

- With no chocks (CHOCK) in the mast gate, pull the rig tension (TENS) on until it reaches approximately 40 on the Loose Gauge. Now take the tape measure to the transom and see if it measures between 19'10¹/₂" to 20'0". If not, adjust your chainplates (CHAIN) to achieve this ball park measurement. Most chainplate fittings have 2 sets of holes, and the front ones should be referred to as F and the back as B.

STEP 4. CALLIBRATING YOUR "HOOK"

Once done, then pull the rig tension on until you get the **most upright rake setting to suit your weight as listed below (diagram 1.2)**. At this point, you should put a mark on the side of your mast where your jib halyard connects to your rig tension system. THIS IS THE "HOOK". From this mark, working downwards put 4 additional marks every 15mm and working upwards an additional 5 or so. Then number each of the marks from top to bottom. Alternately, you can use "stick on" calibrations that many fitting companies sell.

STEP 5. CALLIBRATING YOUR RAKE & TENSION SETTINGS

Now simply work your way down each RAKE setting, recording your CHAIN, HOOK & TENS on the draft easytune chart provided. If you cannot achieve ball-park tensions for the rakes prescribed, you may have to change your CHAIN until you get it right. (go down for more tension, same rake or up for less tension, same rake)

Diagram 1.2

Weight 115 – 125kg

WIND	CHAIN	HOOK	TENS	RAKE	CHOCK
0-5	F4	10	43	20'0"	0
5-12	F4	9	41	19'11 ¹ / ₂ "	6
12-15	F4	7	40	19'10 ¹ / ₂ "	5
15-20	F4	6	39	19'9 ¹ / ₂ "	4
20-25	F4	5	37	19'9"	3
25+	F4	4	36	19'8 ¹ / ₂ "	2

Weight 125kg +

WIND	CHAIN	HOOK	TENS	RAKE	CHOCK
0-5	F4	12	44	20'1"	0
5-12	F4	11	44	20'1"	6
12-15	F4	10	41	19'11 ¹ / ₂ "	6
15-20	F4	8	39	19'10 ¹ / ₂ "	5
20-25	F4	7	37	19'9 ¹ / ₂ "	4
25+	F4	6	36	19'9"	3

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STEP 6. PREPARING TO CALLIBRATE CHOCKS

Once your settings are finalised, tip your boat on it's side, and with your most upright rake setting, measure the mast bend, with **NO chocks** at the spreader level. This is done by placing your main halyard to your goose neck at the aft side of the mast, and tension it. Then measure the bend from the aft side of the mast to your halyard. You should have at least 30mm of bend with 0 Chock. If not, wind your spreaders back a little. Remember, every boat is a little different!

STEP 7. CALLIBRATING CHOCKS FOR MAST BEND

This "0 Chock" setting at upright rake has now become your 0 – 5 knot setting. Next, go to your 5 – 12 knot setting, and add chocks until the mast becomes straight – 10mm of bend. Record the number of chocks on your chart required to achieve this. From here, simply remove 1 chock for each increasing wind range.

PLEASE NOTE – Chocks control mast bend and therefore mainsail depth. The above settings are guides only and you may have to adapt how much "POWER" you get from your mainsail "DEPTH", via the "CHOCKS" to suit your weight, sea state, wind conditions etc.

STEP 8. CALLIBRATING THE CENTERBOARD

While your boat is on it's side, pull the centreboard all the way down. You should notice that it is raked forward in this position. Put a mark on the back of the C/B "handle" on the inside of the hull at this maximum down setting and label it "8". At 30mm increments mark another 3 settings labelled "7, 6, 5". Now pull it up until there is 400mm protruding under the hull. Put a mark or draw a line on the centreboard, on the INSIDE of your boat to record this position, and label it "4". Repeat the process at 300mm, 200mm and 100mm.

THIS WILL ALLOW YOU TO GET A FEEL FOR C/B POSITION. AS A

GUIDE:

0 – 14 KTS	8
14 - 18 KTS	7 – 6
18 – 22 KTS	6 – 5 +

SETTINGS WILL CHANGE WITH CREW WEIGHT, SEA STATE, GUSTINESS OF WIND, AND POWER IN THE RIG. TRIAL AND ERROR WILL SEE YOU BECOME FAMILIAR WITH YOUR FAVORITE "NUMBERS"!

STEP 9. STICK IT ON!

Simply complete your easytune chart, cover it with clear 'contact' or have it laminated and stick it on the inside of your hull where it's easy to refer to. Don't forget to take a copy of your numbers to add to your sailing file!

STEP 10. SAIL WITH CONFIDENCE!

This guide, along with practice should see you as fast as any other Quantum boat on the water, and faster than our competitors!

SAIL SETTING AND TRIMMING TIPS

MAINSAIL

Top Batten		Just tight enough to remove wrinkles from the pocket, until over 15 knots, when it should be quite firm.
Outhaul	LIGHT MEDIUM HEAVY	Firm Eased a little so the foot shelf just “falls in”. Very tight
Cunningham	LIGHT MEDIUM HEAVY	Just enough to remove major wrinkles Remove most wrinkles Tight to very tight.
Main Sheet	LIGHT MEDIUM HEAVY	Top ribbon to flow at least 50% of the time Top ribbon to flow around 70% of the time You will be vang sheeting now, see below
Vang	LIGHT MEDIUM HEAVY	Take it off the boom & clip it to the shroud None, get all your leech tension through mainsheet. Start using vang when easing main to de power. Continue to pull more vang on to control leech twist, and aid mast bend. More and More!!!

JIB

Height		The tack of the jib, when tensioned should be no higher from the deck at the forestay fitting than 40mm.
Luff Tension		Always enough to remove any wrinkles, except for very light winds (off) and heavy wind (lots on)
Sheet Tension		In nearly all but heavy winds, the jib must be not only sheeted, but also “barber-hauled” using the windward jib sheet to bring the sheeting angle of the jib closer inboard, resulting in greater height and speed. LIGHT – with crew to leeward or in the middle of the boat, trim the jib so it is barber-hauled, with the sheet eased to allow the leech ribbon and top leech telltales to flow. MEDIUM – Pull the jib sheet in firm, then barber-haul very tightly. You will now need to ease the sheet to get the ribbon and leeward telltale to flow 90% of the time. The crew, if on trapeze, should be able to “walk forward” and check it out while on the wire. HEAVY – As you vang sheet, and start easing the boom off centreline, you should start using progressively less barber-haul, until it’s blowing hard and your using none!

GOOD LUCK, FROM THE QUANTUM SAIL DESIGN GROUP

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A technical line drawing of a sailboat's sails, showing the mast, boom, and various panels of the mainsail and headsail. The drawing is in black lines on a white background.

**INTERNATIONAL 420 CLASS
TUNING GUIDE**



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