CADET TUNING GUIDE.

TUNING IS KEY TO PERFORMANCE – P&B TUNING GUIDES ARE CREATED, TRIED AND TESTED BY OUR SAILORS AND BRAND AMBASSADORS.

MAST RAKE AND TENSION

The trend, since centre main was introduced, has been to increase rake. Crew weight has generally become lighter and the extra rake makes it easier to bring the boom closer to the centreline.

It is important to take the rake measurement properly. So hoist a tape measure on the main halyard and hold it down the aft face of the mast.

Cleat the halyard off when the measurement at the top of the bottom black band reads 4141mm. Then swing the tape aft and take the measurement at the top of the transom on the centreline.

MEASUREMENTS FOR CREW WEIGHTS

1. Over 15 stone – 4985mm
2. Between 13-14 stone – 4960mm
3. 13 stone or less – 4920mm

The rake should either be kept constant throughout the wind range or increased slightly as the wind gets up. Do this altering both the shrouds and the jib halyard as extra rig tension is applied. Remember that rig tension is needed to keep the jib luff tight because jib luff sag stops the boat pointing.

Altering the shrouds on the multi holed shroud adjusters by one diagonal hole will change the rake by 15-20mm. Altering by one hole vertically will change it by 35-40mm.

RIG TENSION

- Light wind 130lbs
- Medium winds 180lbs
- Heavy winds 240lbs

Jib sheeting the sail should be sheeted so that throughout the wind range the slot between main and jib is constant throughout its height. The exit to the leach at mid-height should be parallel to the centre line.

Mark both sheets well so that the tension can be repeated accurately. In very light wind the clew of the jib should be at least 210mm from the mast whilst in middle conditions the clew should be 150-180mm. In heavy areas it should be approximately 180mm but this time with both barber hauler and jib sheet really tight.

THE KICKER/VANG

The control will put downwards force on the sail and therefore tighten the leach which will reduce the twist in the sail. Simultaneously it forces the boom forward and encourages the mast to bend. If the kicker is pulled on, the boom will push forward which will bend the mast and this will flatten the sail.

In medium winds the mainsheet will have a similar effect, but as the wind gets up, it becomes more important that the mainsheet heavier the wind the more important it is to flatten the sail on all points of sail and so these controls should be left in this position.

If you are getting overpowered then it is best to ease off the kicker as this will allow for more leach twist, thus dumping wind and reducing the power in the sails (the telltales will flow all the time in this situation). NB: the kicker should be pulled tight enough so that the top telltale on the main sail is streaming approximately 80% of the time.

Remember – too much leach twist with streaming telltales (all the time) means good speed but loss of pointing ability (acceptable in the upper wind range). Conversely telltales stalling too much means good pointing ability but loss of speed.

Apply more kicker/main sheet tension to eliminate too much twist and vice versa. In all conditions aim to have at least 150mm of the top batten and the last 600mm of the boom parallel when viewed from behind.

MAIN SHEETING

When beating, the mainsheet should be split so that the join always stays inside the boom end block.

In medium winds the boom should be centralised in just enough kicker to stop the upper luff from back winding. In light and heavy winds the boom should be off centre.

In heavy winds it will need to be altered all time to keep the boat upright so the kicking strap will need to be tensioned to bring the leach under control.

Ideally in these conditions, the sail at the top batten should have very little camber. In light winds there will be no kicker of course, and in drifting conditions the boom will be out beyond the gunwale.

THE CUNNINGHAM

This control pulls on the lower part of the luff of the main sail. It is only used in heavy wind conditions when the power of the wind will be pushing the draft of the sail further back toward the leach of the sail.

The Cunningham will reverse this effect and pull the draft (maximum camber) of the sail back towards the luff thus allowing for the top of the sail or twist off (particularly important in the heavy winds).

THE OUTHAUL

This control should be adjusted for different points of sail until you are overpowered, when it should be left fully pulled out. In lighter conditions the control can be let off about 1-2" for the reach. It should be always fully on for the beat, except on open sloppy seas in light to medium winds when it can be eased for more power.

Full clew outhaul makes for a fine entry for the wind. It may also be prudent to leave the outhaul pulled out in very light winds to allow for the wind to escape more easily from the sail in these conditions. N.B. if you are sailing in heavy seas with big waves then you need more power and should ease the outhaul as well as the main and jib sheet.

RUDDER BLADE AND CENTRE PLATE

This can make a considerable difference in making the boat easier to sail. In light winds the front of the blade should be vertical or minutely angled back.

In medium wind it should be vertical. In strong winds it should be angled forward so that the tip is underneath the transom.

Downwind the centre plate should be about half way out of the case. Finally, although they have been used successfully by many boats, don't forget that these measurements are a guide only.

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