**Martin 242 Boat Preparation Steps**
**(Otherwise known as "Messing About In Boats")**

**Written by Michael Clements, owner of Too Wicked - #304**
**March 2021 Revision (1st version developed in 2009)**

"Believe me, my young friend, there is nothing — absolutely nothing — half so much worth doing as simply messing about in boats. Simply messing... about in boats — or with boats. In or out of 'em, it doesn't matter. Nothing seems really to matter, that's the charm of it. Whether you get away, or whether you don't; whether you arrive at your destination or whether you reach somewhere else, or whether you never get anywhere at all, you're always busy, and you never do anything in particular; and when you've done it there's always something else to do, and you can do it if you like, but you'd much better not."

*- Rat, speaking to Mole, from the children's book "The Wind in the Willows", by Kenneth Grahame.*

The following are some of the standard steps I undertake when I look at a Martin 242 and then get it up to racing speed:

## MAST & RIGGING:

1. Is the mast step base in good condition, or has it been compressed over time and needs an aluminum reinforcing plate on top of an epoxy leveling layer? A compressed step = more rake, which can be slower in light-medium conditions, which is 95% of the racing. Note that if you use a stainless-steel plate it will cause corrosion issues over time with the aluminum mast step.

2. Is the mast the right length, per IMCA Rule 3.2? Some masts funnily enough are shorter than they should be by a little bit, sometimes due to corrosion, which also causes excess rake, and as a result they sometimes also fail the Plinth measurement (see Rules 2.3 and 3.2.3). Some are also a tad longer than they should be which decreases rake. Since some boats have new or near-new masts, this should not be an issue, but it's worth checking anyway at some point the next time the mast is out of the boat.

- Check the Plinth to Lower Band measurement: min is 743mm, max is 755mm
    - If the mast is too low, put an aluminum plate under the mast step to boost it up
    - If the mast is too long, make absolutely sure the Bands are in exactly the right position relative to the Mast Datum (Rule 2.2 and all of 3.2) and measure several times before you consider cutting the mast base to make the mast shorter. ("Measure twice, cut once", as your mother probably said).
    - Remember that the Upper Point, Lower Point, and Plinth measurements all have +/- 6mm tolerance, which is a cumulative error of 18mm plus or minus, so you want to maximize the height of the Upper Point and thus the Lower Point in turn so as to ensure that you don't think your Lower Point is too low re the Plinth measurement (743mm minimum), which might make you think you need to boost your mast height, when in fact you might not (if you tweak the tolerances in your favor).
- Overall mast length measurement: min is 11195mm, max is 11207mm

3. Is the forestay span the maximum allowable, per Rule 3.2.13? Some boats have excessively long forestay spans for a variety of reasons, one of which is putting the large Harken furler on instead of the small one or the old smaller Schaefer furlers. Check out this link for all the furling options:

http://www.harken.com/productcategory.aspx?taxid=535

Make sure that if you pick the Small Boat Furling Unit combo that it is the Standard Load version (Part 435) or the bigger High Load system (Part 436). Personally I've used the Standard Load smaller version for many years and it works fine. It's never broken even in 30-35 knots of wind. But if you have any doubts, buy the bigger unit and get a shorter, new, and generally inexpensive, forestay with it.

By the way, another reason for the small furling unit, per comments that Ed Adams made long ago to the writer, is the importance of setting the foot of your jib — ideally, the majority of the foot — so that it kisses the deck. The seal formed between the sail and the deck forces wind aft rather than allowing it to escape underneath the sail. Capturing and accelerating the wind gives you increased power and lift.

Adding shackles or using different furling gear at the top or bottom can adjust the length without necessarily having to get a new forestay made.

- Forestay measurement: min is 8429mm, max is 8455mm
- Check that the mast lug hole (Mast Datum) is not getting bigger, and if so, get it re-filled by a welder and re-drilled in exactly the same spot. It is highly recommended to also insert a small stainless bushing in the hole and then insert the shackle pin thru it. If you don't use a bushing, make sure you use the widest cross-pin possible to increase the surface area of the pin contact. Small cross-pins accelerate the wearing of the hole.
- Another interesting and very solid and bulletproof method developed by Yury Levkovskiy (that does not require the existing lug hole to be filled and re-drilled) is to use a larger shackle and two small stainless plates bolted to the mast lug, per these three following photos:

4. Tack-weld a 1/4" metal bar on the whole leading edge of the spreader fitting so that it is reinforced properly. Check for micro cracks and that the spreader bracket rivets are still in good condition. Here are 2 photos of a top and bottom view of a reinforcing bar with 6 tack-welds. It is possible to get a mobile welder service (see the Fleet Buy&Sell web page for contact info) to weld the bar onto the bracket without having to remove it first (which means stripping all fittings off the mast lower down, which is a major amount of work):

5. Check that the upper furler fitting is not wearing thru on its upper inside edge where it connects to the mast lug-hole via a shackle. Shown below is a sample very old fitting:

If the inside edge bearing surface is worn excessively, you can replace the fitting with a small Harken swivel #164 (standard load version):

http://www.harken.com/productdetail.aspx?id=5927&taxid=535

And if the furling unit is also shot, here's the combination Standard Load unit (Part 435):

http://www.harken.com/productdetail.aspx?id=5690&taxid=535

And here's a photo of the newer Harken upper furler and Harken jib block attached to a stainless Ronstan tang with multiple holes drilled in it:

6. Is the mast straight? It does not need to be centered in the mast collar, as sometimes the collars are not centered in the boat (sounds weird, but appears to be true on quite a few boats, including the new 300-series, which used an old deck as the mold plug). In addition, when the mast is out of the boat, check that the upper and lower shrouds are the same length, as it's one easy way to determine if you have tilted the mast to one side or not when you are tensioning the shrouds and doing a thread count. The other method is to tie a bucket of water or a weight to the main halyard, place it beside the lower shrouds on each side of the boat, and see if the mast is tilted one way or the other, and then adjust accordingly. The latter is not a super precise method, so I prefer checking shroud lengths when the mast is out of the boat, and then when the mast is back in the boat I look at the tensioner system on each side and do a thread count.

7. With my older boat, 171 (which had an original 25-year-old softer rig), I blocked my mast aft in the collar, not forward. Blocking it aft helped power up the mainsail a bit more for light to medium air. This seems to be the current trend in BC with older masts. However, note that at least one Victoria racer blocks his mast forward in the windy winter months, which helps flatten the mainsail more (because you don't need the extra power from blocking the mast aft). In addition, with my newer boat, 304, which has a 2007 stiffer mast in it, we had to block the mast forward to make it accommodate our big-luff-curve Sobstad mainsail, which otherwise had way to much draft in it with the mast blocked aft in the same manner as 171 (it was ugly). But an Ullman mainsail, which is flatter than a Sobstad, can accommodate the mast being blocked aft.

Also in the picture below are the battens I use to stop the jib sheet from catching on the mast blocks (some owners use stainless strips):

The 2nd picture immediately below shows hose-clamps wrapped in red electrical tape that I attached around the vang and boom gooseneck attachment points, as the 3-bolt array for each fitting can occasionally shear off under load, or simply pull out of the mast due to corrosion:

Lastly, in this next photo below you'll see a new "mast boot" that is used to seal the opening between the collar and the mast. Many types of material will work. The old one around the mast is about to be replaced with the new one in the photo (once the mast is lifted out of the boat). Note that the small hole will be cut much larger so it will fit over the end of the mast butt. This particular mast boot type was provided by Dave Higgs, a Fleet 1 racer. Ken Holland said he used to cut out an oval piece of pool liner material with a small slit in the middle, and he would stretch the slit over the butt end of the mast, and thus have a very tight seal. What you don't see in the photo is that a large hose-clamp is needed to keep the black mast boot material stretched down and around the collar. In the above photo you can see a bunch of white tape wrapped around the collar that is hiding the hose-clamp:

8. For years my uppers used to be between 44&45 on the small Loos gauge, and between 41&43 for the lowers. However, for 2014 I experimented with 38 on the uppers and 33 on the lowers (38/33) so the very full Sobstad main was powered up more and the mast tip was pulled to windward more to assist with pointing. However, the looser uppers meant a looser forestay, which affects pointing. So for 2015 onwards I moved to 45/25, which seems to work 95% of the time. In really windy, lumpy, conditions above 15 knots I might tighten up the lowers to 30 so they're not so soft and bouncy…but I usually forget, so we just blade out the sails and drop the traveler instead. See below for more detail.

The reason for the looser lowers is that they help de-power the mainsail more than tighter ones do, by allowing the mast to bend forward and sag a bit to leeward. Quite a few Vancouver boats are around 45/40 now, and some are 45/45.

It really depends on two factors: what mainsail you are using, and how soft your mast is.

If the wind is strong enough to hike in, but the water is flat, I just pull on the outhaul a bit more to flatten the sail. If the water is lumpy, I'll ease off the outhaul a bit to punch thru the waves, dropping the traveler as need be. If things get really windy I just blade out the mainsail and the jib via the tightest outhaul and cunningham settings, coupled with moving the jib-car aft from its light air setting.

- Note that your rig tension also depends on the sails and mast you use. For example, on my older boat that I used to own, #171 (Wicked), the mast was quite old and flexed quite a bit relative to a new mast. I used Sobstad sails on the boat (which had luff curve and draft designed for the older masts) and carried my rig at 45U/43L. But when I switched to 304 (Too Wicked), one of my crew, Micah, noticed that the newer mast (6 years old) was stiffer, and we had to ease off the lowers to 40 in order to avoid the mainsail having excessive draft at the luff. It was quite amazing what a few turns on the shroud tensioners would do to the mainsail draft to compensate for the less bendy mast.
- One last note is that with a new, straight mast and a full sail like a Sobstad or North or UK it would be better to block the mast forward to help induce curve in the mast to help it fit the luff curve in the sails, and thus flatten them a bit more than otherwise. This would also enable the lowers to be tensioned up a turn or two to compensate.

9. Are the lowers attached to the deck join behind the uppers? (one boat in Vancouver sailed a whole year with them the other way around and wondered why they were having a few issues until it was finally noticed - oops)

10. Is there a reinforcing tang attached to the bottom of the forestay, and very long (18" or so) reinforcing bars (G10 or aluminum or stainless steel) under the lip where the shrouds attach? If there's nothing under the shroud attachment points, the first photo shows what happens when the deck peels upwards (photo courtesy of Denise George re an LA boat). And if you don't have a reinforcing tang on the bow, per the 2nd photo (also courtesy of Denise George), the first 6" or so of the deck triangle can peel upwards (it actually happened to me at Whidbey Island Race Week back in 1991 – imagine the fun we had Fiberglassing it all back together before the next day of racing…plus adding a bow tang in the process).

11. Buy four 6' long or so white shroud covers so that the boom rubs against them and not the shrouds. They are about $3 each. Also tape a short batten (12") on each side of the boom so that it is also interspersed between the boom and the shroud covers.

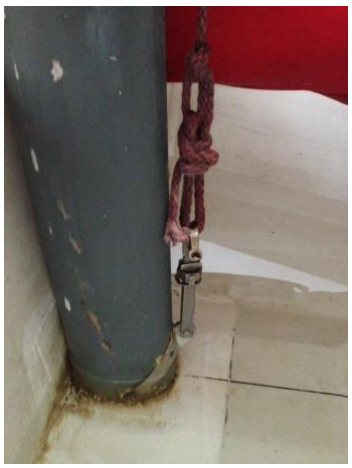
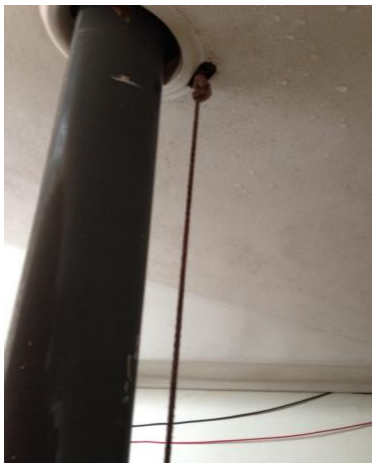
12. If you are using full-batten mainsails, a mast whip at the top is needed for the backstay, but if you use short batten mains like Sobstad usually supplies you don't need a whip, as the backstay will pass by the leach without catching. I've never regretted going

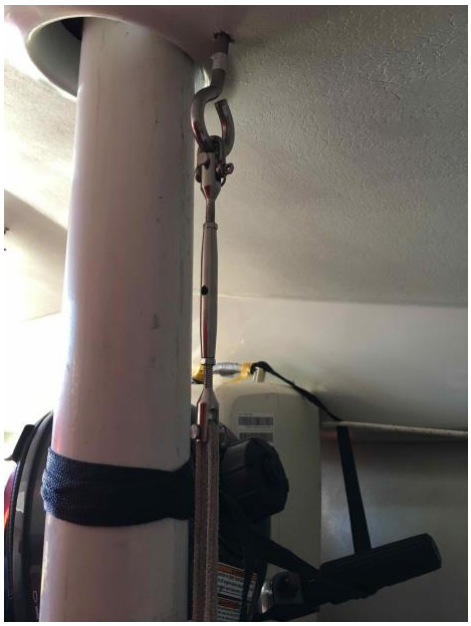
with short batten mainsails from Sobstad, because the cloth used is so good that a mainsail is still competitive after 5 years, without the need for a full upper battens.

13. Put a deck-tensioner on your boat so that when you tighten up the shrouds, your deck does not flex upward as much (or at all), which also affects your Plinth Measurement. Older boats can have the deck flex upward about 1cm, or more depending on wind and wave conditions. Here are a few photos of the various elements of the system. I used to use a purely rope-based purchase system rather than the Sta-Master at the base of the mast in the photos, but switched to a barrel tensioner at the upper end in 2021 for fine-tuning – see the last photo. I use a long metal rod with a loop on one end and a lock-nut&washer on the deck side, rather than a carriage bolt:





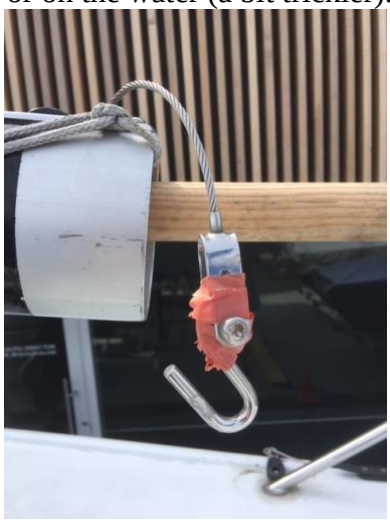


14. The backstay wire can easily be replaced with a long piece of 3/16" or ¼" line, preferably a type that is very strong and low stretch or creep such as perhaps Dyneema. I usually just tie bowlines at each end of the rope backstay line, and then tape them with electrical tape. I also tie a very strong Wichard snap-shackle at the lower end so I can rapidly disconnect the backstay from the lower section when lifting or lowering the boat. Remember that this thin line (and shackle, and lower rope & block assembly) is the only thing keeping your mast in the boat on a 35 knot downwind leg when the mast is pumping under the extreme spinnaker load, so make sure you've got good fittings, taped-up split rings, and either the standard wire backstay or a strong rope backstay. A new mast delivered to BC, plus a couple of new sails (which could get shredded if the mast broke in a few places), would be north of CDN$10,000, so don't skimp on parts or line quality.

15. With regard to the mainsail halyard, my recommendation is that you never use shackles of any kind and instead tie standard bowline knots every time. I have never had a properly tied bowline come undone (but an "Aussie bowline" did once, which is not a real bowline knot – it's more like a figure 8 knot tucked under a loop in the halyard), and I have had a couple of shackles fail, and one time it happened on the water just before the start of racing at Cowichan Bay back in 2010 so we missed the 1st start and wrecked our Series as a result. I do use a shackle on the jib halyard, basically on the theory that it has a bit less load on it than the mainsail, and have never had one come undone yet. However, some people tie the jib halyard on, which is a perfectly fine practice.

16. While we are talking about halyards of any kind, I am not a fan of ones that are tapered and "negatively-weighted" such that if they leave your hand they skyrocket to the top of the mast. This is a persistent recipe for disaster (imagine if it occurs dockside or on the water 30 minutes before the start of a major race), especially with relatively inexperienced crew, and it has happened to me a couple of times on borrowed boats: it's not fun having to race around looking for a bosun's chair to send someone up the mast, and good luck trying to find someone light enough who is keen to do it (it's also no fun having to winch a 180-200 pound crew up the mast…it takes forever). As a result I use nice, thick, soft, and mostly very inexpensive halyard lines (except for the main halyard, which is somewhat more costly) so they are easy on the crews' hands and will never skyrocket. I am not concerned about halyard weight: most of us have got way bigger fish to fry than worrying about a few extra ounces of weight aloft.

17. Because we sail in light to medium air most of the time, and the outhaul shackle is a pain to deal with at the best of times (and occasionally split open under extreme load at the worst possible times), I attached a hook onto the shackle and taped it in place so that the mainsail can rapidly be hooked on and off. The hook in the photo has a closed-loop end, but an "S" hook will also work well if you tape it the right way. I find I can pull the outhaul tight enough in up to about 15 knots of wind, so above that I'll usually remove the hook at dockside (ideally) or on the water (a bit trickier).

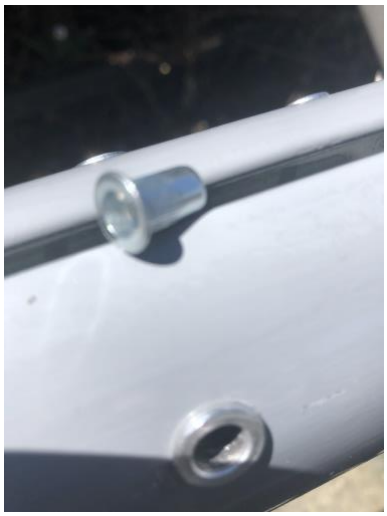


18. And because there is always the possibility of the outhaul wire breaking or the mainsheet fitting pulling out of the boom, I have backup lines ready to go in both cases, per the following two photos.

19. The topping lift loves to jam between the top of the lower shrouds and the mast, so tying a piece of thin string across the front of the mast, per the photo, is a must-do. And per the 2nd photo, this can be accomplished by placing ladder feet on a wet towel on the deck, and tying the ladder 4 different ways at the base and also up high 3 different ways so it cannot move.

The same string concept is needed at the top of the mast because the spin halyard and also the spinnaker head love to get jammed between the upper shrouds and the mast.


20. If your spreader bracket holes have started to burn out or widen and need to be re-done, this following method of jamming stainless caps into the holes is a good alternative, rather than drilling new holes at a different height. Yury Levkovskiy supplied the photos:



21. And lastly, make sure you have a good, large, Windex on your boat, preferably the type that has an 8” vertical spike on it to stop birds from using the vanes as a perch (such as the Davis 15 http://www.davisnet.com/product/windex-15). The importance of a Windex on the downwind leg cannot be overstated, particularly in close-quarter situations where you are trying to gauge the direction of wind shadows being cast by your own boat or by others, as well as assisting with gybing angles.

**HULL:**

1. Is the hull, keel, and rudder as smooth as possible, to a 600-800 grit finish? My friend Matt Alexander (Dirty Dog – past multiple NA's winner) says he tries to win the race at the dock. Fill any dings with a mixture of Fiberglass resin (aka epoxy or polyester resin) and West System 410 filler, which sands easily once it dries:

http://www.westsystem.com/ss/filler-selection-guide

Or you can use "Bondo" or "Half-Time", both of which are used for car repairs, which sand much easier than a resin/filler mixture, especially Half-Time.

Note the following data table (provided by Roger Nelson, ex Fleet 2) regarding hull speed versus allowable hull roughness (which shows that 280-320 grit is just fine for most racing conditions, graduating to 400 when you have the time):

| Critical Speed | | Allowable Roughness | | Sandpaper Grit | |
|---|---|---|---|---|---|
| fps | knots | Microns | Mils | CAMI (US Std.) | FEPA (P-scale) |
| 55 | 32 | 6.5 | 0.26 | 1200 | |
| 42 | 25 | 8.4 | 0.33 | | 2500 |
| 39 | 23 | 9.2 | 0.36 | 1000 | |
| 35 | 20 | 10.3 | 0.40 | | 2000 |
| 29 | 17 | 12.2 | 0.48 | 800 | |
| 28 | 17 | 12.6 | 0.50 | | 1500 |
| 23 | 14 | 15.3 | 0.60 | | 1200 |
| 22 | 13 | 16.0 | 0.63 | 600 | |
| 19 | 12 | 18.3 | 0.72 | | 1000 |
| 18 | 11 | 19.7 | 0.77 | 500 | |
| 16 | 10 | 21.8 | 0.86 | | 800 |
| 15 | 8.9 | 23.6 | 0.93 | 400 | |
| 14 | 8.2 | 25.8 | 1.01 | | 600 |
| 12.4 | 7.3 | 28.8 | 1.13 | 360 | |
| 11.8 | 7.0 | 30.2 | 1.19 | | 500 |
| 10.2 | 6.0 | 35.0 | 1.38 | | 400 |
| 9.9 | 5.9 | 36.0 | 1.42 | 320 | |
| 8.1 | 4.8 | 44.0 | 1.73 | 280 | |
| 7.7 | 4.6 | 46.2 | 1.82 | | 320 |
| 6.8 | 4.0 | 52.2 | 2.05 | | 280 |
| 6.7 | 3.9 | 53.5 | 2.10 | 240 | |
| 6.1 | 3.6 | 58.5 | 2.30 | | |
| 5.3 | 3.1 | 67.0 | 2.63 | 220 | 220 |

2. Is the boat minimum weight? (2475 pounds). There are ways to get the weight down that are not immediately obvious. Also, is your motor and bracket as light as the Class Rules allow? Most people carry a 2-3hp on board for regular racing, and some have a 4-8hp delivery motor for out of town trips.

3. Is every extra bit of gear stripped off the boat that does not help win a race? As my friend Matt says again, if it ain't making you go fast, it's off the boat. That said, everyone needs a few beers on board, and food. And that said, I do carry a very basic tool kit on board and extra lines, plus a few spare parts, a spare spinny pole, and a spare spinnaker (they tend to break or rip at the worst times so it's nice to have a spare ready to go). All told it is maybe 20-25 pounds of extra gear, which does not affect our performance in any material way.

4. By the way, the nuts on the keel bolts should be tightened to a maximum of 45 ft/lbs with a torque-wrench, per Yury Levkovskiy. The nuts are usually ½" and ideally 316 stainless steel.

**DECK & OTHER RIGGING (Also known as the Putter List):**

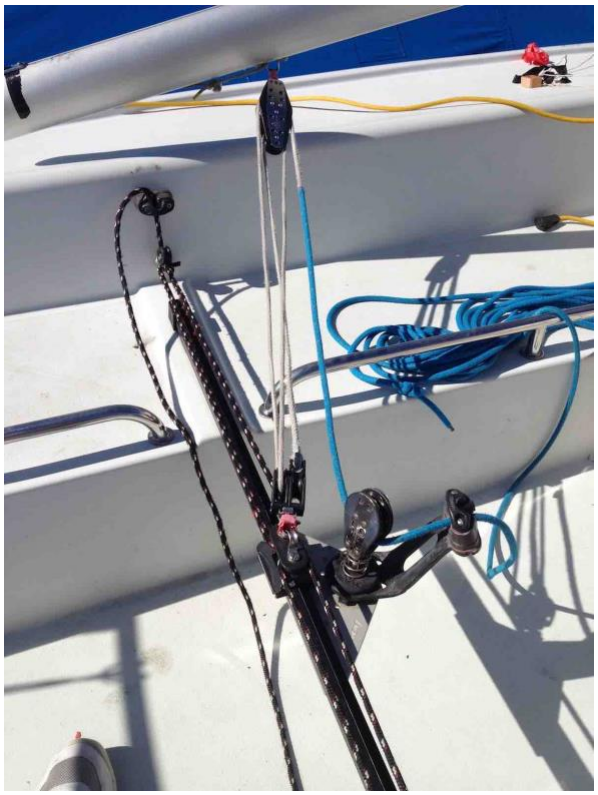
1. Jib car setting is critical: one hole too far forward or aft on the track and the top and bottom of the sail do not break evenly in 8-10+ knots of wind. That said, once you find the magic spot, you almost never move it. In strong wind (15-20knots+) and flat water, I'll drop the car back one hole to twist off the jib a bit, but if it is really steep wave conditions (such as we see in Marina del Rey in LA) I'll drop back up to 4". The standard light-medium air placement of my jib car is as follows: the mid-point of the jib block is 113.5" aft of the aft edge of the forestay tang, and 8.75" from the lower forward corner of the Schaefer 3-wheel deck block.

2. Are the traveler balls in great or new condition? You may need to replace them yearly like I do, or maybe you can stretch to 2 years, but that's it. And they also need regular McLube applied and to be rinsed now and then with fresh water.

I use the traveler as throttle control to power up and down in puffs, so a very functional traveler is important. In non-puffy wind I try to get the boom as close to centerline as possible.

- When checking the trav, also ensure that the mainsheet block is a racheting version. It's a major safety issue when you are ducking the transom of another boat in heavy wind and need to unclete the mainsail in a hurry. Non-racheting ones in general take more effort to pull in and let out in windier conditions, and do not release at all sometimes in really windy conditions (without pounding upward on the clete with your shoe for all you are worth), especially in a port-starboard ducking situation. Many collisions have been caused by this type of crappy block.

3. Do you have a centre post/plate for the mainsheet block, this the one in the photo?



I sailed for decades with the standard version where the mainsheet block and cleat was mounted directly on the traveler car (you can get used to anything), and when I purchased 304 I finally started using the center post system, and noticed 3 major advantages:

a) There is about 20-30% less load on the traveler car when the block and cleat is migrated to the center post. This is important in windy conditions when excessive load on the trav car can cause it to bind on the track if the trav balls are not in excellent condition. Think “collision avoider” in port-starboard cross situations with the center post system.

b) The mainsheet block&cleat is much easier to reach, cleat, or uncleat, in windy conditions because it’s located in the center, rather than being travelled way down to leeward. Ditto re “collision avoider”.

c) I can adjust the traveler at any time without affecting the person who is hiking out using the mainsheet to hang on to, or vice versa, as I sometimes hike using the mainsheet. I’ve actually almost sent people over the side when they were not paying attention when I would pull the traveler to windward on the old system (sometimes you’ve just got to do an adjustment and can’t remember every time to say, “hang on!”)

Parts required:

- Harken mainsheet small hexarachet

- Harken base block swivel with 150 cam cleat

- Harken 29mm carbo turning block

- Harken high load traveler car with fixed sheaves and eyestraps

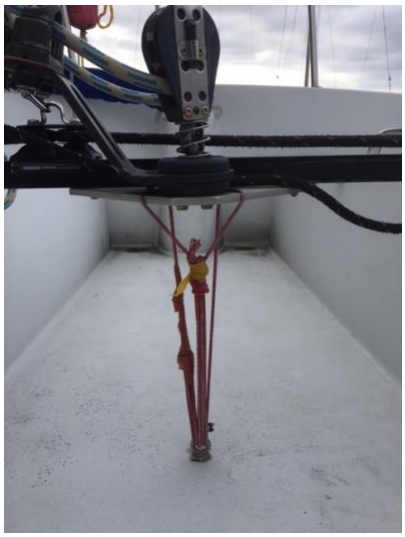
- Harken high beam traveler track

- Harken traveler red end stops

And a custom-made triangular plate that bolts on to the underside of your traveler like the one in the photo above and here:

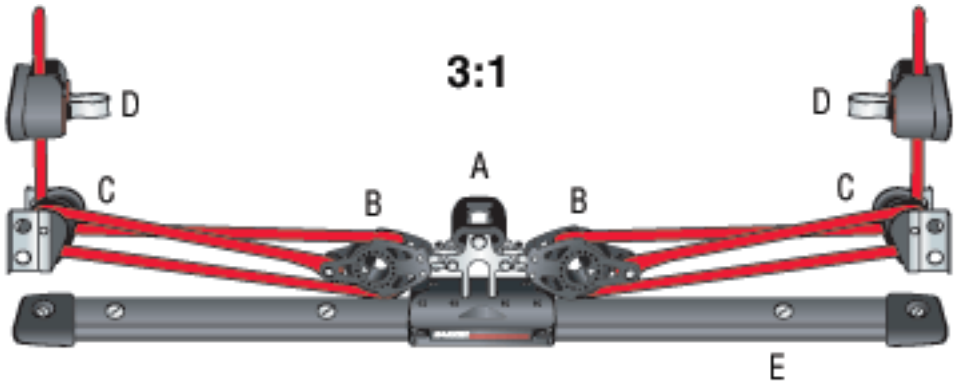
Lastly, with regard to the center post system, I inserted this “tie-down” system at the suggestion of Jason Rhodes so the possibility of the center post system twisting under load was greatly reduced or eliminated. All that is required is an eye-bolt through the

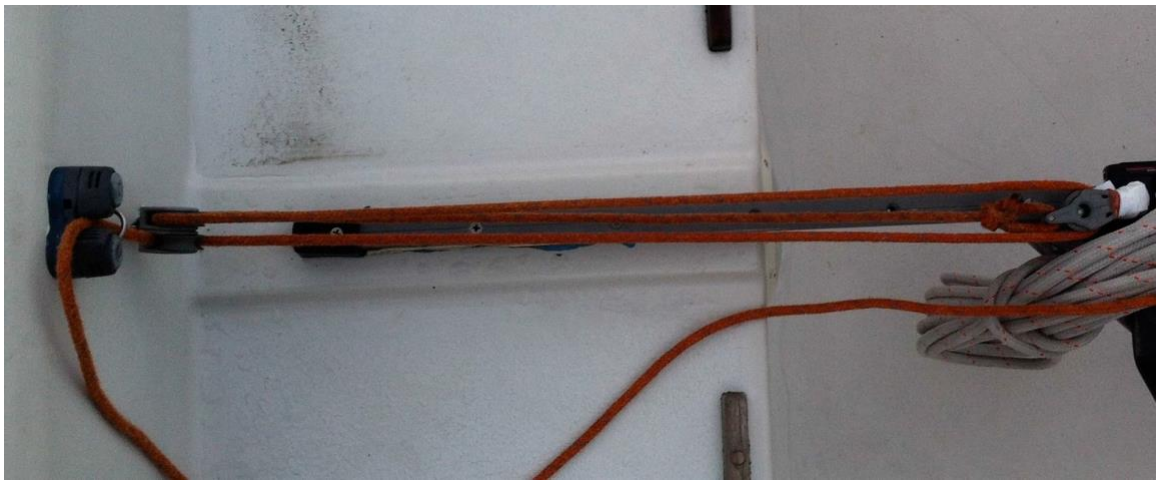
cockpit floor and bolted underneath (with some silicone squeezed in to prevent leaks), and a fairly strong line that ties everything together:



While we are talking about the traveler and center post system, some people prefer a 3:1 system, which was first allowed in the Class Rules in 2014. I've personally never(?) used a 3:1 system (like I said, you can get used to anything) and as a result I decided not to invest in additional hardware and rope and it looked like it might be a bit of a pain to install on 304's traveler car system. But I can see that in windy conditions a 3:1 system would be much easier to pull up than a 2:1, so people should ask around for feedback from those that have installed it. Here is the Class Rule language followed by a simple diagram and a couple of photos:

3.3.1.2 Traveler – 3:1 maximum with a single cleat at each end of the traveler on the seat back. Cleat eyestrap fairleads are permissible.





4. Is there a tactical compass (like a ComNav/Nexus/Silva 103R) on the cabin top that is easily seen by everyone? And are there pencils nearby to write down numbers?

5. Do you have a Velocitek for determining distance to line and also speed?

- I mount both the compass and the Velocitek on my cabin top per the photo. The Velocitek bracket manufacturer is listed on the Fleet 1 Buy&Sell page near the bottom:

6. Having 1:1 jibsheets for light air is best, but with a very proficient crew 1:1 will also work in medium to heavy air. That said, 2:1 is definitely worth putting on for medium to very windy conditions, as they do reduce the strain on crew by a significant amount and enable easy fine-tuning of the jib. I usually use 2:1 on my own boat now in anything over 4knots, and they seem to work fine, although one of my crew prefers 1:1 up to 15-18 knots because there's less line to pull in.

7. Are all the ropes on the boat in good shape? If the answer for a particular rope is "well, this one would probably break if it blew 30 knots", or "well, the main halyard is like bungee cord and we have to keep pulling the mainsail up before racing", then it should be replaced. Secondly, all the ropes should not be overly thick because that increases the friction aspect. Lastly, main halyards tend to stretch when under load, so replace any bungee-like halyards with low-stretch line like Amsteel. That said, I have noted in the past that Amsteel does have a fair amount of "creep" in it, so it is currently not my favorite halyard material.

- Check that the mainsheet is maximum length so the boom will go against the shrouds downwind without having to let the trav car go all the way to leeward on the track, and still leaving perhaps a 5-foot tail exiting the mainsheet block while it is positioned in the middle of the traveler bar.
- There should also be a multi-loop shock-cord arrangement installed on the pole downhaul line so the guy can be pulled back downwind about 6" or so without having to let the pole downhaul off. There are several methods of attaching the shock-cord into the equation. See this photo:

8. Place 4" wide 3M non-skid on your foredeck and by the shrouds so your crew have better footing. I bought about 12 feet at $3.50 or so per foot.

9. Are the spinnaker blocks 2' forward of the cabin face?

- Are they auto-engage Harken 57mm Carbo Ratchamatics? (Harken part number 2625) These engage the rachet mechanism automatically under load but also enable the block to become free-wheeling when the load is gone, and greatly speeds up spinnaker takedowns because the guy & sheet move freely thru the blocks.

10. Consider using a moveable spinnaker bag from MG Marine – they are only $150 or so with all the parts you need for an install.


11. How is the spinnaker pole stored? I used to use a boom-bag made by Sobstad in Vancouver, as it makes it easy for the foredeck crew to put the pole away, and I do not have a clip ring on the boom to then clip the pole to when it's stored away – that process takes way too long (seconds count). Below is a picture of mine on the old 171, along with battens that I taped on the boom to reduce wearing against the shrouds. However, on 304 we have wire loops on the aft end of the boom that the pole is placed into, and it rests on a Velcro-covered aluminum half-shell near the gooseneck (one half-shell is on each side of the boom) – very fast to put the pole away. See the next set of photos for that alternate system.

Note also the dual lifting strap configuration where each strap is attached to its own eyenut on its own keelbolt. Specs on the system can be found on the RVYC website in the Sailing / Secondary Lift Sling Requirements subsection at:

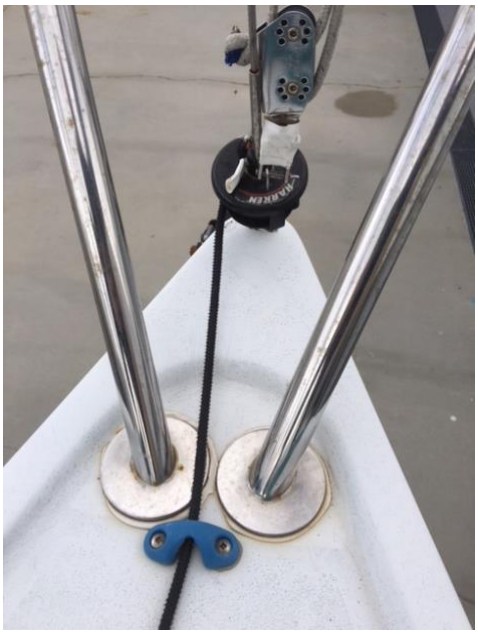
http://www.royalvan.com/Default.aspx?p=DynamicModule&pageid=385386&ssid=304448&vnf=1

One note: you'll want to use a piece of fire hose or something similar around the straps to prevent abrasion between the straps and the lifting hole edge when the boat is loaded up. The hole edge will otherwise usually make mincemeat out of any strap webbing over time.

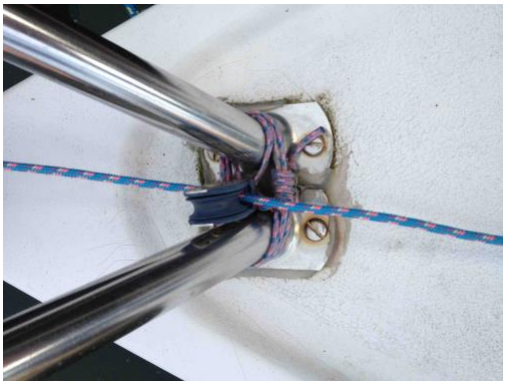
12. Does the boat have tweakers for extremely windy conditions? There are two advantages: a) they can be used to choke the chute in very windy conditions and depower it as well as stabilize it, and b) the pulling points on the boat are moved forward by 10 feet so you are less likely to do a banana-split broach in heavy air.

13. I place a piece of rope and also a shock cord across the pulpit for two reasons. The rope stops the pole end from falling down to deck level when you clip the other end on the mast, and the shock cord stops the spinnaker sheet from dropping down to deck level:

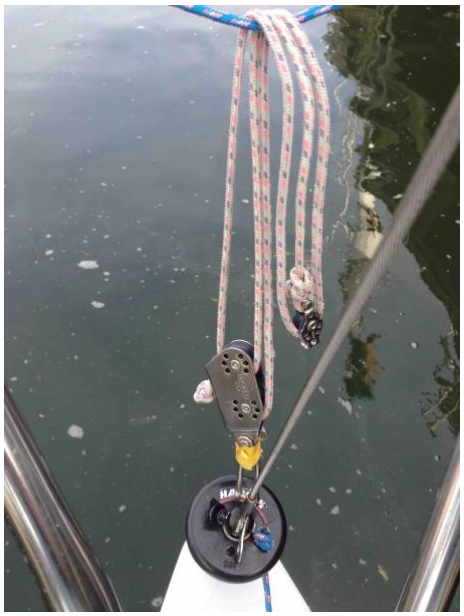
Note in the photo below that the furling drum rope is wound counter-clockwise (the opposite of what this old photo above shows): this helps with the jib furling at the weather mark because the tack-board of the sail begins to roll easier in the counter-clockwise direction, so friction is greatly reduced. If you furl clockwise, as shown in the above photo, the tack-board rubs hard against the stanchion causing excess friction.



14. On my old boat it came with a small Harken block just behind the furling drum to help guide the furling line. In the photo above it's a plastic eyestrap with a metal insert to reduce friction:

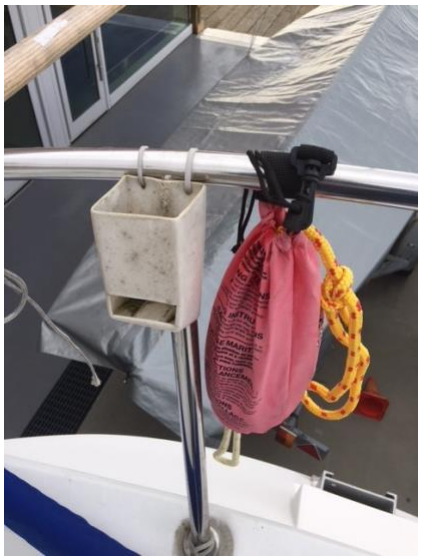


15. Everyone has different jib downhaul assemblies – this is mine on my old boat, 171, which is the same one on my new boat that connects to a horizontal tang on top of the furling drum:



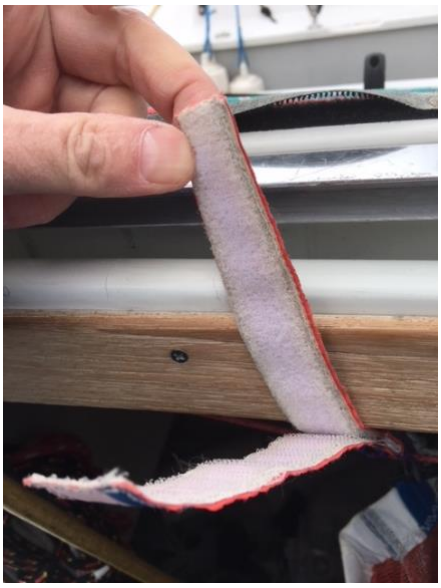
16. Boom Support Pole: if you want your boom elevated post-racing, sticking a 5'-6' long (or so) 1.5" wood dowel in the end of the boom will do the trick.

17. A radio holder zap-strapped to the pushpit comes in handy, with a pre-made or manual cutout so you can hear the radio traffic at the start line.



18. These shroud boot covers from a Melges 24 Class supplier come in handy for being able to quickly adjust shroud tension on the fly. Just pull the Velcro seals apart, and adjust – the Velcro covers are tied to the boat with a thin piece of line so they won't get lost. Most people have the shroud bases and barrels extensively taped up which means they rarely rip the tape off and adjust shroud tension for certain conditions. By the way, the small blocks aft of the shrouds on each side are permanently attached for the spinnaker sheet tweaker system.

19. I have 2 different spinnaker halyard Velcro retraining straps on the boat, each of which has its uses in various conditions. One is screwed into the deck opening on the port side, and the other is tied to the spinnaker bag system line:



20. Lastly, these stainless steel foot rails from MG Marine come in handy for a number of reasons:

**INTERIOR (Also known as the get-out-of-the-house Winter Project List):**

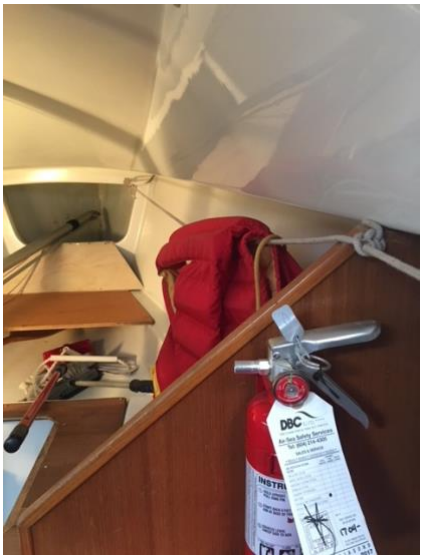
1. The "Mainsail Ski Jump", which is every boat owners' best friend once installed. It makes it way easier to fit the long mainsail inside the boat. Otherwise crew will regularly whack the mainsail end against the coaming around the bow cavity or contort/bend the aft end to jam the sail inside the cabin. Not pretty when it's a $3000-$4000 sail. All you need is 2 screws to hold in the forward bunk board, and 4 screws for the ski jump, and a little plastic ½" tube rub-rail sliced length-wise that is screwed onto the top of the jump with 5 screws to reduce abrasion. The dimensions of the ¼" ply cut board are: 28 ¼" across at the base; 15" wide at the top; and the depth bow-to-stern is 14 ½"

2. Interior motor mount. Self-explanatory, and requires the purchase of a 2nd mount. Also requires a nice rectangular hole cut in the cross-board, with support wood pieces screwed in underneath on each side so that the cut-out piece can be put back in place if you go cruising in the 242 and want to put cushions up forward. The motor would of course be put on the transom mount at this point.

3. The battery case is best moved from the back storage area under the cockpit and placed at the aft end of the cabin sole for easy access, which is Class legal. I tied mine in place with 2 eyestraps that are just screwed in (not bolted in because of the hassle factor). My battery weighs 37 pounds, so the aft Corrector Weights include the 8 pound top-up

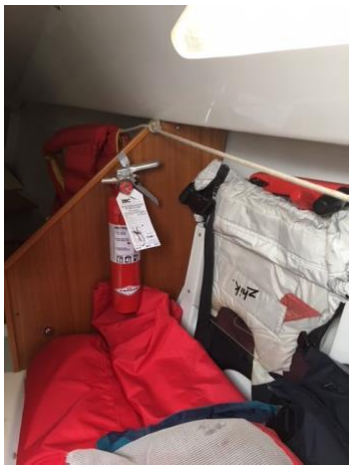
required to bring the battery combo to the required 45 pounds. Not all boats require batteries especially if they are already at the 2475 minimum weight limit, or within 20-30 pounds of it whereby a battery is possibly impractical unless it is a mini battery.

4. I have run lines fore and aft inside the cabin to hang things on – they come in very handy, as you'll see from the next set of photos.









The fan clipped on the aft starboard line is particularly useful for circulating warm air into the aft end during the winter months, which otherwise would be a moist cold air trap zone. The heater in the photo below is essential, and I put an old piece of tin foil under it just in case of an electrical malfunction:

5. A step board in the cabin entrance comes in pretty handy so the drop into the cabin is reduced. By the way, anything permanently bolted on or attached to the boat counts as permanent boat weight, and as such it reduces the amount of Corrector Weights required, if any.

6. A dehumidifier setup also comes in handy during the rainy months. The following photos are largely self-explanatory:

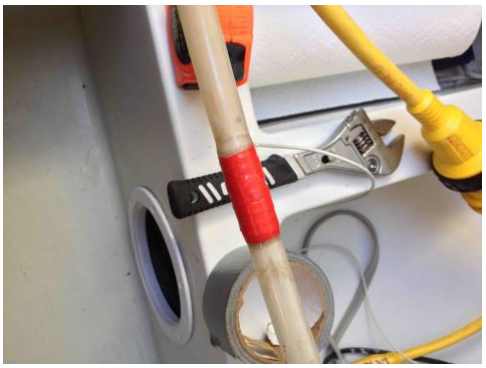
I put a custom-shaped board over the access hole, per the above photo.

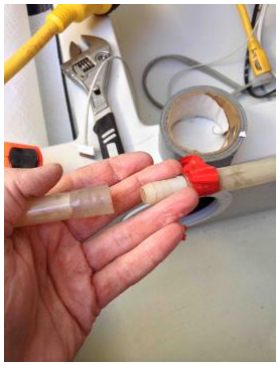
The dehumidifier then sits on top of the board in its Styrofoam shipping base for stability. Note that there are two very long sail ties attached to the handle of the dehumidifier so it can easily be lowered down to ground level by one person, or lifted up again by a single person when it is being re-inserted into position in the boat post-racing.

A drain hose (probably ½” or 3/8” diameter to fit this particular dehumidifier) is attached to the barb of the dehumidifier hose fitting:

The hose then extends through the cabin where it exits just above the cockpit floor via a hole I drilled:

Above: a zap-strap holds the hose in place at the cockpit side of the hole drilled for the drainage hose.





Above: you can see how a double-sided hose barb is inserted in a cut in the drain hose. In this manner the whole dehumidifier setup can be removed from the boat while racing, and all you are left with inside the boat is the aft end of the drain hose (below). It’s a pretty slick setup, per the next photo:

## CORRECTOR WEIGHTS:

I tend to favour having the Corrector Weights skewed 50-50 for and aft in Pacific Northwest conditions because we generally get flatter water. As such, weight forward seems to be better downwind. However, in Los Angeles, they favour having the Corrector Weights skewed 70% aft because they have much larger waves and want more weight aft. Note that when figuring out Corrector Weights the boat needs to get stripped of gear, weighed with a digital scale, and the correct weight added if any is needed, while also factoring in the 45 pounds aft that can be required on light boats in place of a battery. See Class Rules 3.7.1 to 3.7.4 for all the tricky details.

## SAILS:

1. What condition are the sails in? In our Fleet, the top boats usually have very good jibs (no more than 2 years old), mains that are no more than 3, and spinnys that are no more than 4. I would place the emphasis on the sails in that order, by the way, and a new jib every year is a good idea but if you are nice to it you can easily use it at an NA's in year two.

2. Once sails no longer pass the NA's test, they are usually good enough for Wednesday Night and casual weekend racing for quite a while longer (unless you sell them off and buy new ones on a regular basis). I'm usually able to stretch mainsails out to about 5 years; spinnakers out to 6-8 years; and jibs to 4-5 years (especially if battens are retro-fitted in them at the 1-2-year point). Note that Brett Willetts of Sobstad Sails (now Leitch & McBride Sails as of 2018) never installed batten pockets in jibs right off the bat. He preferred to wait for a year or until the leach just started to barely hook itself under load, whichever came 2nd, and then the pockets would be retrofitted and the leach would be reinforced, thus extending its competitive life for several more years.

3. The elastic inside jib pockets breaks down after a while so you need to get them replaced every few years or you will find battens spitting out of the pockets in high winds, depending on the construction method of the pockets.

**CREW:**

1. Crew weight: although the maximum allowable is 800 pounds, it is generally inadvisable to have that much weight on board as an all-round weight (but I've won light-air regattas with that much weight on board, so it's not a terminal situation). In light to medium conditions, 650-750 is just fine, and in heavy air a well-trimmed and fully-hiked boat with 750 pounds on board can easily keep up with a boat carrying 800. Since most racing is done in light-medium air, 650-700 would probably be optimal, but they'd just have to put out a bit more effort in windy conditions and flatten the heck out of the sails.