NORTH SAILS

One Design

For any question you may have on tuning your Melges 20 for speed, contact one of our Melges 20 experts listed below:

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Melges 20 Tuning Guide

The following tuning guide is meant to be a good starting point when setting up your Melges 20. Depending on total crew weight, wind and sea condition and sailing style you may have to alter your set up slightly from what is given here. As you read this tuning guide, write down any questions you might have and we will be happy to discuss them in detail with you. The goal of this tuning guide is to achieve a rig set up that is fast in all conditions upwind and down. Your new North sails are designed with this "all around" philosophy in mind.

Pre-Race Preparation

One of the most important items you and your team can do in preparing for high performance racing is to have your Melges 20 ready to race. Listed in this section are just a few items we feel are critical for success on the racecourse.

TRAILER AND BOAT

Make sure when transporting your Melges 20 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 traveling.

HULL, RUDDER AND KEEL

Class rules do not allow re-shaping of these items.

Hull - For traveling to regattas and general care of your new boat the investment of our bottom trailing 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. Remember to always put away dry.

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 keel guides. Make sure the keel box is free of any lines or padding. Also, make sure you keep the boat level when raising or lowering the keel or the boat on the keel to ensure the keel fin does not get damaged.

LAUNCHING AND RETRIEVING THE MELGES 20

Believe it or not this is when most damage occurs to Melges 20's. When trailer launching make sure the keel box is well packed with padding, as the keel wants to shift as soon as the transom starts floating. To ramp launch you will need to use the keel retractor crane and lift the keel so that the bulb is just touching the hull. 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. Keep in mind when you lower the bow the keel fin is vulnerable so care must be taken not to damage the keel fin.

When launching on a hoist it is not necessary to use the keel retractor crane. You can either launch by picking up the boat with the lifting straps and not hooking into the top of the keel, hooking into the top of the keel and the lifting straps or using the keel retractor crane to hold up the keel and just hooking into the lifting straps.

To launch the boat with the preferred keel down method, hook the hoist into the lifting straps only and not the top of the keel. Lift the boat level until the keel is all the way down and you are lifting boat and keel off the trailer. Then hold bow down to keep rig clear of hoist. This is the recommended method as long as the water depth at the hoist is more than the draft of the keel which is 4'6" or 1.371M.

To launch the boat picking up the keel and the boat you would hook into the lifting strap on one side, then through the lifting ring in the top of the keel and then into the lifting strap on the other side of the keel. This method requires more care when lifting to ensure the keel does not swing in the box or the boat does not get tipped too far bow down or bow up to damage the keel fin.

If the water depth at the hoist is too shallow to launch the boat with the keel down, it is best to use the keel retractor crane to hold the keel up when launching. To use this method, install the keel retraction crane behind the keel, attach the keel retractor to the lifting ring that you screw into the top of the keel. Leave the keel retractor line loose enough so you can pivot the keel crane off to one side and lift the boat with the keel in the up position. You must hook the electric hoist into the strap on each side of the keel and also the lifting ring on top of the keel. Then when you are lowering the boat into the water, as the keel starts to lower, the keel crane will automatically pivot to fore and aft position as long as the winch is properly locked off on the keel crane will hold the keel in a raised position until you are in deeper water.

IT IS VERY IMPORTANT TO PAD THE KEEL IN THE KEEL BOX TO PREVENT ANY KEEL FIN DAMAGE.

DECK PREPARATION

The factory Melges 20 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 tack line/bow sprit extender line. Make sure that you have the proper knot tied in the end of the line to account for it being tied to the tack of the spinnaker. It is best to tie the loop with about a 65mm or 2.5" loop to prevent the tack of the kite from binding on the bow sprit end plug.

- The bow sprit is shock corded to retract. Ensure that the shock cord is adjusted so that it is just enough to retract the bow sprit and not retract with too much force.

- Attach a Carabiner on the bottom of the boom at the supplied eyestrap. 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.

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 20 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 20 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 20.

Rig Set-Up

MAST DOWN

As the Melges 20 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, pull all the halyards down and tie off at the bottom, also make sure the turnbuckles are set evenly with similar amount of threads showing at the top and bottom of the open body. 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, also above the lower spreader between the intermediates and the diamond stays, and also between the Intermediates and around the front side of the forestay about 12" below their attachment points. This keeps the head of the spinnaker from getting jammed between the shrouds and mast on hoists and keeps the kite from getting caught above the lower spreader on a take down.

Once the rig is ready to step you can slide the mast aft, place the diamond stay over the keel and lock in the mast base to the mast step deck plate. Rest the mast in the mast support on the rear mast hold down bunk. Now, attach the Intermediate shrouds to the outer shroud cars, make sure the shroud cars are all the way forward on the tracks. Also, attach the lower shrouds to the inner sidestay cars and insure that they are all the way forward on the tracks. You will want to ease both intermediates and lowers out at least ¾ of the way on the turnbuckles to ease in attaching the forestay for the very first mast stepping.

Set the diamond stays so that there is approximately 100mm (4") of prebend in the mast. By tensioning the diamond stays you put more prebend in the rig. The diamonds accomplish two important tuning tasks. First, they put prebend in the mast to better fit the luff curve in the mainsail and set the rig up to sail in a wide variety of conditions without needing a backstay. The other important aspect of the diamond stays is that they support the top of the mast when you are flying the Asymmetrical spinnaker. So, it is important to have enough tension on the diamonds to support the mast with the A sail flying. Refer to tuning matrix chart.

Before stepping the mast it is best to pre furl the jib furler so it is ready to go before stepping the mast. When furling the jib it should furl counter clockwise, so, to wind up the drum turn it clockwise until the drum has filled up with the furling line.

It is possible to step the mast alone but will be easier if you have some one pull forward on the forestay as you walk up the mast. Ensure that the mast base stays securely locked in the deck plate and does not come out as you are walking the mast up.

Once the mast is up, attach the Forestay to the furling tang.

MAST UP

With mast stepped attach a 15M or 50' tape measure to the main halyard and hoist to the top and lock off on the halyard latch.

Check to see that the mast is close to centered by measuring to the deck edge on both sides of the boat at the shroud tracks. At this point the intermediate shrouds should be tightened to 130KG or 285lbs. on a Loos Model A tension gauge or the Harken gauge and the lowers should be loose. Tighten/loosen the upper

shrouds on each side so that the mast is centered 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 9445mm or 30'11-3/4" . Tighten or loosen the turnbuckle on the forestay to achieve this measurement. You will have to adjust the intermediate tension when adjusting the forestay to maintain a constant tension on the intermediates of 130Kg when checking the mast rake. Also, the diamond tension should always be measured with this tension on the intermediates as the tension will change on the diamonds as tension changes on the intermediates. The diamonds should read a tension of approximately 95Kg. or 210lbs. when the intermediates are set at 130Kg. tension. Be sure to adjust the diamond stays to this setting with the tension gauge.

Finally, recheck to be sure the mast tip is centered side to side and that the mast rake is 9445mm or 30'11-3/4".

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 adjust the tension on the upper and lower shrouds depending on wind and sea conditions. The MELGES 20 is designed with shroud tracks on ramps to facilitate ease of rig tune with minimal turnbuckle adjusting. As the wind increases you can move the intermediate shroud cars aft to increase rig tension and headstay tension. This in turn helps flatten the jib and depower the rig. So as you start to get overpowered start to move the intermediate shroud cars aft on the tracks. You will want to be all the way aft by approximately 18 knots of wind. **It is best to move the tracks on the leeward side of the boat with the least amount of load, take care to pull aft on the shroud as low as possible when pulling up the car stop pin as these are under load and will fly forward rapidly if care is not taken when adjusting these.**

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. 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. We set the lowers so that when both cars are all the way forward in approximately 8 knots of wind there is approximately 10mm of sag in the mast at the lower spreader. If you were to put the loos tension gauge on the shroud and pull out to the mark you would be able to fit at least one finger in between the loos gauge arm and the end of the gauge.

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

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.

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.

RIG TENSION CHART

Wind Speed	Intermediates	Lowers	Diamonds
0-8 Light-Medium	Loos 130Kg, or 285lbs **Base Setting**	10mm leeward sag **Base Setting**	95Kg. or 210lbs. **Base Setting**
8-12 Medium	1 to 2 holes aft on tracks	Base	Base
12-18 Medium Heavy	3 holes to max aft	Base to 1 or 2 holes aft	Base
18+ Heavy	Max aft	2 holes aft, sight up mast, no sag	Base

Sail Trim

MAINSAIL TRIM

does not have a backstay or main traveler it is relatively simple to trim the main and steer requiring very little movement by the helmsperson. Like other boats main trim on the MELGES 20 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 telltales will fly all the time. In light to moderate air the back end of the top batten should be parallel to the centerline on the boat, in

heavy air it will be pointed out as much as 30 degrees. With the square top mainsail on the MELGES 20 it is important to not over trim the mainsail. Twist is your friend, when it doubt, ease it out to get the boat going through the water.

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

OUTHAUL

Because the slot on the Melges 20 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 25mm or 1" from the black band. Clew should be 50mm or 2" in from band downwind.

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 to help induce mast bend and flatten the mainsail. As you become more overpowered we pull the vang harder to flatten the mainsail. Generally in flat water you can pull the vang harder than in waves. In waves you need more twist up high and power down low so it is important to experiment with the vang tension in a given condition to see what provides the best performance. Downwind adjust the vang so the top batten telltale is always flowing, twist is generally good. 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 use the Cunningham on the MELGES 20 as another one of the depowering tools. We pull on just enough to remove any horizontal wrinkles in the sail as soon as we start to get overpowered. As you become overpowered experiment with a very hard Cunningham to flatten the main, pull the draft forward and twist open the head. Again, different wave conditions warrant different settings so you must experiment to find the fast setting. Downwind the Cunningham should be off.

JIB TRIM

Because the jib on the MELGES 20 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.

The Melges 20 jib halyard is set up on a halyard lock system similar to the mainsail. There may be some fine-tuning required to set the jib height off the deck. You want the jib as low to the deck as you can get it at the tack and still have sufficient space to adjust the tack. This will require either a long shackle at the head or a lashing with some small line to set the jib at the optimal height. Once this is set you will always hoist to that same spot.

Generally in light to medium breeze set the jib lead so that when luffing slowly into the wind the luff breaks evenly. As the wind builds you will want to move the lead aft to flatten the foot and twist the head of the jib to depower.

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. In flat water it will sometimes be fast to carry some horizontal wrinkles off the luff.

LEECHCORD

Be sure that your leechcord 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. The key is to just stop the flutter in the leach if there is any.

SPINNAKER TRIM

Spinnaker trim on the Melges 20 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.

You will want to set up the spinnaker sheets to always gybe inside the luff of the kite. So the tack line would be over the top of the spinnaker sheet as it comes aft to the kite. When rigging – "tack over sheet" is your reminder.

Always trim the kite so it is on the edge of collapsing on the luff, it is not fast to over trim the kite.

GYBING THE ASYMMETRIC

On the gybe, the fastest method is to have the trimmer ease the kite as the boat heads down, then 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

Forward crew pulls the spinnaker halyard up and the second crew pulls the tack/pole out..

SPINNAKER DOUSE

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 anti hiking pad to strap the foot. 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 must be blown off completely. The halyard should then be fed down as the crew gather the spinnaker. The key here is to maintain the tack and foot of the kite and keep it out of the water, also watch for the kite blowing behind the leach of the mainsail.

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 grabbed inside the shrouds and start to stuff the kite in the bag gathering leach first for about 1/3 and then grab both. Steer under the foot to keep the kite on the deck.

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.

Conclusion

We hope all of the tips we mentioned are helpful to your Melges 20 sailing program. Let us remind you that these are the most important and obvious helpful hints that we have provided. Our experts will be happy to go further in detail with you anytime.

Many thanks for your purchase of North Melges 20 sails. Our goal is to provide you with the fastest, longest lasting and easiest to use sails on the market. We are constantly going to regattas and are always learning more about how to make these exciting boats go fast. Please contact us either in Zenda or San Diego if you have any questions and we look forward to seeing you on the water soon.