

## Race Day

This guide is for a 2 pm start

### 1. Onshore setup





- Arrive at 12 noon
- Boats and spars out on deck and check for:
  - Worn ropes
  - Loose fittings
  - Water out of the tanks (which shouldn't be there but check anyway)
- Rig boats by 12:45 am
- Briefing with coach at 12:45 am
  - What went wrong with each crew last week
  - Review photographs and videos to show the rights and wrongs
  - Attitudes of skippers and crews
  - Questions from the crews
  - Understand and memorise the course
- Get changed and sign on
- Hoist and check spinnaker
- Double check everything else

*Remember that it is the job of the skipper to make sure the boat is correctly set up to prevent any mishaps on the water.*



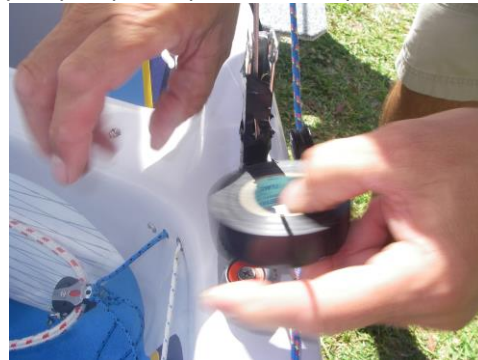
### 2. Personal clothing and equipment

- Research weather and traffic safety on the day
  - [www.seabreeze.com.au](http://www.seabreeze.com.au)
  - [www.bom.gov.au/weather/national/charts/24hourman.shtml](http://www.bom.gov.au/weather/national/charts/24hourman.shtml)
- Description of the right clothing:
  - Hot weather:
    - Life jacket (well fitted under rash vest to prevent catching on boat fittings)
    - Rash vest
    - Short wetsuit
    - Sunscreen
    - Gloves
    - Booties
    - Hat
    - Bottle of water
  - Cold weather, as above, plus:
    - Long wetsuit
    - Waterproof spray jacket (well fitted)

|   |  |
|---|--|
|   | <p><b>3. Safety, leaving and returning to the beach</b><br/>(Applies to M16FSSC)</p> <ul style="list-style-type: none"> <li>• Never return to the shore unless a rescue boat is notified and can assist crossing the ferry lanes</li> <li>• The ferries and jet cats have right of way</li> </ul>  |
|  <p>A well-packed up boat</p>    | <ul style="list-style-type: none"> <li>• <b>Boat Maintenance</b></li> <li>• Hull and fixtures <ul style="list-style-type: none"> <li>○ Fresh water wash off and dry after use</li> <li>○ All ropes to be tied up off the bottom of the boat</li> <li>○ Buoyancy tanks removed</li> <li>○ Boom lays across straps</li> </ul> </li> <li>• Spars <ul style="list-style-type: none"> <li>○ All wires pulled down straight and tied off (not wrapped around the mast)</li> <li>○ Don't kink wires</li> <li>○ Tie up stays with halyard and up to topping lift around the mast step and tie it off</li> </ul> </li> <li>• Foils <ul style="list-style-type: none"> <li>○ Check that the centerboard and rudder fit prior to launching the boat.</li> <li>○ Never leave in the sun because it will cause the foils to warp</li> <li>○ Freshwater wash, dried and place in bag and laid flat</li> <li>○ Don't put away wet as this will cause osmosis</li> <li>○ Care for the edges, they're very fragile!</li> </ul> </li> <li>• Sails <ul style="list-style-type: none"> <li>○ Care for sails is paramount for fast sailing</li> <li>○ Where possible place the jib inside the mainsail and then roll square to the battens for storage – this helps protect the jib and stops wire print into the fabric – also helps to protect the leach of the jib and keeps the cloth flat</li> </ul> </li> <li>• Buoyancy hatch covers <ul style="list-style-type: none"> <li>○ When on shore, remove the buoyancy hatch covers. Otherwise on a hot day the air will expand and blow the joins apart.</li> <li>○ Buoyancy hatch covers should have a 1mm diameter hole drilled through the middle to help expanding air escape.</li> </ul> </li> </ul> |

## 4. Rigging the boat:

1. Place mast in step.
2. Attach side stays.
3. Run spinnaker halyard and tie the tail to the tow ring.
4. Always tape up the quick-release pins.



5. Turn boat over on its side in the cradle and attach the boat bender to the mast and bow.



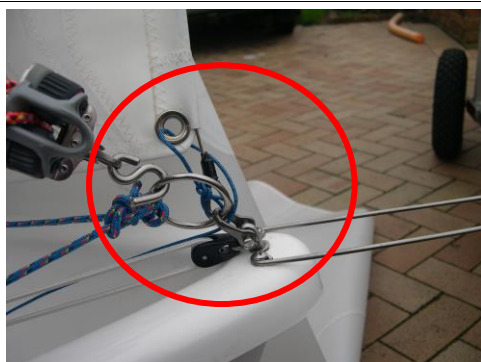
*Note:- Boat-bender tensioner is made up of a triple block with a becket and cleat with a stainless-steel hook, and a triple block.*

*Boat bender must have track slide to prevent crushing the sail track.*



6. Attach the tack of the jib to the bow





*Note:- the double purchase for the jib-luff tension.*

7. Tension the boat bender.



*Note:- Never over tension rig, when rigging (indicated by the mast inverting as in photo).*

8. Fit the head of the jib to the mast and tape up.



*Note:- Shock cord must be fitted from the side stays through the jib vernier to prevent the spinnaker from being caught between the mast and the forestay.*

9. Pull mainsail up mast from boat up.



*Note:- Twist the rope on the head of the mainsail until the head is level with the black band and attach to quick-release pin. Never attach the mainsail without the twists as the sail will slide down the mast (see photo).*



10. Stand the boat back up and point boat into the breeze  
(never leave the boat unattended and keep an eye out for changes in wind direction).

11. Fit boom to gooseneck.

12. Fit clew of mainsail to outhaul fitting on the boom.



13. Run the mainsheet.

*The photo opposite shows the correct way to tie off the mainsheet so that the blocks can come together easily.*

Tension the mainsheet making sure that the bridle block and the boom block go block to block and that the tension in the leech of the mainsail is such that it is not going to cause the sail to stall in light air if the sail is over sheeted.



14. Fit the vang



Make sure that the open part of the hook is facing forward so it won't catch sheets!



## 15. Run the jib sheets

Put a thumb knot in one end of the rope, run it through the eye of the jib, down through the jib blocks, back up through the eye of the jib in the opposite direction, and then tie another thumb knot, making sure that the knots are on the windward side of the jib for each tack.



## 16. Set the spinnaker up.

- Tie the head to the spinnaker halyard and spinnaker sheets to the clews making sure that the brace and sheet are through the tweaker blocks and **outside the side stays**.
- Always hoist and set the spinnaker to make sure it is set up correctly before leaving the beach (this will minimise the chance of "muck ups" on the water).
- Spinnaker should always be set on the leeward side (i.e. most cases on the port side).
- Attach topping lift and kicker to the spinnaker pole, and tape up the "G" clips.
- Velcro should be fitted to front tank to keep the spinnaker from flying overboard when the breeze increases.



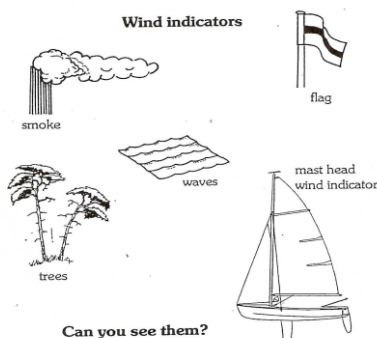


## 5. On the Water - Proceed to the start line

- Always take note on the way what the breeze is doing over the course
- Sail to windward to make sure the boat feels balanced
- Check the line for bias
- Make sure you get a transit
- Hang around the start boat so you can set your watch
- Never sail too far either side of the start line during the countdown, especially in light air, as you'll have problems getting back to the favoured end of the line
- Always check fin and rudder for weed prior to the start
- Make sure your boat is dry at all times!

## 6. Start-line preparation

- Always get a transit of the starting line, by:
  - Go to the windward of the start boat and line up through the starting mast on the start boat through the leeward-end pin to a fixed point on the shore.
- To find out which end of the line is favoured, there are number of ways to check this out:
  - Use the start boat and its flags as a wind indicator
  - Have two boats, set their watches for one minute in the middle of the line, one sail out to the boat end, the other sail out to the pin end and start on zero, with the boat-end boat starting on starboard, and the pin-end boat starting on port tack – as soon as you can see who is going to cross who first, pull away and not show the opposition
  - Luff head to wind at the start boat and check the angle off 90 degrees of the line, and do the same at the pin end
  - Sail down the line on starboard ease the mainsail off until it just backwinds holding it at the mainsheet block, tack around, and if you have to ease it off as for the starboard tack, the line is biased to the pin, alternatively if you have to pull it on, it is biased to the start boat
  - Start-line bias is secondary to good position on the line, especially if the line is short
- Always stay close to the start boat before the warning signal, so you can get an exact time rather than being away from the boat and losing time due to the time it takes for sound to travel





Start 5



Port tack start

4. It is important that you understand how to stop the boat dead in the water and hold it on the line and be able to sail it backwards if necessary.
5. The forward hand when holding the boat still is ready to back the jib should the boat try to go beyond head to wind – this will really mess up your day, and probably a few others to boot
6. When approaching the line look for a hole to leeward and be prepared to fight to keep your position
7. On a large line, be mindful that generally there is mid-line sag and no one is ever really close to the line, as can be seen in photograph
- 8. The start**
  1. 1361 has timed the start perfectly as can be seen in both the photograph, and particularly in the video where the count-down time can be heard clearly
  2. Always be aware of bias in the starting line from the warning signal to the start can vary dramatically. As you can see in the video, “Port tack start”, the starboard boats can’t even get across the line, and there is only one boat (1362) that started appropriately





Accelerating in Waves



Light air tacking



Light air tacking slow motion



Tacking in Breeze



Tacking in Breeze Slow Motion

## 9. Sailing to windward

- Once you've started, you should know where you want to position your boat on the course.
- In light air, crew position should be well forward and opposite each other.
- Never over sheet the mainsail, and always make sure you have a little bit of mainsheet in reserve to help accelerate the boat – remember if you hold the mainsail on hard, you will not give the boat a chance to get up on top of the water.
- The jib should be set so that the foot of the headsail is only just touching the gunwale, not laying over it.
- Always be conscious of breeze lines and be ready to make room for your crew to come across to help swing the boat flat rather than ease the mainsail off too far.
- Always try to ensure when both crew are on the windward rail leaning, that they are positioned close together (don't ever get separation).
- As the breeze increases above 15 knots, the centerboard can come up to assist in keeping the boat flat.

## 10. Tacking –

From the videos the key points are:

- Skipper allows the crew time to come to windward to uncleat the jib and assist in roll-tacking the boat.
- You'll notice there is minimal rudder movement – turning the boat is done by the movement of the crew
- In light air, the crew after helping roll the boat through the tack, will slide back down to the leeward side and pass the jib sheet to the skipper to cleat
- In medium and heavy air, with both crew on the rail, the forward hand will use the nearest hand to the cleat to let the jib off and the other hand to take the new sheet from the block and go across the boat without letting it go (this ensures that the jib is automatically pulled on as the crew arrives on the new windward side.
- It is important that the skipper ensures that as the breeze increases that the boat is tacked more slowly to allow more time to come out of the tack on the right angle and the crew being able to hit the new windward side at the same time to accelerate the boat on the new tack



Spinnaker set 3



Reaching, dropping, and rounding bottom mark



Overtaking

Overtaking when reaching

### 11. Hoisting the spinnaker

- a. Tweakers should be pre-set for the course to be sailed
- b. Spinnaker must be set from the leeward spinnaker bag
- c. If at all possible, always try to approach the top mark, so that you can pre-set the spinnaker pole
- d. Forward hand place the brace into the beak of the spinnaker pole and pull 0.5m of pole out
- e. Skipper hoists the spinnaker halyard to the top of the mast
- f. Forward hand pulls the pole-launcher rope
- g. Skipper to pull on the spinnaker sheet and hands to the forward hand
- h. Forward hand should be positioned to best observe the leading edge of the spinnaker
- i. Crew gets c'board up then grabs spin sheet

### 12. Reaching

- a. After setting the spinnaker
- b. In light air crew are well forward and across the boat from each other
- c. Leeward tweaker should be off, and windward one pulled on
- d. Jib should be eased
- e. The spinnaker should be just getting a gentle roll on the luff
- f. The centerboard should be up
- g. As the breeze increases, the centerboard can come up further
- h. The crew weight can be positioned further aft according to strength of breeze but never should you get any fore-aft separation between the skipper and the crew
- i. The mainsail should be trimmed so the leeward telltale in the middle of the sail, is always flowing aft.
- j. The video shows:
  - i. Good crew position, and minimal crew movement
  - ii. gentle movements with the tiller and mainsail
  - iii. It is far better that the spinnaker is given every opportunity to get as far away from the rig as possible so it is not a bad thing to see the spinnaker folding every now and then



Downwind



Gybing wing mark

### 13. Running

- a. As a guide for pole position, have some wool attached to the side stay and set the pole square to the wool
- b. Windward tweaker should be half off to allow the pole to be pulled square enough, however if the pole starts to bounce around, the tweaker needs to be pulled on harder (leeward tweaker should be completely off)
- c. Always make sure you try to keep the boom and the spinnaker pole lined up
- d. As in reaching, the spinnaker should be always eased out as far as possible, allow the leading edge to roll in and out
- e. Depending on the wind and sea conditions, the centerboard should be used to assist in the stability of the boat (i.e. in heavier air the boat will become uncontrollable with too much centerboard up, so as a rule of thumb, the centerboard should be pushed down more as the breeze increases)
- f. In extreme conditions, the leeward tweaker should be pulled on hard, and the centerboard pushed all the way down.

### 14. Gybing

- a. Set the tweakers set for new direction
- b. Skipper takes the spinnaker brace and sheet
- c. Fire the pole off the mast and at the same time, brace the spinnaker aft
- d. Float the spinnaker through the gybe
- e. Skipper turns the boat to gybe
- f. The crew throws the boom across; skipper assists if required
- g. Crew re-sets the pole on the new windward side
- h. The skipper passes the sheet to the crew
- i. In fresh breeze, always do the tweakers after the gybe, to prevent the boat from slowing up and putting too much pressure in the mainsail as the boat gybes

### 15. Dropping the spinnaker

- a. Skipper pulls on the brace as the forward hand removes the pole from the mast
- b. Skipper uncleats the spinnaker halyard and the crew pulls the spinnaker down into a bunch and then into the bag. *It is important that the skipper doesn't completely let the halyard go because the spinnaker may fly forward over the bow and go under the boat.*
- c. Once the spinnaker is down, the launcher rope from the spinnaker pole has to be pulled down to the boom level so it doesn't interfere with the foot of the mainsail.



#### **16. Mark roundings general**

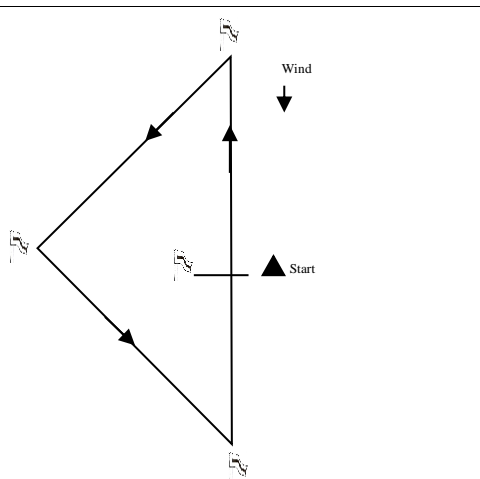
- a. When approaching the top mark, always try to give yourself enough time and distance from the mark to allow the spinnaker pole to be pre-set
- b. After rounding the top mark, find the wing mark and decide whether the reach is going to be tight or free *Try to do this prior to windward mark.*
- c. If it is tight, always sail above the wing mark in the light air, and down to the wind mark in the pressure
- d. If it is free, always sail below the wing mark in the pressure, and come up to the mark in the light air
- e. If it is free, you know that the next reach is going to be tight, therefore you can come up earlier and above it, so allow to square away and gybe early to allow the pole to go forward rounding the mark
- f. At the bottom mark always make sure that you have enough room between you and the mark so when you round it, you come right up on the wind, right on the mark (if you approach too tight, prior to rounding the mark you'll come out low and wide)
- g. Always be aware of non-overlapped boats and make sure you call your rights on them early
- h. When approaching the finish, always ensure that you get your boat across the line, at the first opportunity (this could pick up places in tight finishes, as well as make up time on your opposition)

#### **Race management by Baz Atkins.**

This is a guide to the best way to set up and assist the crews before starting. During my time as coaching, I have never been afraid of giving the sailors as much information as I can possibly gather, to assist them to achieve the results they all desire. I am yet to see a horse trainer, football team, or swimmer, who is not given race tactics prior to the race and the latest information on the course. This I believe assists the sailors in being able to sail their boats optimally. It is extremely important as a coach to be on the same level as the people you're coaching, i.e. there is mutual respect and no fear in being able to approach ask questions.

#### **Steps to success**

1. Get out on the water early
2. Check the wind, the breeze angles, the tide, how to best use it to our advantage
3. Always go over various parts of the course to ensure you get true wind readings
4. You can use such things as moored boats, compasses, smoke, wool stick, etc
5. Each boat prior to the start comes around, shows me their sails on the wind, so we can make sure they are set up optimally for today's conditions.
6. Give them the favoured side of the course, the favoured side of the start line, the tide, and wind phasing
7. Make sure they are prepared to put in a 110%
8. Always leave de-briefs until the next day or before the next time on the water, as I believe de-briefs are counter-productive immediately after racing as the kids just want to get their boats away, get changed and enjoy themselves. Have open discussions on what went right and wrong last time.

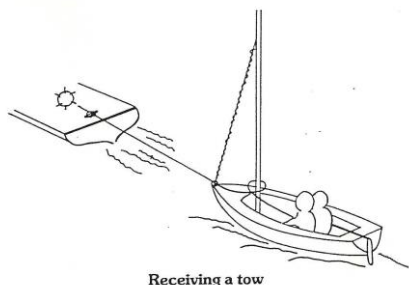


Note bottom 2 battens on leach of mainsail are straight, and that the head is twisted off a little

## Training drills

1. Set up a short course
2. Have three-minute starts and as many races as possible
3. Make sure you get boats used to being up on the line well before the starting signal
4. Check crew position and sail positions during the racing, and assist them where possible
5. How to work the waves upwind (the position of the boat to the wave – never be afraid to sail a lower angle if it helps get on the wave quicker)
6. Changing gears with the vang
  - a. Adjusting the vang as the boat speed increases to help to keep the bottom two battens in a straight line (see Figure 2)
  - b. In light air, ease the vang off to build apparent wind speed
7. When doing windward-leeward legs, get the crews to sail square runs without the spinnaker pole, gybing continually to get used to working the brace and sheet at the same time
8. At the gybe marks, make sure they are using the right techniques to get through the gybe safely no matter what the conditions are
9. Approaching the bottom mark make sure the boat is not too close, so that it prevents going too wide after coming on the wind
10. As the breeze increases, make sure that both upwind and downwind, the crews are squeezing as much speed out of the boat as they can, i.e. anticipating and working the puffs and lulls, using the waves, etc
11. Make sure when running, go up to chase breeze, and away in the pressure
12. Never over trim the mainsail
13. Always encourage the crew to put in more effort, get them to accept that the amount of variables in boat racing is more than any other sport, and everyone is going to get a spade in the face at some time in the race, and whoever gets over it the quickest and encourages each other, will beat the guys who want to fight amongst themselves
14. When a problem arises with your boat, never raise your voice to your crew, sort the problem out as soon as you can quietly, as this will assist you in getting back to the race quicker
15. Remember - an upset crew is no good to anyone

## Towing



Receiving a tow

## Receiving a tow:

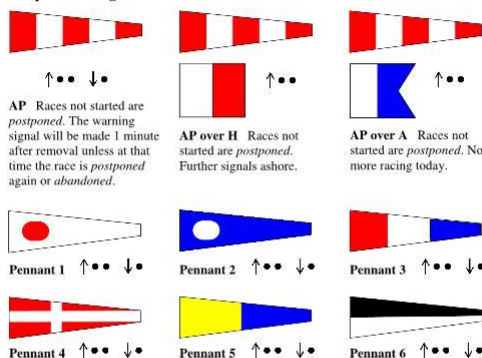
1. Drop the mainsail if possible and roll up
2. Furl the jib around the forestay if possible
3. Take the tow rope through the ring on the bow and around the base of the mast three times and hold in hands (don't tie off)
4. Crew move aft and balance the boat
5. Always steer directly behind tow boat and make sure you allow enough rope to keep clear of the tow boat's wash

## On the Water (visual signals)

### RACE SIGNALS

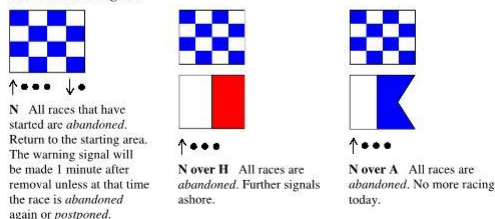
The meanings of visual and sound signals are stated below. An arrow pointing up or down (↑↓) means that a visual signal is displayed or removed. A dot (•) means a sound; five short dashes (-----) mean repetitive sounds; a long dash (—) means a long sound. When a visual signal is displayed over a class flag, the signal applies only to that class.

#### Postponement Signals

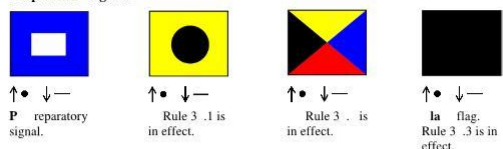


AP over a numeral pennant 1-6 Postponement of 1-6 hours from the scheduled starting time.

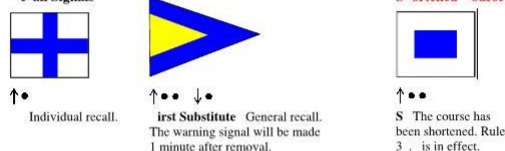
#### Abandonment Signals



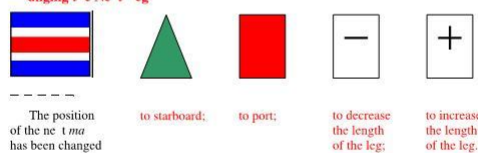
### Preparator Signals



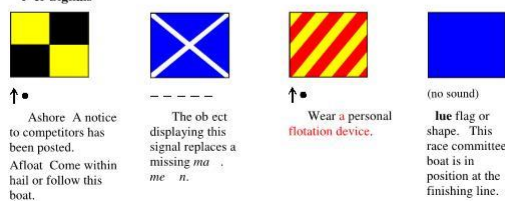
### Recall Signals



### Changing the Net



### Other Signals





**2017 – 2020 ISAF Rules regarding Pumping & Prohibited Actions:****PROPULSION****42.1 Basic Rule**

Except when permitted in rule 42.3 or 45, a boat shall compete by using only the wind and water to increase, maintain or decrease her speed. Her crew may adjust the trim of sails and hull, and perform other acts of seamanship, but shall not otherwise move their bodies to propel the boat.

**42.2 Prohibited Actions**

Without limiting the application of rule 42.1, these actions are prohibited:

- (a) pumping: repeated fanning of any sail either by pulling in and releasing the sail or by vertical or athwartship body movement;
- (b) rocking: repeated rolling of the boat, induced by
  - (1) body movement,
  - (2) repeated adjustment of the sails or centreboard, or
  - (3) steering;
- (c) ooching: sudden forward body movement, stopped abruptly;
- (d) sculling: repeated movement of the helm that is either forceful or that propels the boat forward or prevents her from moving astern;
- (e) repeated tacks or gybes unrelated to changes in the wind or to tactical considerations.

**42.3 Exceptions**

- (a) A boat may be rolled to facilitate steering.
- (b) A boat's crew may move their bodies to exaggerate the rolling that facilitates steering the boat through a tack or a gybe, provided that, just after the tack or gybe is completed, the boat's speed is not greater than it would have been in the absence of the tack or gybe.
- (c) Except on a beat to windward, when surfing (rapidly accelerating down the front of a wave) or planing is possible, the boat's crew may pull in any sail in order to initiate surfing or planing, but each sail may be pulled in only once for each wave or gust of wind.
- (d) When a boat is above a close-hauled course and either stationary or moving slowly, she may scull to turn to a closehauled course.
- (e) If a batten is inverted, the boat's crew may pump the sail until the batten is no longer inverted. This action is not permitted if it clearly propels the boat.
- (f) A boat may reduce speed by repeatedly moving her helm.
- (g) Any means of propulsion may be used to help a person or another vessel in danger.
- (h) To get clear after grounding or colliding with a vessel or object, a boat may use force applied by her crew or the crew of the other vessel and any equipment other than a propulsion engine. However, the use of an engine may be permitted by rule 42.3(i).
- (i) Sailing instructions may, in stated circumstances, permit propulsion using an engine or any other method, provided the boat does not gain a significant advantage in the race.

*Note: Interpretations of rule 42 are available at the World Sailing website or by mail upon request*