

# 29er Tuning Guide

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2nd & 3rd 29er Worlds

## Tune up - Part 1 - Bits of string and what they do

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Clynton from [Bethwaite Design](#) asked me to write a few things on 29er tuning. A 29er is a very simple boat to tune, there are few adjustments. So this can't be too hard.

Now it's possible to get around at the front of the fleet with a variety of settings compared to the competition. It all depends on how you sail the boat and what you're trying to achieve at the time.

So here's the first part - a list of the available adjustments - including major and minor adjustments. It's difficult to explain settings in plain english, so I've jotted down a few simple points on what each adjustment does.

It is key (and simple) to understand the impact each has on your boat, then you can make your own call on when you'd change one or the other.

So here goes...

### 1. Main sheet

Simple. More main = more power.

Eased to keep the boat flat, but not before maximum crew weight is used.

Kept on centreline to provide height.

Used to maintain leech tension without vang.

Kept close to centre downwind to keep the mast up, spinnaker luff on and steering balanced.

### 2. Jib sheet

More jib = more power.

Too much jib = stall.

Sheet cracked 1-2 to breathe when required (ie. chop, gusts, speed).

Eased completely on tight spinnaker legs to get height. Eased lots downwind keeps the bow up.

### 3. Spinnaker sheet

Just enough spinnaker sheet to have the luff folding or close to folding.

Eased significantly on gust onset to allow the boat to breathe and accelerate.

### 4. Main halyard

Up. All the way.

1-2 off mast tip brings sail down mast, changing vang and bridle positions.

### 5. Jib halyard

Controls jib depth at luff.

Tighter = flat. Loose = power.

### 6. Spinnaker halyard

Eased flattens luff and curls leech.

Tight fills luff and opens leech.

### 7. Spinnaker tack line

Same as spinnaker halyard.

Not getting full extension of spinnaker tack from bow.

#### 8. Outhaul

Eased = depth down low. Pull on = flat.

Works in combination with downhaul on main to flatten foot.

#### 9. Downhaul

More downhaul = flatter.

More downhaul bends mast and brings draft forward, opens leech.

#### 10. Vang

More vang = flatter low down.

More vang = tighter leech.

More vang = more low-down mast bend.

#### 11. Batten tension

More tension forces shape into sail. Less allows the sail to do whatever it wants.

#### 12. Shroud pin position

Lower = more tension. More tension = less forestay sag.

More tension = more mast bend.

#### 13. Mast heel tune

Correct heel tune = stiffer lower mast.

#### 14. Steering

Simple: uphill up gives height but not speed, down is opposite. Downhill up gives speed but not depth. Down is opposite.

#### 15. Jib track position

Opens slot between jib and main.

Outer positions allow more sheet tension to be used for similar slot, therefore tighter leech.

#### 16. Jib clew-board position

Upper hole gives depth down low for same leech tension.

Lower hole gives flat down low for same leech tension, or less leech tension for same flatness down low.

#### 17. Spinnaker pole length

Longer puts spinnaker further away from rest of rig which helps to lift bow.

#### 18. Centreboard

Up reduces power.

Down provides more lift/pointing ability.

#### 19. Main bridle

Higher keeps boom on centreline with less sheet tension.

Lower allows more vang/sheet tension to be used.

#### 20. Rudder angle

Tip in makes steering lighter.

#### 21. Forestay length

Longer provides more rake, better for heavier conditions.

Shorter provides less rake, better for lighter conditions.

#### 22. Rig tension

See shroud pin positions.

23. Spreaders (if they were adjustable)  
Up gives less poke therefore softer mid-mast.  
Forward/down gives stiffer mid-mast.

24. Leech lines  
Stops leech vibration.  
Rolls last inch of sail to windward.

25. Spinnaker luff line  
Similar to leech line.

26. Trapeze height  
Down provides more weight for the wire.

27. Boat heel  
More heel = more wetted surface.

28. Fore-aft trim  
Aft lifts bow and rakes rig.  
Forward sinks bow and provides pointing ability, less wetted surface.