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NOTES ON SETTING UP AND SAILING THE FARR 11.6

1. RIG TUNING

Step the mast in accordance with the attached diagram.

Rigging tensions should not be overdone and leeward shrouds should go slack when sailing to windward in over 10 knots of wind. The 'prebend' is designed to offset spinnaker pole loads and produce a flatter main in very light winds, and is an essential aspect of correct tuning.

Lower shrouds should be set up so that the mast is straight sideways (between deck and hounds) upwind in 0 - 12 knots (apparent).

Forestay tension is controlled by masthead backstay tension. Forestay sag will occur (approx 70 mm) with no masthead backstay tension applied.

Headsails must be cut to allow for this and significant luff hollow is required. In addition to forestay control, the masthead backstay is used to coincidentally control mainsail fullness through mast bend and when tensioned, a significant amount of sidebend (as well as fore and aft bend) should occur sailing to windward (above 12 knots apparent).

2. USE OF MASTHEAD BACKSTAY

(a) To Windward

Some tension may be required in light winds to flatten main and genoa for better flow. No tension should be needed otherwise until full rig starts to need flattening as mainsheet tension should correctly control mastbend and forestay tension up to this point (approx 12 - 15 knots apparent).

Headsail luff shape will significantly affect this range. More luff hollow is required than for a masthead rig genoa, or a fractional rig with running backstays.

Initially, the masthead backstay tension is used to prevent forestay sag increasing, and then to reduce forestay sag to flatten the headsail and/or fine up entry.

Tension should be increased in conjunction with other adjustments as the full rig requires depowering.

When the mainsail is reefed, the backstay should be fully on to maintain mast bend, unless the rig is underpowered, when it can be eased slightly to increase fullness in main and headsail.

(b) Reaching

Generally not needed unless mainsail is reefed and/or rig is

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(b) Reaching Cont

overpowered. Some tension should be applied when reaching under spinnaker to reinforce the effect of 'prebend' in counteracting spinnaker pole thrust.

(c) Running

Care should be taken not to sail downwind in very strong conditions with any great amount of backstay tension applied, as spinnaker loads at the forestay intersection point will tend to increase the amount of mast bend. However, in strong conditions, enough backstay tension should be applied to take a certain amount of load off the sidestays (and prevent the centre of the mast bending aft). The sidestays should be capable of taking the full load of the rig.

3. SETTING OF MAINSAILS

This can best be covered in two sections - firstly when carrying full mainsail and secondly, when the mainsail is reefed. However, at all times, it is extremely important to ease the main traveller to leeward as early as possible and thus widen out the sheeting angle of the mainsail. It must be remembered that the mainsail is producing probably the largest proportion of the total rig power, and it must always be used at the widest possible sheeting angle consistent with reasonably high pointing ability to produce good forward drive rather than heeling force.

(a) Full Mainsail

Generally in light weather it is necessary to sheet the mainsail so that the boom is close to the centreline to reduce backwinding from the headsail. The mainsail however, should be sheeted very free in the leech with plenty of twist to prevent the upper part of the mainsail (where there is no effect from the headsails) from stalling. In very light conditions this would normally require the traveller to be pulled to windward of the centreline and the main sheet eased so that the boom then falls to leeward of the centreline. The bottom of the mainsail when sailing to windward should normally be set quite flat with the greatest amount of power being in the area between the spreaders and forestay attachement position.

When reaching, the foot of the mainsail should be let in to increase sail power. As the wind increases, the traveller should be eased out to leeward quite quickly and the mainsheet tension increased to control the leech.

As the boat becomes overpowered, the backstay tension should be applied to flatten the mainsail (and headsail) (see previous notes).

At all times the traveller should be eased down far enough so that a very small amount of backwinding is experienced

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(a) Full Mainsail Cont

and the helm has very little weight.

The mainsail should be sheeted if possible so that the amount of backwinding is slight but is even throughout that part of the mainsail behind the headsail. The traveller should be used to maintain critical helm balance and optimum speed. Slight, but not excessive, weather helm is desirable, but lee helm should not occur if the boat is correctly tuned and sailed, except in big sea conditions.

(b) When Reefed

When the mainsail is reefed, the rig effectively becomes a low aspect masthead rig although there is still greater control over the mainsail through mast bend. In this situation, the mainsail is generally sheeted quite hard down the leech to stand the leech up with the traveller dropped well to leeward so that when the boat is comfortable, there is again an even amount of backwinding just visible.

But when the traveller is eased in a puff, there would generally be more backwinding in the lower part of the mainsail than the upper part. The traveller should be eased 450 mm (18 inches) or more to leeward when two or more reefs are in the main, and it is quite acceptable for the traveller to be eased right down in gusts.

If there is a lot of weather helm experienced, it is most likely to be caused by the traveller being too close to the centreline, or masthead backstay not being used. This would be particularly true if the boat tends to round up into the wind during gusts. Another cause could be excessive heel angle (see section 8).

4. SETTING OF HEADSAILS

In general, headsails should be sheeted on slightly wider sheeting angles than would normally be used on masthead rigs, and should generally be considerably flatter (particularly in the leech area) than headsail for masthead rigs.

In a very lumpy sea or chop, or when the wind strength is well above the normal range for the amount of sail set, then the headsail sheeting may be moved out to the deck edge. The headsail should then be sheeted fairly hard to flatten the sail and allow reasonable pointing.

Above approx. 15 knots apparent wind strength, the boat should be sailed high, feathering the headsail so that the windward wools are just lifting, but the leeward wools always flowing. A good helmsman will feather well up in gusts and then pull off only enough to maintain boatspeed. The overall result should be high but not slow.

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4. Setting of Headsails Cont

Sheet lead positions will vary from sail to sail, but should generally be placed further aft to allow more leech twist than a masthead rig genoa, and be moved further aft in strong winds. Especially to windward, the best approach is to underpower the rig and then gradually increase power through traveller, backstay, outhaul, sheeting and cunningham adjustment until boat speed stops increasing. This avoids the (slow) tendency to sail overpowered.

5. REACHING WITH SPINNAKERS AND HEADSAILS

Firstly, spinnakers should always be flown so that the head of the sail if approx. 450 mm (18 inches) away from the mast. As these boats are very easily driven, it is often surprising how much faster they go with smaller headsails or spinnakers than one would normally think would be required, and the boat speed should be watched very intently as wind speed increases or apparent wind angle swings forward, and as soon as the speed is seen to drop at all below what has been found to be the previous maximum speed, it is advisable to change to a smaller headsail or spinnaker.

Reefing the mainsail is extremely important when reaching, particularly when headsail reaching, and to a lesser extent when carrying spinnakers. Particularly in harder conditions, the mainsail can be reefed quite early to reduce weather helm, and while the boat often appears to be sailing too upright, it is generally sailing faster.

If the mainsail is ever flogging for any period of time, it should be obvious that it needs either a great deal of reefing or a smaller sail in front of it.

Whenever possible, the headsail should be sheeted right out onto the deck edge and generally outside the life lines.

When sailing on a reach with either spinnaker or headsail set, the mainsail will normally need a very large amount of twist and so should not be vanged extremely tightly. Once again, the aim should be to produce an even backwind all the way up the sail when backwinding does occur. Normally when insufficient power is being obtained, the mainsail should be set with little or no backwinding on a reach. The use of wool tufts on the leech of the mainsail will be invaluable in setting a mainsail in these conditions.

6. VERY STRONG RUNNING CONDITIONS

(a) Spinnaker

The spinnaker should be set up with the pole well back and halyard right up and the sheet of the spinnaker leading through a snatch block or barbers haul on the gunwale well forward of the mast to hold the leech tight.

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(a) Spinnaker Cont

This will reduce or eliminate any rolling effect and make the boat a lot easier to control. The sail can be sheeted in so that the leech is quite tight, to the point where the leech clew is, in fact, quite a bit lower than the luff clew.

(b) Mainsail

The mainsail should still be set up with a certain amount of twist, but not to the point where the angle of a line drawn between the leech and luff to the centreline of the boat is greater than 90 degrees.

The boom should not be allowed to reach the side stays as in a strong gust, or when the boom flies out against the stay, the boom may be broken.

7. SEQUENCE OF SAIL CHANGES

(Sailing to windward) (For inventory as drawn on Class Sail Plan). - Racing

		Apparent Wind Speed
(a)	Change to Genoa No. 2 A change as early as 14 knots may be advantageous in flat water. A flat No. 1 could be carried up to the upper range when the boat is in racing trim. In all situations up until the mainsail is reefed, the flattening reef (leech cunningham) should be used to control mainsail power.	14 - 25 knots
(b)	First Full Reef in Mainsail	25 - 30 knots
(c)	Reef No. 2 Genoa	28 - 33 knots
(d)	Second Reef in Mainsail (Sequence of (c) & (d) may be reversed). The No. 2 Genoa should be able to be carried effectively up to 35 knots, especially in a seaway.	30 - 36 knots
(e)	Change to No. 3 Genoa	32 - 38 knots
(f)	Third (Deep) Reef in Mainsail	36 - 44 knots
(g)	Change to Storm Jib	40 - 50 knots
(h)	Change to Storm Trisail	45 - 55 knots

If in doubt - change to smaller sails early.

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7. Sequence of Sail Changes Cont

Cruising

For cruising the No. 3 Genoa will give good performance in all conditions except very light air. The only sail handling then needed up to 40 knots is reefing the mainsail. In most conditions the yacht will sail well (to windward) under main alone, if the traveller is eased well down the track, sheeted fairly hard, and the yacht is sailed free.

If in doubt - change down early.

8. HEEL ANGLE AND HELM CONDITIONS

Generally the boat likes being sailed without too much heel angle and upwind a 20 - 25 degree maximum angle should be adhered to. Reaching it will often be found that changing to a smaller headsail or spinnaker and reducing the heel angle significantly, even down to 12 - 15 degrees, will produce much greater boat speeds. It would generally appear better to be conservative with headsails and spinnakers on reaches.

The boat seems to like being sailed with very little or neutral helm, and mainsheet traveller position can be easily adjusted to help this. In our experience, maximum upwind boat speed is attained with very little weight on the helm. The boat can then be very easily steered through the waves and this can increase boat speed in a seaway considerably. As the boat drops into a sea, the helm is pushed down and as the boat comes back out of the trough, the helm should be pulled up to pull it away up the face of the wave. This motion can be quite definite and still be surprisingly effective. In a big sea it seems an advantage to sit inboard over the helm to do this more effectively, rather than use a tiller extension.

The boats are quite powerful however, and can be sailed 'overpowered' more effectively than an IOR type.

The best approach to tuning and sheeting is to 'depower' significantly in doubtful situations (i.e. make a big adjustment) and then increase power again slowly until optimum speed/heading angle is achieved. In this respect, the mainsail outhaul (flattening reef, clew cunningham if fitted) is a very effective adjustment under full sail conditions.

9. USE OF "TELL TALES" ON SAILS

These can be very effective from two points of view

(a) Setting sails, and
(b) Steering.

For all headsails it is useful to have 'tell tales' near the luff (about 400 - 500 mm back) and spaced up the luff at approx. 2 metre intervals. One set should be at an optimum position for

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9. Use of 'Tell Tales' On Sails Cont

viewing by the helmsman and these can be used to indicate correct heading angle upwind, especially when 'feathering' the yacht up high to suit conditions.

Sheeting should be adjusted to allow all tell tales up the luff to stall evenly (the top leeward ones could stall slightly earlier than the lower ones) in wind strengths that suit the lower end of each sail's range.

At the top end of the range the sheet lead should be moved aft allowing the upper windward tell tales to lift well ahead of the lower ones.

Reaching, the lead should be moved forward and outboard to give similar results.

Tell tales on the mainsail leech near (but not on) each batten pocket will give an accurate guide to correct twist.

To windward the top tell tale may be difficult to get flowing consistently, but provided it flows a significant proportion of the time, the sail setting should be considered acceptable. Otherwise, especially reaching, all four tell tales should flow.

Mainsail luff tell tales may help some crew in correct setting, but should be treated with caution and an eye kept on the boat speed indicator.