

RRS 42 GUIDE – 29er

February 2024



INTRODUCTION

This document ranks as a guide for 29er judges, sailors, and coaches. World Sailing also publishes the official RRS 42 Interpretations, which in this guide are referred to as “SCULL 1”, “PUMP 6”, etc.

PRINCIPLES FOR JUDGING RRS 42

1. Judges will give a boat the benefit of any doubt. However, judges will protect boats that are complying with RRS 42 by penalizing any boat they are sure is breaking the rule.
2. Judges will normally only penalize when both have seen the breach. However, a breach before or at the start, or near a mark or the finish, may be penalized when seen by only one judge.

29er CLASS RULES AFFECTING RRS 42

Section C – Conditions for Racing, updated 18 July 2023

C.1.1(b) If the wind is consistently 10 knots or above, measured at deck level, the Race Committee may signal in accordance with RRS Appendix P5 that “pumping, rocking and ooching” are permitted. This changes RRS 42.2(a), RRS 42.2(b) and RRS 42.2(c).

SOME CLASS SPECIFIC TECHNIQUES, BREACHES AND JUDGE POSITIONING

In medium to strong winds, the power of the 29er hull and rig means RRS 42 breaches are relatively uncommon. Once flag O (Oscar) is displayed, the only likely breach is sculling before the start. Repeated tacking and gybing, and a single action that propels the boat, remain prohibited under flag O, but are unlikely in winds over 10 knots.

However, in 4-9 knots wind, crew movement can propel a 29er and breaches can occur. In addition to normal rocking and pumping breaches, the stiffness of the 29er rig and sail means that crews can transmit energy into the boat through either their forward leg or the trapeze wire.

The most common breaches are sculling before the start, pumping and rocking at the start, pumping and ooching upwind, especially when there are waves, and sheet pumping, or combined sheet and body pumping, offwind. When rounding and leaving the leeward gate, the wind shadow from boats approaching the gate may lead to boats rocking.

POSITIONING: 29ers are fast, so good RIB positioning is crucial to avoid accidents. Judges need to maintain a 360° view and be alert to how boats’ angle of sailing changes with the wind speed.

1. **Overall: take responsibility for an area of the course.** The fleet will spread, and there is little value tracking the fleet round the course. With two RIBs, it is usually better for one to be responsible for the top and left side of the course, and the other for the bottom and right.
2. **Cross behind not ahead.** The foils on 29ers are very sensitive to propellor wash which reduces their efficiency. If in doubt, do not cross in front of a 29er. Only cross in front if you are confident of being far enough ahead that your propellor wash will be minimal when the 29er crosses it.
3. **Remain outside the fleet in 9+ knots.** Only be inside when winds are 4-8 knots and you need to be there to judge RRS 42 breaches. If inside, whenever practical drive directly upwind or downwind (not parallel to the boats) to minimise your speed and propellor wash.
4. **Before the start,** be well to leeward to give room for boats to manoeuvre, especially in strong winds. If unable to get out of the way, remain stationary and leave the 29ers to avoid you.
5. **At the windward mark,** do not position the RIB on the extension of the starboard lay line. 29ers may over-stand on a close-hauled course as bearing away can be difficult in gusty conditions.
6. **Downwind,** anticipate that a 29er will bear away in a gust, and luff in a lull.
7. **At the gate,** usually best to be on the extension of the gate on the busier side. If alone for the final leg, being above it allows boats to be watched as they approach and leave the mark.

AT THE START

Sculling

The small vertical rudder means a near-stationary 29er will require repeated forceful movements of the helm to change course. Such sculling is permitted provided the boat is almost stationary, is above close-hauled and she turns towards a close-hauled course, even if the boat gains speed.

After sculling to turn one way, a boat may not then follow that by sculling to turn the other way – but may turn back without sculling. A 29er is likely to need to ‘scull down’ when lined up at the start, and only retains this ability if she ‘sails up’, for instance by heeling or filling the mainsail, when turning towards head-to-wind.

Permitted actions:

- Gentle repeated rudder movements through the centreline to hold a position and that is neither forceful nor propels the boat forward nor prevents the boat moving astern.
- Sculling, even if forceful, when above a close-hauled course to change direction towards a close-hauled course [RRS 42.3(d), SCULL 1].
- Repeated rudder movement to reduce the speed [RRS 42.3(f)].

Prohibited actions:

- Side-to-side forceful tiller movements that propel the boat or stop it moving astern [RRS 42.2(d)].
- Sculling to luff followed by sculling to bear away, or vice versa [RRS 42.2(d), SCULL 2].
- Sculling below a close-hauled course, usually to pass astern of the boat to leeward.
Note: there need to be two forceful rudder movements below a close-hauled course for this action to break RRS 42.2(d).
- ‘Crabbing’: Sculling while backing a sail, when the forceful rudder movements offset the change of course caused by backing a sail [RRS 42.2(d), SCULL 3].

Gathering evidence:

- Are the tiller movements forceful?
- Are they propelling the boat forward or preventing her from moving astern?
- Is the boat above close-hauled and changing direction towards a close-hauled course?
- Is the sculling in the opposite direction to previous sculling?
- When backing a sail, is the boat’s sculling preventing her from changing course?

Rocking and Pumping

A single roll at the start is unlikely to clearly propel a 29er. However, in the moments before the start, boats might roll more than once, and after the start the crew might pump the rig, most often using body movement, to try to pull ahead. Both actions break RRS 42.

Batten inversion: when 29ers are lined up before the start, the fully battened mainsail means the boom may be pushed out to stop a 29er luffing, or to bear away when near stationary. Both actions may invert the battens. A strong pull on the boom should flip any inverted battens and may be repeated providing it does not clearly propel the boat [RRS 42.3(e)].

Permitted actions:

- One roll that does not clearly propel the boat.
- Repeated pumping of the mainsail to flip the battens, providing this does not clearly propel the boat.

Prohibited actions:

- One roll of the boat or pump of the sail that clearly propels the boat [RRS 42.1, BASIC 4].
- Repeated rolling of the boat caused by body movement [RRS 42.2(b)(1)].
- Repeated flicks of the mainsail caused by body movement [RRS 42.2(a), PUMP 6].

Gathering evidence:

- Is the sailor causing the boat to roll?

- Does a single roll or pump clearly propel the boat?
- Is a boat's rolling or pumping repeated (more than once)?
- Are some battens inverted?

ON A BEAT

Pumping, Rocking, Ooching and Torquing (fore and aft or rotating movement of the body)

Upwind, rapid sheet adjustment is required to keep the boat flat and the sails trimmed correctly. The more regular any such adjustments are, the more likely they may amount to sheet pumping.

The more common upwind breaches are pumping and ooching, usually caused by body movement of the crew, in a 4-9 knots wind. To be confident that a leach flick is caused by body movement rather than wave pattern may require one observation from astern and another from abeam.

Ooching is most likely in light wind with sufficient waves, when the crew's movement and forward leg pressure is either in phase with and proportionate to the adjustment necessary to sail over waves, or is disproportionate and propels the boat. To be confident, the judge needs to observe the crew's action when also able to see the hull and waves, and other boats' speed.

A boat struggling to lay the windward mark may body pump to try to round it without contact.

Permitted actions:

- Adjusting sail trim because of wind gusts, lulls and shifts, and waves [*PUMP 2*]
- Torquing to change the fore and aft trim of the boat in phase with the waves [*OOCH 1*].

Prohibited actions:

- Torquing or other body movement that causes repeated flicks of the leach [*RRS 42.2(a), OOCH 1, PUMP 6*].
- Torquing on flat water [*OOCH 2*].
- Repeated pulling in and releasing the mainsail not in response to wind or waves [*RRS 42.2(a), PUMP 1*]
- Body movement that clearly propels the boat, or repeatedly flicks the leach or rolls the boat [*RRS 42.1, 42.2(a) or 42.2(b)(1)*].
- Forward body movement, stopped suddenly, whether or not it propels the boat [*RRS 42.2(c)*].

Gathering evidence:

- Are the sailors' body movements in phase with, and proportionate to, the waves?
- When the crew moves, or pushes the hull with the forward leg, is this proportionate to the waves, or is the crew stopping suddenly, with the boat moving faster than others nearby?
- Are leach flicks caused by the sailor's movements, or could it be by the waves?
- Are the flicks repeated?
- Is repeated mainsail adjustment in response either to waves or wind gusts and lulls?
- Does one body movement clearly propel the boat?

ON A DOWNWIND LEG

The most common breach is sheet pumping. In light conditions, when surfing or planing conditions do not exist, this is likely to be repeated fanning of the mainsail or gennaker that is not in response to wind or waves. In medium winds it is likely to be a second pump of a sheet on a wave to promote planing, or sheet pumping to maintain planing.

In addition, the crew may exaggerate the effect of a sheet pump, or cause the leach to flick, through body movement, especially when imparting energy into the rig through the trapeze wire.

These breaches are most likely when boats are close on the final reach. Judges should be ready to signal these as soon as they occur, as any delay may increase the effect of the penalty.

Permitted actions:

- Trimming a sail in or out in response to wind and waves [*PUMP 2*].

- Moving fore and aft, and in and out, to correct the heel or facilitate steering [RRS 42.3(a)].
- Pulling in the sail once per wave or gust of wind to initiate surfing or planing. To qualify as surfing, the boat must rapidly accelerate down the front of the wave [RRS 42.3(c)].
- Pulling in the sail once and failing to plane or surf in marginal conditions [PUMP 7].

Prohibited actions:

- Repeatedly sheeting a sail in and out, not in response to wind or waves [PUMP 1].
- Combining a permitted sheet pump with a body roll or pump that propels the boat.
- Pumping a sail a second time on a wave or gust, or when surfing or planing [PUMP 12].
- Making three consecutive unsuccessful attempts to initiate planing or surfing [PUMP 8].
- Body pumping causing repeated flicks of the leach [PUMP 6].

Gathering evidence:

- Are the boats, in the conditions at the time, able to surf or plane?
- Is the trim and release of a sail in response to wind shifts, gusts or waves? Or is the trim and release unrelated to such factors, and is just fanning the sail?
- Does one sail pull per wave or gust of wind initiate surfing or planing? Is there a second pull?
- When a boat that is surfing or planing pulls in her sheet, is she pumping, or is she adjusting the trim of her sail to reflect a speed, course or wind change?
- How many times does a boat pull in her sail once per wave and fail to surf or plane?
- Is a leach flick linked to and caused by body movements?
- Is the crew suddenly jerking the trapeze wire to tension the rig and propel the boat?

AT THE GATE

The wind when rounding a gate mark can be much less than on the rest of the course due to the blanketing effect of boats above that mark. In light winds boats may slow almost to a standstill.

Boats may heel to leeward to round the mark, and then accelerate as they are righting themselves, and this is permitted by RRS 42.1. However, boats may break RRS 42 by otherwise moving their bodies to propel the boat, or repeatedly rolling the boat or fanning the sails.

Permitted Actions:

- Heeling a boat to steer round a mark, then bringing the boat upright in a seamanlike way, even if this propels the boat [ROCK 6].

Prohibited Actions:

- Repeated rolling of the boat caused by body movement [RRS 42.2(b)(1)].
- Repeated fanning of the mainsail [RRS 42.2(a), PUMP 1].

Gathering evidence:

- Is the boat heeling to leeward to round the mark?
- Does the body movement propel the boat?
- Is the rolling of the boat or the fanning of the sail repeated?

TIPS FOR SAILORS

1. Download and study World Sailing's RRS 42 Interpretations.
2. If you are given a RRS 42 penalty, ask the judges for an explanation of why you were penalized. If you can't find them at the end of the race, ask them when next ashore.
3. If you are not sure about a technique, ask the Jury in writing for a clarification so that the whole fleet can benefit from the answer.
4. Normally the more important the event, the higher the ratio of judges to competitors and the more experienced the judges. Your sailing technique is likely to be under greatest scrutiny when it really matters.