

10
(Racing)
TIPS
FOR
PATIN SAILORS



05 AUG 2007 – NORTH SEA PATIN SAILORS – BEACHCLUB DE WINDHAAN

1/ Course or Speed Scheme: (Figure 1)

Correlation between wind direction, course and speed

Example with a wind speed of 10 knots

- The wind direction is indicated by a downward-pointing arrow.
- The circle around the central point is an angle or direction scale of the course to be sailed with regard to the wind direction. 180° left or port and 180° right or starboard.
- 0° = in irons; 45° = close reach; 90° = beam reach; 180° = downwind.
- The relative speed at the course concerned is indicated by the length of the arrows reaching from the centre to the butterfly-like figure.
- By way of comparison: the dotted line in the port-half of the drawing indicates the speed that can be expected for a mono-hull boat. *This allows us to conclude that a patin is extremely fast when sailing beam-reach courses, but that she cannot sail as high as a mono-hull boat.*

Vertaling terminologie Figuur 1:

| | |
|------------------------------|-----------------------------------|
| <i>In de wind</i> | <i>in irons (into the wind)</i> |
| <i>Aan of bij de wind</i> | <i>close reach</i> |
| <i>Halve wind</i> | <i>beam reach</i> |
| <i>Ruime wind</i> | <i>broad reach</i> |
| <i>Voor de wind</i> | <i>downwind</i> |
| <i>Over stuurboord</i> | <i>port tack</i> |
| <i>Over bakboord</i> | <i>starboard tack</i> |
| <i>Voorrang bij kruisen</i> | <i>right of way while tacking</i> |
| <i>Uitwijken bij kruisen</i> | <i>give way while tacking</i> |

2/ Steering the Patin: (Figures 2, 3, 4, 5)

A. Luffing Head Up and Bearing Away by Shift of Weight

- The skipper's weight is positioned at $\frac{3}{4}$ of the boat's length: the boat sails straight on (figure 2)
- The skipper's weight is shifted towards the bow: makes the boat luff head up (figure 3)
- The skipper's weight is shifted towards the stern: makes the boat bear away (figure 4)

The pivot or turning point (or centre of lateral resistance (CLR)) of the boat can be shifted alongship by shifting the skipper's weight. The centre of effort of sails (CE) also shifts in the direction of the skipper, but to a lesser degree.

Forward or backward shift of weight alongship. Sidelong shift of weight has practically no steering effect on the patin, and the boat will sail straight ahead. **IS THIS REALLY TRUE??? Just like a mono-hull boat has weather helm when heeling to leeward, so I think this also applies to patins to a certain extent. In my opinion, this explains why it is impossible to bear away when the patin is heeling over: thus, easing sail when the boat is bearing away will make the patin fall flat on the water. Then, the boat can be steered by shifting weight further backwards in the boat.**

This special tendency of the patin to have weather helm and lee helm as a result of weight trim is due to:

- *the very long hulls (compared to the height of the centre of effort of sails)*
- *the absence of a helm and leeboard*
- *the relatively high weight of the skipper in proportion to the weight of the boat (98kg).*

B. Luffing Head Up and Bearing Away by Sail Trimming:

When sailing broad reach and on downwind courses, the position of the sail has the following steering effects:

Sail more eased, more open: this will make the boat luff head up (figure 5a):

The sail is completely eased. The backstay, which partly keeps the sail firm, causes a little curve near the mast. The arrow drawn in the sail represents the propelling force. Easing the sail causes a bulge in the first third of the sail. The force (perpendicular to the bulge) points towards luff, so the boat luffs head up.

Sail hauled tauter, more closed: this will make the boat bear away (figure 5c):

The sail is hauled really taut. As a result, the wind does not strike right into the sail and no wild twirl will be formed at the backside of the sail. Here, the wind is 'bent', causing a lateral pushing effect at the bunt and a suction effect at the backside. The wind escapes (without too much turbulence) along the mast. As a result, the sail is being pushed further aside. The sail laterally pulls the stem in its direction. The boat bears away.

Intermediate sail position (figure 5b):

The aforementioned forces can be counteracted by giving the sail a position in-between.

C. Luffing Head Up and Bearing Away by Using Your Hands and Feet:

Steering by putting your hand or feet in the water on the lee side will make the boat bear away

Steering by putting your hand or feet in the water on the weather side will make the boat luff head up

Always sideways outboard

The skipper's upper part of the body has to hang outboard as far as possible so as to increase the lever effect.

Brake as less as possible and try to obtain as much as possible a propelling force that is diagonal and directed towards the boat.

Only steer by hand or feet when sailing broad-reach or downwind courses.

D. Gybing in Strong Winds: (Figure 6)

When executing this manoeuvre, it is not easy to change the sail from one bow to the other.

Therefore the skipper should lie backwards as far as possible and haul the sail directly by pulling the sheet through the clew. *This will reduce the pressure on the bow for a couple of seconds* and using your feet as a helm, the sail will change to the desired bow.

After the gybe, it is also important to apply opposite lock for a while by using your feet.

3/ Rules of Thumb for Trimming The Sail and Mast:

| | Little wind (0 - 10 knots) | Strong wind (10 - 25 knots) |
|--------------------|---|--|
| Close reach | mast bender 0.30m mast: 7.26m MD and MO slightly hauled height of sail: maximum height | mast bender 0.15m mast: 7.10m MD and MO hauled tighter height of sail: low |
| Beam reach | mast bender 0.30m mast: 7.26m MD and MO slightly hauled height of sail: maximum height | mast bender: 0.30m mast more backwards (6,90 < mast position < 7,10) → twist in top MD and MO slightly hauled height of sail: low |
| Downwind | mast bender loose mast perpendicular MD and MO loose height of sail: maximum height | mast bender loose the mast top must be able to reach into the plane of the bow line MD and MO loose height of sail: low |

Mast bender = flexor

MD = mainsail downhaul. **Pulling the mainsail downhaul will make the bulge in the sail move forward → this has to be counteracted by bending the mast so as to reposition the bulge right in the middle of the sail. So, if you want to have a really tight and flat sail, you should stretch the MD and bend the mast. NEVER OVERUSE THE MD.**

MO = mainsail outhaul

General rule: except when sailing close-reached or downwind, the best position of the sail, at the highest possible speed, is the one where killing of the sail is avoided. If not, a disadvantageous inclination and a disadvantageous lateral leeway will be caused.

4/ The Patin Must Always Be Sailed Flatly:

- increased course stability
- increased speed (because the water line is as long as possible)
- if the bow is lifted too much, it will be blown away and that will cause a loss of height
- the skipper can counteract the wind speed changes by rapidly hanging out of the boat and/ or by easing the sheet.

5/ Sailing with Little Wind:

- try to trim the sail as flatly as possible **weak wind trim = hard wind trim**. Even a twist may be useful, as the air current at the top passes at a different angle than closer to the water surface.
- make sure the air keeps streaming around the sails **task of the leech telltale!**

6/ The Telltales:

- sailing close-reached: the wind hawks point straight to the mast
- sailing close-hauled: the wind hawks point slightly to the luff side of the mast

7/ Always Aim for Speed:

Speed and height are closely connected.

You must first reach maximum speed before sailing a higher course.

- fast and sharp = best
- not too fast but sharp = do not despair
- slow = adjust sail and/or mast trim

8/ Position With Regard To The Starting Line:

Marking position (with regard to a fixed point on the mainland) alongside the starting line before the start of the race will enable you to start as close as possible to the starting line.

Position of the line with regard to the wind: pin-end advantage (port) or start boat advantage (starboard)

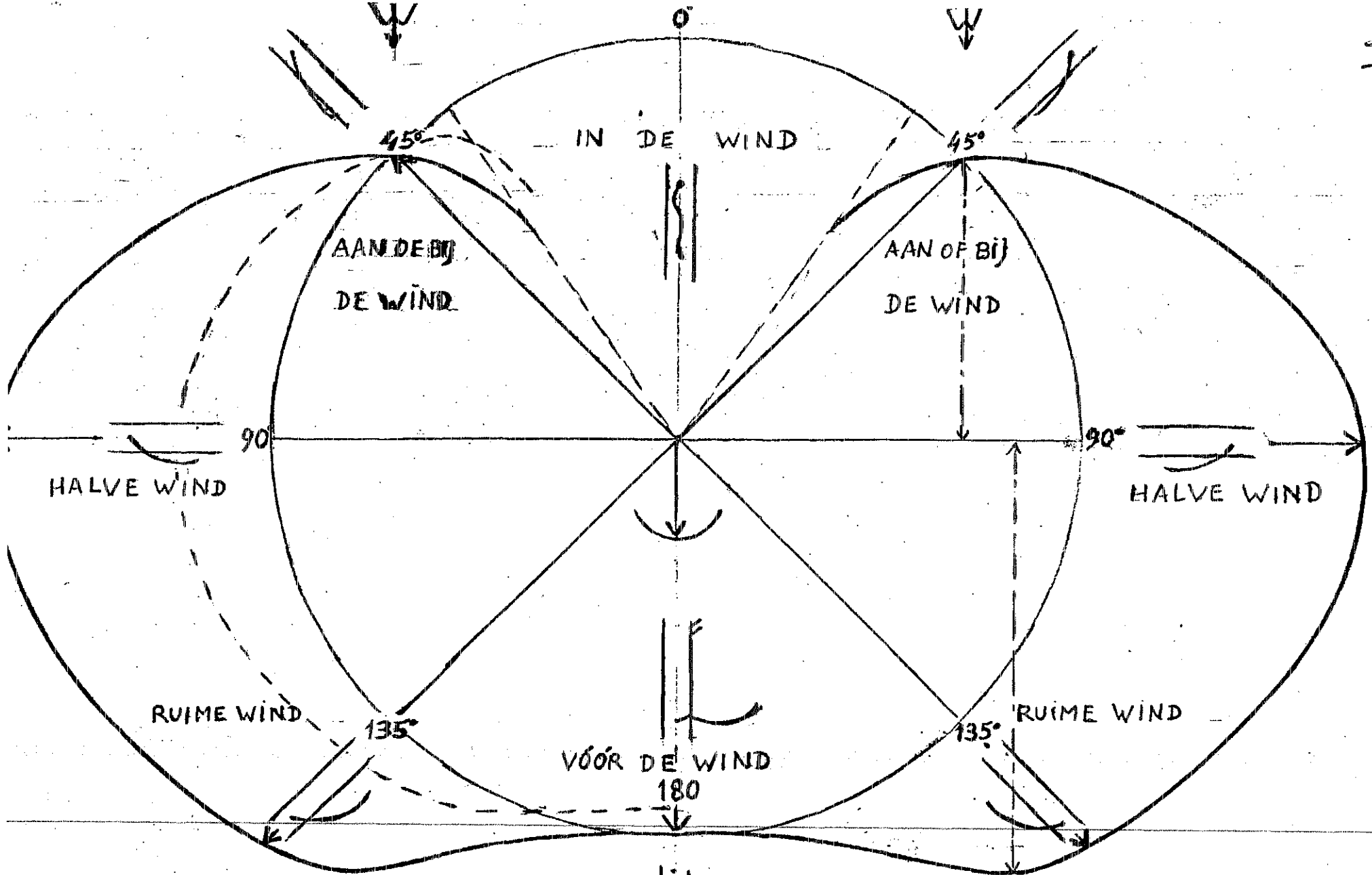
9/ Tides:

The tides play an important role on the North Sea.

Make a list of water speeds and water directions on the basis of a nautical chart.

Impact of the current on the true wind speed: sailing over a bow whereby the current pushes the boat against the wind will easily raise the wind speed by 3 knots!

10/ Right-Of-Way Rules: see enclosure

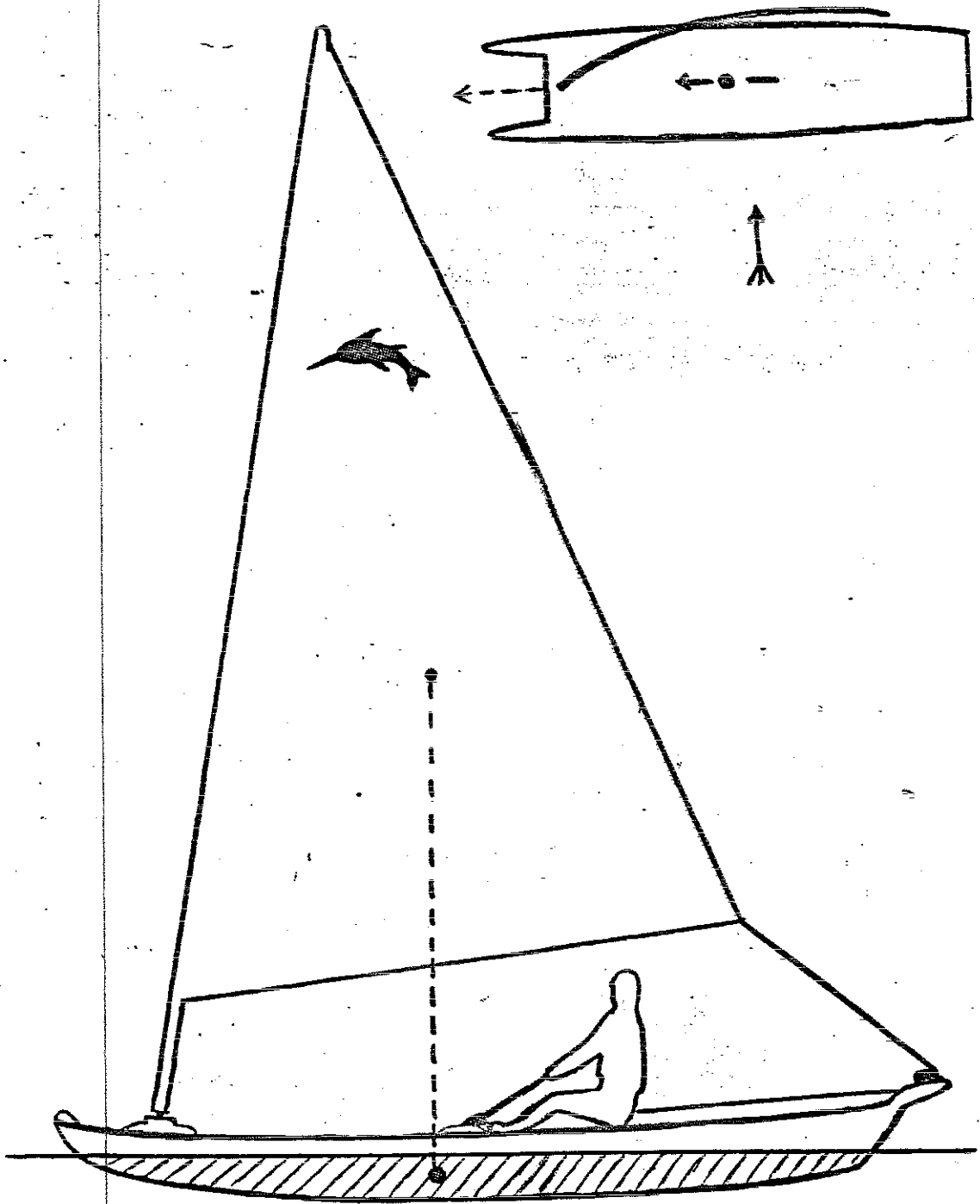


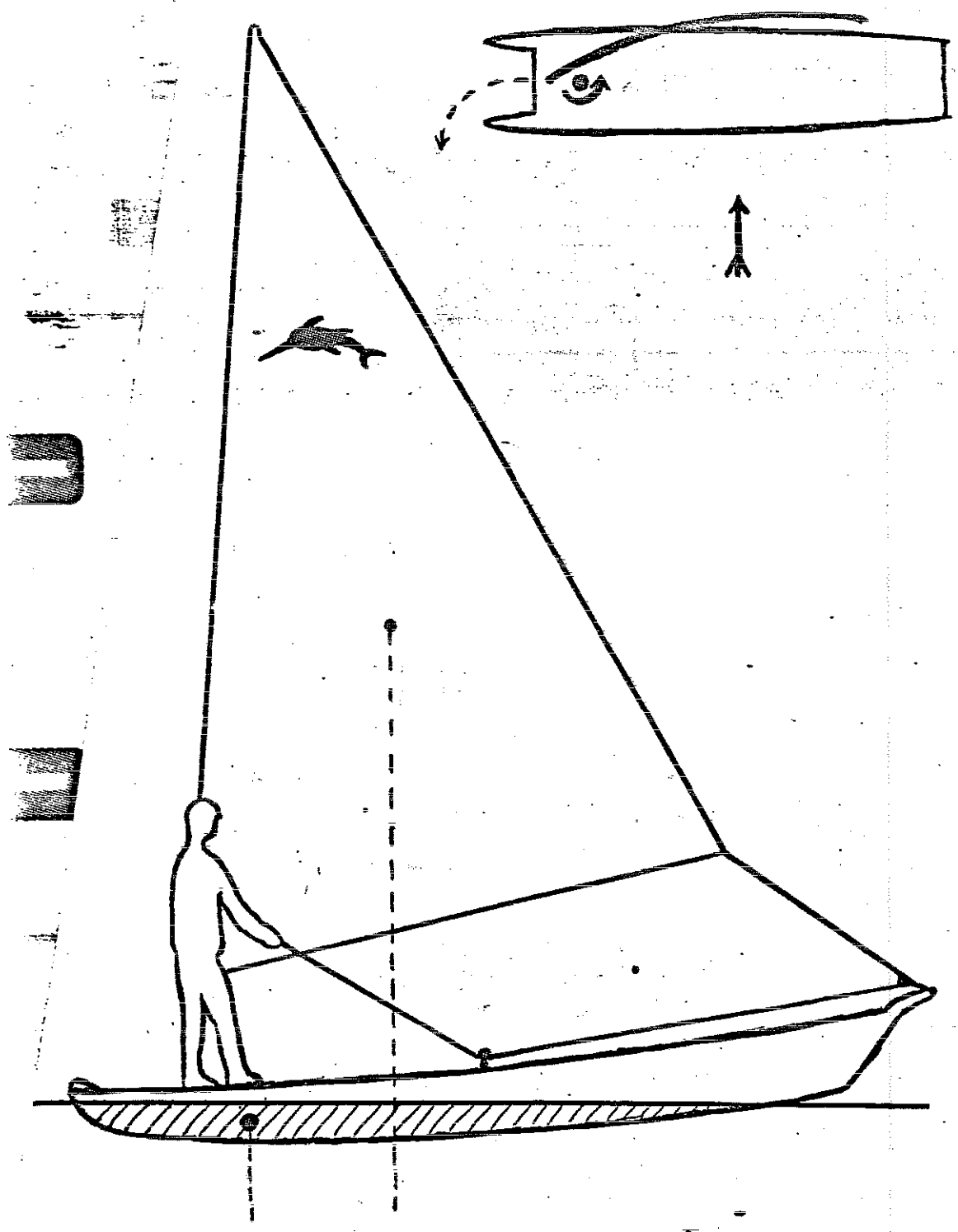
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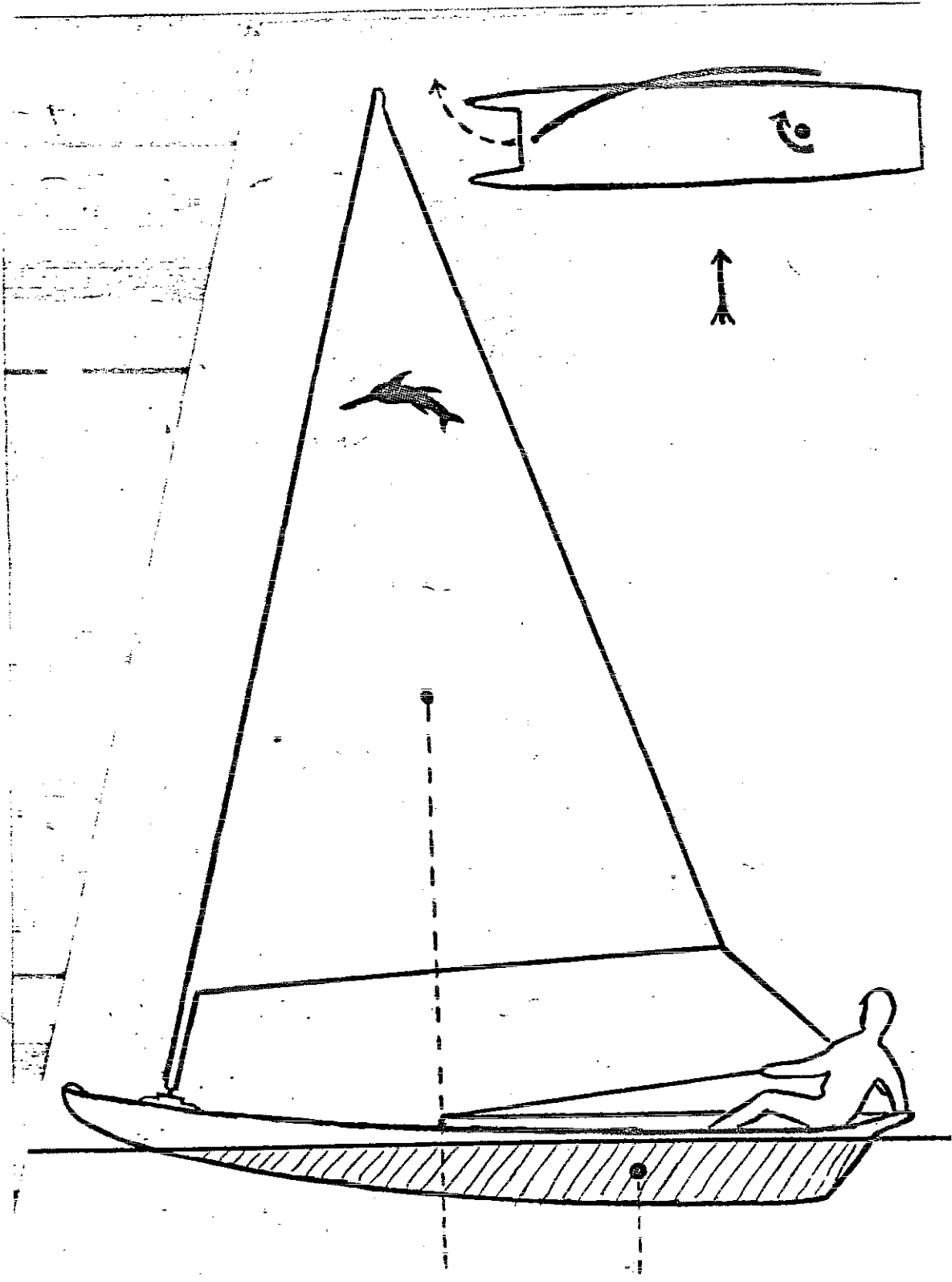
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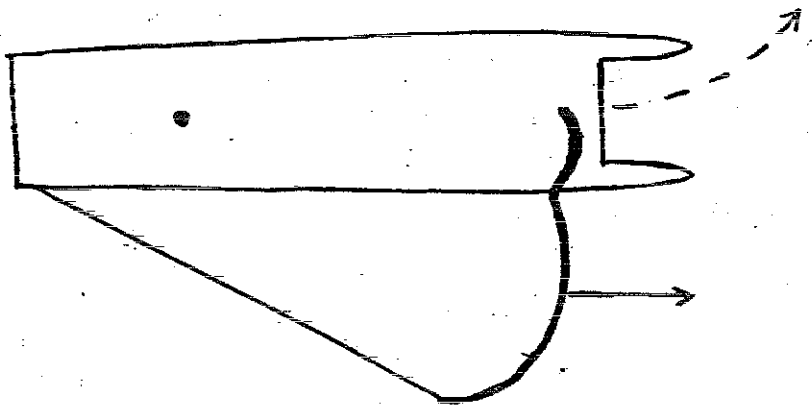
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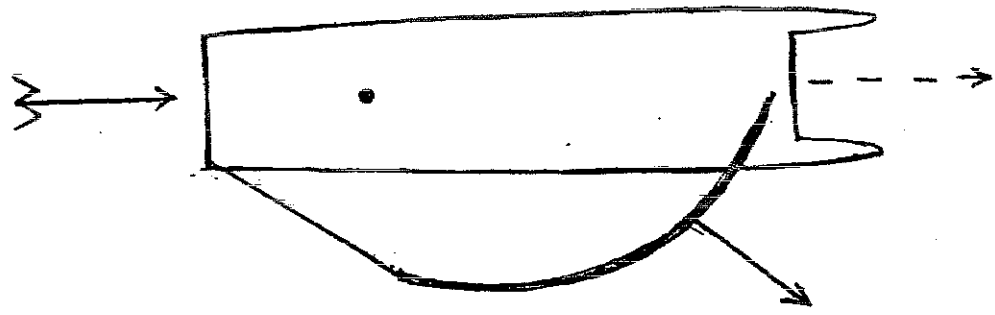




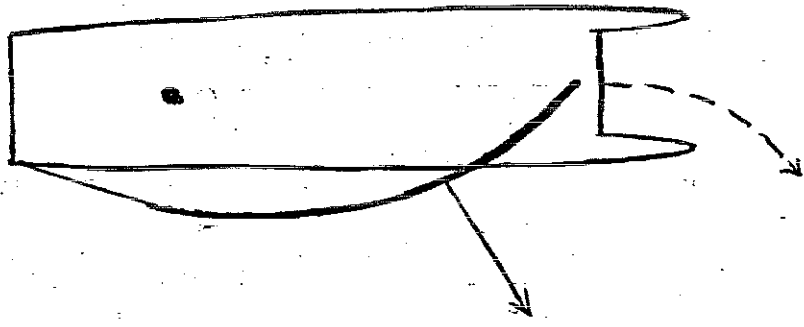
5A

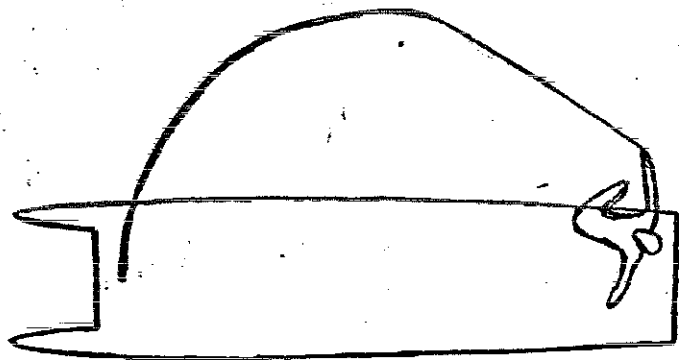
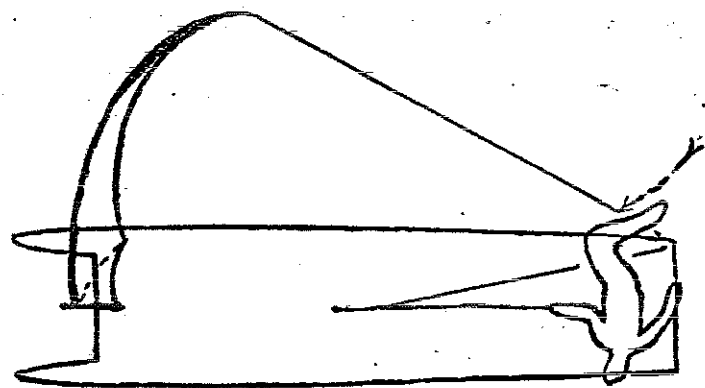
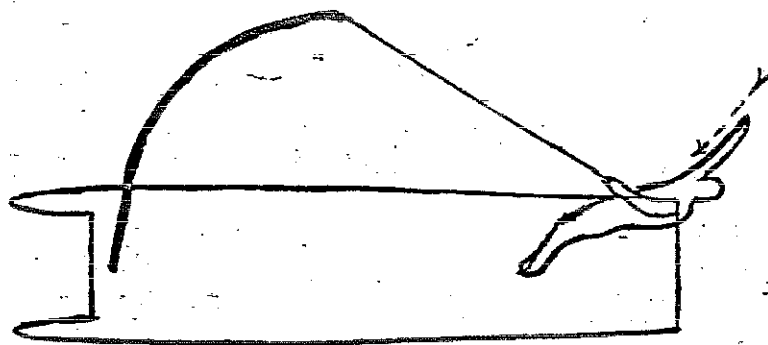


5B



5C





RRS (Racing Rules for Sailing) 2005

drawn up by U. Finckh. www.finckh.org
in an extremely simplified language.

Definitions:

A boat is **racing** from her preparatory signal (4min) until she finishes or retires or until the race committee signals a general recall, postponement or abandonment.

A boat **finishes** when any part of her hull, or crew, crosses the finishing line in the direction of the course of the last mark.

A boat is **clear astern** of another when she is behind a line abeam from the aftermost point of another boat's hull or equipment. The other boat is **clear ahead**. They **overlap** when neither is clear astern.

Keep Clear: a boat keeps clear of another if the other does not need to change course, or when the boats are overlapped if the leeward boat can change course in both directions.

Room is the space a boat needs to manoeuvre.

Obstruction is any object that a boat cannot pass without changing course substantially. When a boat is required to keep clear of another boat, that boat is also considered an obstruction.

Proper course is the course a boat would sail to finish as soon as possible in the absence of other boats. A boat has no proper course before her starting signal.

PART 1: FUNDAMENTAL RULES

1. **Helping** those in danger
2. Each competitor is individually responsible for wearing a **life jacket**.
- 2 **Fair sailing**
- 3 By participating in a race, each competitor **accepts** the RRS
- 4 The responsibility for a boat's decision to participate in a race or to continue racing is **hers alone**.
- 5 **Drugs** are banned.

PART TWO – WHEN BOATS MEET

- 10 **On opposite tacks** A port-tack boat shall **keep clear** of a starboard-tack boat.
- 11 **On the same tack, overlapped:** a windward boat shall **keep clear** of a leeward boat.
- 12 **On the same tack, 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-reached course.
- 14 A boat shall **avoid contact with another boat**. A right-of-way boat shall not be penalized unless there is contact that causes damage.
- 15 **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.

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

16.2 Starboard-tack boat shall not change course.

17 **On the same tack; proper course:**

1. Overlap to leeward of a boat within the circle of 2 of her hull lengths': no luffing rights.
2. On a beat broad-reach or downwind, a boat shall not bear away below her proper course when a boat overlaps her to leeward within two of her hull lengths.

18 **Passing Marks and Obstructions**

1. Rule 18 does not apply when

- (a) starting at a starting mark.
- (b) while the boats are on opposite tacks and finishing a beat to windward
- 2.(a) **Overlapped** when the first boat reaches the 2-hull-lengths' circle: the outside boat shall **give room** to the inside boat. If the inside boat has right of way, the outside boat shall **keep clear**.
- 2.(c) If a boat was **clear ahead** at the time she reached the two-length' zone, the boat **clear astern** shall keep clear.

3. If two boats are approaching a mark on opposite tacks, and one of them completes a tack in the two-length' zone, the other boat must be able to keep her course.
4. When gybing at a mark is necessary, the inside boat shall not sail farther from the mark than needed.

19. Room to tack at an obstruction

Other Rules

- 20 Boats returning to the pre-start side of the starting line, boats making a penalty turn and boats moving astern shall keep clear.
- 31 Touching a mark: make 1 turn, including 1 gybe (replaces the 360° penalty)
- 44 Taking a **penalty:** 720° or scoring penalty

During Regattas only the original text of the RRS applies.

Racing Rules of Sailing 2005-2008

