

Set-up Guide To Optimise The X-332 For Racing

Designed in 1994 the X-332 is a fast cruiser racer that has gained increasing popularity both in the UK and Ireland over the past couple of years. Hull numbers now top 315 with a total of 72 boats in British hands. The class opted for level ratings at its Bi-National Championships (a UK & Irish event) although the boats usually races under IRC with ratings in the range of 1.002 to 0.997. A default rating is typically being around 1.000 at the moment. There are various ways the rating can be improved be it by sail measurements & weighing. The latter may be a double-edged sword for the latest boats as production technique improvements have led to weight reductions since mid-99. The success of the 332 is founded on the fact that it is a compromise boat, neither pure racer nor pure cruiser, it appeals to the widest spectra of all 33 foot yachters. X-Yachts build excellent boats, but their standard specification leans towards the cruising end of the spectrum. Many who race the boats successfully have made modest investments and improvements without rendering their craft unsuited to easy yachting with family and friends. The trick to successful racing is to know which cruiser comforts to allow and which not.

In assembling a tuning guide for the 332, one must start at the very beginning, which is logically with its x-works specification. For those hoping to improve the performance of an existing craft there is much that can be done although it should be noted that performance improvements are subtle as there is little boat speed differential between the front and the back of the fleet. Notwithstanding by equipping one's self with the best chance of doing well from a boat speed perspective there is a massive extra benefit to the whole crew thanks to their enhanced mental "edge" that can often prove decisive on the water.

Specifying a new boat can only be easy if you start with a well-defined brief of how the boat will be used. For those who discover, after the fact, that they have "got bits wrong" there is no need for undue concern. Many decisions can be reversed, by upgrading hardware, whilst others may be worked around with the right application of thought and planing. The key ingredients to consider are; crew capability and consistency, frequency of and the commitment of the crew to train and what types of racing & cruising will be undertaken. Different factors come to the fore on longer trips (cruising or racing). The folk at X-Yachts UK have gained a substantial experience in optimising boat tune through their active participation in the fleet this can help owners who have yet to decided the lengths they wishes to go in the pursuit of performance over comfort or budget.

Boat speed is, as ever, achieved by planning, preparation and practice and is never a simple of wielding the chequebook. The right enhancements will make all the difference yet need not cost more than 5% of the on-the-water cost of the craft. Essential pre-delivery racing specification should include; the upgraded mainsheet & traveller system; Tuff Luff option as opposed to Profurl. The latter being more costly and doesn't work particularly well in any event. Virtually all other upgrades to the main systems such as the vang and the backstay and the like may be fitted retrospectively and without and significant wastage of the initial components.

PRE RACE SET-UP

Mast gate; the mast is secured the centre of the gate (610mm between front of mast and forward bulkhead) with dense rubber packing chocks. Should these become dislodged, the boats are more liable to incur mast damage were the rig to be allowed to jar forward, be it due to insufficient backstay tension or a sudden arrests in boat motion. As it is not always easy to prevent the latter in choppy conditions off-wind, it is recommended that the plastic mast vanity collars be removed and the chocks inspected regularly.

Jib luff; it is preferable to order the boat with a Tuff Luff and bottle screw as this enables the best rig / rake control. If the boat has an existing Profurl an upgrade costs in the region of £650 and generates an expensive spare part! In this case it is better to save the money, ensure sufficient rake (circa 345mm) and upgrade the standard feeder balls as supplied ones do not aid rapid sail changes. Again with the Profurl a good antedate to the less adjustable rig is to rig up a strop that allows the mast to be cranked forward down wind. All this involves is a bit of spectra anchored to the hard point in anchor locker and taped below feeder balls. The jib halyard can be attached to the strop once the kite is flying and ground forward. This is a trick only suitable for light to medium airs as above this tension needs to me maintained in the backstay.

Backstay; the factory fitted system is a 16:1 system without a ball bearing block in sight and encased in a highly frictional nylon stocking. Adjustment is made via a single control at the base of the stay itself. There is significant benefit in upgrading this to either a 24:1 or preferably a 32:1 system with ball bearing blocks throughout, dual controls led to the main traveller. This being significantly easier to use and becomes part of the main-trimmers job as opposed to the helm's. It is essential to fit plastic stoppers within the system to protect the mast crane and so that the rig can't fall over the bow. With its double spreader rig it is essential to retain a minimum of 30% pressure on the backstay in windy conditions. Upwind apply pressure progressively as the wind strength increases.

Shroud set-up; first and foremost ensure the rig is square in the boat! Obvious as it may seem, many owners seem reluctant to touch their rigs, despite the fact that basic adjustments are simple to effect. Over time the rig can loose shape and then the sails start to look bad & work inefficiently. Measuring side to side with the main halyard, sight up the luff track an square up the D2s. Also check the slack removed on the D2s whilst on the water in a steady 3-4 as this eliminates unwanted side movement. As far as pre-bend is concerned it must determined by the sail shape. Typically use around 120mm with the 345mm rake as previously detailed. With the more powerful backstay it is easy to generate an unstable mainsail that backwinds too readily. If this is the case then reduce the tension on the lowers. On the other hand

if the mainsail flattens to readily increase lower tension to limit mast bend. Overall the non-raking (Profurl) set-up is a compromise and requires a delicate balance between, rake, pre-bend, and stiffness but once in place it simpler to use thanks to having fewer variables.

Vang; again the factory supplied unit is low on purchase and hasn't any ball bearing blocks in the system 6.1 with cleat on vang itself. It is easy to add an extra spectra strop and a ball bearing dual control system to increase purchase to 24.1 at the same time as giving the advantage of being able to play the system from the pit or side deck. This is useful when fetching or shy spinnaker reaching in all wind conditions and essential when the wind gets up.

Tack strop; If the budget includes an asymmetric spinnaker an excellent and low cost upgrade is the addition of a tack strop. Fit a bulls eye in the pushpit and run a line over the deck back to a cleat on the coachroof besides the garage. Sheeting the asymmetric tack directly onto the pushpit enables the boat to reach at a closer angle as well as makes the system a lot easier to handle.

Topping lift and Downhaul; the boat is supplied without a topping lift with the intention of utilising the spare halyard for this purpose; this being the standard format on the continent. A "standard" UK upgrade options is to fit a traditional topping lift and best of all a mast track for the inboard end of the pole. The cheaper route is simply to add extra points on the mast to accommodate the different spinnaker shapes. Sheets & guys turn round a Spinlock close to the stern and return to the front of the cockpit via turning blocks, these should be upgraded to large diameter ratchet blocks. Finally in terms of spinnaker gear replace factory fitted single sided downhaul system with a dual control line. The windward trimmer has to play the downhaul as much as the guy and clearly needs to do this without darting across the boat each time.

The sails; the sails are the single biggest area for choice and cost. Not just in terms of who to buy from but what inventory to opt for. The ideal scenario is to opt for 4 "white sails". A mainsail with a light medium #1, a medium #2, and a blade #3. The boats that omitting the #2 suffered on several occasions in 2000 and this is corner not worth cutting. In terms of spinnakers, the optimum is to opt for a 0.6oz floater and 0.9oz all purpose and a 1.2oz asymmetric. The latter being a luxury in many respects as it gets far less use than the others. It can be however a race winner given the right circumstances. X-Yachts "prestige" package includes Dacron delivery sails by Norths, with a strong pound they make excellent value but determine shanks (unless specified at time of order) for the main track, racing specification sails benefit from a bolt rope arrangement which is an inexpensive operation involving a router! In terms of sail makers, the class is served by all the main sail lofts, Rellings, Quantum, UK McWilliams, Norths, Sobstad and Banks. The vast majority of the business being divided between Relling & Quantum.

Navigational aids; X-Yachts locally source / upgrade the electronics and in many respects this comes down to personal preference. B&G or Ratheon ST60 are the most popular choices to date although the new Silva Nexus which is sold as a budget system offers comprehensive functionality indeed. One significant component should be is to include in any event is a fluxgate compass so that VMG and true wind direction can be displayed. Preferably this should be via 20:20's on the mast. It makes all the difference if the helm & crew see the numbers clearly at all time whilst looking forwards.

Hull finish; whilst it goes without saying that a good hull finish essential as for all race boats, the 332's are particularly sensitive to having a well kept underside. There is a marked difference between a freshly scrubbed yacht and one that has cut the corner. So much so, it may be worth prioritising regular dive scrubbing over additional equipment etc. should the budget be tight.

Key Aspects On The Racecourse

Crew Numbers; the crew certificate number is 7 therefore allowing up to 9 during events such as the HRSC winter series. It is preferable to have 9 on the boat so long as the crew are prepared to work equally hard in the light wind as the heavy. Fore and aft trim makes a dramatic difference to boat speed and the crew must be well forward in light airs.

Crew positions; the boat sails extremely well in a handicap situation but things become much closer when racing as a class. Typically positions are as follows although navigation and tactician duties need to be superimposed on the relevant positions with the exception of the helm. The 332 has quite a narrow groove and requires good concentration to keep the boat trucking at all times, it is therefore fastest to leave the helm concentrating on speed and trust the route to others onboard. (1) bow, (2) mast, (3) forward rail/mast backup; (4) after rail/pit backup; (5) pit; (6) light trimmer; (7) heavy trimmer; (8) mainsheet; (9) helm. When sailing off the wind (4) lets jib down whilst (5) hoists kite. The kite is trimmed by (7) with (4) grinding when necessary whilst the downhaul and guy are operated by (6).

Idiots Guide To Sail Settings:

Upwind Matrix

True wind	Sail	Leech to spreader	Hal. tension	Boom	Traveller	Top telltale	B/stay	Vang
0-6	Lt #1	4-5"	v-soft	centre	windward	flying	None	None
6-10	Med	3-4"	hand	centre	3/4 up	flying	10%	Snug
10-14	Md / 2	touching	grind 1"	centre	centre	breaking	50%	Snug
14-20	#2	inside	grind 2"	12"	1/4 up	stalled	75%	Hard
20-25	#3	on mark	on mark	18"	1/4 up	flying	Full	v hard
25+	#3 / #4	on mark	on mark	24"	down	flying	Full	v hard

Downwind Matrix

Windspeed	Sail	Angle
0-6	0.6	90°-100°
6-10	0.6	100°-150°
10-14	0.6	150°-180°
14-20	0.6	180°
20+	0.9	180°

Optimum Speeds; upwind one should achieve 6.4 in wind range 6-10 knots true; 6.8 in 10-15 and 6.9 in 15+.

Downwind in light winds aim for 6 in medium 8+ and with sufficient wind hang pick your waves well to achieve well over 10 knots. At Poole three boats clocked in excess of 16 knots in gusts of 25-30knots true and the whole fleet regularly experienced good average speeds of 14.

Final Thoughts

The author does not consider himself an authority on race sailing in any class, let alone the 332. We suffered a disastrous first season in 1999 but learned some valuable if obvious lessons in hindsight. Apart from all the above my advice to any budding 332 champion could be summarised as follows. Good boat preparation is essential and accessible to all crews alike. Don't skimp on time here, if you do you will put yourself at a disadvantage and miss the point (let alone the prizes) carping on about Chequebook Charlie's, Pro-Divers and bad windshifts. A weight saving routine should be built into every race program. Don't allow crew to come on to the boat loaded with bags full of unnecessary items, moreover check the boat for redundant kit time and time again, it is amazing how the little weight demon keeps coming back. Once the boat is stripped to the bare minimum, stow whatever you can close to the keel. Also avoid skimping on crew practice. Many boats go out time and time again to race without the groundwork in place. Even a modest amount of practice reaps good reward. Competently executed manoeuvres readily making up ground lost by poor tactical decisions or minor boat speed differential. Finally as the 332 has an excellent, welcoming and rapidly growing class it is well respected and hence well supported by many experts. Be they yachters from the top of the racing fraternity, from the sail lofts or indeed from X-Yachts UK. The best advice of all is to avail yourself of this experience and to learn from it.

For 5 Tips To Racing Success

- 1 Crew practice, communication, manoeuvres, fore & aft trim
- 2 Clean hull, race prepare out of the water with regular dive scrubbing
- 3 Weight saving (remove anything not required)
- 4 Calibrate halyards, kite controls etc. to get it right on time every time
- 5 Arrive early knowing the rules and start-line position for the regatta
- 6 Take fastidious care of the sails, bag when not in use etc.

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