



Lowside, Bowness-on-Windermere  
WINDERMERE Cumbria LA23 3DH  
[sg@goachersails.co.uk](mailto:sg@goachersails.co.uk)  
Tel: +44 (0)15394 88686

## GOACHER SAILS SONATA TUNING GUIDE

The following notes are aimed at getting the best from your sails. Please ring if you need further information.

### Sail Care

Avoid allowing the sails to flap unnecessarily. Roll mains and jibs being careful to shake out creases. Forcefully pulling out creases in new hard cloth can cause damage to the threads. Leave mainsail battens in place during the season and roll parallel to the battens. During prolonged periods out of use, release the batten ends to allow the elastics to relax. Washing salt from sails prior to storage is advisable.

We recommend the following settings be checked:-

### SETTINGS

#### Mast Heel

Set mast foot so that aft face of mast is level with shroud plates. This allows the mast to rock fore and aft unhindered by shroud loads. This is important upwind in light and choppy conditions and also downwind to allow forward mast rake.

Rig Tension measured on Loos Gauge Model B on 4mm 1 x 19 rigging

Cap shroud tension	35
Lower shroud tension	35

Rig Tension measured on a small Loos Professional Gauge on 4mm 1 x 19 rigging

Cap shroud tension	30
Lower shroud tension	30

Rig Tension measured on a small Superspar Gauge on 4mm 1 x 19 rigging

Cap shroud tension	30
Lower shroud tension	30

#### Mast Rake

Measure mast rake by attaching tape measure to genoa halyard.

Pull fully up and measure down to joint between anchor fairlead casting and hull.

Make allowance for any length of shackles etc. We use 7925mm, with the aft face of mast at deck 2745 behind datum.

Now the awkward bit. Experience has shown that the bulkhead position in Sonatas tends to vary.

Therefore the shroud plate position also varies, which in turn requires masts to be fitted in different places. So long as the aft face of the mast is not clear ahead of the shroud line then 10mm or 15mm the other way is not critical. However if your mast is significantly different in position to ours then the rake measurement should be reduced to compensate.

I suggest measurement as follows:- extrapolate line of back face of mast to deck.

Measure 2745mm forward of this and set rake measurement of 7925mm to this point.

#### Tack Strop

Whilst you are in the bow well make sure that the forestay is connected to the upper most forward hull fixing. Set the tack strop so that the snap shackle bearing point is 50mm above deck pulled up in line with the forestay. Shackle the top of strop to the forestay so that it doesn't pull aft when under load.

## **Genoa Cars**

The standard genoa track positions are slightly too far forward for our No 1 genoa in strong breeze. Many boats have been modified to move the tracks aft. We have found that although this solves the problem our preferred solution is to leave the cars in the as built position, cut away the sheaves and to shackle 50mm diameter blocks on to the car spindles. This has the added advantage of allowing a heavy foot to stand on the genoa sheet thus unloading the car and allowing it to be moved under load without having to release the sheet.

## **SAILING THE SONATA**

Although simple in concept the Sonata rig requires the genoa and mainsail to operate in a complementary fashion when backstay is applied.

### **Genoa**

Increasing halyard tension flattens the sail overall and drags the flow forward. Luff sag increases the camber in the sail, particularly in the front. As the luff sags off it moves closer to the leech, so increasing the camber depth. The effect on the upper sections of the sail is increased because the sag is a greater proportion of the width of the sail. Therefore by slackening halyard and allowing luff sag, the genoa can be made generally deeper. Tight halyard and less luff sag will flatten the genoa. Genoa sheet lead position is forward for light wind to power up the genoa by rounding up the leech and back for strong wind to flatten the exit and open the upper leech. The most forward sheeting position in light winds is 370mm forward of aft face at coach roof (extension of sheet extrapolated to deckline).

### **Mainsail**

The mainsail is flattened by mast bend. Mast bend is regulated by backstay and kicker, the latter acting on the lower section. Backstay also controls genoa luff sag. Kicker has no effect on luff sag. Mainsheet tension will bend the mast slightly, but flattening the genoa will firm up the leech and power up the sail. Mainsheet also straightens luff sag.

### **Mainsheeting**

The ability to sheet the main traveller to windward in light winds is important in the Sonata. We prefer a double car traveller controlling fixed length strops up to the lower mainsheet block. The cars are pulled apart in light winds. As the boat tacks the load transfers to the windward strop automatically. This gives automatic windward sheeting without having to adjust during a tack. In strong winds when it is desired to lower the car down the track the system works as a conventional system would do. The mainsheet cleat is mounted on a bracket aft of the traveller.

### **Upwind Sailing**

#### **Light winds**

In very light conditions set main traveller well to windward. Allow kicker to remain slack. Release backstay tension to allow genoa to sag and power up. Set genoa halyard tension to allow small horizontal creases. (Angle of attack of genoa is controlled by halyard tension, by releasing too much the entry will flatten and make it very difficult to keep in the groove to windward).

The Sonata benefits from sailing free and fast upwind in the light.

Set the genoa between 150mm and 250mm off the spreader according to wave size. Set the genoa cars in the forward position (370mm forward of aft face of the coachroof). Set outhaul hard on.

As breeze increases, genoa luff sag tends also to increase. As the crew start to come up to windward, it is necessary to control genoa luff sag by mainsheet tension. The main traveller is lowered towards the centre and sheet tension is increased. Boom is held close to centreline. The mainsail is sheeted to give an even stall throughout its height. Leech tell tales should flow partially. As breeze increases more and more mainsheet tension is needed to control genoa luff sag. This will have a tendency to stall the upper main. At this point the backstay tension is gradually increased. This supports the genoa but also opens the upper leech, returning to an even mainsail stall condition. As a general rule, in waves the genoa should be deepened to give improved acceleration. Flow is pulled forward to widen the groove making the boat easier to sail. Kicker should not be applied until the boat is well powered up with everyone on the rail. Genoa is sheeted to between 50 -75mm from spreaders.

## **Upwind Sailing Medium Conditions**

With the crew all up on the windward deck it pays to move genoa cars back one notch. You should apply kicker and ease mainsheet when the weather helm starts to brake the boat. Backstay tension is increased. Genoa halyard tension is increased. Leave small horizontal creases in genoa luff when less than overpowered but pull up for smooth luff above this point. This has the effect of flattening the genoa, particularly the head. The kicker and backstay are used to keep the boat on its feet upwind, leave the traveller in the centre. Avoid sailing with heavy weather helm, either feather up or de power so that helm remains manageable.

## **Upwind Sailing Overpowered Conditions**

Using firm kicker, centre main traveller and harden backstay in gusts. Genoa cars should be moved back with harder halyard tension. A good guide to car position is as follows. If, when you are overpowered, backwinding holds the boom on the centre line then move the genoa cars back. Backwinding should be controlled by application of backstay which flattens the main entry and opens the main leech. Maximum aft genoa car position is 3 - 4 holes back from light wind setting.

## **Upwind Sailing**

### **No 2 Genoa**

It generally pays to hang on to the No.1 Genoa until the bitter end, but when the main cannot be controlled without constant flogging then greater speed will be achieved with the No 2. The sheet lead position for the No 2 genoa is 1300mm - 1400mm in front of back of coachroof. Move one hole aft as breeze increases. Care should be taken not to over sheet the No 2 at the lower end of its range as this will kill boatspeed. With reduced headsail overlap the mainsail traveller can be completely dropped in the gusts. In the lighter end of the wind range centre the traveller and kicker sheet mainsail. Heavy backstay is required to control luff sag. At this point the luff curve of the mainsail will become inadequate to cope with mast bend and girts will appear out of the clew. Use heavy mainsheet to make the lower leech stand up and drop main traveller to regulate power. We tend to crack the outhaul by about 12mm when using the No 2 to help the main leech stand up. In very strong breeze the traveller then takes on the major power controlling role. The No 2 can be sheeted with the leech as far outboard as 50mm or so outside the spreaders.

## **Downwind Sailing**

Our Sonata Spinnaker prefers the pole a little lower than may be expected. In strong breeze on a run the pole may be raised above horizontal. Other than that the pole should be lowered below horizontal in light to medium breezes. Correct pole height is set by monitoring the break of the luff. A high pole will flatten the entry and make the luff more unstable. A low pole will stop the sail spreading to its full design width. We would use the upper pole eye except when the pole needs to be lowered so far that pole projection is sacrificed. N.B. Our recommended twinning line positions will not restrain the pole from skying when on the lower eye.

## **Backstay**

Backstay can be released by a large amount with advantage in light winds. In strong breeze this causes the bow to bury and may jeopardize the mast. Heavy Weather Reaching In these conditions make sure that the guy is braced well back, outhaul is fully on to reduce power, backstay applied to flatten main and foredeck man regulates power by the kicker. Good communication and the ability to think heavy avoids wipeouts. Crew should all slide as far aft as possible. Outhaul can be released to allow foot to completely fill on a run and approximately 50mm off on a reach.

## **Fore and Aft Trim**

The Sonata is sensitive to correct fore and aft trim. It is possible to sit a little further aft downwind in waves. Upwind in breeze middle man should be behind stanchion with foredeck man next to him. On a run in breeze, foredeck man trims boat by moving up and down lee deck, - as far as pushpit if necessary. Middleman hovers on coachroof but when it is really windy must come back in to cockpit and keep weight low in boat for stability.

## **Some 'Make the boat easier to sail' Tips**

A boat which is easy to sail, where everything works and nothing breaks is essential to achieving consistency.

Link forestay to pulpit with loose shockcord to stop spinnaker sheets dropping over mooring cleats. Clear coachroof of all redundant cleats.

Fit mainsheet swivel jammer on bracket off main traveller. The support pillar down to floor doubles as footrest. This will require approximately 6" to be removed from tiller.

Lead backstay and main traveller to helm's normal position.

Link genoa tack strop to forestay with shackle to stop tack pulling back from forestay.

Tape up to stop strop falling down into bow well (faster for sail changes).

### **Control Line Positions**

The Sonata as originally conceived, brought all control lines to the cockpit. In a 4 man crew it is inefficient to have a helm and 2 crew in the cockpit and therefore it is better to keep these controls forward where possible to even out the workload.

Twinning line anchorages should be midway between stanchions at mast end of coachroof. This allows you to eliminate pole downhaul reducing clutter and allowing middleman to tack more easily.

Genoa halyard can be led to cleat on aft of coachroof to cleat behind secondary winch on port side.

Spinnaker halyard cleat on starboard side of mast above head height for foredeckman to hoist.

Pole uphaul should be led to front of coachroof (swivel, cam with fairlead). Middleman to hoist, foredeckman to release.

Outhaul should be on boom with cleat mounted between mast and kicker take-off. A pulley mounted a handwidth behind the cleat allows the pull to be taken from any angle.

Kicker cleats are mounted facing aft at the deck organizers with the tails through bullseyes on aft corner of the coachroof so that they can be reached from the cockpit.

### **Spinnaker Stowage**

We favour the companionway mounted bag for spinnaker stowage. This has the following advantages over the pulpit turtle.

Less disturbance to the genoa airflow.

Less likelihood of a broach due to foredeck man hanging over the bow.

Faster spinnaker drops by more efficient utilization of crews efforts. i.e. Foredeckman puts pole away whilst middleman stows spinnaker.

With a turtle drop everybody else stands around waiting for the foredeck man to put pole away then douse kite.

All sharp edges should be taped.

All excess equipment should be removed from the boat.

Ropes should be the smallest acceptable size for the job and lengths should be cut back to exactly what you need and no more. This reduces tangles considerably. We make double tapered dyneema spinnaker sheets - we have never seen this type used anywhere else. They are strong, light and minimum bulk so you don't need light weather sheets. Cleat types should be considered. Clams are great for holding power and not easily accidentally or intentionally released under load. Cams release much more easily under load and once uncleated the ropes runs through without re jamming. (Ideal for pole up and spin halyard, ensures fast drop).

For further tuning advice we would be glad to help, please ring the loft.