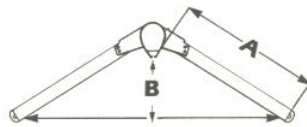




Merlin Rocket Tuning Guide

Some time should be spent in setting up the Merlin to ensure the rig is correctly calibrated and every thing clearly marked. Doing this will make sailing the boat fast through the changing wind strengths a much easier task. Speed Sails have put together this tuning guide to help you ensure you have your boat set up correctly to get the best performance from your new sails.

Spreader Settings



A = 370mm
B = 135mm

The two measurements for the spreader are Spreader Length (A) and Spreader Deflection (B). Spreader length controls the sideways stiffness of the mast and is taken by measuring the side wall of the mast to the shroud. The deflection is measured by putting a straight edge from shroud to shroud and then measuring to the mast from this edge.

Pre-bend

This setting is the most important and so time should be spent getting this correct. Pre-bend is controlled by angling the spreader tips forward or aft. Angling the tips aft increases the pre-bend by pushing the middle of the mast forwards. The spreader deflection gives a good starting point but may need to be changed slightly to get the pre-bend exactly right.

We recommend sailing with a pre-bend of 25mm. To measure this, set the mast rake on setting 0 (see below) with rig tension of 250lbs. The pre-bend is then measured by pulling the main halyard tight against the top of the gooseneck. The distance between the halyard and the mast at spreader height is the pre-bend

Mast rake

For the rest of this guide we will refer to settings 0 as fully upright and setting 8 as fully raked. Below is an idea of the conditions that fit each setting.

- **Setting 0** – Drifting conditions up to Helm & Crew sitting on the side deck.
- **Setting 1** – Helm & Crew sitting on the side up to both sitting out hard with mainsail still on the centre line.
- **Setting 2-5** – Full power up to constantly over powered. (i.e. spilling the main to de-power).
- **Setting 6-8** – Constantly over powered to racing abandoned.

Initial set up:

- 1) Lowers and puller should be slack at all times
- 2) Rig tension on shrouds should read 27 on a Loos professional gauge
- 3) Top of mast to black band at the gooseneck should read 5720mm
- 4) Rake is measured from top of the mast to the top of the transom along the centre line
- 5) Throughout range rig tension remained unaltered

Reading on mast	Mast rake (mm)
0	7070
1	7020
2	6970
3	6920
4	6860
5	6810
6	6760
7	6710
8	6660

Rig Tension

Rig tension is measured on the shroud. Try to use the same tension gauge each time and measure at the same height e.g. eye level. Rig tension should be set so a Loos Professional rig tension gauge reads 27 on setting 0. Rig tension does not need altering as you rake. This setting should mean the leeward shroud is slack with just enough tension to stop the leeward shroud from shaking.

Lowars

When setting rig tension lowers should be slack. In very light winds the lowers should be slack to allow the mast to bend and make it easier for the wind to pass over the sail. As the wind increases the lowers should be pulled on to hold the mast straight and keep as much power in the sail as possible. When it gets to the point of being over powered the lowers can be eased slightly in order to de-power the rig but only after using the rake to de-power first.

Jib Sheeting

The position of the jib fairleads affects the tension in the foot & leech of the jib. Moving the fairleads aft increases the tension in the foot and allows the upper leech of the jib to open (top windward tell-tale breaks before lower ones). Conversely, moving the fairleads forward decreases tension in the foot and closes the upper leech of the jib (lower telltale breaks first).

Kicker

In light winds you should only put on enough kicker to remove the slack from the system when sailing upwind. Once you start becoming overpowered and have to ease the main you should aim to have the top leech telltale on the main flying approximately 80% of the time i.e. occasionally flicking back behind the main.

In the Merlin it is important not to use too much kicker. When sailing downwind aim to have the leech tell tale flying continuously.

Outhaul

When sailing upwind this should just be kept on tight in all conditions with the exception of light and choppy conditions where it can be eased approximately **1 inch** to give a bit more power through the chop.

Downwind on broad reaching legs you may ease it out **2-3 inches** to give more power to the base of the sail.

Cunningham

This should only be used in very windy weather to de-power the main. It should be the first thing that is let off when the wind drops.

Jib Cunningham

This should be set to just remove the creases from the front of the jib. It will require more tension as the breeze increases.

Centreboard

In very light wind you should have the centreboard angled forwards slightly. As you begin to get to the stage where you are both sitting on the side, the centreboard can be moved to the vertical.

When it is very breezy and you are seriously over powered, raising the centreboard (up to a maximum of **3 inches**) will help stop the boat tripping over it.

Spinnaker

The spinnaker pole should be set so that as you are reaching along the clews are at the same level. We generally tie the head of the spinnaker so that it flies a couple of inches from the block in the mast. In a very light breeze when it is difficult to get the kite to fill, dropping the pole height will encourage the sail to fly again.

We hope this guide will prove helpful to you and wish you all the best with your Merlin Rocket sailing. Should you have any further questions regarding any areas of Merlin Rocket sailing then don't hesitate to contact us on 01922 455503 or you can e-mail the SPEED TEAM on sails@speedsails.co.uk