

420 Tuning Guide for M-9/J-11/S-01,S-05

for Super Spar M7 or Proctor Cumulus



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Base Setting

Mast rake	6110 ±10 mm
Pre bend	45mm-50mm for Base Setting
Side tension	31 - 31.5 by Loose black gauge (to be measured without chocks) with 2.5mm 1x7 hard wire
Mast step	2820 - 2830mm (from back end of the mast groove to back end of the boat)

Base Setting

		1-4 kt	5-9 kt	9-14 kt	14-17 kt	17-22 kt
Shrouds Pin Position		1		2	3	4
Mast rake		6110 ±10 mm		6070 ±10 mm	6000 - 6040 mm	5970 - 6010 mm
Pre bend	Standard Crew Weight	55 - 60 mm	50 - 55 mm	50 - 55 mm	55 - 60 mm	60 - 65 mm
	Heavy Crew Weight			45 - 50 mm	50 - 55 mm	55 - 60 mm
Side Tension		31.0 - 31.5			28 - 31	
Wedge(5mm) (from neutral)		0(neutral)		1 - 2 from neutral		
Jib Tack Position		wrinkles		Slightly wrinkles Smooth when vang on	tight	very tight
Outhaul w/ 15 mm space at the tack		15 mm from the band			5-10 mm from the band	0-5 mm from the band

* The thickness of one wedge is 5mm

Prebend

- Less bend for Heavy weight crew (>10kt)
 - More bend for Light weight crew (>10kt)
- To be finalized in full power condition to bring Maximum power.

Spreader Length(480±15 mm)

- Longer for Heavy weight crew
- Shorter for Light weight crew

IMPORTANT

- Pin Position** - The light crew weight requires to put the pins position down earlier so that keep the boom at the proper position.
- Rudder rake** - as far forward as the rule allows - also play with gudeons so these make a good line.
- Vang** - When overpowered use a lot of vang, and only ease vang in over 28 knots.
- Turning Eyelet** - The sailors need to make sure that the deck turning eyelets are set as far in and as far forward as possible within the rules.

RECOMMENDATION

- Chocking** - You'd better to make sure you use a back chock system - by having a good carbon compass bracket built on the mast gate. Reverse chock works efficiently to keep the top leech open in very light condition.
- Centreboard pivot pin = 2400mm** - have this pin as low as possible in the boat while still being able to fully hoist the board
- Halyard Lock** - by having halyard lock, you can avoid sails slipping down to lose sail area



Good Jib Leech profile with proper windward sheeting



Make sure to keep 20 mm space at the tack corner



Proper jib height to be set when base setting

TUNING TIPS

In the breeze you need to chock quite hard as you need to use a lot of vang tension in the wind.

Traveller - have the adjustable traveller system - in very light winds have it set up so you can pull it to windward. Once it is above 5 knots it is too hard to do this, but the sailors need to make sure the traveller is at the correct height so the boom is 10 to 30mm from block to block position - To keep the boom position as close as possible to center is vital to point higher. The shorter the distance between two blocks, the closer the boom comes center. (if the traveller is too low then the boom is too far resulting in suffering in pointing, if too loose then you can't get the correct leech tension tightness.)



< Bridle Layout >



< Block to Block >

Outhaul - it works well to have it eased from marginal trapzeeing to above full powered, then on firm. Once in a lot of breeze on to the color band (keep 15-20mm space between tack corner and back side of the mast)

Cunningham - do not use any until you are overpowered, then we used a lot - we had a bowline tied at the end of the rope so crew could get their foot in the loop to get more cunningham tension on. We started pulling on cunningham from 16+ knots.

Jib - You windward sheet these jibs quite early, and play the windward sheet a lot for the waves and puffs, by crewing holding the windward sheet on the wire. We never didn't windward sheet maybe in 25+ you don't need to. You can sheet these jibs quite tight as of the straight back design and you gain good height with good speed.

We had a number system on the boat, from the deck turn eyelet we started at 0 and had a mark every 25mm till mark 9. On the jib sheet measured from the jib clew we had two marks on each side, the first at 375mm and the second at 1500mm. Normal sheeting numbers were around 5 to 2.5 for windward jib and 3 for the leeward jib as a reference to check they aren't too far away on their sheeting.

Always make sure the jib is at a good height so the jib is just touching the deck and splashboard at the base setting, we found it best not to change this between mast rakes as having the jib lower in the stronger wind helped automatically open the head and make the boat go faster!

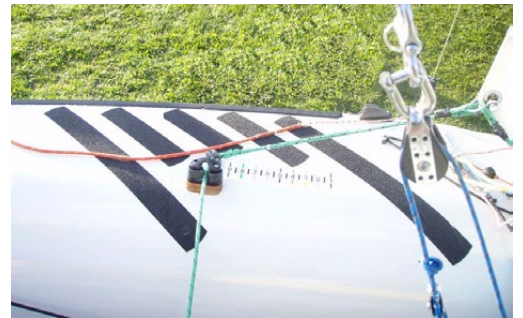
In 25+ knots is when we stop windward sheeting. However if your a heavy crew then use still windward sheet a little bit.

Spinnaker Pole Height - When using the 42S-01 spinnaker in choppy waves on a flat run, it is best to set up the spinnaker pole height so the tack (corner of spinnaker the pole is closet to) is slightly lower than the clew. For 42S-05, put the spinnaker pole height to have both clew and tack in even.

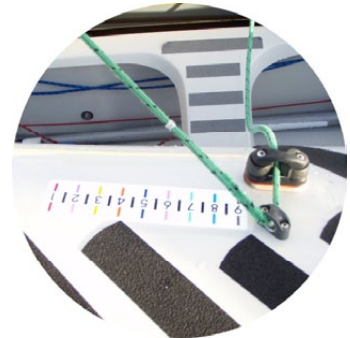
Centreboard - You needed to have a good action to play the centerboard as it is hard to adjust the other controls readily. The centreboard slot needs to be packed well with the centreboard to allow the centreboard to be changed easily.

Centreboard Pivot Hole - Distance from the centre of the pivot hole to the x-axis 75mm~85mm distance from the centre of the pivot hole to the y-axis 910mm~930mm. The above measurement is the class rule for the hole in the centreboard. It is best to have the hole as far forward in the blade as possible and as high as possible in the board. The pivot hole in the centrecase should be at 2400mm from the back of the boat. The rules also state that the board shall be able to be "fully raised" in the centrecase and this limits how low the hole can be in the centrecase (if the hole is too low then you cannot pull the board fully inside the case).

Rudder - No part of the rudder blade, when fully lowered, shall extend more than 540mm below the HDP. The leading edge of the rudder blade shall not be forward of a vertical line through the HDP (see measurement diagram 2). You need to make sure your rudder goes as far down as this rule allows to give you a balanced helm.



< Jib sheet mark at 375mm from the Jib clew >



< Number System on the boat >