

J/70 TUNING GUIDE



RIGG

Tuning a J70 starts with the rig down before you put the mast in the boat. To mark shrouds and forestay make sure to pull with the same tension. For our measurements we use a hand scale and pull with 10kg.

Forestay mark:

Put the mast "groove down" on 2 racks. Pull the headstay along the front of the mast. Make sure the wire is pulled straight. Now mark the intersection of the forestay and the top of the white band near the goosneck. This is important to find the right rake later when the mast is set.

Spreader marks:

Mark both of your spreaders like shown in the drawing. This will help you later on to get an easy quick jib adjusting after the start, tacks and bottom mark rounding.

As well it is very helpful to improve fine tuning.

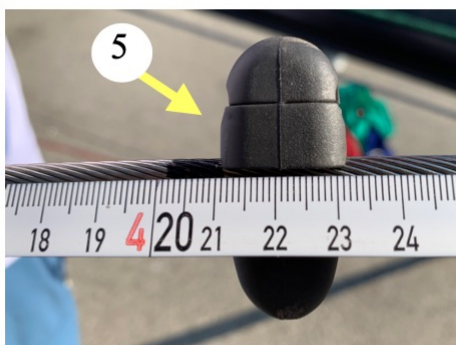
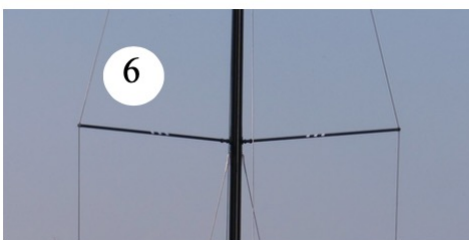
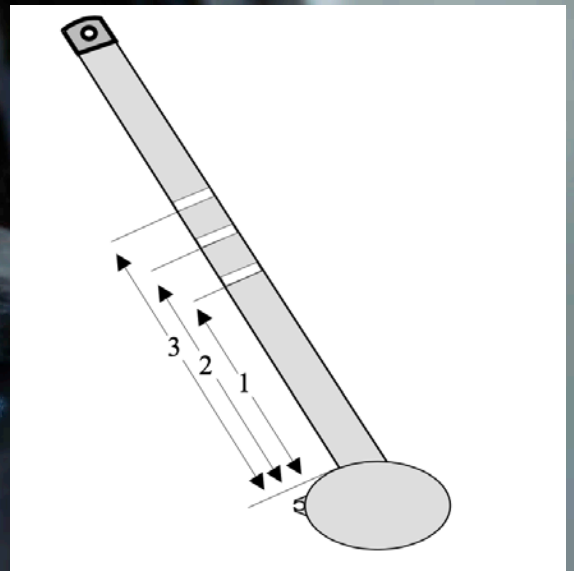
Mark 1 = 455 mm

Mark 2 = 510 mm

Mark 3 = 560 mm

Spreader height:

Now place marks in a distance of 4210mm from the top of the upper shroud fittings "4" on both wires and fix them to the spreader ends "5". This assures both spreader bars are positioned at the same height "6".



RIGG

Now it is time to set up your mast and attach all the shrouds and forestay.

Mast set up:

Make sure the shroud terminals attached to the mast and deck fit proper during the set. This avoids damage.

- Now set the mast up and connect the forestay.

Tension the shrouds roughly equal on both sides to the recommended BASE values (next page).

Preparation to measure the rake and the shroud tension:

- For all measurements use the **Loose Gauge PT-2M**.

Be aware there might be some deviation in between this measurement tools.

Compare different tools and try to find an average value to compensate this aberration.

Mast rake measurement:

Measure from the center of the first bolt above the deck - up to the point you have marked on your forestay when the rig was down before. You have to read **1470mm**.

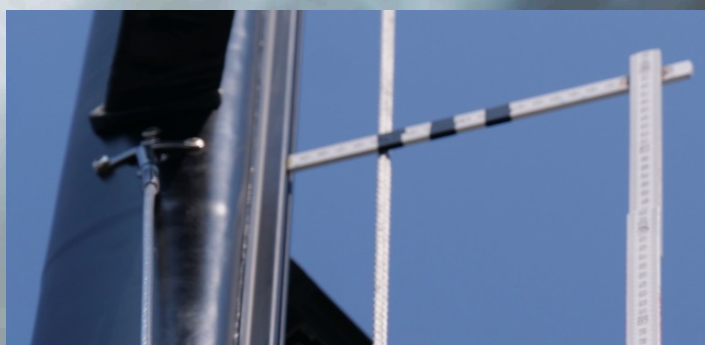
When this is done, start the fine tuning to center the mast lateral.

Mast lateral centering:

After adjusting the forestay length take a metal measurement tape (no stretch) and center the mast.

The permanent backstay remains unconnected.

Adjust the shrouds on BASE values. Take the main halyard and check the prebend as shown. You should read a mast prebend of 50mm at spreader height. Take this measurement from the aft side of the groove and the front side of the halyard.



TUNING CHART

STEP	WIND SPEED in kts	UPPERS	LOWERS	UPPERS		YOUR TURNS	LOWERS		YOUR TURNS	JIB CAR
				Steps	Turns from base		Steps	Turns from base		Holes from aft
-2	< 6 kts	14	loose	-1	-2		-1	-2		5
-1	6-8 kts	16	loose	-1	-1		-1	-1		6
0	8-10 kts	19	10 (-1turn)	Base	Base		Base	Base		7
1	10-14 kts	21	10	2	+2		1	+1		7
2	14-18 kts	25	18	2	+4		1,5	+2,5		7
3	18-22 kts	26	23	1,5	+5,5		1,5	+4		6
4	22-25 kts	28	26	1,5	+7		1	+5		6
5	25+ kts	29	29	1	+8		1	+6		6

**Recommended crew weight
345kg - 350kg**

Measurements are taken with the Loose Gauge PT-2M (5-7mm) and complete released permanent backstay.

Find your turns on shore and insert the value in the chart. This greatly simplifies the tuning on the water!

PERMANENT BACKSTAY

< 8 kn

Permanent backstay and fine adjustment are completely open. Use only in gusts.

8-16 kn

Trim the permanent backstay to get pressure off the mainsail and continue sailing the boat upright. The fine adjustment is 50% set. This ensures a faster impact on mast bend and headstay tension.

16+ kn

The fine adjustment is completely pulled down to the maximum. A controlled tension of the permanent backstay is important to adjust the jib forestay sag in a breeze. In gusts pull the backstay hard. This opens the leech and flattens the main. As well the forestay sag will be reduced and the jib exit stays open. The upper shroud tension subsides, the mast top falls away leeward which additionally flattens the main.

In generell please note:

A permanent sensitive backstay dosage is recommended to keep the boat well balanced at optimal speed and pointing in gusts and lulls.



MAIN

Light air (< 8 Kts)

The boom has to be positioned about 10cm over the centerline line of the boat to windward. With a combination of mainsheet and traveller in windward position "4" you achieve an open twisted main in the top section. The lower part of the leech stays closed. This tuning creates speed and pointing. As well you receive slightly more weather helm and thus enables more precise steering.

Moderate conditions (8-16 Kts)

Move the traveller down to position "3" as mentioned in our tuning chart and adjust the boom in the centerline. Trimm the main hard as long as the boat can be sailed close to upright. In increasing pressure start to work carefully with the permanent backstay but never pull too hard. This would destroy the shape of the mainsail. Better to increase vang tension slightly. This flattens the lower section of the mainsail and keeps the leech controlled. In gusts slightly ease the traveller to position "2". Speed and pointing will be excellent.

•Heavy air (16+ Kts)

Position the traveller in position "1" or in gusts in the center. Play with vang and permanent backstay. Compensate strong gusts with mainsheet tension. Goal is to sail the boat as upright as possible. Important is to keep the jib maximum loaded and balance the boat with the main. But be carefull. If you open the main too long too much with the permanent backstay or too much eased mainsheet you immediately loose pointing and speed. In gusts move the traveller to position the center.



JIB TRIM

General

For a quick jib adjustments, draw marks on the weather and lard jib sheet. The weather "barber in" marks adjust the distance "clew to cabin" as following:

"1" = 20mm

"2" = 50mm

"3" = 80mm

Light air (< 8 Kts)

Release the jib halyard till well visible horizontal wrinkles appear along the luff. This leads to a flatter entry of

the jib and moves the draft aft. The top becomes fuller and the sail more powerfull.

The leech has to intersect the middle spreader mark. Move the jib car back following our recommodations. Use the weather jib sheet to "barber in" the clew on position "2". This supports the leech twist and creates a better air flow for the main. All together this tuning gives you a more powerful aerodynamic jib shape and makes driving easy.

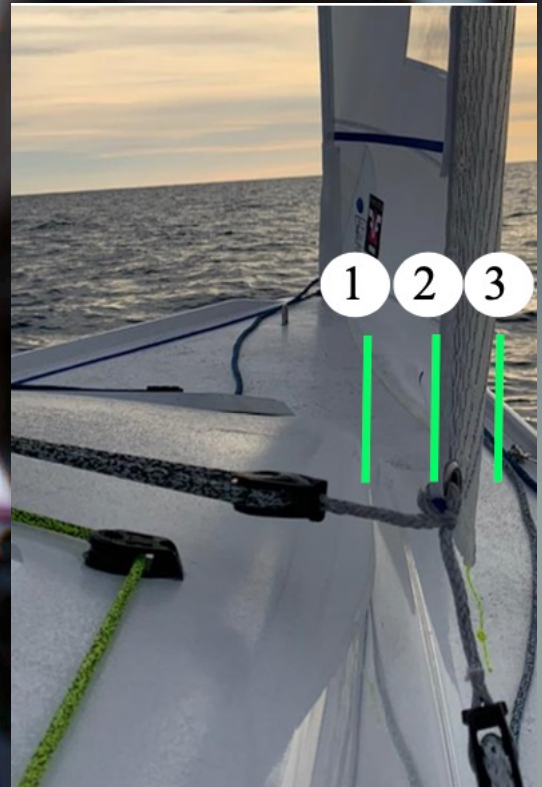
Moderate conditions (8-16 Kts)

When the pressure increases, and chop is building up the jib must be set a little round in the lower part. Move the jib car forward as discribed in our tuning advices. Stay with the given "barber in" on position "1". The leech of the jib has to intersect the inside spreader mark. Tighten the jib halyard till almost no wrinkles square to the luff are visible.

Heavy air (16+ Kts)

In strong winds tighten the jib halyard slightly more but never stretch the luff. A tight luff keeps the draft position forward and opens the exit of the jib. Make the leech intersecting the outer spreader tuning mark. In chop and big waves barber the jib in on "2". This in combination with a well balanced jib sheet tension gives the sail a perfect twist. In flatter waters use barber position "3". In strong gusts release the barber completely.

This increases the jib twist and reduces pressure. But never ease the lard jib sheet. This will create weather helm and kill your speed



KITE

General

The kite trimmer is responsible for a good downwind performance. He tells the driver to "bare off" or stay "high" to keep his sail loaded while fighting for good course angles towards the bottom mark. The kite trimmer permanently has to ease and pull the sheet to fly the kite stable maximum possible windward. The luff of the sail needs to "breathe". Never trim the kite too tight. Open the main cunningham totally and ease the outhaul by 2 cm. Trim the mast straight. Watch the vang tension. Important is to keep the top of the main nicely twisted and the boom not too far eased out.

Light air (< 8 Kts)

You sail in "low mode" and fight for a good VMG. Try to sail "low" but never "bare off" too much. This stops the boat. Acceleration back to speed will cost time and distance. Sail your boat upright. Move the crew weight forward and keep the stern out of the water. Keep in mind sailing "butterfly style" could sometimes be an option for tactical reasons. The jib stays "furled in" on downwind.

Moderate conditions (8-16 Kts)

Continue sailing in "low mode" as long as your boat speed is less than 12 kts. The jib stays "furled in". Play with the waves and fight for a good VMG. Does your boat speed increase over more than 12 kts switch to "high mode" and unfurl the jib. Keep the boat upright and center the crew weight. Sailing "butterfly-style" mode in between 11-12 kts of boatspeed and waves is an option.

Heavy air (16+ Kts)

Is your boat speed over 12 kts. go for "high mode" and play the waves. Always steer for max. speed. Only "bare off" in waves with speed and come back up immediately already before the boat starts to lose speed. Try to sail your boat almost upright and move the crew weight slowly back but not too much! For avoiding "spin outs" release the vang in strong gusts.



TIPS

With a little caution, you can significantly extend the lifetime of your sails.

J-70 mainsail and headsail are made of high tempered Dacron. The woven fabric is pre-stretched during production in complicated manufacturing processes and later compressed. The manufacturer then seals the surface of the cloth with a special resin finish under heat. The resin penetrates the entire tissue, fills the smallest voids and keeps the tissue fibers from unwanted movements. The result is low fabric stretch and very high profile stability. Constant folding and flapping of the sail result in a slow breaking of this finish, which in the long run leads to a change in the shape of the sail. We therefore recommend, you always keep your racing sails rolled up!

There is little you can do about flapping before or at the start and during the race, but a little caution on the shore, before and after the race, can prevent the sails from aging prematurely.

Set sail:

Take your mainsail out of the transport box and attach the foot of your still rolled sail to the boom. Fix the rolled sail with the included straps until you hoist the sail. Make sure that the battens are properly fixed. For strong winds, raise the batten tension. Small wrinkles running square to the batten pockets should be avoided. Only set the mainsail when the boat is in the wind. Please note, the luff rope slides smooth and easy into the mast groove and is not jammed. When setting the jib, make sure the zipper is closed simultaneously with the setting of the sail. On this occasion, the vertical jib battens are also inserted in the batten pockets. Please do not compress the luff of the jib during this time. Then roll up the jib loosely. Please make sure no folds are rolled in.

We also strongly recommend closing the shackle of the main and jib case carefully, perhaps taping it to prevent accidental opening when sailing. Always secure spreader ends and other sharp-edged ends on board with tape.

On the water:

Avoid flapping sails where possible. Between races, sail as long as possible with a jib that is carefully and loosely rolled up. Please bare off to downwind to roll up the jib and then roll up the unloaded sail loosely. Make absolutely sure that at the beginning of the rolling process, no diagonal wrinkles out of the tack are in the sail! The right vang tension helps you to control the flapping of the mainsail leech in between races. Open up the Cunningham tension on downwind courses and between races.



TIPS

Drop sails:

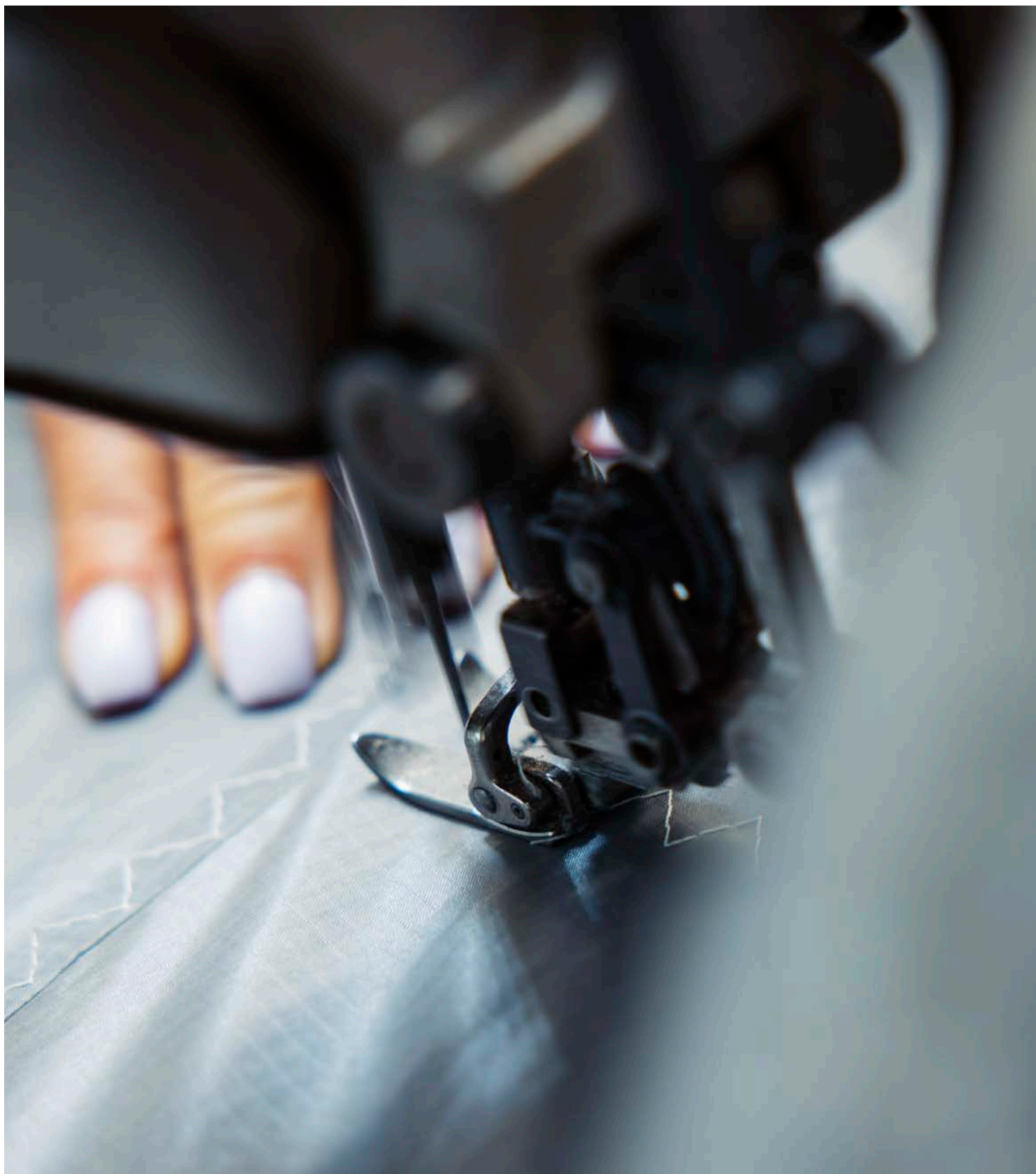
Only drop the mainsail when the boat is in the wind. Lower the sail on one side of the boom. This gives you more space of movement on the other side of the boom without stepping on the sail. Please be careful not to bend the windows hard. Take the tension off the battens and roll up the mainsail parallel to the battens from below. To do this, fold the diagonal top batten parallel to the other battens. Over night cover up your tension less furled sail with a jib cover available at FRITZ-SEGEL. We do not recommend a complete drop of the jib after racing. The risk of creating too much wrinkles over all and specially when you are removing the battens is big. As well some battens might slip in the water. When you drop the jib at the end of the event, make sure you always have some tension on the halyard when you open the zipper. This prevents the zipper from breaking or being pulled out of the car.

Rolling and storing

If you roll your sail, please do it on the boat. Do not try to carry the sail ashore unrolled, as this creates kinks in the resinous cloth. If you have add in wrinkles while rolling the sail, then roll out the sail again and start again. If you simply pull out these creases or folds, you will immediately have small whites or perforations in the cloth. If possible, roll up your sails from a different side each time to avoid giving the leech and reinforcements twist in one direction only.

Please store your regatta sails dry, individually and rolled up in the sail bags supplied by us. Every time you take your sails in hand, check them for damaged spots in the area of the spreaders, the batten pockets and the luff. If you discover cracks in the foot section or in the spreader height on main or jib, you should wrap the spreader ends with white tape and also look for open split pins etc. If the gennaker is kept for a longer period of time, it should not be stuffed into the bag, but folded dry. Place it spread out on the floor. Now the gennaker can be folded comfortably like a white sail by laying it in approx. 60 cm wide panels.





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