MELGES E SCOW
TUNING GUIDE

MELGES E SCOW

Congratulations on the purchase of your new Quantum E Scow sails. You can be assured that we have exhausted all resources and spent hundreds of hours testing them to provide you with the best E Scow sails on the market. The following guide will help you set up your E Scow for the best performance in a variety of conditions. Further fine-tuning and departing from some of these guidelines may produce even better results if you are keen to develop your own personalized tuning matrix. If not, you can confidently sail with the matrix defined, knowing that most of the winning E Scow teams use what we have outlined here.

This tuning and sailing guide is for E Scow sailors using the rig with the chainplates aft and no backstays.

BEFORE STEPPING THE MAST

1. Clean and lubricate turnbuckles, making sure that the top and bottom threaded studs are even in the turnbuckle tube.
2. Position the mast so that the base is locked in the mast step plate on the deck and the top end is resting in the boom rest support.
3. Check all pins, wires, and fittings for wear, and attach upper and lower shrouds.
4. Pull the forestay down firmly along the top of the mast and mark the wire with a permanent marker at the top of the mast base casting, or where the tube is cut off at the bottom. You will use this mark to measure your mast rake once the mast is up.
5. Check the spreaders to make sure they are pinned in the forward hole for an all-purpose setting. This puts the spreaders in the aft-most position.
6. Make sure all halyards are pulled down and not fouled.
7. Tie the feeder line that comes up through the mast step onto the bottom end of the jib halyard and pull the jib halyard through the deck. Take care not to lose the feeder line through the deck or you will have to re-run it through the pulleys inside the backbone.
8. Step the mast with one person on the foredeck pulling the spinnaker halyard, one person walking the mast up, and another attaching the forestay.
9. After stepping the mast, obtain the proper shroud tensions. If you have a new mainsail with the slug sewn into the sail, remove the screw holding the slug slide in the mast and then remove the slug slide. This slide can be shackled on another sail for use on an older mainsail.

SETTING UP YOUR MAST

To adjust the sidestays to the all-purpose setting, set the mast rake by measuring up from the deck along the forestay wire to the mark on the wire that corresponds to the mark you made on the wire at the bottom of the mast tube. This measurement should be 26-3/8".

Next, tighten the intermediate shrouds so they measure 38" (610 lbs) on a Model PT-1 Loos tension gauge. Make sure the intermediates are in the aft-most hole in the chainplates and tighten each turnbuckle the same amount. If you want to fine-tune the rig, measure down to the deck at the chainplates using the jib halyard and adjust the intermediates to center the mast athwartship. This is a good all-purpose setting for the intermediates. Note: If you have a new boat, it is important to sail a few times in heavy air to stretch out the rigging before setting permanent marks on the shrouds and the mast rake. Double-check the mast rake measurement after tightening shrouds and sailing a new boat in good breeze.

Set the lower shrouds at 21" (240 lbs) on the PT-1 gauge and the diamonds at 23"-24" (290 lbs-300 lbs). You will have to work back and forth between shrouds to achieve these base numbers.

RACING YOUR ASYMMETRICAL

Here are some tips that can accelerate your move up the learning curve and help you reach maximum performance right out of the gate. Teamwork is a major factor in this sport, so use these tips as a baseline and work with your team to see what techniques work best for your boat.

When setting up asymmetrical sheets, be sure to rig them so you're making inside jibes, which is where the clew passes between the luff of the kite and the forestay. A quick way to ensure you're making an inside jibe is to lead the tack line over the starboard spinnaker sheet when you rig your sheets. Remember, tack over sheet.

A chute launch system on your boat is beneficial for ease of launching and retrieving the spinnaker, and we highly recommend it. A one-patch setup is what most sailors are using, and it works great. The takedown line should lead under the spinnaker sheets, under the foot of the kite when on starboard jibe, and then up the outside of the sail to the patch.

IMPORTANT MAST TUNING & ASYMMETRICAL TECHNIQUES

DIAMOND STAYS

The diamond stays on the mast help support the masthead spinnaker configuration. Tension on the diamonds ensures that the mast stays pre-bent and in column, so make sure to follow the tuning guide recommendations and not stray far from these numbers. Diamonds that are too loose when it is windy will not support the masthead kite properly and cause the mast to invert, which often leads to severe damage.

Note: Diamond stays will stretch when they are new, and you must check them before and after heavy air races. Diamond stays will also measure differently with different tension on the Intermediates and the lowers.

SPREADERS

To ensure maximum spreader sweep, spreaders should always be in the maximum aft setting on the mast. This is true for aft chainplate boats as well as forward chainplate boats.
Note: This is a fast setting for all wind conditions.

The upper spreaders are factory-set, with approximately 6¼" sweep when measuring from the back of the mast to a straight line from tip to tip where the wire passes through the tip. Sweeping the spreaders forward will make the top of the mainsail fuller, and sweeping them aft will flatten the top of the mainsail.

MAINSHEET TECHNIQUES

To achieve the greatest performance, sail your asymmetrical slightly hotter or at higher angles than a symmetrical kite. This, along with the higher speeds you are achieving, will bring the apparent wind angle forward and require the mainsail to be trimmed at a tighter angle. More vang can be carried since you are sailing at hotter angles with more load on the mainsail. Because you are sailing at higher angles and the asymmetricals are easy to jibe, you should not ease the mainsail out too far on the jibes; the maximum the sheet should ever be eased is about 10' measuring from the aft corner of the boat to the boom. This technique, along with keeping some vang on, will help maintain a positive bend in the mast and, regardless of backstay tension, ensure that the mast does not invert.

IMPORTANT MAST TUNING & ASYMMETRICAL TECHNIQUES
RECIPE FOR MAST DAMAGE

Crew weight should never exceed 675 lbs on an E Scow. The target weight for four people sailing in heavy wind is 630 lbs-650 lbs. Sailing heavier than that will dramatically increase loads on the boat and rigging and amplify mistakes made with tuning and mainsail handling.

Jibing in heavy air with the vang loose and the mainsail eased out too far can be a recipe for mast problems. This is the single most important thing to concentrate on when sailing the asymmetrical configuration. When you go into a jibe, don't slow down the boat. Go from high-speed mode right into the jibe, similar to a high-speed windsurfing jibe. If the diamonds and uppers are too loose, it will also compound the situation and cause the mast to invert. A potential mast failure could result.

As with any powered masthead configuration, you have to learn the techniques to ensure that you are safely performing the maneuvers. Once you understand the mechanics of the rig, you will realize how fun and how much easier asymmetrical spinnakers are to sail. With the proper mechanics of boat handling and rig tuning, the rigs are durable and will stand up to a lot of wind.

Stay within the recommended rig settings. Don't overload the shroud tension or the crew weight as this will place too much compression load on the mast and boat and can also cause failure.

DOWNWIND ASYMMETRICAL TECHNIQUES

SETTING THE ASYMMETRICAL

Follow these steps to set the spinnaker using the kite launch system and the one-pull tack/pole launch line.

When the helm gives the hoist command, the jib trimmer inhauls the windward jib sheet through the cleat and cleats it to the windward side while the third crew instantly starts to hoist the spinnaker. The jib trimmer pulls the tack line as soon as the halyard hoist begins to help pull the kite out of the launcher and sets the kite quickly. The fourth crew tends to the takedown line through the block on the backstay and then grabs the spinnaker sheet to fill the kite as the third crew indicates when the halyard is fully hoisted. The driver bears away slightly to assist with the set, which varies based on wind velocity. The jib should be uncleated quickly as the tack is made and the trimmer keeps the kite trim soft until the kite is filled. The fourth crew should always tend the spinnaker halyard/takedown line to ensure it doesn't foul on the pulley on top of the backbone.

A tip is to make a permanent mark on the halyard in the full hoist position and on the pole/tack line where the pole is all the way out.

Limit your mistakes on the set, and do not sail too high. Doing so makes the kite fill early, which makes it harder to pull up the halyard and harder on your crew.

Practice your timing on all of these things to learn when you can push the envelope for the ultimate set!

THINGS TO THINK ABOUT AND PRACTICE

When sailing downwind with the asymmetrical, we sail with our boards down all the way. In varying conditions, you may want to experiment with pulling up your boards a bit. This can be especially good in moderate winds and wavy conditions. Practice this technique to find out what is fast for your team, but when in doubt keep the boards down all the way.

Downwind sailing angles will vary. Many sailors think that you have to sail hot and fast in all conditions with this setup. That is not the case. Here are brief guidelines to follow.

WINDS 0-8 KNOTS

With this speed, a higher angle is required so that the boat builds apparent wind, and you can begin to bear away as the angle of heel increases. As soon as the boat slows or begins to flatten, head back up to get going fast again. The goal is to keep a constant angle of heel with constant pressure on the sails. One key factor in this condition is mainsheet trim. As your apparent wind moves forward, you need to keep your mainsheet trimmed tightly. Make sure your mainsail is not luffing. You will be amazed how the boat reacts to a tighter mainsheet and dynamic trim downwind. In this wind range, practice float jibes where you bear away slowly, ease the kite out, and start pulling it around so it floats around the bow; this is also known as a VMG jibe.

WINDS 9-12 KNOTS

In these conditions, you can experiment with sailing a lower or deeper angle. As the breeze hits and the boat heels, drive the boat down and sail deeper. As you sail deeper, ease the main, play the mainsheet, and watch for any luffing behind the mast.

WINDS 13-25

This is where sailing really gets fun! All crew should be on the high side in the hiking straps. Trim the mainsail in–almost all the way at times–since the apparent wind is forward. The jib trimmer will need to be dynamic with the jib and vang. It will feel like you're sailing at a higher angle due to the buildup of speed. It's time to get the boat up and rolling and your team on the rail, ready for a fast ride. At this speed, the mainsheet is key; don't ease it through your jibe. In this wind condition, you want to use Mexican jibes. The skipper turns right into the jibe, you trim the sheet tight, strap the foot of the kite, and let the kite back slightly onto the rig on the new windward side of the boat. As the main comes across, blow the old sheet and trim the new sheet on quickly.

Keep your lines clean and drop-coiled. It's important to drop-coil your spinnaker sheets after every gybe so that the sheets run free through this maneuver.

Watch your compass angles downwind while staying in the freshest breeze on the course. Angles and pressure really make the difference.

ASYMMETRICAL TAKEDOWNS

The easiest takedowns are the windward and Mexican takedowns. The leeward takedown is your third option, though it is the most difficult.

WINDWARD TAKEDOWN

Whoever is pulling in the kite calls a 3-2-1-0 countdown as they start to pull on the kite retrieval line. The jib trimmer uncleats the halyard on 0 and then the tack line, tailing as they drop to keep the kite out of trouble. There is no need to pull the clew around to windward on a windward drop; go right for the takedown line.

The helmsperson should bear away on the halyard drop to free up the kite and allow it to move around the headstay more easily.

MEXICAN TAKEDOWN

This takedown is effective when approaching the leeward mark on starboard tack and you need to jibe to go around the mark.

Ideally you want to set up the boat at the upper edge of the 3-boat length circle as you approach the mark. As you pass 90 degrees to the mark, begin a slow jibe to make a large, continuous arcing turn around the mark. The halyard should be released as you turn through the dead downwind position, and the boom just starts to come across the boat. Quickly pull the takedown line and pre-load a bit before releasing the halyard, followed by the tack line when the jib trimmer sees that takedown line is pulling on the kite patch. Be sure to drop the windward board before beginning the jibe.

The tack line and bowsprit line are the last lines to be released. The middle crew should stuff the spinnaker and hike hard as the boat rounds the mark. (Refer to #2 on the windward takedown for jib crew steps.).

The middle crew or jib trimmer pulls the board up on the port side as soon as possible or before the leeward mark.

LEEWARD TAKEDOWN

For a takedown with kite launcher, the helm bears away quickly, the middle crew starts retrieval and calls a 3-2-1 countdown, and the halyard is released, followed by the tack. Flatten the boat as much as possible with all crew to windward. Speed on the retrieval line is the name of the game; keep the kite out of the water at all costs.

SPECIAL CONSIDERATIONS

The angle of heel is important on an E Scow. Upwind in up to 8 knots, go for maximum heel but never let water get up on the leeward deck. In more wind, sail with the bilge board vertical or the boat a little flatter. Don't let the boat heel too much when sailing in chop; it might feel good, but it is not fast. When sailing in a lot of chop, be sure to have a full jib and power up the main by keeping the cunningham off all the way and the outhaul pulled just until the vertical wrinkles disappear and the vang off.

An E Scow is fast and maneuverable. Still, it is important for the crew to be in tune with the skipper to help steer the boat. When a big puff hits, the bow tends to blow to leeward. To prevent this, the jib trimmer must be prepared to ease the sheet. A slight ease when the big puffs hit allows the bow to come up and the boat to accelerate. Once the boat accelerates, trim the jib right back in. When tacking an E Scow, the most important thing to do is lower the new board at the right time. As the boat is turning through the tack, wait until the bow is just past head-to-wind to lower the board; if you do this too soon, it creates extra drag and slows the boat. Don't worry about raising the windward board until the boat is up to speed on the new tack. We like to ease the main slightly, trim it in to heel the boat as we come up into the wind, and then everyone rolls the boat together. In light-to-medium wind, keep the jib trimmed in until the boat is head-to-wind and the jib breaks. It is not necessary to roll the boat when it starts to get windy, but ease the jib sooner so the bow can come up into the wind more easily. It's important for the helm or tactician to countdown the tack 3-2-1 so that everyone is in sync on the maneuver.

SAIL CARE

Your Quantum sails are constructed of the best materials on the market today. With proper care and maintenance, your sails will give you the performance you have come to expect from a Quantum sail.

Watch for signs of wear and tear in high load and chafe areas. Be sure to wash off the sails with fresh water and dry them thoroughly before storing. Sails like a dry, mild climate, as excessive heat can cause sails to shrink. It is best to roll the mainsail and jib.

MAINSAIL

When hoisting and lowering the sail, try to minimize creasing or wrinkling the sail. Every time the sail is creased, the cloth breaks down that much faster. Always have someone contain the leech and luff during these procedures.

The battens can be left in the sail without any problems, but be sure to roll the sail down the leech so that the battens will not twist, which could cause damage to the battens.

JIB

When rolling the jib, keep the battens perpendicular to the leech. Pay special attention to the battens and batten pockets for signs of wear and tear.

SPINNAKER

Repair all tears and pulled stitches on your spinnaker. Storing the sail folded is best.

SAIL TRIM GUIDE

JIB

KNOTS	0-7	7-14	12-18	15-20	18-25
JIB HEIGHT OFF DECK AT TACK	2”	1.5” - 2”	1” - 1.5”	1”	1”
JIB CLEW HOLE	3rd hole forward/ down from corner of clew board	3	3 - 4	3 - 4	4
LUFF TENSION	Slight horizontal wrinkles	Slight wrinkles to wrinkle out	Wrinkles out	Wrinkles out	Wrinkles out
JIB CAR	15” to 13.5” off CL	13.5”	13.5” - 15”	14” - 15”	14” ++ to stop backwinding in main
TRIM	To TTs on luff and keep all leech TT flowing	Find max trim by trimming until upper leech TT stalls then ease until it flows	Same but work in puffs	Same but work in puffs	Softer in general and slight ease into puffs

MAINSAIL

TRIM - TOP BATTEN	Parallel to boom, top TT flowing 1/2 the time	Parallel to open in puffs, flowing	Open and flowing trim for balance, heel, and pointing	Open and flowing trim for balance, heel, and pointing	Open trim for angle of heel
TRAVELER	3”-6” ABOVE CL	CL to 12” down in puffs	CL down to rudder post	CL down to rudder post	6” down to rudder post
VANG TENSION*	Loose	Loose to med.	Med. to Firm in puffs	Firm to very tight in puffs	Very tight
CUNNINGHAM	Loose	Loose to wrinkles out	Loose to wrinkles out	Wrinkles out to firm	Firm
OUTHAUL	Remove vertical wrinkles	Same to black band at upper end	1/2” from BB to BB	BB	BB

*NOTE: Be sure to ease vang when bearing away or tacking to prevent boom damage.

SPEED MATRIX

*All turns are full turns. USE PT-1 tension gauge.

KNOTS	0-7	BASE RANGE 7-14	12-18	15-20	18-25
FORESTAY	BASE	26-3/8"	BASE	BASE	BASE
UPPERS	-1	38	+1	+2	+3
LOWERS	-2	21	+1	+2	+3
DIAMONDS	-1	23.5	+1	+2	+3
BOARDS	-1—AP	Pin @ AP	AP—+1	+1—+2	+2—+3

CALIPERS @ BASE

	PORT	STARBOARD
UPPERS		
LOWERS		
DIAMONDS		
FORESTAY		

CONTACT US

This tuning guide is a start to learning all there is to know about racing your scow. The scow team at Quantum Sails offers a professional, in-depth scow racing clinic that you and your fleet may be interested in learning more about. Over the course of a weekend, you will learn more about racing your scow than you could possibly learn in a season of racing on your own.

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