

Pre-Race Preparation

One of the most important items you and your team can do to prepare for high performance racing is to have your Melges 24 ready to race.

Listed in this section are just a few items that we feel are critical for success on the racecourse.

Trailer and Boat - Make sure when transporting your Melges 24 that the keel bulb always sits perfectly in the keel bed of the trailer. If the boat is sitting where she belongs on the trailer you will find the bulb resting perfectly in the keel bed with space in the keel box both in front and in back of the keel. Also packing pre-cut foam between the keel edges / sides and the keel box will help prevent any movement of the keel when trailing. Many teams seal the top of the keel bulb and the top of the keel box with plastic so that dirt and other debris cannot scratch or damage any part of the keel when travelling.

Hull, Rudder and Keel - Class rules do not allow re-shaping these items.

Hull - For trailing the investment of our 3-piece bottom cover and 1 piece top cover is well worth the protection it affords.

Rudder - The rudder should always be removed when not in use and kept in its padded rudder bag.

Keel - We just talked about taking care of your keel when the boat is on the trailer. When lowering the keel either with the keel crane or by picking the boat up with an electric hoist make sure you have rinsed out the keel box along with the delrins. Because of the tight fit between keel and the delrins even small bits of debris can harm the finish of the keel.

Launching and retrieving The Boat - Believe it or not this is when most damage occurs to Melges 24s. When trailer launching make sure keel box is well packed, as the keel wants to shift as soon as the transom starts floating. When using an electric hoist be sure to keep the boat level or maybe a few inches down in the bow. Again we are trying to protect the keel. Also by holding the bow down just a few inches we are protecting the spreaders from possibly hanging up on the hoist arm as the spreaders pass the arm.

Deck Preparation - The factory Melges 24 comes ready to race. There are a few small class legal modifications that really help with sailing the boat.

- With your spinnaker up at maximum hoist mark the halyard with a black permanent marker.
- With your bow sprit fully extended also mark the bow sprit extender line.



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With the bow sprit retracted (to class maximum extension when sailing upwind) we want to put a knot on the bow sprit retraction line. By having the pole extended that few extra inches we prevent water from coming in the gasket area of the pole when sailing upwind in larger waves. Also, add an additional rubber gasket to the pole so that when the pole is retracted the second gasket retracts over the one on the hull.

Lubricate your bow sprit with a Teflon based jelly like compound. Super Lube, Vaseline are some examples. Do not use a dry Teflon spray because this will not lubricate and protect your gasket seal.

The addition of a small batten (soft 6") to the end of your bow sprit will help prevent spinnaker sheets from falling below the sprit when doing outside gybes.

On older boats remove the Harken block on top of the roller-furling drum. Add a shackle (shackle becomes a turning point for purchase system) to the extra eye at the bottom of your headstay wire. This will allow you to add a 4:1 purchase for your jib luff. This also puts less stress on your jib wire.

Factory boats come with two separate spinnaker sheets. A single sheet with a tapered y-tail to attach to the clew of the spinnaker really helps when gybing, there is less friction across the furled jib.

Mount a Wichard hook or Carabiner on the bottom of the boom at the outhaul turning block. We will place the spinnaker halyard tail in this hook for spinnaker douses. You will find that by placing the tail through this hook that the halyard will not re-cleat itself when the spinnaker is on the way down.

It is only necessary to drill extra holes in the jib track next to the third bolt head (from the back of the track). Both of these holes are just in front of the third bolt head. Also, drill the third bolt head out a little for extra lead adjustment position.

Practice - Practice - Practice!

It has been said that each mark rounding can be worth a minute on the course. Now that is a reference between the first group and the last group of boats. That is a lot of time and a majority of it comes at the corners and the first few minutes of a race. Knowing how your Melges 24 accelerates off the starting line is something you need to practice. Sets at the windward mark are critical, especially if you want to gybe right away. Having the ability to pass between two leeward gate marks absolutely requires that you and your crew understand all three spinnaker takedowns, the Mexican, the windward and the leeward. You do not have to have rock star crews in the Melges 24 class to be successful; you do need to have a regular steady crew who are willing to practice. If we had "Time On The Boat Meters" you would find the top finishing boats in our class had the most accumulated time together sailing the Melges 24.

Rig Set-Up

Mast Down

As the Melges 24 comes almost completely ready to race straight from the factory there is very little to do to prepare your boat and mast to be competitive. With the mast down, be sure to mount your masthead backstay batten and wind indicator to the top of the mast. We like to put a dark coloured piece of tape around each spreader 12" in from each tip. Our jibs are designed with relatively straight leeches and tighter sheeting angles, thus the 12" mark. This will be used later for judging how tight or loose the jib is trimmed. Another thing we like to do is tie some light weight shock cord between the two lower shrouds around the front of the mast 6" - 8" down from their attachment points. This keeps the head of the spinnaker from getting jammed between the shrouds and mast on hoists.

Mast Up

With mast stepped and the jib halyard hylift lever locked down attach a 50' tape measure to the main halyard and hoist to the top (two blocked). Be sure to remove the factory main halyard shackle and run the halyard straight through the end of the tape; tie an overhand or figure eight knot in the end of the tape.

Check to see that the mast is close to centred by measuring to the chainplates on both sides of the boat. At this point the upper shrouds should be snug (around 16 on a Loos Model B tension gauge) (See Tension Gauge Conversion Chart) and the lowers should be loose. Tighten/loosen the upper shrouds on each side so that the mast is centred side to side.

Now measure from the top of the mast to the intersection of the transom and the bottom of the hull. This measurement should be 36'6 + 1/2". Tighten or loosen the turnbuckle above the hylift lever to achieve this measurement.

Finally, recheck to be sure the mast tip is centred side to side and that the mast rake is 36' 6 1/2".

Rig Tension

The tension on the upper shrouds is critical to the upwind shape of primarily the jib and to a smaller degree the mainsail. For maximum speed it is important to aggressively adjust the tension on the upper and lower shrouds depending on wind and sea conditions. For the uppers, which get quite tight, we use a Loos Model B tension gauge to measure shroud tension and adjust the tension depending on the wind strength using the following chart. (See Tension Gauge Conversion Chart)

The lower shrouds control the side-to-side sag or bend of the mast and to a smaller degree how much the mast can bend forward in the middle. The lowers have a lot of control over the shape of the main because of this and it is very important to be sure they are adjusted correctly. Because the tension on the lowers is so light, we prefer to set their tension by sighting up the backside of the mast to see how much sag the mast has to set the lower tension. It is not fast except in very windy



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conditions to have the middle of the mast bending to windward. When it becomes so windy that the mainsail turns inside out and begins to luff or flog in the puffs, then it is fast to tighten the lowers so that the mast falls off to leeward above the spreaders. This keeps the bottom section of the mast from over bending fore and aft and thus keeps the bottom section of the mainsail working while twisting open the top half to depower.

SPECIAL NOTE: When sailing with lowers this tight it is extremely important to keep some backstay ongoing downwind. If the backstay is not on, the mast will invert and most likely break!! Always have the forward crew sight up the mast to insure that there is enough back stay on!

Below is a chart of the settings on the upper and lower shrouds that we have found fast:

Wind Speed (Kts)	Upper Tension	Lower Sag
0-6 - Light	Loosen 4 turns from base	¾" leeward sag
6-10 - Light Medium	Loose 16 -- Base Setting	¾" leeward sag – Base Setting
10-15 - Medium	Tighten 6 turns from base	½" leeward sag - tighten 4 turn from base
15-20 - Medium/Heavy	Tighten 12 turns from base	½" leeward sag - tighten 8 turns from base
20+ Heavy	Tighten 20 turns from base	no sag straighten - tighten 18 turns from base

As you can see from the chart we want to get to a point where we are adjusting in full turns. The chart you build for your boat may vary slightly on the number of full turns on or off to achieve maximum performance.

After you have set up the uppers to the correct wind speed, sail the boat on both tacks checking the mast sag side to side and adjusting the lowers according to the wind speed. After you have sailed the boat a while you can create a chart of the shroud tensions and the number of turns needed to be put on or taken off the shrouds for each significant change in wind speed. Also, create a chart for turnbuckle numbers for each side of the boat. This will enable you to exactly duplicate settings without counting turns.

Note that in heavy seas you will want to err a little bit on the light side (for more power) and in flat water you can err a little bit in the tight side. While class rules allow you to adjust your shrouds anytime during a race we like to set the boat up for the lightest wind speed we expect to see on the first beat. Then if the wind speed changes significantly during a leg we adjust our shrouds according to our chart.

Having a base setting using your light medium numbers is a good way to leave the dock each day for the races. It is easy to spin up and down from there. Develop this habit and you will find tuning the rig is not such a mystery but actually rather simple.

Sail Trim

Mainsail



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Like other boats main trim on the Melges 24 is keyed off the end of the top batten. In light to moderate air we trim the main so that the telltale on the top batten is stalled about 25% of the time (the second telltale from the top -at the second batten, is flying 100% of the time). As the wind increases both tell tales will fly all the time. In light to moderate air the back end of the top batten should be parallel to the centre line on the boat, in heavy air it will be pointed out about 5 degrees. Don't forget that mainsheet tension is how you tension your forestay, which directly effects on your pointing ability. There is a fine line on having enough tension for good pointing ability and over-trimming the main. Usually most over-trimming of mainsails occurs in light air.

Following is an overview of each main control and how it should be adjusted.

Backstay

The backstay controls the overall power in the sail plan, particularly the main. Generally we do not use any backstay upwind until about 12 knots true. Then we will start putting the backstay on to depower the boat and keep it on its feet. It is vital that every time you adjust the backstay you adjust the mainsheet as well. When you tighten the backstay tighten the mainsheet to keep the top batten angle the same. In reverse when you loosen the backstay, be sure to ease the main as well. This is not the case in heavy air, as you can leave the mainsheet more constant and work the backstay to change power. In puffy conditions we find it better to play the backstay rather than the mainsheet. The mainsheet also effects how the jib luff sags so it is faster to keep the main trimmed and initially play the backstay in a puff. The jib will not get fuller in the puffs and the boat will accelerate faster this way. When it is really windy, you can switch back to working the mainsail and keeping the backstay on really hard.

Outhaul

Because the slot on the Melges 24 is quite narrow, the bottom of the main generally needs to be on the flat side. Keep the outhaul tight (clew at black band) in conditions when the crew is on the rail. When the crew is in the boat you can ease the clew in 1" from the black band. Clew should be 2-3" in from band downwind except in heavy air tight reaching when it should be tight.

Vang

We use the vang upwind as soon as the boat is overpowered. At the early stages of being overpowered we simply snug the vang with the mainsheet trimmed while going upwind. We do this so that when easing the mainsheet in the puffs we do not lose control of main leech. As you become more overpowered we pull the vang harder to flatten the bottom 1/3rd of the mainsail. Downwind adjust the vang so the top batten is parallel to the boom. Generally the vang with the slack taken out of it upwind will be too tight for downwind sailing. We like to make a mark on the vang itself for an approximate downwind setting and then ease the vang to that mark just before rounding the weather mark.

Cunningham

We do not use the main Cunningham until the wind gets to over 16 knots. Then we pull on just enough to remove any horizontal wrinkles in the sail. When it is less than 16 knots be sure the



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Cunningham is loose enough to allow for some slight horizontal wrinkles in the luff of the main. Downwind the Cunningham should be off.

Traveller

As a rule of thumb, keep the traveller car between the skipper foot rests when sailing upwind. Never sail with the car above the windward one nor to leeward of the leeward one. In light air (crew in boat) the car will be 4-6 "above the centreline. As the crew comes up on the rail we find it very fast to centre the car. As the breeze continues to build, keep the car centred as long as possible before dropping it down. After the backstay is on and the main trimmed hard drop the traveller down between the centre and the leeward foot rest. The boat is very sensitive to traveller position and movement of 1-2" is enough to have a big effect. In really heavy air when the mainsail tends to "turn inside out" keep the traveller centred. In moderately heavy air, with lots of chop, you can experiment with keeping the backstay on hard to keep the head stay straight, and pulling the main traveller to windward with a soft mainsheet to keep twist in the main.

Jib Trim

Because the jib on the Melges 24 is a high aspect sail (tall and skinny) it is very sensitive to small adjustments in jib sheet tension. Tightening or easing the jib sheet 1/2" can have a big effect on boat speed and pointing.

With the 36' 6 1/2" mast rake setting you should use the third bolt head from the back of the jib track for 16-25 knots, the next special drilled hole just forward of that third bolt for 12-16 knots and the next forward special drilled hole for 0-12 knots.

We have placed a telltale on the upper leech (near the spreaders) of the jib to help you judge how tight or loose the sheet should be. The general rule of thumb is to trim the sheet hard enough so that the upper leech telltale is just on the edge of stalling. Just as with the mainsail it will be easy to stall the telltale in light air and very hard to stall in heavy air even with the sheet trimmed very hard.

Jib Cloth Tension

Adjust the small line at the tack of the jib so the luff of the sail has no wrinkles coming off it. It will be necessary to change the tension depending on the wind speed to remove the wrinkles at all times. In very heavy air, tension the luff so that the sail is smooth.

Leech cord

Be sure that your leech cord is not too tight. It is very easy to put a lot of tension on the cord in heavy air and have it too tight in light air.

Spinnaker Trim

Spinnaker trim on the Melges is much easier than that of a conventional poled boat. There are a few tricks that can make you faster downwind and make your sail handling easier. Tack height on the sail is important. Generally, we keep the tack down tight to the pole end when reaching (broad or



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beam). Letting the tack up on reach will just move the sail to leeward and increase heeling. When we can let the tack line off when the tack will ride straight up or just slightly to leeward. We have found this setup to be faster in these conditions. We will generally let the tack off in these conditions 12-18".

Two other topics that always come up are whether to take the spinnaker down between the shrouds and the mast or behind them. The other topic is whether to gybe the spinnaker inside it's luff or outside. We've found that it almost always seems easier to take the spinnaker down behind the shrouds. This makes setting the spinnaker easier as it does not have to fit between the shrouds, the vang, the jib and the boom. When setting the spinnaker, it is best to take the whole sail out of the bag prior to setting. This makes it much easier to hoist the sail. Normally, we've found that it is just as fast and a lot safer to gybe the spinnaker inside its luff. This eliminates any chance that the lazy sheet could fall in the water, it makes for a less sheet for the spinnaker trimmer to pull in, and it allows you to perform any of the three takedowns at the leeward mark.

Gybing the Asymmetric Spinnaker - There are two types of gybes. The inside gybe and the outside gybe. How you hook up your tack line to your spinnaker tack dictates whether you will gybe inside or outside. By placing your tack line on top of the spinnaker sheet when hooking the tack line up to the spinnaker you are setting up for an inside gybe, where the spinnaker passes between the luff of the spinnaker and the furled up jib on the head stay. Hooking up the tack line underneath the spinnaker sheet sets you up for an outside gybe. However, most of the time though, you will see teams gybing inside. On the gybe, the fastest method is to have the trimmer ease the kite as the boat heads down, another crew starts to trim the new sheet and the forward crew overhauls the new sheet just behind the shrouds. The forward crew then pulls down on the clew to untwist the head as the kite comes around.

Spinnaker Sets - We have found that it is best to always set the spinnaker from behind the shrouds. This does mandate taking the spinnaker down behind the shrouds, which is the easiest way for all three takedowns.

Spinnaker Douses - There are three types of takedowns: the windward, the leeward, and the "Mexican".

The windward douse is used when doing a port rounding and you are approaching the mark on port tack. The "Mexican" is for rounding a mark to port but your approach is relatively shallow on a starboard tack. The leeward douse is for rounding a mark to starboard while on starboard tack or when you approach the mark at a very sharp angle while on starboard tack and you will have to gybe quickly around a mark leaving it to port.

For the leeward douse, you can either grab the lazy sheet off of the clew, or grab the sheet just above the lifeline. The helmsperson then must bear off slightly, the clew should be pulled in under the mainsail to prevent the kite from blowing over the leech of the mainsail, and then the tack line



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must be blown off completely. The halyard should then be fed down as the crew gather the spinnaker.

For the windward douse, the skipper can sail low, while the crew start to trim the windward sheet to pull the kite around to the windward side the forward crew should blow off the tack to unload the pressure off the kite. The clew should be trimmed all the way back behind the shrouds, the halyard can then be released and the kite stowed.

For the "Mexican", as you approach the leeward mark on starboard, the helmsperson should bear off into a slow gybe, the trimmer will over-trim the sheet as the boat gybes to port. Just as the boat is headed directly down wind and the mainsail begins to gybe, blow off the halyard. The spinnaker will blow against the rig and fall on the deck. When the sail is 2/3rds the way down release the tack and stuff the spinnaker in its bag. Practice of these three douses is vital to success on the racecourse.