

X-Yachts

WORLD CLASS SINCE 1979

X-34

Tuning Guide

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Rig Setting

Base Setting for 14-16 knots of breeze, RT 10 rig gauge used.

Rake: 211

V1 66

D1 35

D2 15

Please note that the data supplied within this guide is based on what has been collected whilst training and racing X-34 #134. Data for other X-34's may differ from boat to boat due to a number of variables.

1. Backstay

The main backstay strop is made from 8mm spectra. The first mark is stitched 1m 32cm from the top of the pad eye attachment. (Main strop is backed on its self at pad eye end and a spliced loop is formed at tale end).

Each stitched marks are spaced equally 10cm apart. Gauges are taken when the secondary block is inline with the stitched marks.

Figure 2, Shows the main strop is on the right and secondary line is on the left.





(Figure 1, Backstay)
Figure 1,backstay

Figure 2, Backstay pad eye

TWS	Backstay
4-8	Off
6-10	1-2 st mark
10-16	3 nd mark
16-20	4 rd mark
18-22	5 th mark
22+	6 th mark

(Table 1, Shows the position for the backstay marks upwind.)

Note: The spectra used for the backstay will stretch initially when new, however once it settles it will remain at same length for many seasons. Bare this in mind when creating calibration marks.

1.1 Backstay Settings off the breeze

The backstay is a very effective tool on the boats performance and it should be always thought about on every point of sail. Upwind as mentioned in section 1, the settings are shown, however when reaching and sailing downwind these will change. We found the X-34 likes to have a lot of backstay used whilst sailing upwind. Even in 8 knots of breeze we were applying small amounts of backstay.

1.2 Reaching

When reaching in heavy airs backstay can be applied to de-power the sail plan and allow the helm to control the boat. This will help keep the boat flat and ultimately help keep boat speed to the max. The backstay tension is purely down to how the boat feels. If the helmsman is experiencing large amounts of weather helm, then the tension on the backstay should be increased.

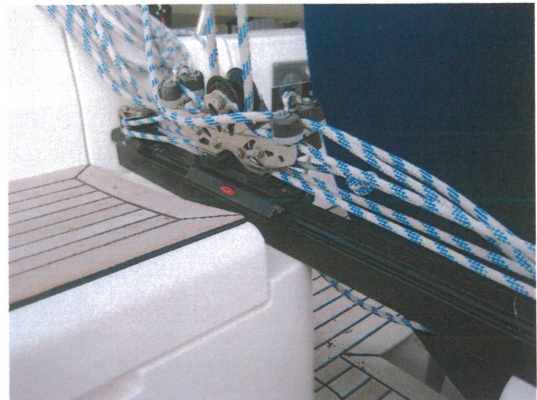
1.3 Downwind

The backstay is not often too much of an issue on the downwind legs. The most important factor is to release the backstay as soon as you round the Windward mark just after the bear away, if the breeze is suited. The backstay would only remain more than snug on the downwind leg if sailing in heavy airs 20knts plus, this is when you would want to de power the sail plan by applying tension on the backstay.

2. Traveller Setting For Mainsail

The Traveller currently has no relative calibration marks. Marks could be added along front face of traveller rail to help the main trimmer set the sail.

Calibration marks could be shown using the following technique: Start with 0 in the centre of the track and work outwards up to 5 on both sides, equally spaced.



(Figure 3, Traveller track)

A recommended upwind traveller Settings are shown below. *(These are in relation to calibration method mentioned above)*

Light Wind (4-8) 4

Medium Wind (8-16) 2

Heavy Wind (16-20) 0

Figure 4, shows the tale ends of the traveller are taken up to a turning block which is attached on to the gutbuster. This allows for ease of use whilst operating the traveller. Blocks are attached to gut buster with a simple lashing.



Figure 4, Traveller pulley

3. Vang Setting

The Vang has no calibration marks currently. Marks could be stitched into main spectra stop using different colours. Reference could then be taken with second turning block. The Vang is not so necessary upwind, however once of the breeze it is crucial to have it at the correct setting to insure the mainsail is set to its optimum. This should be assed by the main trimmer and pitman.



Figure 5, Vang Calibration

4. Cunningham

An X-34 is fitted with a 2:1 Cunningham system which is located at the foot of the mast. The Cunningham tail is tied through the stainless eye in the luff of the mainsail. The line is then taken back into the cockpit, so that it can be adjusted by the pitman.

A General rule regarding the Cunningham is to never have any creases along the luff of the sail. However if sailing in light winds with lumpy seas, creases in the mainsail will encourage the mainsail to have more power, which is a benefit. But in any other conditions you normally want the sail to have smooth entrance along the luff.

Cunningham settings

Wind Strength (knts)	Tension
(4-8)	None
(8-12)	No slack
(12-14)	Tight
(16-18)	Hard
(18-24)	Hard

5. Jib Track

The jib track is designed so that it can carry a Jib only. The track has no returning elastic system for the cars currently, however if installed this could make the jib trimmers job easier. Currently no calibration strip is placed next to the track, however numbers can be easily applied to the deck for reference whilst sailing.

The table below shows the different track setting which should be used for the variable wind strength and sea state.



The position of the car is currently related to the number of clear holes (holes with no screws in) showing in the jib track.

Figure 6, Jib car track

Wind	Jib No.	Calm Sea state	Mid range sea state	Rough Sea state
4-8	Code 1		?	?
8-12	Code 1		?	?
12-16	Code 2		?	?
16-20	Code 3.5		?	?
20+	Code 3.5		?	?

(Table 2, showing the position of the jib cars for the relevant wind strength and sea state)

NOTE: Flat Water = Flat Sail

Bumpy Water = Rounder Sail

5.1 Inhaulers

Spectra inhaulers are supplied with the race pack on the X-34. Marks can be stitched on the spectra strop equally 10cm apart. The first mark is 18cm after the turning block on the main arm.

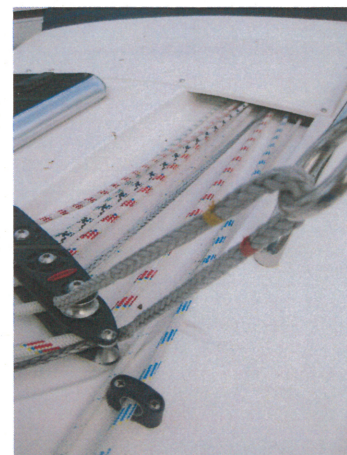


Figure 7, Jib inhaulers

Jib Inhauler	Top Spreader
3 marks	3 line
3 marks	3 line
2 marks	3 line
1 marks	2 line
eased	1 line
none	depowered

(Table 3, shows Inhauler settings)

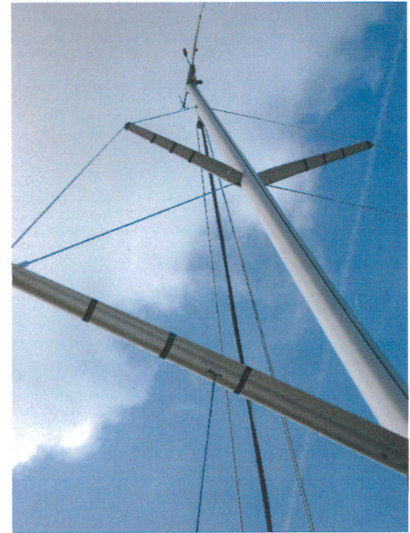
(Table 4, shows Headsail and Spinnaker selection for variable wind strength)

6. Spreader Settings

Spreader marks are located on both spreaders for calibration. Three marks are placed on both sets of spreaders.

The bottom spreaders have marks which are spaced equally 20cm apart. The first mark is position 20cm in from the tip of the spreader.

The top spreader has three marks again which are spaced 12cm apart. The first mark on the inside is 10cm from the mast.



Wind Condition	Flat Sea	Mid Sea	Rough Sea
Light (4-8)	Snugged	?	?
Medium (8-16)	?	?	?
Heavy (16-20)	?	?	?

Figure 8, Spreader markings

7. Pole Position

The pole slider is moved manually along the track on the X-34. Positions for the pole are dependant on Spinnaker choice, wind condition, sea state and angle of sail.

Sail Option	Pole Height m
S1	?
S2	?
S3	?
A1	?

(Heights are taken from base of track to base of slider).

7.1 Pole Strop for downhaul

The depth of V strop supplied with Aluminium pole is 72cm. Attached to this is a 10mm spectra strop which attaches onto the pole downhaul system. Spectra strop length is 60cm. Total distance from underside of pole to start of downhaul strop is 1m 32cm.

PHOTO - Illustrates Pole strops



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Figure 9, Pole downhaul