

RIG-SENSE BY SPINLOCK

Rig tuning is one of the dark arts of sailing, with some people enjoying the technical side of tuning and others just looking to ensure the rig is upright and tensioned. There are many factors that affect how you tune your rig and the outcomes of the adjustments can be common and also specific to a design. There is no doubt that rig tuning has to be learnt but having access to pre set tensions loads and advice gets going quickly.

Many sailors will join a class and download the current champions tuning guide, which in theory is the fastest setting for your boat. But is this a good setting for YOUR boat, sails, rig, crew weight or ability...? Below is a typical tuning guide from a popular class taken from a top sailor:

WIND SPEED (KNOTS)	1 - 4	1 - 4	5 - 9	5 - 9	10 -15	10 - 15	16 -20	21 – UP
SEA STATE	FLAT WATER	CHOPPY	FLAT WATER	CHOPPY	FLAT WATER	CHOPPY		
MAST RAKE - Imperial	22'6"	22'8"	22'8"	22'8"	22'6"	22'6"	22'4"	22'3"
RIG TENSION Jib Luff. Lbs (Superspar gauge)	400	400	400	400	400	400	400	350 - 400
KICKER	NONE	NONE	A BIT	A BIT			LOADS	LOADS
- Reason			TOP TELL TALE SHOULD BE STALLING 30% OF THE TIME				TO CONTROL TWIST & BLADE OUT MAINSAIL	
CUNNINGHAM	NONE	NONE	NONE	NONE	NONE	NONE	YES	YES - LOTS
JIB FAIRLEADS	LOWER LINE	MIDDLE LINE	LOWER LINE	TOP LINE	MIDDLE LINE	TOP LINE	TOP LINE	TOP LINE
From c/line (mm)	250	250	250	250	250	250 - 270	275 - 300	275 - 300
JIB SHEET TENSION	NORMAL	EASE ¼"	NORMAL	NORMAL	NORMAL	NORMAL	EASE ¼"-½"	EASE ½"-¾"
STRUT (from neutral)	0	0	0	0 ~ +1/4"	0	0 ~ +1/2"	0 ~ +3/4"	- ¾"
JIBB LUFF TENSION	WRINKLES	WRINKLES	WRINKLES	WRINKLES	NO WRINKLES	NO WRINKLES	TIGHT	TIGHT
CENTREBOARD POSITION	FORWARD	FORWARD	FORWARD	FORWARD	UPRIGHT ~ +1"	+1 ~ 2"	2 ~ 4"	4 ~ 5"
OUTHAUL	TIGHT	1 ½"	¾"	1"	¼"	½"	V.TIGHT	V.TIGHT

This level of information is great for the person who wrote it as they have probably been working on it over time. However, for someone new to a class or just getting started, it can seem like a lot of information to digest and understand.

So, is there a different way of looking at boat tuning? Let's break it down.

BOAT HANDLING, FITNESS, STRATEGY AND TACTICS

Before we go too much into boat tuning, its important to know that boat handling, fitness, Strategy and Tactics will give you larger gains on the water than tuning alone. However, a correctly tuned boat is better, more efficient and faster to sail, making boat handling and tactics easier.

HOW MUCH TENSION?

Most tuning guides come from new boats. Be aware, newer boats will be stronger and will not flex as much as an older boat. If you try and replicate a new boat, you might end up damaging your hull or rig trying to match the rig tension. Bear this in mind when tensioning very high loads and very low loads.

We recommend between 15-25% of the breaking strain of the wire. For a standard 1x19 Stainless steel 3mm shroud, this will be 108kg to 180kg (approx. 720kg breaking strain).

WIND SPEED AS A DENOMINATOR?

On land we have several resources to tell us what the wind speed is, which allows us to correctly tune our rig. On the water it's harder to tell whether it's 8 or 10 knots of wind. This makes tuning more complicated if we were using the tuning guide above. Crew weight will also affect your settings, especially if you mix up your crew from week to week.

By changing the denominator to something easy to quantify, we easily know when to change gears even if we change sails or crew. We recommend using the following guide to start with:

UNDER POWERED (Not hiking or trapezing, looking for more power)	POWERED UP (Hiking and/or Trapezing, ideal power)	OVER POWERED (Hiking and/or Trapezing and easing sails)
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These 3 headings are easy to measure and remember. Once you've mastered the basic settings, the headings can be divided up depending on your boat, ability, conditions, etc.

SETTINGS AND CONTROLS

There are a few settings we can't change on the water, so we must predict what we think will happen. Getting out early on the water gives us the opportunity to return to shore and change the rig tension or setup if needed.

We can take the key information from the Class Tuning guide, but when it comes to control settings, be precise. Noting down 'A BIT', 'LOADS' or 'YES' in YOUR tuning guide doesn't mean anything. One way is to mark the boat with some coloured tape (green, red and blue), will help you replicate the settings on the water. Numbers are good, however start simple with 1, 2 and 3.

By using marks, we can easily see where the setting should be and when to do it. However, it's important to understand, these Marks are NOT permanent and can be moved. After some time, you might want to add a 4th and 5th Mark, but only do it if it works for you!

	UNDER POWERED (Not hiking or trapezing, looking for more power)	POWERED UP (Hiking and/or Trapezing, ideal power)	OVER POWERED (Hiking and/or Trapezing and easing sails)
MAST RAKE	22' 11"	22' 8"	22' 4"
RIG TENSION	80KG	180KG	180KG
KICKER	MK1 (NONE)	MK2 (HAND TIGHT)	MK3 (MAX)
CUNNINGHAM	MK1 (NONE)	MK1 (NONE)	MK3 (MAX)

UPDATED 2018 RIG-SENSE APP

The updated (2018) Spinlock Rig-Sense App has over 50 Tuning guides pre-installed to get you started. These were taken from the sail makers, boat builders and class websites. Follow these steps to get you started:

1. Download the Rig-Sense from the Apple App Store or Google Play Store.
2. Open the App and tap on FILES, then TEMPLATES.
3. Choose your TEMPLATE and select EDIT. Then edit, add or delete the X and Y axis. SAVE it.
4. Now go back to TEMPLATES, choose your Edited TEMPLATE and select USE.
5. Edit the FILE with your settings and amend when necessary.
6. Remember to EMAIL yourself the file as a back-up, should you damage or lose your phone.

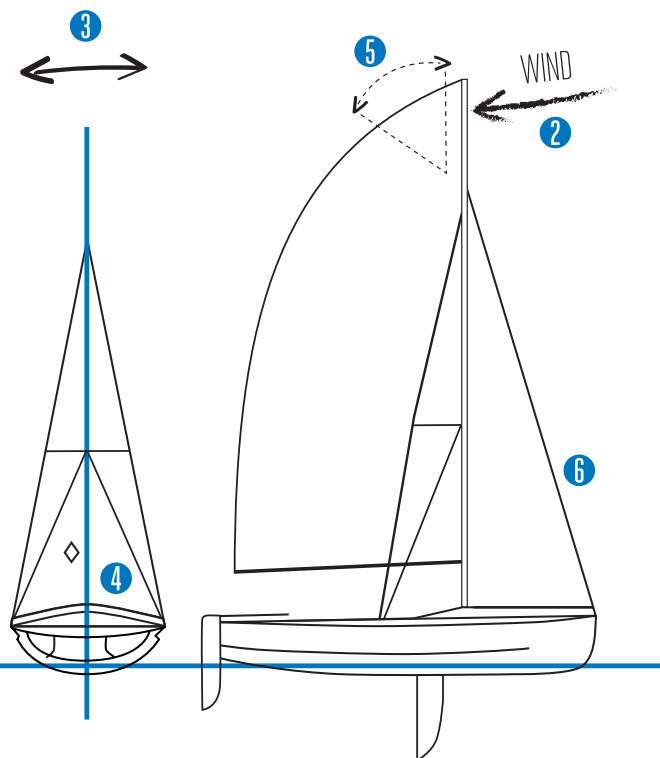
We encourage you to amend the setting to suit your boat and ability. If you are not sure how to tune your boat, ask other class members. There are also plenty of books and articles online to get a better understanding. It's important to get the right level of Tuning information for YOUR sailing.

If you have any questions, please email prosupport@spinlock.co.uk

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RIG TUNING GUIDE

- 1 Find your class tuning settings using the Rig-Sense App.
If not listed, use a similar class or search the internet for your class
- 2 Make sure the boat is on a flat surface with the boat facing into the wind
- 3 Check the mast is not leaning to one side. Use a halyard to measure the distance to both sides of the boat
- 4 Make sure the mast is straight by sighting up the mast track. Adjust lower shrouds to straighten if fitted
- 5 Check the rake of the mast with the class settings
- 6 If possible, use the forestay to measure your rig tension to get a more accurate reading. Otherwise, use the shrouds
- 7 Once the correct tension has been applied, check Parts 3-5 and repeat if necessary
- 8 Note your setting in the Rig-Sense App, available on iOS and Android



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USING YOUR RIG TUNE

- \\ PUT YOUR BOAT NAME ON THE RIG-SENSE!
- \\ MARK YOUR RIG-SENSE WITH A PENCIL FOR QUICK REFERENCE
- \\ MARK YOUR RIGGING WITH SOME TAPE TO PLACE YOUR RIG-SENSE IN THE SAME PLACE EACH TIME
- \\ CHECK OUR YOUTUBE CHANNEL TO FIND USEFUL INFORMATION ABOUT USING YOUR RIG-SENSE
- \\ NEVER LEAVE THE RIG-SENSE ON THE RIG FOR PROLONGED PERIODS OF TIME (I.E. WEEKS)
- \\ ALWAYS STORE YOUR RIG-SENSE IN THE BAG TO PROTECT FROM SUNLIGHT

