

WB-Sails Europe trimguide

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0-2 m/s (0-4 kn)

In very light airs you want to keep the sail leech as "soft" as possible and favour speed for pointing. The sheet should be loose, with the boom 15 to 30 cm above the deck and the traveller set so that the boom end lies between mid tank and the corner of the transom. Keep the centerboard straight down.

- **Inhaul:** loose, 5 cm from mast
- **Cunningham:** loose
- **Outhaul:** loose, 5-8 cm from the maximum tension. Max. tension may well be 3-4 cm off the mark - the foot of the sail is a little shorter.
- **Mast rake:** in "base position", approximately 545 cm for a short leech sail (SL) and 555 cm for the long leech sail (LL *).

This trimguide is based on the expertise of Sari Multala, 2001 World champion. We've divided it into seven wind strengths for ease of application. See also Mast rake basics for a discussion of the effect of mast rake.



In light airs you want to keep the cunningham loose. Never mind the wrinkles - the shock cord in the luff lifts the cunningham up giving fullness and extra power to the sail.

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3-4 m/s (6-8 kn).

The Europe has plenty of sail area: In 3-4 m/s you start sitting on the sidetank to balance the boat, but the boom is still a bit off the deck. Keep your weight forward by leaning slightly in front of the traveller.

- **Sheet** should be tighter, with the boom approximately 10 cm above the deck.
- **The traveller** is set so that the boom end lies between mid tank and the back corner.
- **Inhaul:** loose, about 3 cm from mast
- **Cunningham:** loose
- **Outhaul:** a little looser than in very light winds, 6 to 10 cm from mark
- **Centerboard:** straight down
- **Mast rake:** in base position



Sailshape in 3-4 m/s, seen through the MastCam lens. You start sitting on the sidetank your legs pressed to the traveller. The traveller is set so that the boom end lies between mid tank and the transom corner.



The outhaul is a little looser than in very light airs: 6 to 10 cm from the mark.

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5-6 m/s (10-12 kn).

In this wind, your dinghy is fully powered but hiking all out you can still balance the boat with a sail trimmed for maximum drive. This calls for a very loose outhaul and the cunningham still untouched.

- **Sheet:** tight, the boom very close or touching the deck.
- **Traveller:** set so that the boom end lies 5 cm inwards or on the transom corner.
- **Inhaul:** 1-2 cm from mast
- **Cunningham:** loose
- **Outhaul:** loose, up to 10 cm from max.
- **Centerboard:** straight down
- **Mast rake:** in base position



To power up the sail keep the outhaul loose and leave the cunningham open up to about 6 m/s (12 kn) of wind.



In 5-6 m/s the boom comes down to the deck close to the transom corner.

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7-8 m/s (14-16 kn).

In more than 7 m/s you need to start depowering. Tighten the inhaul & outhaul a bit, and also use some cunningham to smoothe some of (but not all) the creases.

- **Sheet:** tight, the boom touching the deck.
- **Traveller:** set so that the boom end lies on the transom corner.
- **Inhaul:** 0-1 cm from mast
- **Cunningham:** a little tightened
- **Outhaul:** a little tighter, 9-6 cm from max.
- **Centerboard:** angled backwards but all down
- **Mast rake:** in base position



Don't forget to ease the outhaul and the cunningham on the run. (left).



As the wind increases you want to start to tighten things up to flatten and depower the sail. Lean the centerboard aft to balance the helm and sheet the boom to the transom corner.

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9-10 m/s (18-20 kn).

9-10 m/s (18-20 kn). Tighten the inhaul & outhaul a bit, and also use some cunningham to smooth most of the creases. To go down and fast, let the traveller out - to point high pull the boom towards the transom corner.

Sheet: tight, the boom touching the deck.

Traveller: the boom end on the transom corner or 5 cm outside.

Inhaul: touching the mast

Cunningham: most wrinkles smoothed out

Outhaul: 3-4 cm from max. tension

Centerboard: angled backwards, raised 20 cm. The smaller you are, the earlier you will be forced to raise the board.

Mast rake: in base position, or a touch back, if the mast is stiff in the lower part, a touch forward if the mast is very soft.

About mast rake: The stiffer your mast is in its lower part, the earlier you need to adjust the rake to cope with the increasing wind. The stiffness of the lower part is revealed in the fore/aft tip figure of your mast bending curve. If the F/A tip of your mast is less than 380 (360 for heavyweights), your mast is stiff. Leaning the mast aft (step forward) will open the leech and make the boat easier to control. Controversially, your rake is said to increase, although the rake as measured ashore with a tape measure will decrease. Careful how you describe this to your coach!

In the opposite case, if your mast is very soft down low (tip figure 400 or more), you may need to move the rake forward (mast step aft) as the wind increases. Otherwise the sail leech will become too open and you cannot point anymore.

In 10 m/s the Europe starts to get seriously physical: Smaller helmsmen and -women will suffer against bigger ones. Lift up the centerboard to make it easier to hold the boat upright, smoothen the luff with the cunningham, tighten the outhaul and hike as hard as you can.



In a breeze, biggest gains are achieved through aggressive sailing downwind.



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11-12 m/s (22-24 kn).

Now you will need to pull the cunningham tight - with the radial cut sail this will bend the top mast and feather the sail. Control lines are tight, the boom starts to move further and further outboard, and the centerboard comes higher up. Downwind, technique through practice is the key to success.

- **Sheet:** tight, the boom touching the deck.
- **Traveller:** the boom end outside the transom corner more and more.
- **Inhaul:** touching the mast
- **Cunningham:** all wrinkles smoothed out, extra tightness will bend mast top in the gusts.
- **Outhaul:** almost max. tension
- **Centerboard:** angled backwards, front corner raised to 10 cm from deck surface.
- **Mast rake:** a touch back, if the mast is stiff in the lower part, more forward if the mast is very soft.



With its narrow waterline Europe can be tricky on a run.



As the breeze builds up, new wrinkles appear... this is quite normal if not so beautiful looking. As the boat stops in waves, apparent wind will suddenly shift to the side trying to overturn the dinghy. When the mast and the sail work in harmony the rig will depower itself automatically and the sailor will need to adjust less with the helm.

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13-14 m/s (26-28 kn).

For most sailors, this is survival.

- **Sheet:** tight, the boom touching the deck.
- **Traveller:** all the way out, touching the side tank.
- **Inhaul:** touching the mast.
- **Cunningham:** max - extra tightness will bend mast top in the gusts.
- **Outhaul:** max.
- **Centerboard:** angled backwards, front raised to deck level.
- **Mast rake:** 3-5 cm back, more forward if the mast is very soft.



Note how much Margriet Matthijse is leaning back her mast on a breezy day in Hyeres. Lots of rake opens the leech, depowering the top/front part of the sail. She's effectively sailing with a "reefed" triangle whose top lies somewhere around the N in NED. The very top of the sail, backwinding, is actually supporting the boat, providing extra righting moment.



Running in heavy airs you have to sit back .

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Europe mast rake basics

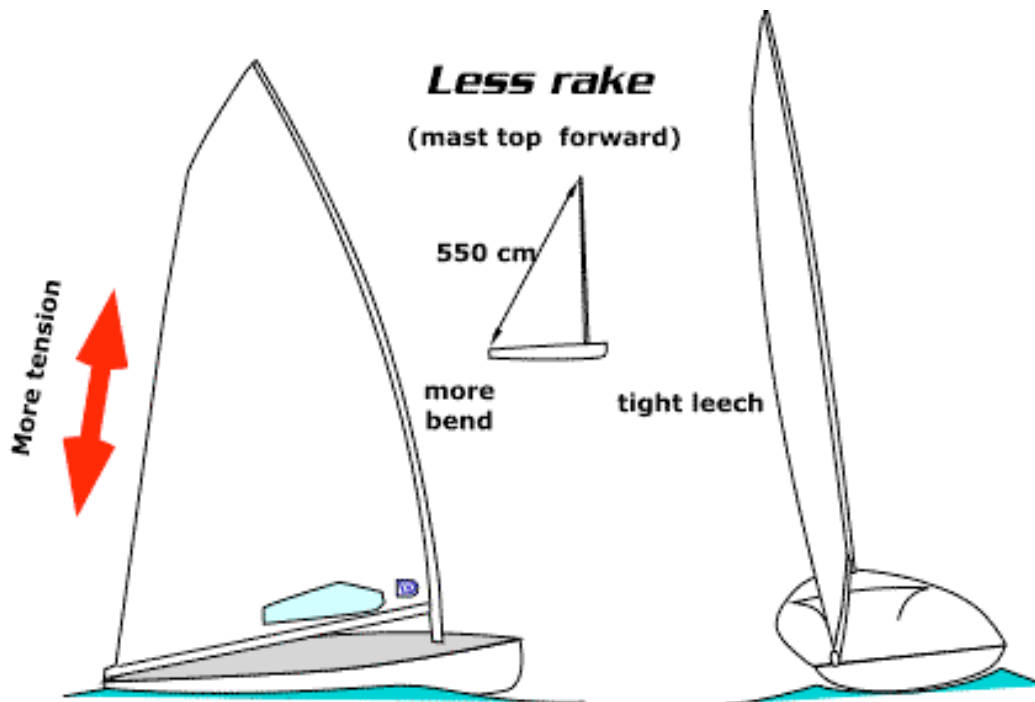
In a Europe, mast rake acts very much like the sheet: it controls the tension of the leech (the twist of the sail). As soon as there is a little more wind, you pull the boom down to deck of the boat. At this point, you can no longer control the sail leech tension (twist) with the sheet, although you can adjust the sheeting angle with the traveler. Now it's the mast rake that determines how tight or loose the leech of your sail will be.

Lots of rake (mast aft) means that you have little tension in the leech, the sail will twist some more and the leech is more open. This makes the boat easier to hang down, allows more freedom in steering around the waves (the boat does not heel over as much when you bear off). As there is less "pre-tension" in the leech, the sail will open up easier in the puffs and the boat is more forgiving. The price you pay is you lose a little in pointing ability and the boat may feel "lazy" in the lulls (less wind).

When you put the mast forward and pull the boom down to the deck, you get more tension in the leech. You end up with less twist, the sail will not open itself automatically as easily when a puff hits and you have to steer very accurately to keep the boat upright. This works best in flat water and when the wind is steady.

Think of mast rake and the tension it puts on the sail leech a little like the suspension of a car. On a bumpy road, a soft suspension is nice. On a nice, even road, you can have a stiffer suspension.

For our sail, a typical rake figure would be 545 cm. 540 is lots of rake, 550 is little rake. When the mast bend is right and the mast & sail work well together, you don't need to adjust the rake (or need to adjust only a little) from light winds to heavy weather.

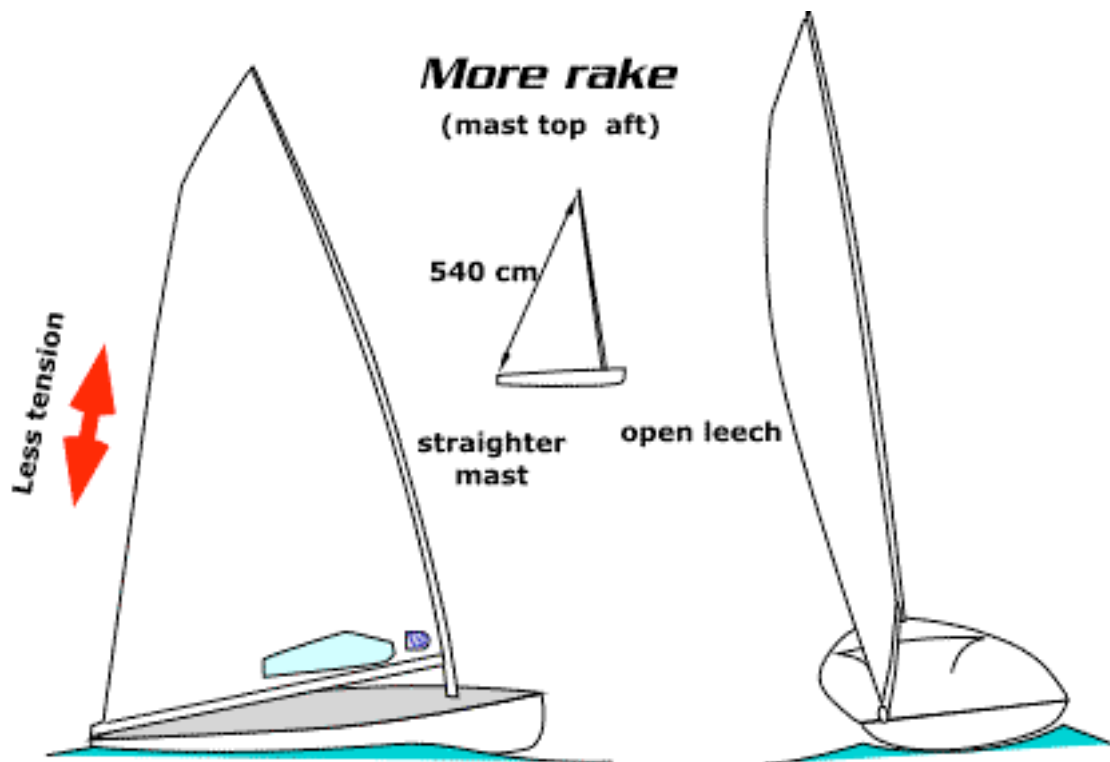


Less rake

More leech tension, tight leech. Boat is more difficult to keep up, more critical to steer, cannot bear away in waves. Better for flat water and when you are not overpowered.

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Europe mast rake basics



More rake

Less leech tension, open leech. Boat is easier to keep up & steer around the waves. Better for choppy conditions and when you are overpowered.