

# SCOW Seminar Series

- Racing Rules of Sailing Part II - Marks and Starting
- Sail Fast!

# March Seminar Program

- |  |          |
|--|----------|
| • Imagined race walkthrough                      | 6 March  |
| • A. ROW Rules: 10, 11, 12 and 13                | 6 March  |
| • B. Limits on ROW Boat 14, 15, 16 and 17        | 6 March  |
| • C. Mark Room: 18                               | 13 March |
| • Sail Fast! Part 1 – Basic sail trim            | 13 March |
| • C. Obstructions: 19 and 20.                    | later    |
| • Other Rules – Starting, Exoneration, Penalties | 20 March |
| • Rule Recap, Spirit of the Rules & Protests     | 20 March |
| • Starting and Course Strategies.                | 20 March |
| • Sail Fast! Part 2 – Advanced techniques        | 27 March |
| • Open – TBD by popular consent                  | 27 March |



# Instructors

- David Metcalf – SCOW Racing Director
  - 1969 San Diego Bay Sailboat Racing Junior Champion (as crew)
  - Winner of occasion race
  - Skipper and Captain, FS 5240 Miss Mabel
- Jeff Neurauter-
  - 2023 Buccaneer North American Champion
  - Macalpine-Downie/Gibbs Cup Trophy winner (2018, 2019, 2021)
  - Virginia Governor's Cup, Buccaneer Class winner (2010, 2014, 2015, 2018, 2019, 2021, 2022)
  - North Carolina Governor's Cup, Buccaneer Class winner (2008, 2013, 2022)
  - SCOW member and WNR supporter



# Sources

Questions about the SCOW's racing program? Contact the Racing Director at [racing@scow.org](mailto:racing@scow.org)

## GOVERNING DOCUMENTS

- [SCOW Racing Policy 2023](#)
- [World Sailing Racing Rules of Sailing 2021-2024](#)
- [Wednesday Night Racing Standing SIs 2023](#)
- [Flying Scot Class Rules](#)
- [SCOW Protest Procedures](#)

## RACING RESOURCES

- [RYA - Racing Rules](#)
- [North Sails 2023](#)
- [S&S 2022 Sport](#)
- [RACING BASICS](#)
- [Racing Skills Vid](#)
- [More Flying Scot](#)
- [Greg Fisher Clin](#)
- [Norman](#)
- [North Sails Tun](#)
- [Racing Flags an](#)

## RACE COMMITTEE

## SEMINAR PRESENTATIONS

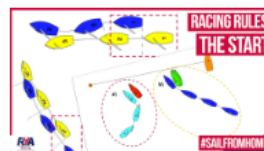
### Series 1 - The rules of Part 2 'When Boats Meet'

Series 1 provides an introduction to the racing rules of sailing and covers the rules and scenarios you are most likely to come across on the race course.

Title	Content	Presenter
Introduction	Finding your way around the rule book. How do we decide which boat has right of way?	Chris Lindsay
The Start	Does anything limit the right of way boat?	Matt Goodbourn
The Windward Leg	Revision of the right-of-way rules. Obstructions and hailing for room to tack.	Niall McLeod
Marks Part 1	Marks, and who is entitled to mark room.	Chris Atkins
The Run	When do I have to sail my proper course?	Mark Rushall
Marks Part 2	Marks Masterclass	Jon Napier



Introduction to the Racing Rules of



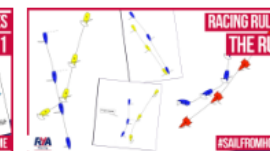
The Start



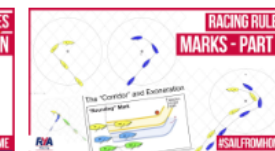
The Windward Leg



Marks - Part 1



The Run



Marks Part 2



# Overview

- Review: Section A: Right of Way Rules
- Review: Section B: Limits to the ROW Boat
- Rule 18 and Mark Room
- Sail Fast! Basic Sail Trim



# Review: Section A: Right of Way

- 10: Port – Starboard
- 11: Windward – Leeward
- 12: Clear astern keeps clear of clear ahead
- 13: While tacking keep clear

## SECTION A

### RIGHT OF WAY

*A boat has right of way over another boat when the other boat is required to **keep clear** of her. However, some rules in Sections B, C and D limit the actions of a right-of-way boat.*

#### 10 ON OPPOSITE TACKS

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

#### 11 ON THE SAME TACK, OVERLAPPED

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

#### 12 ON THE SAME TACK, NOT OVERLAPPED

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

#### 13 WHILE TACKING

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

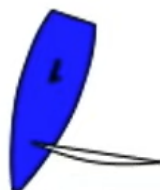


# Poll 3

A.



B.



Which blue boat must keep clear of yellow?

A.

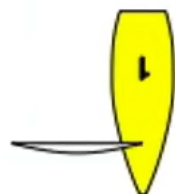
B.

C.

D.

E.

F.



C.



E.



D.



# Review: Section B

## SECTION B

### GENERAL LIMITATIONS

#### 14 AVOIDING CONTACT

A boat shall avoid contact with another boat if reasonably possible. However, a right-of-way boat, or one sailing within the *room* or *mark-room* to which she is entitled, need not act to avoid contact until it is clear that the other boat is not *keeping clear* or giving *room* or *mark-room*.

#### 15 ACQUIRING RIGHT OF WAY

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

#### 16 CHANGING COURSE

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

**16.2** In addition, on a beat to windward when a *port-tack* boat is *keeping clear* by sailing to pass to leeward of a *starboard-tack* boat, the *starboard-tack* boat shall not bear away if as a result the *port-tack* boat must change course immediately to continue *keeping clear*.

#### 17 ON THE SAME TACK; PROPER COURSE

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





## 15 ACQUIRING RIGHT OF WAY

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

### Room

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

### Keep Clear

A boat keeps clear of a right-of-way boat

- (a) if the right-of-way boat can sail her course with no need to take avoiding action and,
- (b) when the boats are *overlapped*, if the right-of-way boat can also change course in both directions without immediately making contact.



## 16 CHANGING COURSE

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

16.2 In addition, when after the starting signal a *port-tack* boat is *keeping clear* by sailing to pass astern of a *starboard-tack* boat, the *starboard-tack* boat shall not change course if as a result the *port-tack* boat would immediately need to change course to continue *keeping clear*.

### Room

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

### Keep Clear

A boat keeps clear of a right-of-way boat

- (a) if the right-of-way boat can sail her course with no need to take avoiding action and,
- (b) when the boats are *overlapped*, if the right-of-way boat can also change course in both directions without immediately making contact.



## 17 ON THE SAME TACK; PROPER COURSE

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

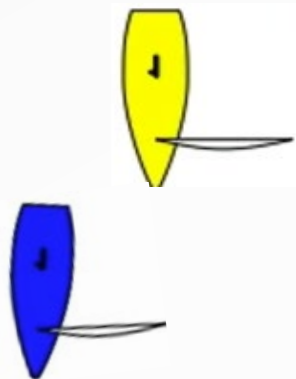
### Proper Course

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

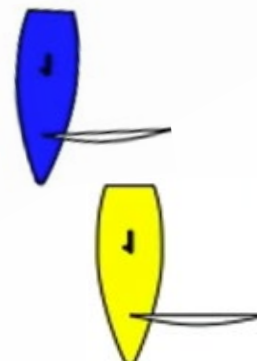
### 13 WHILE TACKING

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

Leeward gains overlap from astern – proper course only

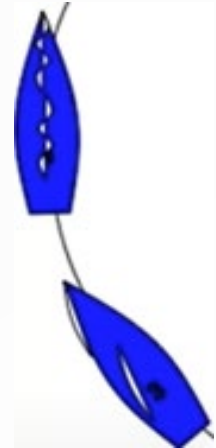
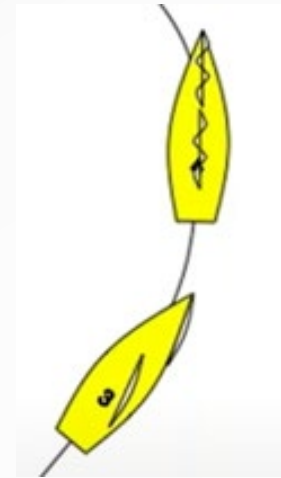
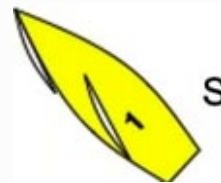
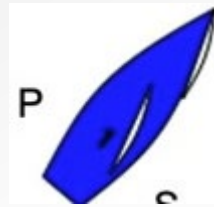
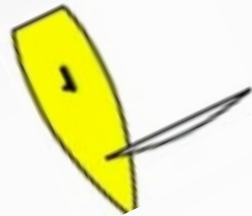


Leeward gains overlap from clear ahead – luffing is allowed





# Questions from Part I?





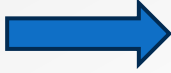
# Video – Every Weekend

- [Every Weekend - YouTube](#)



# Rule 18 - Mark Room

18.1 – Rule 18 Mark Room does not apply to boats on opposite tacks when beating, but does apply to boats on opposite tacks on a run.



**Zone** The area around a *mark* within a distance of three hull lengths of the boat nearer to it. A boat is in the *zone* when any part of her hull is in the *zone*.

18.2 – The heart of the Rule...



## SECTION C AT MARKS AND OBSTRUCTIONS

*Section C rules do not apply at a starting mark surrounded by navigable water or at its anchor line from the time boats are approaching them to start until they have passed them.*

### 18 MARK-ROOM

#### 18.1 When Rule 18 Applies

Rule 18 applies between boats when they are required to leave a *mark* on the same side and at least one of them is in the *zone*. However, it does not apply

- (a) between boats on opposite *tacks* on a beat to windward,
- (b) between boats on opposite *tacks* when the *proper course* at the *mark* for one but not both of them is to tack,
- (c) between a boat approaching a *mark* and one leaving it, or
- (d) if the *mark* is a continuing *obstruction*, in which case rule 19 applies.

Rule 18 no longer applies between boats when *mark-room* has been given.

#### 18.2 Giving Mark-Room

- (a) When boats are *overlapped* the outside boat shall give the inside boat *mark-room*, unless rule 18.2(b) applies.
- (b) If boats are *overlapped* when the first of them reaches the *zone*, the outside boat at that moment shall thereafter give the inside boat *mark-room*. If a boat is *clear ahead* when she reaches the *zone*, the boat *clear astern* at that moment shall thereafter give her *mark-room*.
- (c) When a boat is required to give *mark-room* by rule 18.2(b),
  - (1) she shall continue to do so even if later an *overlap* is broken or a new *overlap* begins;
  - (2) if she becomes *overlapped* inside the boat entitled to *mark-room*, she shall also give that boat *room* to sail her *proper course* while they remain *overlapped*.

# Rule 18 - Mark Room

18.3 – Special case for boat on port tacking inside the zone



18.4 – Special case for ROW inside boat at leeward mark



## Part 2 WHEN BOATS MEET

- (d) Rules 18.2(b) and (c) cease to apply if the boat entitled to *mark-room* passes head to wind or leaves the *zone*.
- (e) If there is reasonable doubt that a boat obtained or broke an *overlap* in time, it shall be presumed that she did not.
- (f) If a boat obtained an *inside overlap* from *clear astern* or by tacking to *windward* of the other boat and, from the time the *overlap* began, the outside boat has been unable to give *mark-room*, she is not required to give it.

### 18.3 Passing Head to Wind in the Zone

If a boat in the *zone* of a *mark* to be left to port passes head to wind from *port* to *starboard tack* and is then *fetching* the *mark*, she shall not cause a boat that has been on *starboard tack* since entering the *zone* to sail above close-hauled to avoid contact and she shall give *mark-room* if that boat becomes *overlapped* inside her. When this rule applies between boats, rule 18.2 does not apply between them.

### 18.4 Gybing

When an *inside overlapped* right-of-way boat must gybe at a *mark* to sail her *proper course*, until she gybes she shall sail no farther from the *mark* than needed to sail that course. Rule 18.4 does not apply at a *gate mark*.



# Rule 18 – “Mark-Room”

- **Purpose:** Safe and orderly rounding of marks
- **Principles:**
  - **If behind, don't push in!**  
*Let those ahead go round first*
  - **If outside, give room** for  
*inside boat to round the mark*
- **The Devil's in the Detail:**
  1. How and when do we decide who is outside or behind?
  2. How much *room* is “*mark-room*”?
  3. How to combine with other rules that apply at the same time?



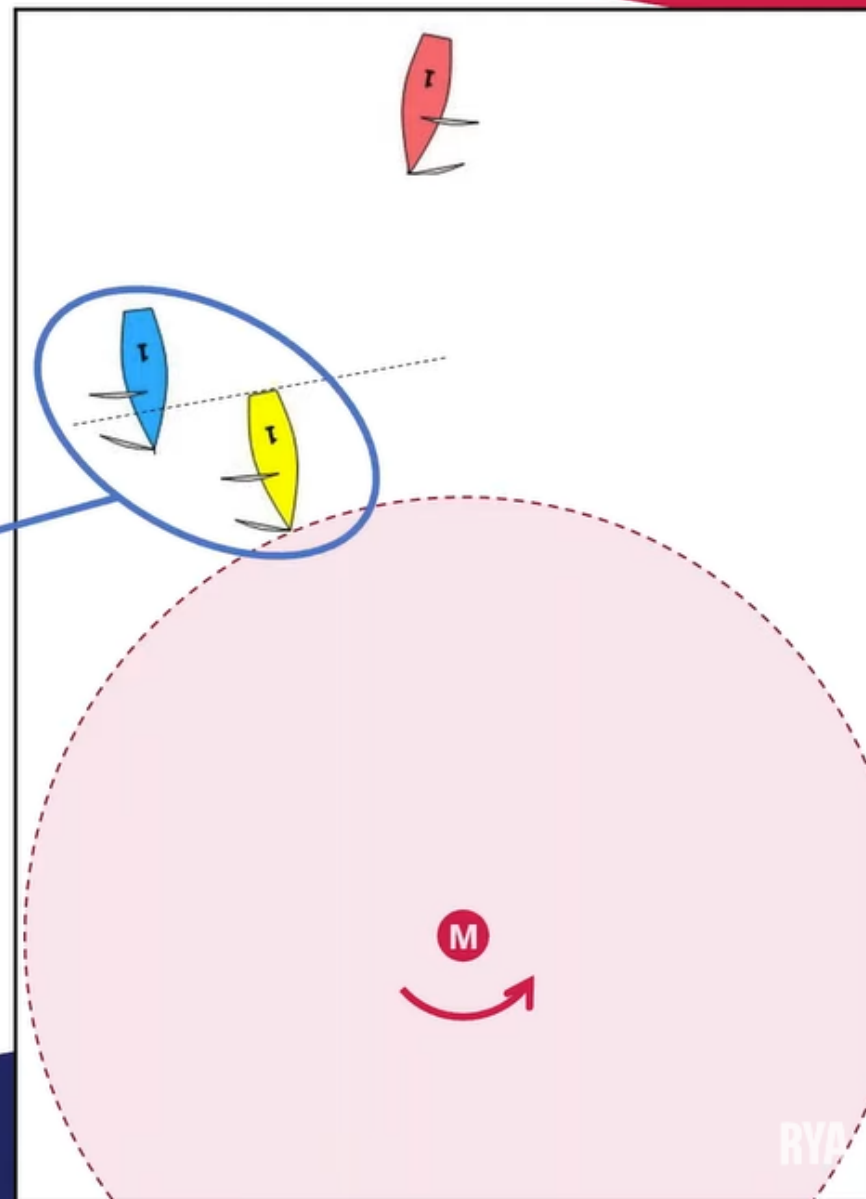


# The “Zone” rule – 18.2(b)

**Zone:** area within 3 lengths of a mark

**2 sentences, 2 situations:**

- If boats are **overlapped** when the first of them reaches the *zone*, the outside boat shall thereafter give the inside boat *mark-room*.
  - **P1:** Blue must give Yellow *mark-room*
- If a boat is **clear ahead** when she reaches the *zone*, the boat *clear astern* shall thereafter give her *mark-room*.
  -



## 2. How Much Room is “Mark-room”?

Picture in picture

It's a defined term, so we know where to find the answer ...

### **Mark-room is:**

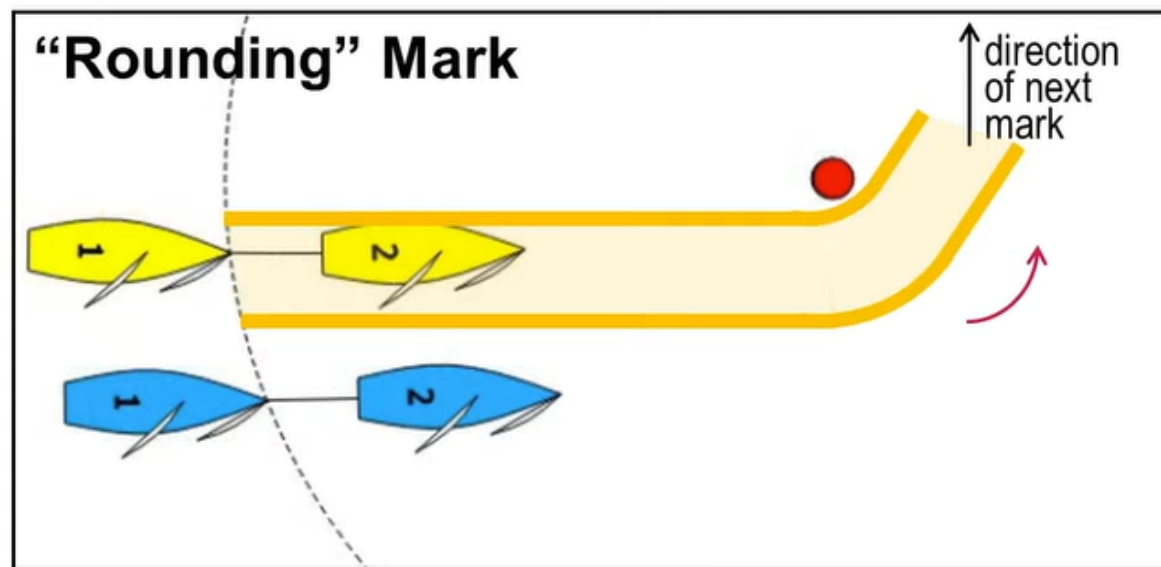
- Room for a boat to leave a *mark* on the required side. Also,
  - a) Room to sail to the *mark* when her *proper course* is to sail close to it, and
  - b) Room to round the *mark* as necessary to sail the course.

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

# Rounding *Mark*: the “Corridor”

***Mark-room*** is .....

- a) **Room to sail to the *mark***  
when her *proper course* is to sail close to it, and
- b) **Room to round the *mark***  
as necessary to sail the course.



**The “Corridor”:** the space needed by Yellow to sail from where she is:

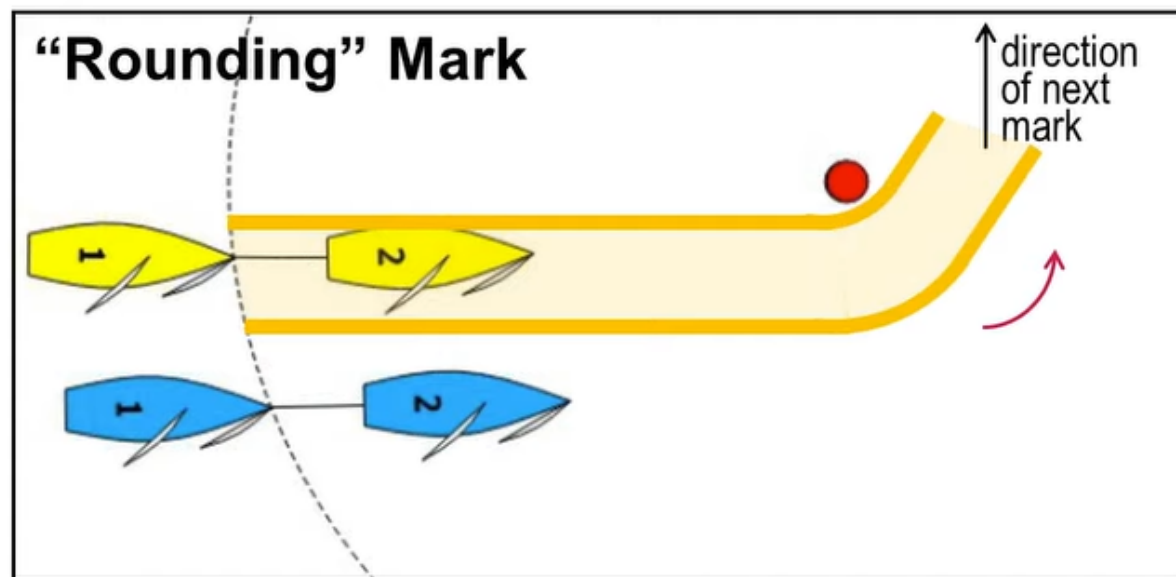
- a) **a straight course** to alongside the *mark* (*as near as she can be when sailing in a seamanlike way and complying with the rules*); then
- b) **round the *mark*.**



# Rounding *Mark*: the Corridor is “Safe”

A reminder: rule 11 says **Yellow** (windward) must keep clear of **Blue** (leeward).

**Rule 21** (the other important *mark-room* rule) says:



## EXONERATION

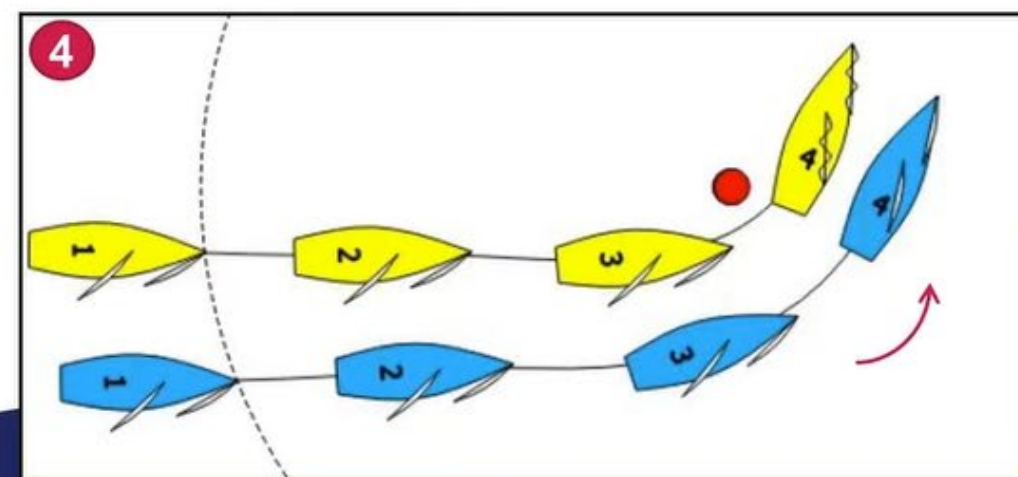
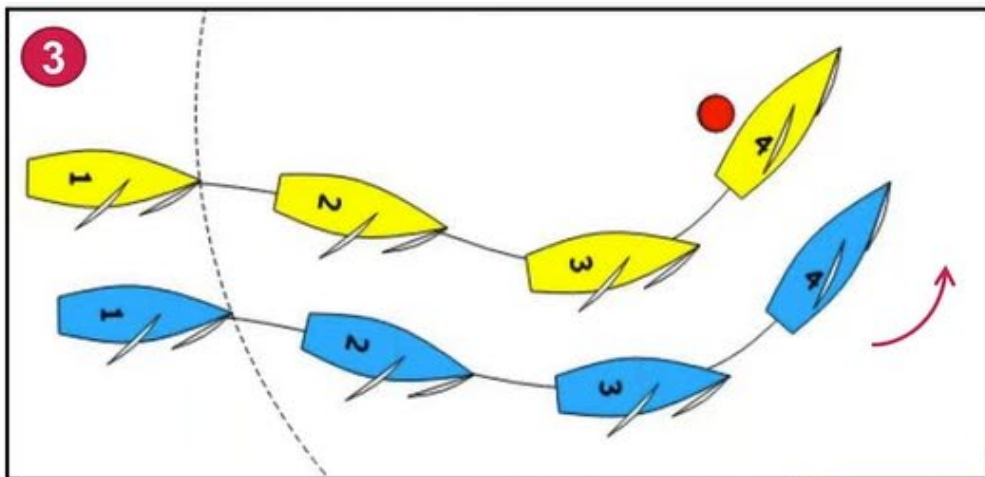
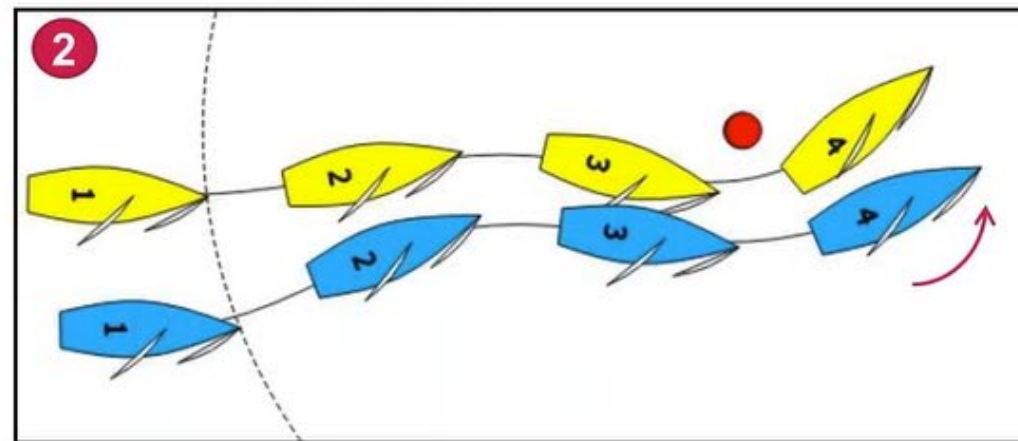
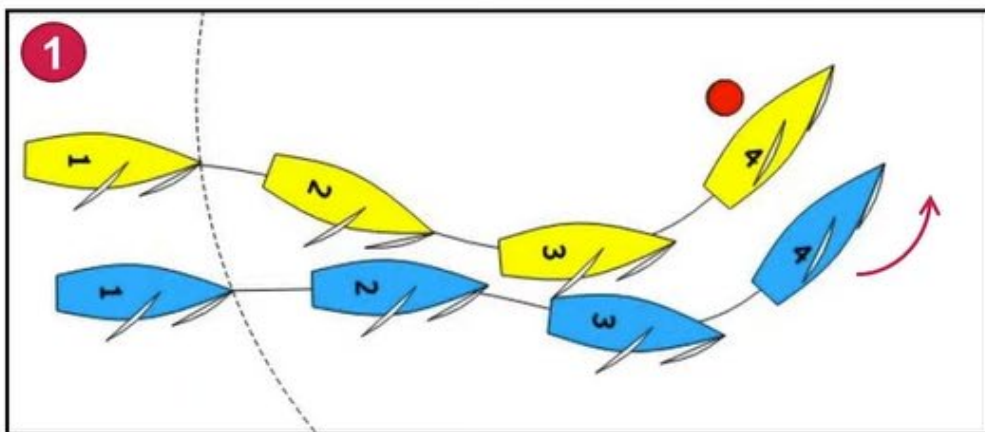
When a boat is sailing within the *mark-room* to which she is entitled, she is exonerated if, in an incident with a boat required to give her that *mark-room*, she breaks any of rules 10 - 13, 15 or 16, or 31.



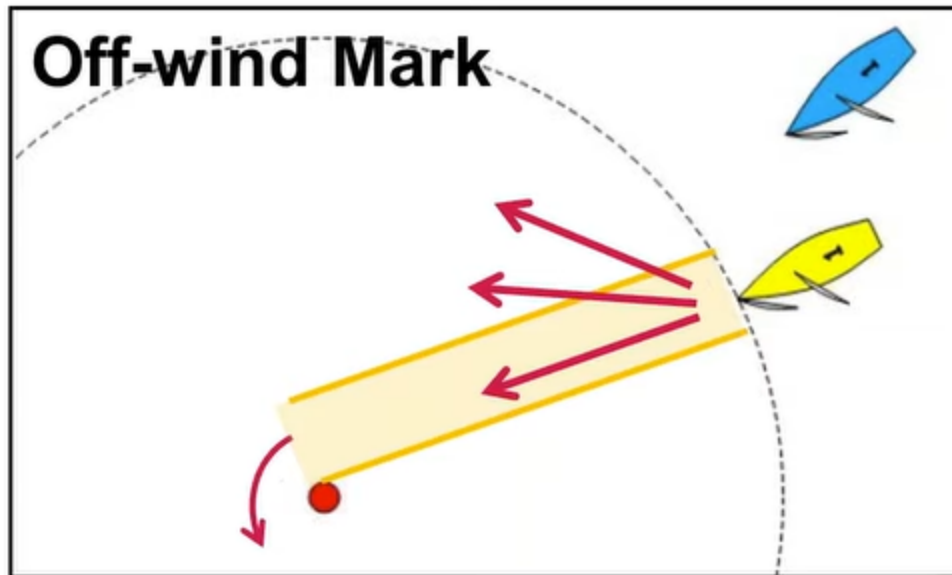
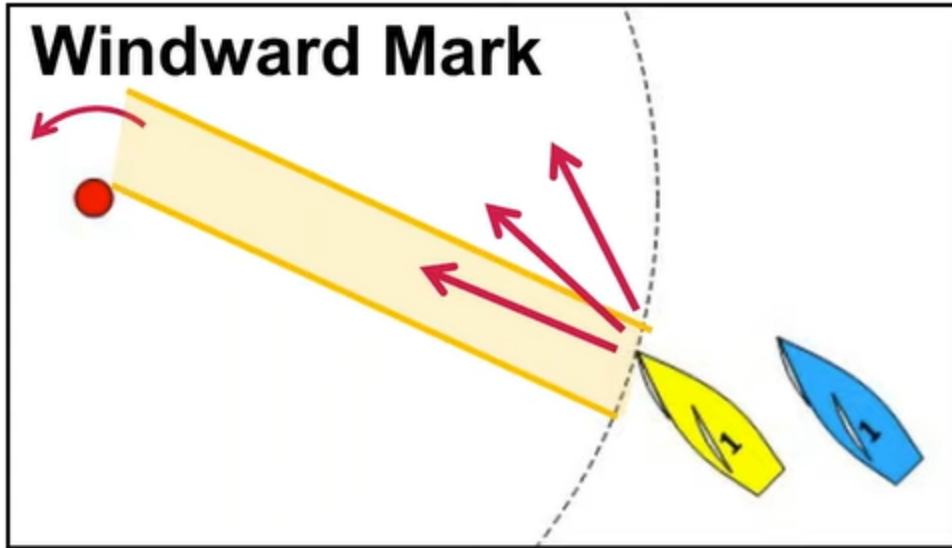
# Rounding *Mark*: What Happens Next?

**4 situations, YOU decide:**

Does Blue give *mark-room*? Does Yellow *keep clear*? Is either exonerated?



# When Inside Boat Has Right of Way



*Mark-room* rule is not really relevant

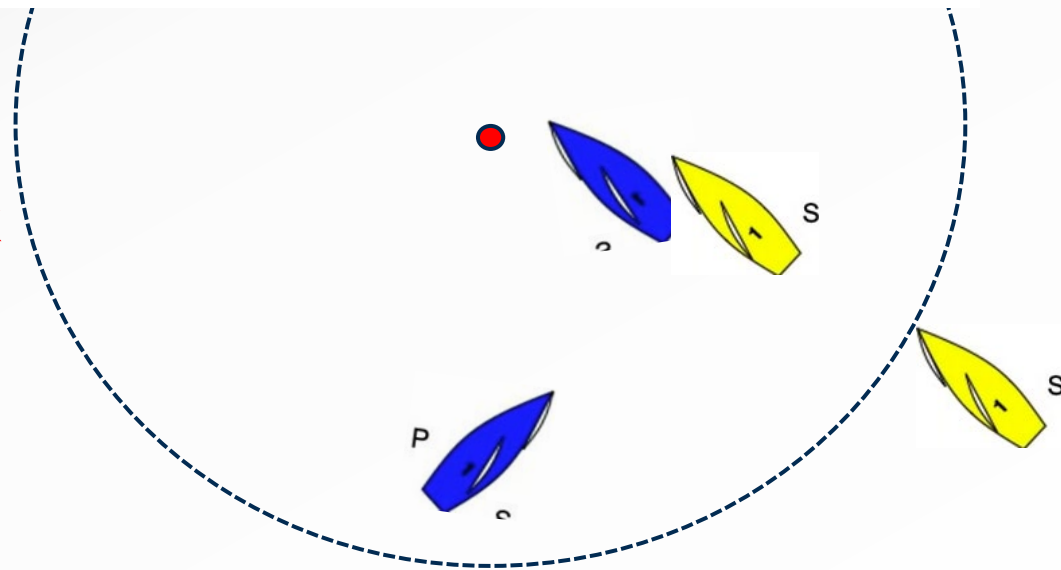
- **Rule 11** says **Blue** must *keep clear* (whatever course Yellow sails)
- **Rule 17** (*Proper Course*) determines whether **Yellow** is permitted to sail higher than her *proper course*
- When **Yellow** changes course, she must give Blue *room to keep clear* (**rule 16.1**)
  - Except if Yellow breaks rule 16.1 when sailing in the corridor (e.g. bearing away at the *mark*), she is exonerated

# 18.3 Passing Head to Wind in the Zone

## 18.3 Passing Head to Wind in the Zone

If a boat in the *zone* of a *mark* to be left to port passes head to wind from *port* to *starboard tack* and is then *fetching* the *mark*, she shall not cause a boat that has been on *starboard tack* since entering the *zone* to sail above close-hauled to avoid contact and she shall give *mark-room* if that boat becomes *overlapped* inside her. When this rule applies between boats, rule 18.2 does not apply between them.

- ❖ If you approach the mark on port tack it is risky to try to take the inside.



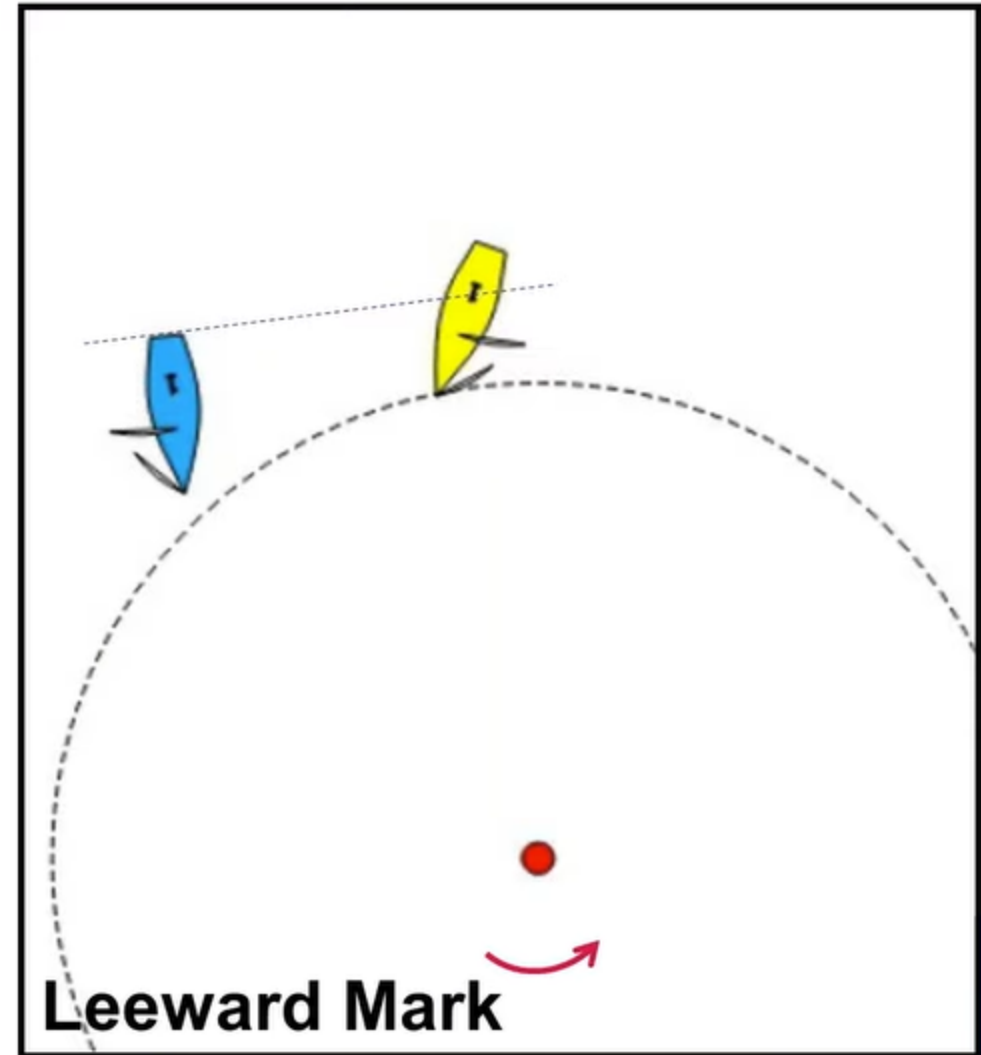


# At an Offwind Mark, One Extra Rule ...

**Rule 18.4** (applies once a boat in zone)

## GYBING

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



# At an Offwind Mark, One Extra Rule ...

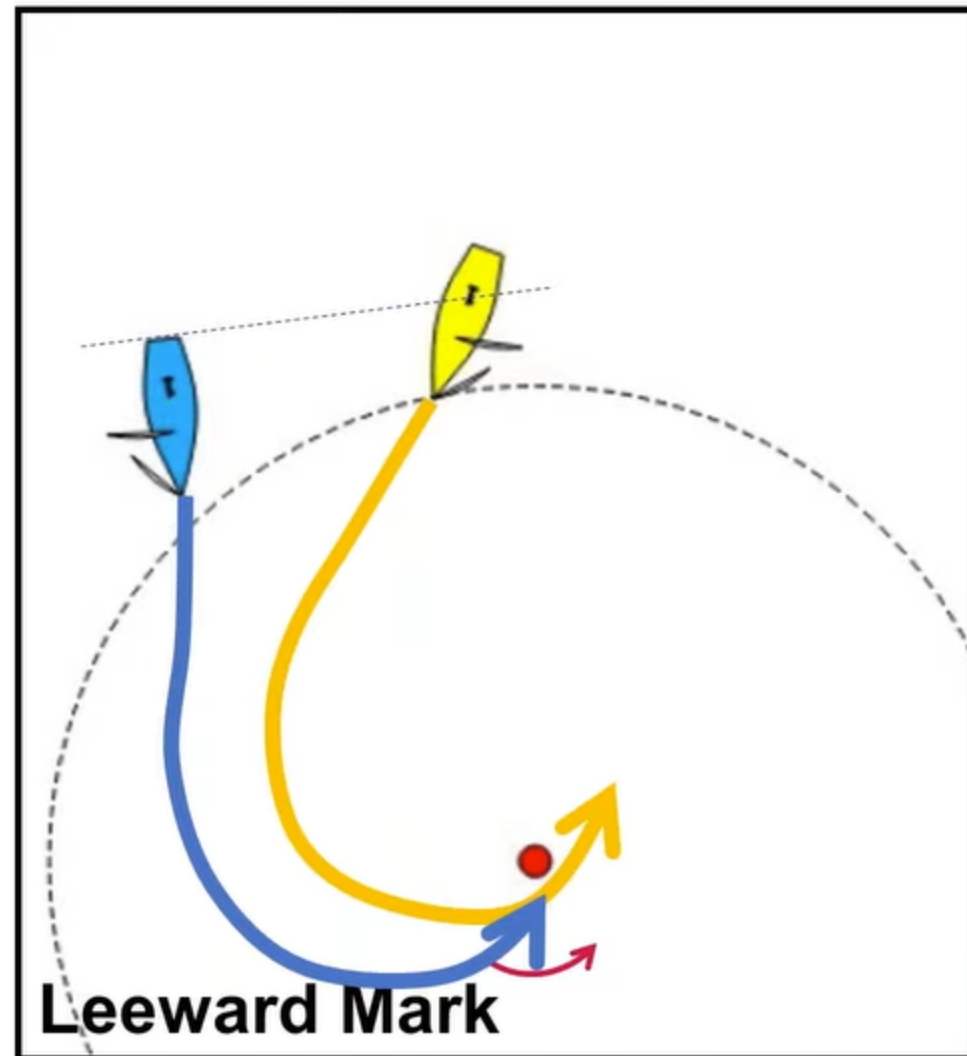
## Rule 18.4 (applies once a boat in zone)

### GYBING

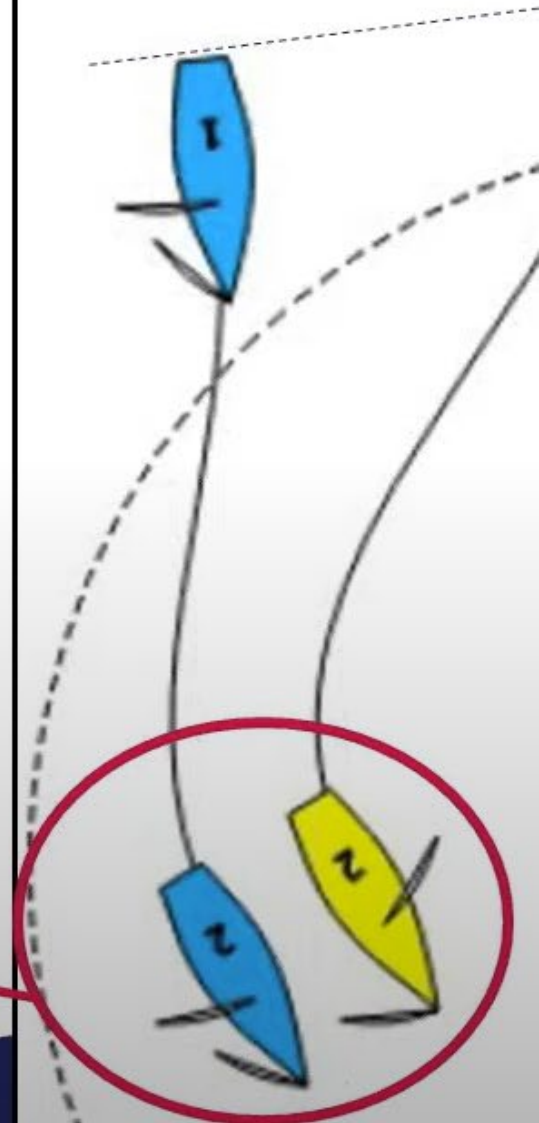
When an inside *overlapped* right-of-way boat must gybe at a *mark* to sail her *proper course*, until she gybes she shall sail no farther from the *mark* than needed to sail that course.

- **Yellow** is inside, *overlapped* and right-of-way over **Blue**
- Yellow doesn't have to sail in corridor to be "safe", but she is limited by 18.4

*Note 18.4 does not apply at a gate mark; Yellow has choice to sail to the other mark.*



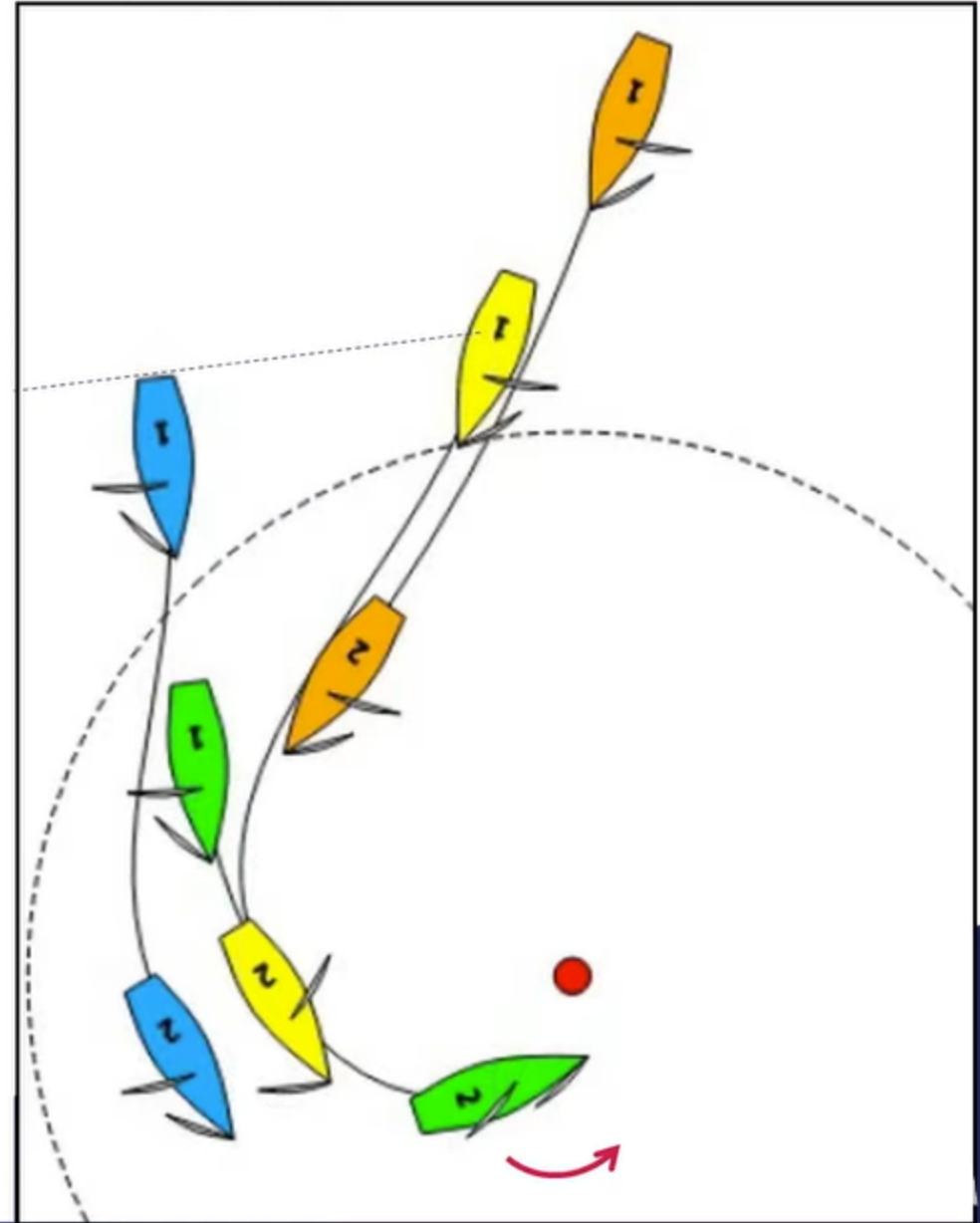




# If You Thought This Familiar ....

## Every Boat Complies with Rules

- **Green** reaches zone *clear ahead* of all
    - all boats give Green *mark-room*
  - **Yellow** r-o-w overlapped inside **Blue** when she reaches zone
    - Rule 18.4 (not *mark-room* / corridor) initially limits Yellow's course
    - Yellow sails a *proper course* (given Green), and Blue *keeps clear*
    - **Note:** When Yellow gybes after P2, she must *keep clear* and sail in corridor
  - **Orange**, *clear astern* when each boat reaches the zone, gives *mark-room* to all
- SUCCESS!**



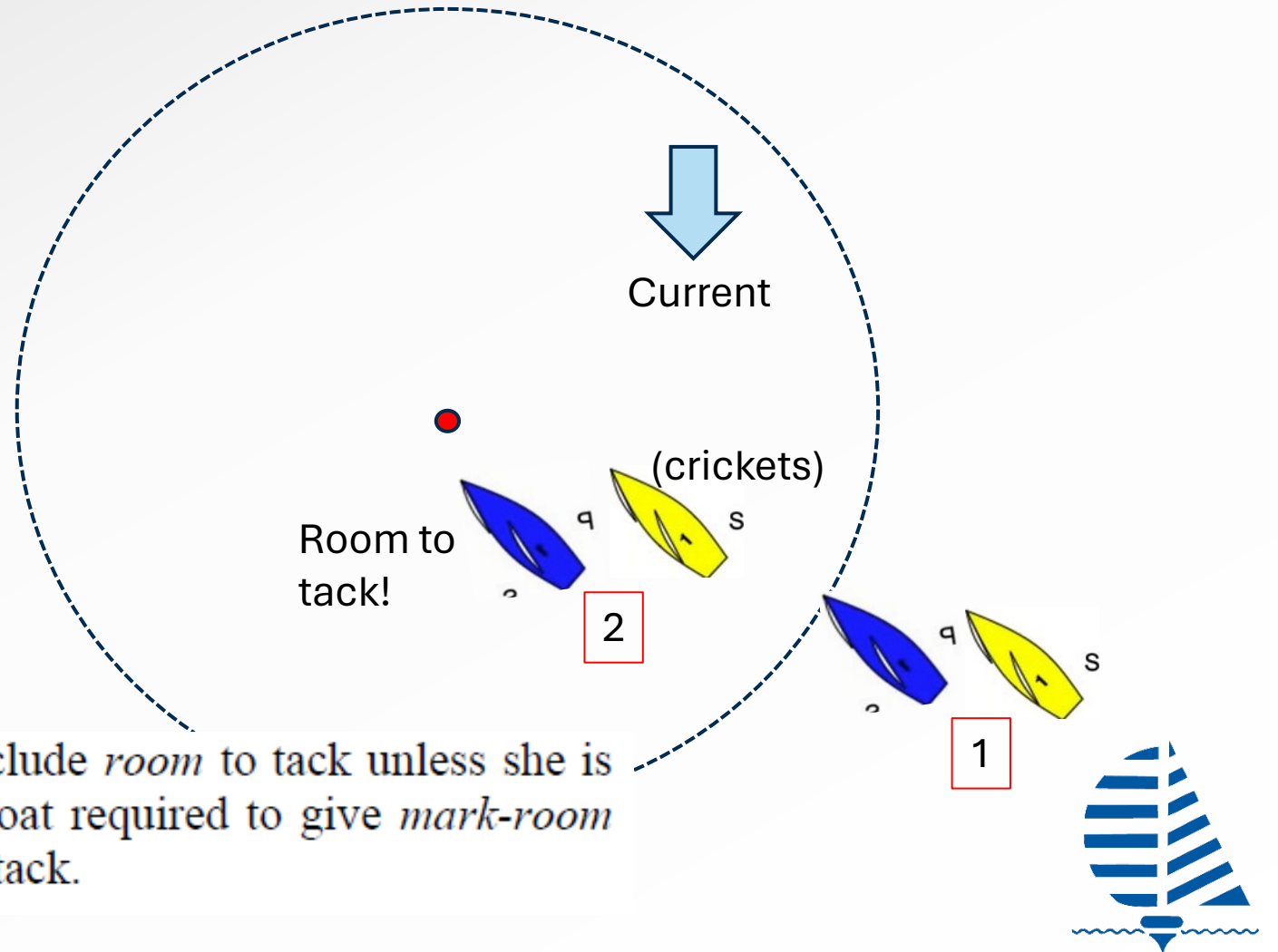


# Summary: What We Have Covered

- *Mark-room* is an obligation on the outside or *clear astern* boat
  - The rule is written to be applied to pairs of boats
  - Boats' positions when the first reaches the *zone* normally decides which boat has this obligation, and which is entitled to *mark-room* (**rule 18.2(b)**)
- All other rules continue to apply: a keep-clear boat must continue to *keep clear*; a right-of-way boat must comply with rule 16.1; rule 17 applies
- At a rounding *mark*, *mark-room* is best visualised as a corridor straight to alongside the *mark*, then round it (***mark-room definition***).
- When a keep clear boat entitled to *mark-room* is sailing in the corridor, she is exonerated (**rule 21**) failing to keep clear in an incident with the boat required to give her *mark-room*
- **Rule 18.4** requires an inside *overlapped* r-o-w boat to gybe as necessary to sail her *proper course*

# Quiz

1. Does yellow need to give blue room to tack?
2. If blue heads up to almost head to wind, does yellow need to give blue room to do so?



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

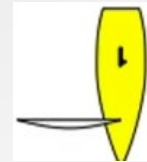


# Quiz

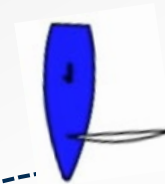
Yellow protests, claiming blue had enough room. What is the call?

**Mark-Room** Room for a boat to leave a *mark* on the required side. Also,

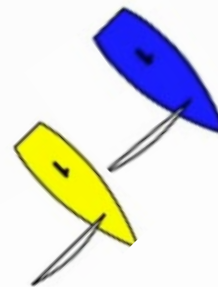
- (a) *room* to sail to the *mark* when her *proper course* is to sail close to it, and
- (b) *room* to round or pass the *mark* as necessary to *sail the course* without touching the *mark*.



1



2



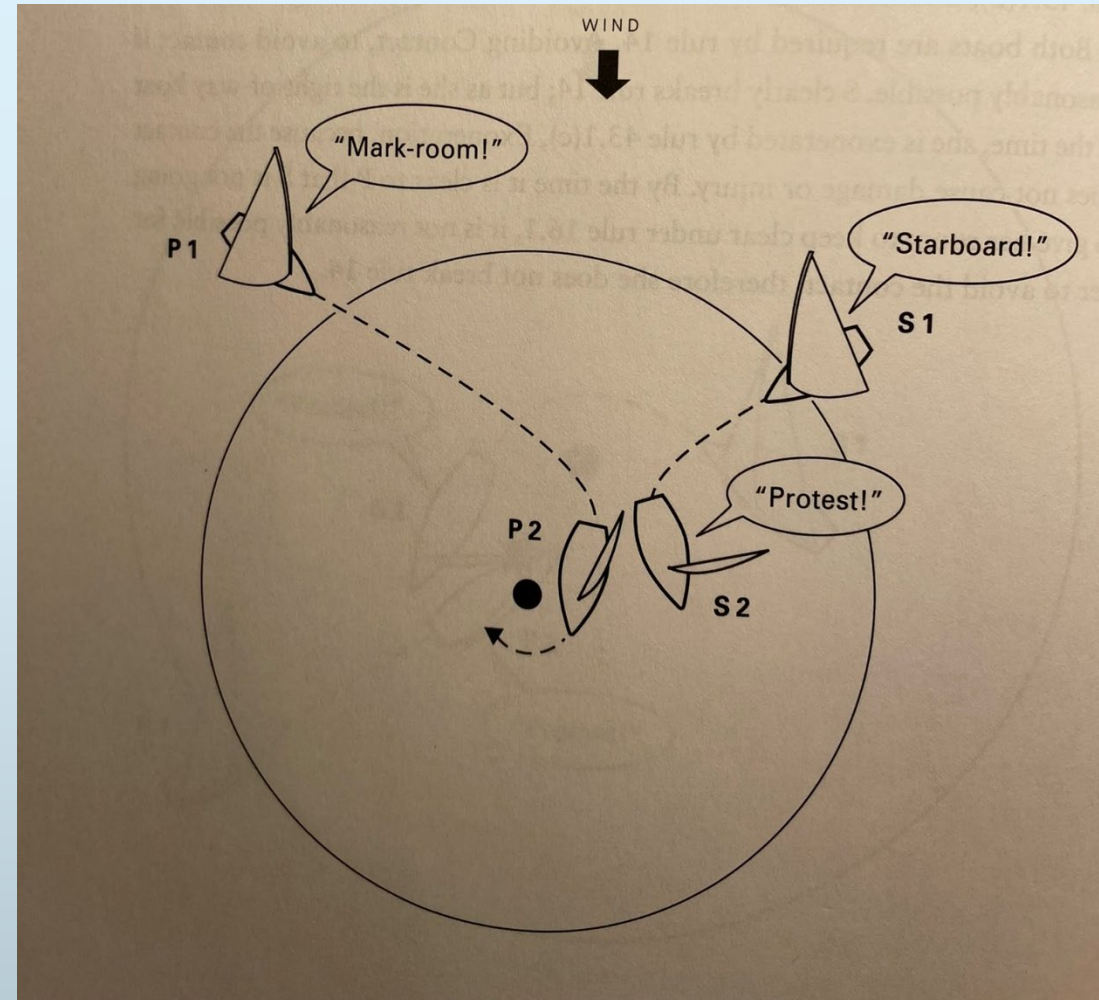
Blue's boom strikes yellow during gybe



# Quiz 34

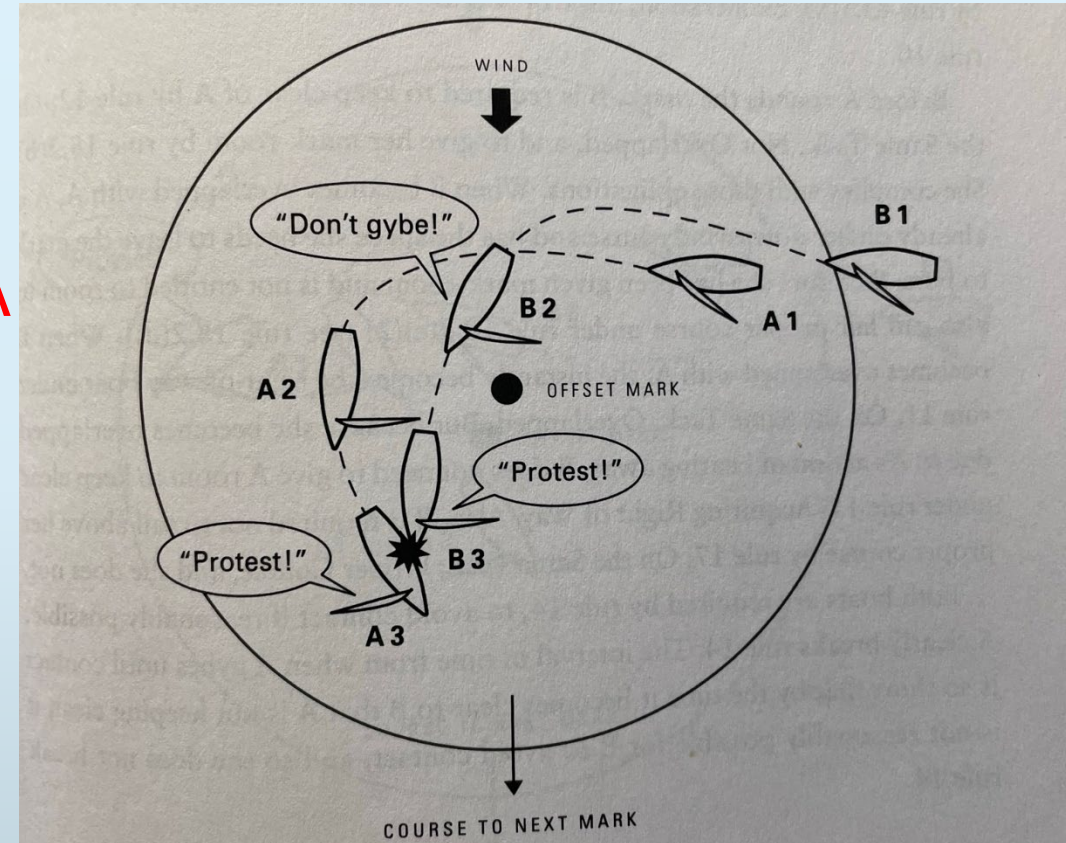
Boat S (on starboard) is approaching leeward mark. Boat P (on port) is similarly approaching leeward mark on a collision course. S reaches zone first and hails “Starboard” and P hails “mark room”! When at the mark, P begins to gybe inside of S and S is forced to bear away to avoid hitting P. S protests.

***Clear Astern and Clear Ahead; Overlap*** One boat is *clear astern* of another when her hull and equipment in normal position are behind a line abeam from the aftermost point of the other boat’s hull and equipment in normal position. The other boat is *clear ahead*. They overlap when neither is *clear astern*. However, they also *overlap* when a boat between them *overlaps* both. These terms always apply to boats on the same *tack*. They apply to boats on opposite *tacks* only when rule 18 applies between them or when both boats are sailing more than ninety degrees from the true wind.



# Quiz 44

- Boats **A** and **B** are approaching the mark on starboard. The next leg is a downwind leg with time spent on both tacks. When **A** reaches the zone she is clear ahead of **B**. **A** bears away around the mark to her downwind sailing angle on Starboard. At this point she is overlapped with the mark **B** becomes overlapped inside. **A** bears away and gybes onto port. There is contact. Both protest.



Hint: Mark Room is the space A needs to sail to the mark, leave it on the required side and sail the required course.

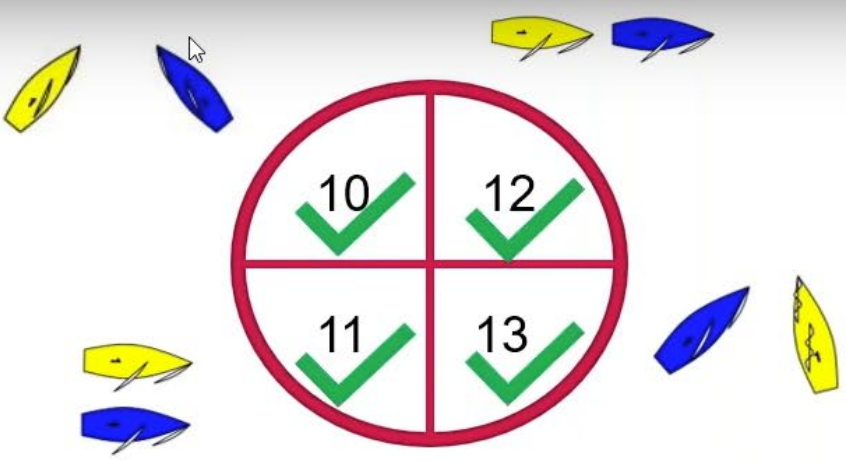


# Quiz - Video

- [Taking Mark Room - UK Sailmakers \(youtube.com\)](#)
- Time permitting (min 35)
- [Crowded Rounding \(youtube.com\)](#)







Right-of-way Rules



Rules that limit the right-of-way boat

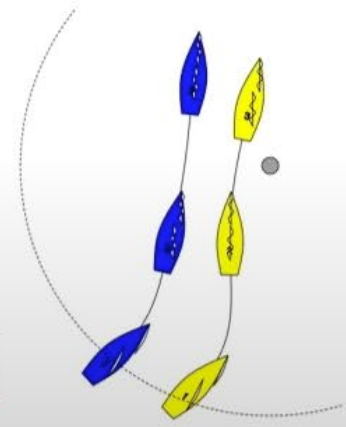


Obstructions

19, 20

Marks

✓ 18, 21



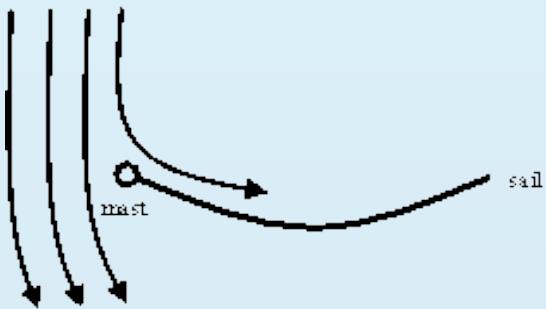
# Sail Fast!

- Overview
- Main Sail Trim Techniques
- Jib Trim
- Reducing Heel in Heavier Wind
- Light Wind Technique



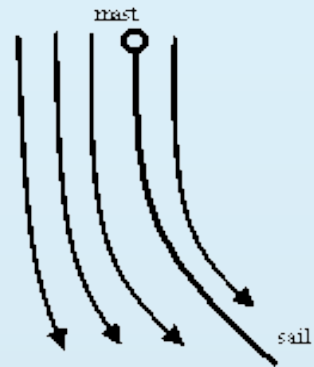
# Sail Theory

## Stalled



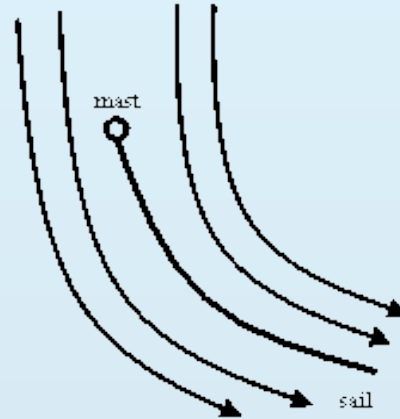
Sail is pulled on too tight.  
The air separates as it flows  
over either side of the sail,  
leading to lower lift and  
efficiency.

## Luffing

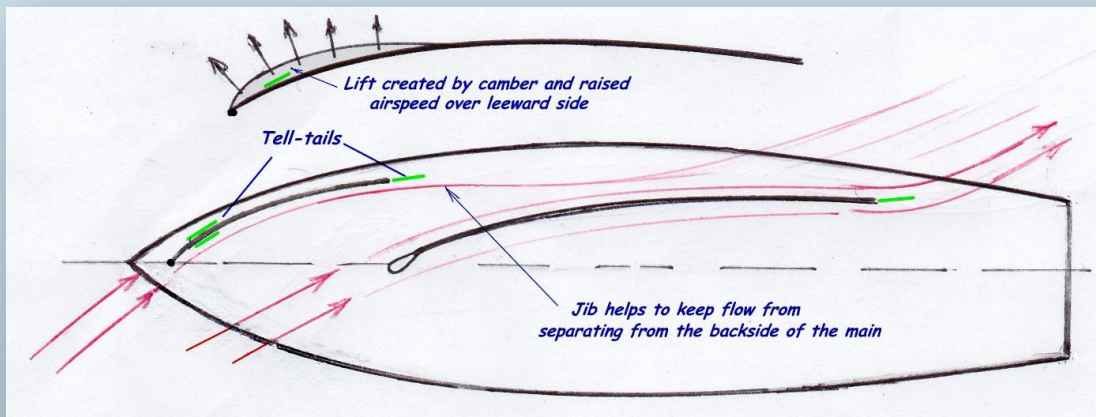


Sail not pulled on tight enough.  
The front part of the sail doesn't  
catch any wind (ie. It flaps in the  
breeze), leading to lower  
efficiency.

## Just right



Sail is pulled on correct  
amount.  
The air separates and  
flows along each face of  
the sail smoothly,  
generating maximum lift  
and efficiency.

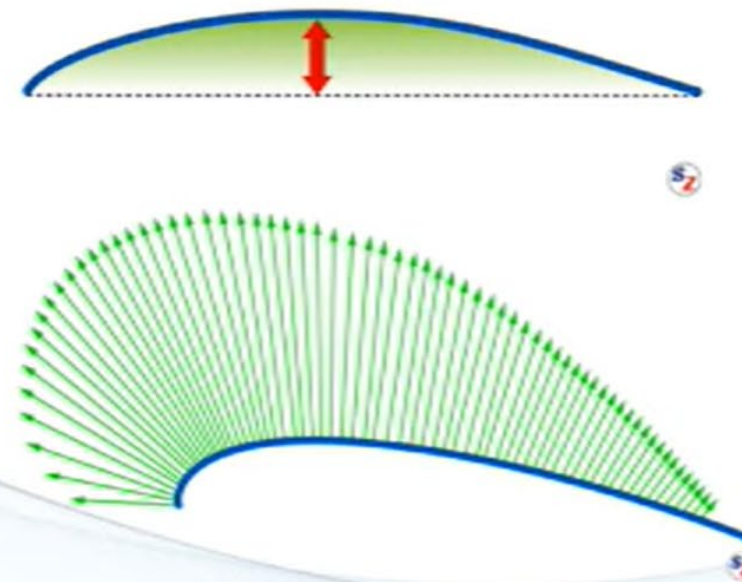


# Sail Theory

## Better VMG (Increased Lift/Drag Ratio)

Desired for most conditions (light-medium air, manageable waves)

- Slightly rounded entry
  - Lift force is directed more forward
- Maximum draft position just forward of center
  - Allows gradual curvature throughout the sail
  - Target is 40-45% aft for a mainsail
    - 45 – 50% aft if jib is present
- Flat leech
  - Less lift and drag in aft portion of sail
    - Better lift-drag ratio
    - Less side force





# Sail Shape – Flat vs Full

**Full Sail – More Power, holds wind when sailing down wind.**

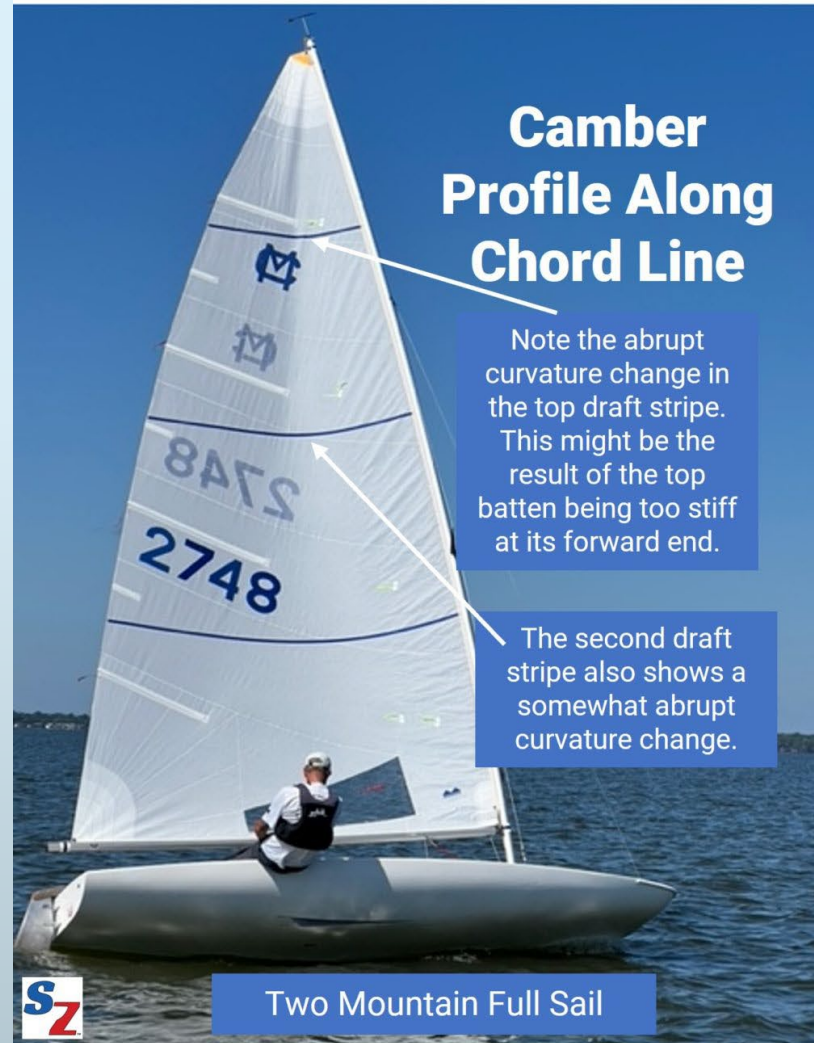
**Flat Sail – Depower for control or Better pointing.**

## Mainsail shape controls:

- Mainsheet
- Halyard or Cunningham
- Boom Vang
- Outhaul

Other controls (not on FS)

- Traveler
- Backstay





## Flying Scot Tuning Guide and Tips

### Pre-Race Sail Adjustments

#### Mainsail

Mast Rake – 28' 6"

Halyard – better too loose than too tight. Raise until luff is smooth and then ease back until small wrinkles appear.

Outhaul – better too tight than too loose. Very hard crease in heavy air; tight crease in medium conditions; loose crease in light air and in sloppy waves.

*Note: Opinions vary, but I don't believe you need to ease the outhaul when going downwind. Reason: more outhaul = more projected sail area.*

Cunningham – nothing unless you are overpowered in heavy air. In heavy air, raise your main all the way up until the luff is smooth (but don't overtighten and break your halyard shive!) and then crank on the Cunningham hard to pull the draft forward as much as possible.

#### JIB

Rig tension – loose rig = no tension and approximately 1" of "slop"

snug = 80-120 lbs

tight = 120-180 lbs

Halyard – slight "scallops" at hanks. (You must sail close-hauled to accurately check this.)

Fairlead - move it aft in heavy air when overpowered; otherwise, all the way forward.

#### SPINNAKER

Halyard – tie knot 6 inches from head

Guy -- under hook

Sheet – NOT under hook

Topping lift – at perpendicular height (Marked line = easy reference)



## Flying Scot Tuning Guide and Tips

### During-Race Adjustments

#### MAINSAIL

Mainsheet: 1st gear = main batten out slightly; sailing "fat" w/slight heel to leeward

2nd gear = main batten parallel to boom; sailing flat

3rd gear = main batten SLIGHTLY hooked (can't stay like this too long usually); jib luff is breaking (ie. pinching slightly)

Vang: none if light air;

keep the head "powered up" in moderate air and puffy conditions by snugging the vang so the boom doesn't rise when you sheet out.

lots of vang in heavy air to depower the mainsail by bending mast

Outhaul: Very tight with hard crease in heavy air

Creased snugly in medium and light air

Ease out shelf foot to "bag out" sail downwind in light air or very lumpy seas and medium air, but you should never ease so much that you see vertical pucker creases.

Ease out shelf foot in "lumpy and light" conditions for power.

#### JIB

*(Note: marking sheets helps reference positions!)*

Leeward sheet: 1st gear = top batten slightly out from centerline (note: this is also fast in heavy air)

2nd gear = top batten parallel to centerline of boat

3rd gear = top batten parallel (ie. NEVER, EVER hook jib top batten)

Windward sheet: 1st gear = none

2nd gear = 1/2 way

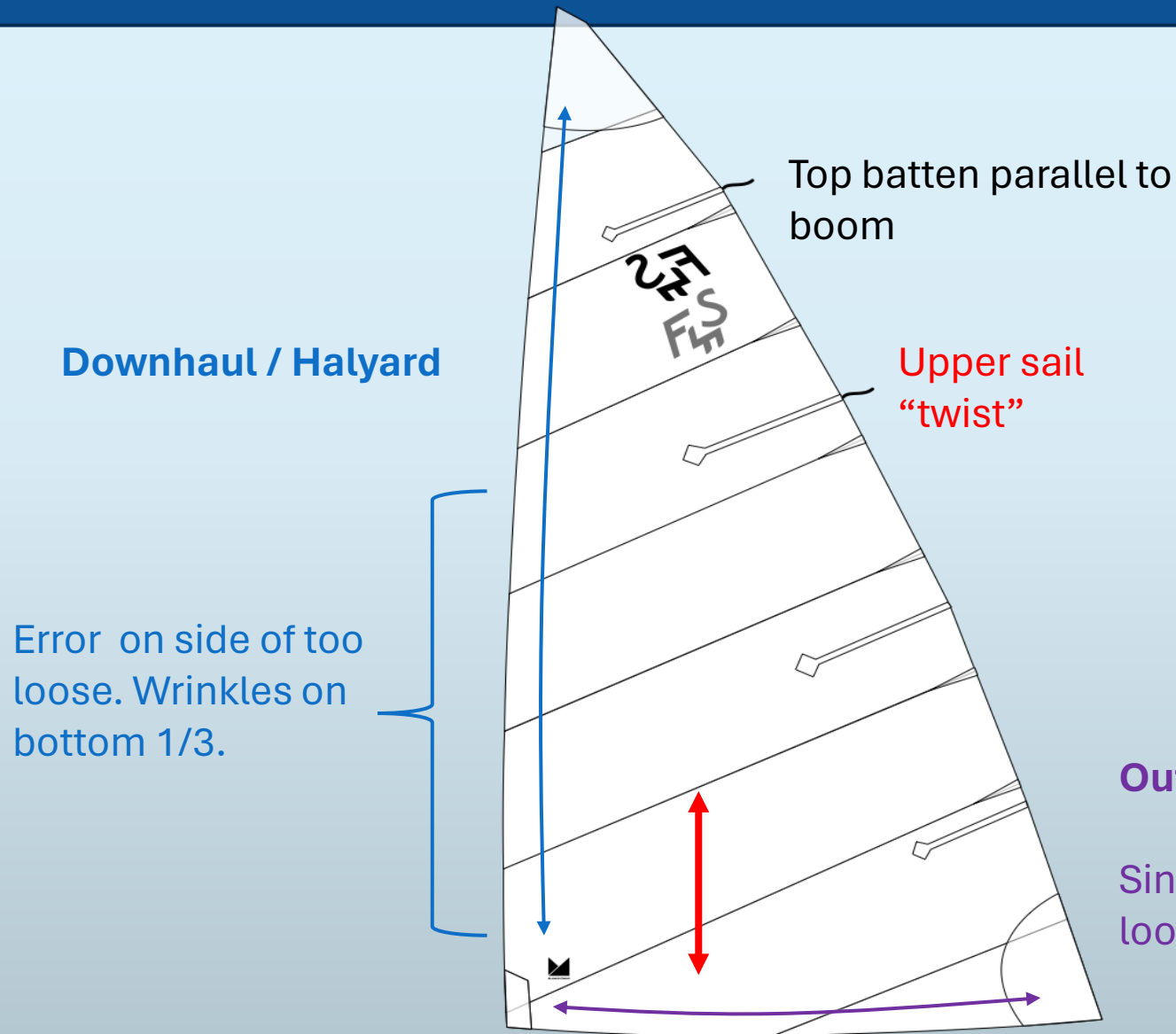
3rd gear = clew pulled inboard to center of seat

#### SPINNAKER

Leeward sheet: constantly ease it to get a slight curl in leading edge of chute

Winward sheet ("guy"): make sure it is perpendicular to wind. Too far forward is SLOW.

# Flying Scot – Mainsail Home Base



## Boom Vang

- Snug so boom does not rise.
- No pressure in light air.
- Crank in heavy air to flatten sail

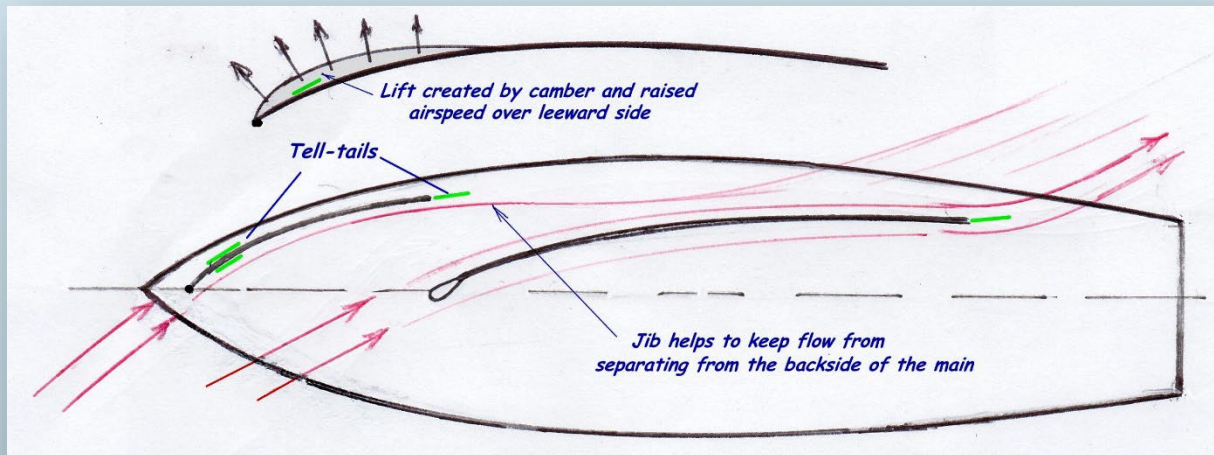
## Outhaul

Single crease, create loose "shelf".



# Learning the correct sail tune

1. Read the MADD Sails or North Sails tuning guides
2. Go sailing. Get a feel for what seems to work
3. Observe top racers
4. Adjust sails as wind changes
5. After a good outing mark lines or positions.





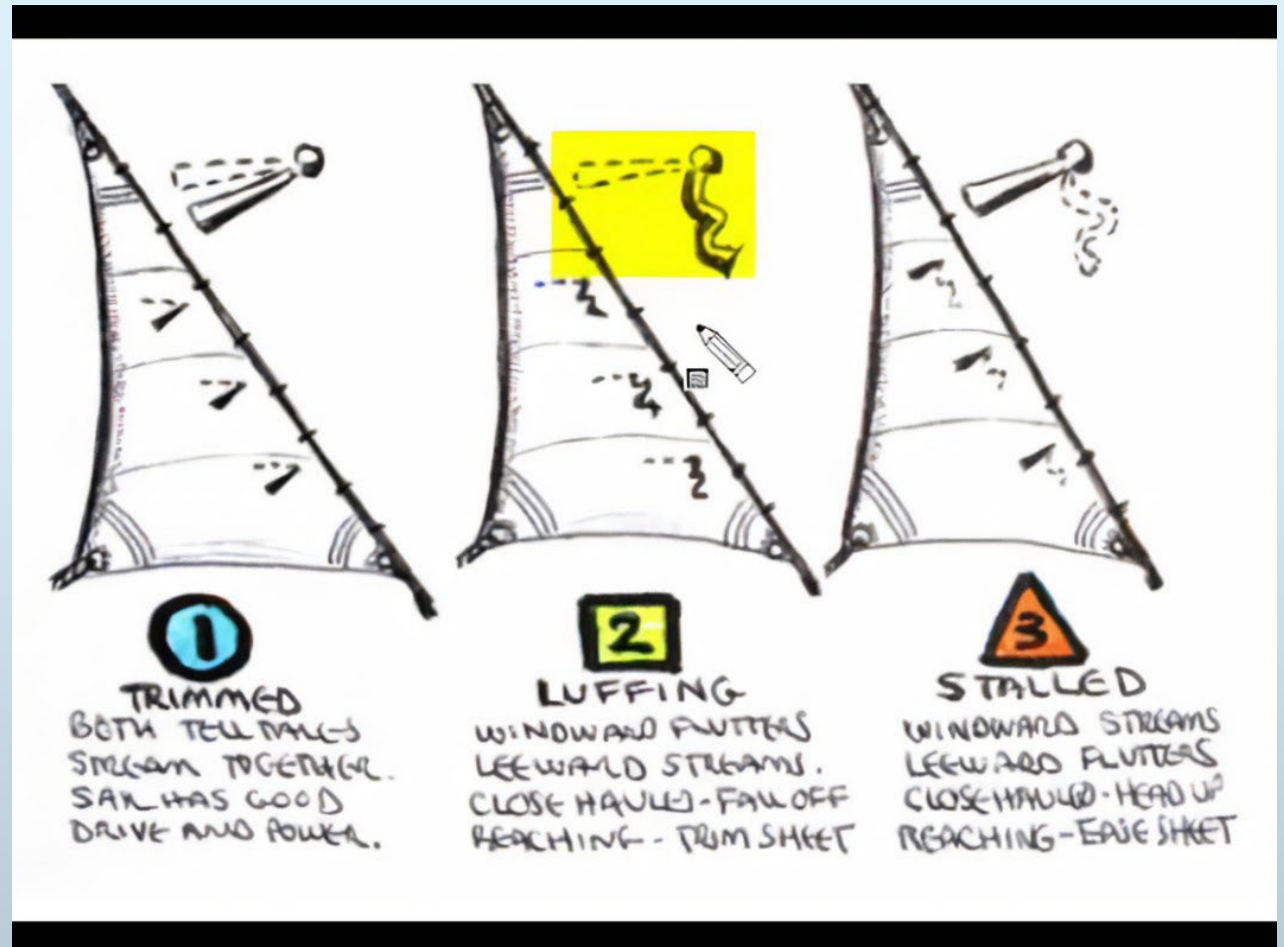
# Jib Adjustments

- Fairlead Car location
  - Light wind - forward
  - Heavy wind – back
- Halyard tension
  - Loose, almost scallops in light wind
  - Tight in heavy wind
- Use windward sheeting – jib clew even with middle of seat.



# Jib Adjustments

- Tell tales – flowing aft smoothly
- Tell tales- breaking together?



Source: Former Racing  
Director and Fleet  
Captain, Dave Beckett

## Sailing Fast In Pictures



*Dave Beckett*  
*Fleet Captain*  
*Flying Scot Fleet 203*



# Proper Angle of Heel

Flat is Fast



# Heel Angle

## Heeling vs Flat

### High degree of heel = **SLOW:**

- Pushes a lot of water on leeward bow
- Causes excessive weather helm
- Causes drag (cavitation) from rudder
- Increases leeway

### Sailing flat = **FAST:**

- Reduces all of the above
- Increases VMG toward mark





# Reduce Heel

Crew weight

- Move forward\*
- Stay together
- Hike to windward

\*In very heavy chop, weight aft to get bow up and increase speed



# Reduce Heel

## Sail Controls

- **Vang** – On
- **Mainsheet** – Ease
- **Outhaul** – Tight
- **Luff** – Tighten
  - Halyard
  - Cunningham





# Reduce Heel

## Sail Trim & Hike

Anticipate  
Gusts

- Ease
- Hike
- Trim



## Excessive Weather Helm

### Flatten Boat

- Vang On
- Ease Main
- Hike
- Adjust Centerboard





# Flat and Fast

## Crew

- Forward & together
- Hiking

## Sail Controls

- Vang – tight
- Outhaul – tight
- Mainsheet eased



# Sailing Angle and Speed

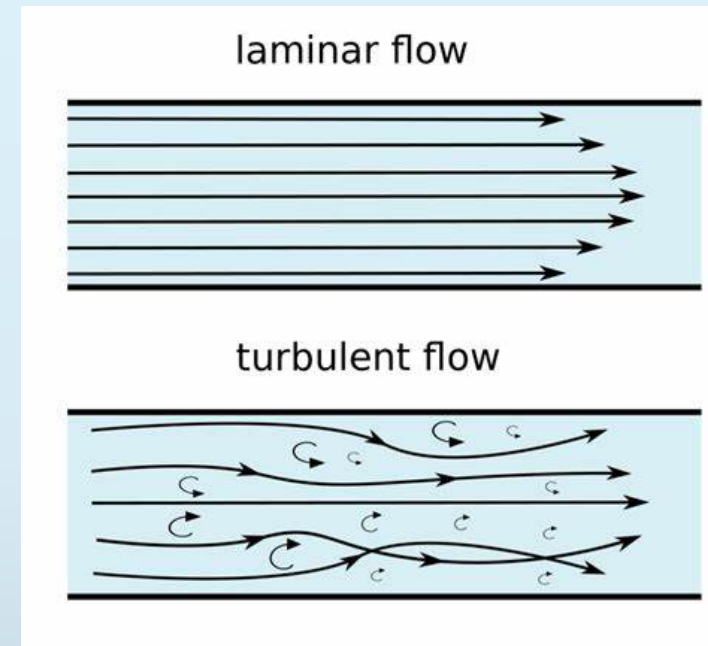
Look around at other boats

- Who's sailing higher or faster?
- Why?
- Adjust boat and sail trim to optimize VMG



# Light Air Technique

- Job 1: Create Laminar Flow
  - Over bottom
  - Through sails
- Ease sheets – anything to get laminar flow.
- Heel boat to leeward so sails have wing-like shape
- Stay Still!
- When wind completely dies, it will appear as a header.





# Heel to Leeward

- Gravity helps maintain sail shape
- Reduces wetted surface area of hull (drag)





# More Light Wind Technique

- When wind completely dies, it will appear as a header. Don't Tack.
- Roll Tack (see video).
- Crew forward and together.
- Spinnaker
  - Will fill first, light material
  - All the commotion to raise it will kill laminar flow
  - If wind shifts, it will serve as a brake.



Stern up and  
out of water in  
light wind?

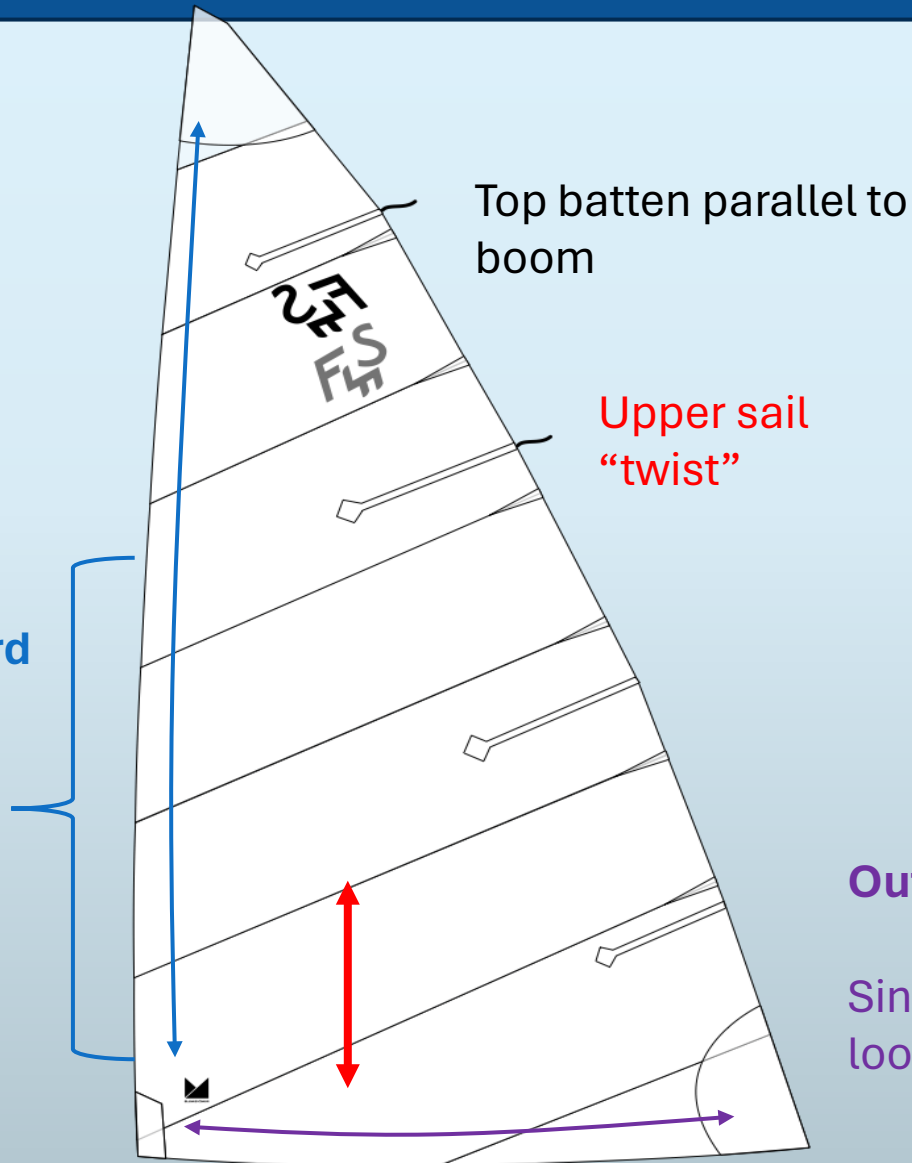


# Summary

- Loose and full in light wind
- Tight and flat in heavy wind
- Jib fairlead forward in light wind
- Jib fairlead aft in heavy wind

## Downhaul / Halyard

Error on side of too loose. Wrinkles on bottom 1/3.



## Boom Vang

- Snug so boom does not rise.
- No pressure in light air.
- Crank in heavy air to flatten sail

## Outhaul

Single crease, create loose "shelf".



# Questions ?



# Coming up

- Imagined race walkthrough 6 March
- A. ROW Rules: 10, 11, 12 and 13 6 March
- B. Limits on ROW Boat 14, 15, 16 and 17 6 March
- C. Mark Room: 18 13 March
- Sail Fast! Part 1 – Basic sail trim 13 March
- *C. Obstructions: 19 and 20.* later
- Other Rules – Starting, Exoneration, Penalties 20 March
- Rule Recap, Spirit of the Rules & Protests 20 March
- Starting and Course Strategies. 20 March
- Sail Fast! Part 2 – Advanced techniques 27 March
- Open – TBD by popular consent 27 March

