displayed on the Signal Boat prior to/with Class warning signal when average windspeed exceeds the Class specific threshold for oouching, pumping and rocking. If windspeed exceeds the Class specific threshold during the race it is displayed for individual/all classes by the MLB.
- When – before each boat rounds the mark.
- Where – same position as the Course Change Signal ('C' flag)
- How – flagpole or laminated flag affixed to a whiteboard accompanied by repeated sound signals to alert each competitor.
- **NO** requirement to anchor just ensure the signal flag is visible to each competitor as they approach the mark.

Rule 42 Restored Signal –‘R’ Flag



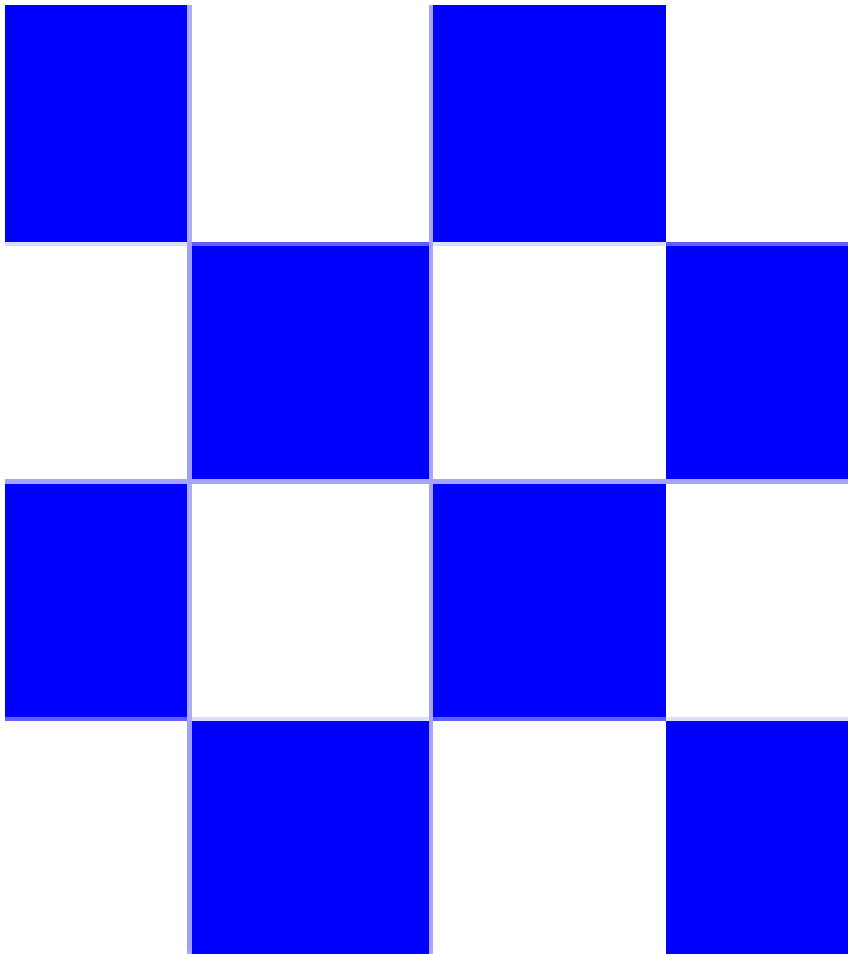
- Why – displayed to restore Rule 42 if windspeed drops below Class specific threshold.
- When – before each boat rounds the mark.
- Where – Same position as the Course Change Signal (‘C’ flag).
- How – flagpole or laminated flag affixed to whiteboard accompanied by repeated sound signals to alert each competitor.
- **NO** requirement to anchor, just ensure the signal flag is visible to each competitor as they approach the mark.

Shorten Course Signal - 'S' Flag



- Why – Dying wind makes it unlikely that the race will be completed within the Time Limit.
- When – as the lead boat approaches the Shorten Finish Line.
- Where – 50m abeam a rounding mark at an angle of 90 degrees to the present leg of the course, or abeam a Gate mark..
- How - **Must anchor** or tie-off to a Gate mark. Raise flag with two sounds as soon as the lead boat is in range to hear.
- Signal horn only for first boat in each class. Record all sail numbers on the Finishing Sheet and the times of the first boat (for Race Management) and last boat (protest time cutoff) in each class.

All Races Abandoned Signal – ‘N’ Flag



- Why – RC starting procedure error, course laying error, drifting mark, major windshift (> 45degrees) or windspeed exceeds Class limits.
- When – before the lead boat rounds the mark.
- Where – diagonally across the front of the fleet on the first leg of the course, otherwise in the same position as the Course Change Signal ('C' flag).
- How – flagpole or laminated flag affixed to a whiteboard accompanied by repeated sound signals to alert each competitor.
- **NO** requirement to anchor, just ensure the signal flag is visible to each competitor as they approach the mark.

Missing Mark Signal –‘M’ Flag



- Why – anchor warp too short for the depth or incorrectly laid anchor has resulted in the mark drifting out of position.
- When – only if insufficient time to recover the mark and re-lay correctly with additional warp.
- How – **anchor** at the original mark position and display on a flagpole or whiteboard with repeated sounds to alert approaching boats.

Mark-Laying Equipment

RIB

- Correct Marks – check SIs for colours.
- Ground Tackle (anchor, sufficient warp/chain for likely depth x3) for both normal and change marks
- Counterweights for all full-size marks
- Flagpole
- Tidestick
- Cherry Buoy with collar and carabiner
- Course Change Board and Whiteboard

Mark-Laying Box

- GPS/mounting bracket and VHF Radio
- Wind Vane and anemometer
- Emergency plan and contact numbers
- Hand-bearing compass
- Whiteboard and marker pen
- Compass 'whizz' wheel
- Clipboard, Mark Rounding and Finishing Sheets
- GPS SOPs, SIs and wax pencil
- Appropriate flags and signal horn
- Spare batteries
- Cable ties, velcro and duct tape

Mark Laying Procedures

'Dropping'

- 'Dropping' means placing the mark in the water at the correct position (after cross-checking on the Waypoint Manager page) then motoring up-course whilst paying-out the anchor warp.
- Care should be taken **not** to drag the mark out of position by keeping too much tension on the anchor warp!
- Aim for just enough to stop the trailing warp fouling the propeller.

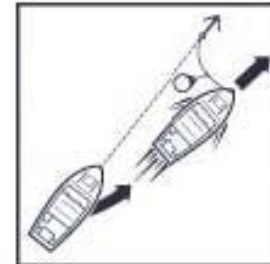
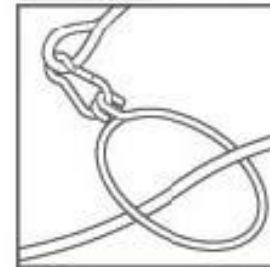
'Streaming-in'

- 'Streaming' means towing the mark behind the RIB with the all the warp deployed and only the anchor onboard.
- A tidestick is dropped at the desired mark position (after cross-checking alignment with a hand-bearing compass).
- 'Streaming' is continued up-course (making an allowance for cross tide) and the anchor is dropped when the mark is 3m downwind of the 'tidestick'.
- No tidestick is required when laying the Start Pin/Finish Pin if the Race Officer will make the "drop" call.

Cherry Buoy Retrieval

How does the Anchor Ring work?

- 1.** Slip the Anchor Ring over the anchor line. Attach the shackle-buoy assembly. Be sure to snap the shackle through both eyes of the ring. Toss the buoy into the water allowing the ring to slide down the line.
- 2.** Motor your boat at a 30 degree angle off of your anchor point, taking care to keep the anchor line clear of the props. Proceed slowly (roughly 5 knots) until the anchor is released from the bottom. Then increase speed slightly (6 to 8 knots).
- 3.** The anchor line will slide through the ring as the buoy floats to the surface. Once the anchor has reached the surface, shift into neutral and pull in the slack anchor line and anchor. The anchor chain will counterbalance the anchor and hold the anchor at the surface.



Wind and Tidal Stream Measurements

Wind Measurement

- MLB#1 will be dispatched to the provisional Mark 1 position to take wind and tidal stream readings. Sometimes the windvane and hand-bearing compass are mounted together on a wooden frame which is ideal. Otherwise they'll be separate. Either way take a 5min mean using a distant object for reference, then pass its bearing, together with average and max wind speed to the Race Officer.

Tidal Stream Measurement

- Tidal stream (direction from and speed) is very useful to the Race Officer for setting the Course Axis. It should be measured by MLB#1 when he's taking wind readings at the provisional Mark 1 position. It should also be measured by MLB#2 in the vicinity of the Start Line.
- MARK your position, drop the tidestick and start your stopwatch. Re-name WPT TS1, SELECT 'Done' then GOTO this WPT on the Waypoint Manager page.
- After 5 mins recover the tidestick and record the Bearing to WPT TS1 which is the tidal stream direction.
- Tidal Stream Speed(Kts) = Distance to WPT TS1(metres) divided by 150.
- Pass both to the Race Officer.

Before Leaving The Dock

RIB Check

- Sponsons (inflate if necessary)
- Fuel Level
- Engine, prop and bilge pump
- First Aid Kit
- Fire extinguisher
- Towing line
- Tool Kit
- Painter and stern line
- Anchor, chain and warp

Personal Equipment Check

- PFD
- Gloves
- Knife
- Cold/wet weather gear
- Sunscreen and sunglasses
- Knife and pliers
- PVOCC (PVOL)
- Food and water
- Waterproof 'grab' bag
- Mobile phone in pouch

On-Water W/L Course Laying Exercise



- Leave the dock with two marks, one cherry buoy, four boxes of ground tackle and one tidestick on RIB#1.
- RIB#2 has two marks, one cherry buoy and one tidestick and is anchored to act as the SB and temporary mark store.
- RIB#1 drops Mark 1 and Mark 1A
- Mark 1A is recovered and 'streamed-in' as Mark 1A (offset).
- Mark 1A is recovered and 'streamed-in' as the SP (100m) using the tidestick.
- Collect the two marks from RIB#2.
- Drop Mark 4P then 'stream-in' 4S using a tidestick.
- Recover the SP and 'stream-in' the FP (50m).
- Return to RIB#2, transfer two crew and two ground tackle boxes to RIB#1, then weigh anchor and recover two marks each using cherry buoys.
- Return to dock!