

mint

R I G G I N G G U I D E

The Mint is an **International One Metre** (IOM) radio controlled racing yacht designed to comply with the IOM class measurement rules.

The names used in this Rigging Guide for the boat's components are those used in the IOM Class Rules. These component names are defined and explained in the Equipment Rules of Sailing published by World Sailing.

These documents can be found online at:-

IOM Class Rules

<https://www.iomclass.org/wp-content/uploads/2026/02/IOM-Class-Rules-2022.pdf>

Equipment Rules of Sailing

<https://www.sailing.org/inside-world-sailing/rules-regulations/equipment-rules-of-sailing/>

IOM Class Association website:-

<https://www.iomclass.org/>



COMPONENT
NAMES

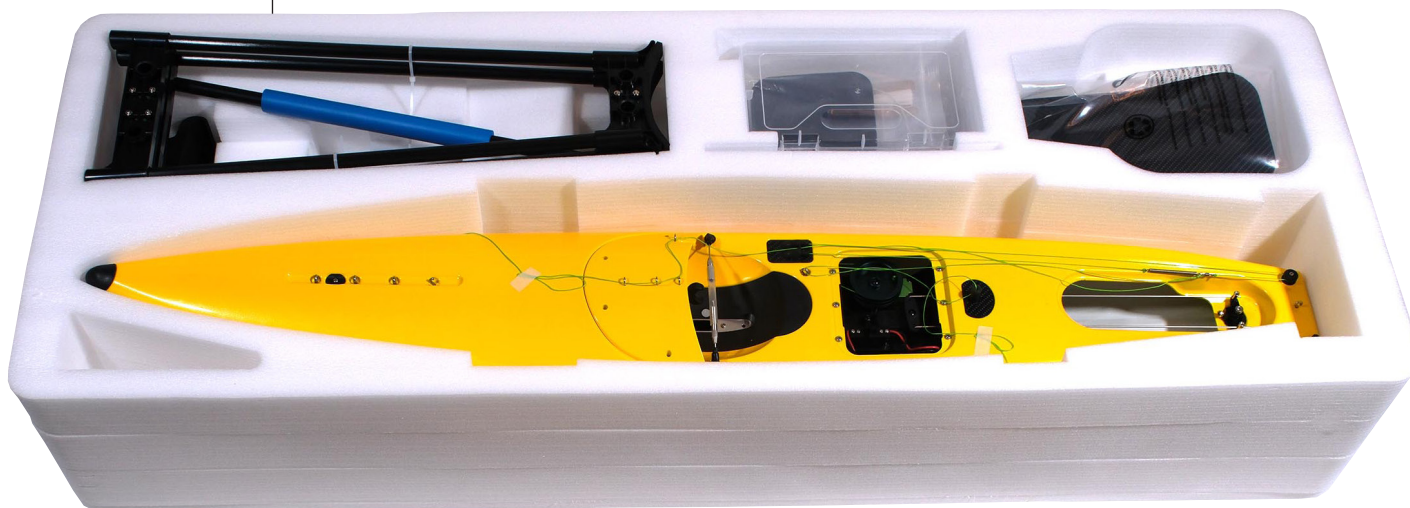


WHAT'S IN THE BOX?

The Mint is shipped in a very strong, double layer cardboard packing box. The pull-out foam section contains the following:

Mint hull, fitted out with the sail winch, rudder servo and tiller arm, carbon keel & rudder, carbon sheathed keel bulb, fittings pack, deck patch sets, boat stand & wire pack. The winchline and sheets are pre-fitted for easy rigging. Two plastic containers are also supplied to hold tools, spares and batteries etc.

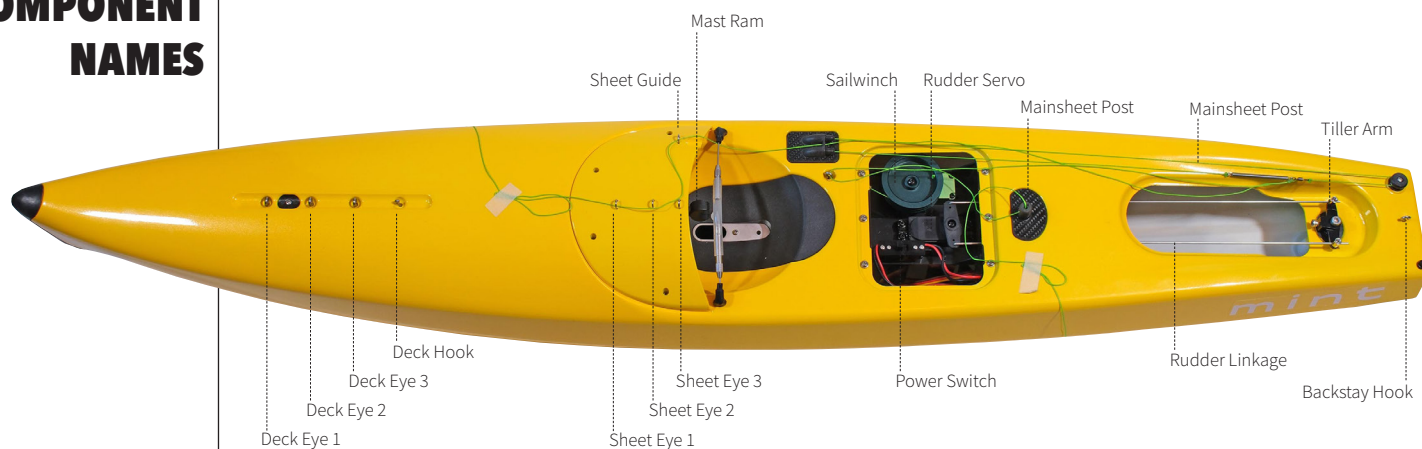
Two cardboard tubes. The longer tube contains the two-piece mast, foresail & mainsail booms. The short tube contains an A rig suit of sails.



ITEMS REQUIRED FOR COMPLETION:

- Thin CA glue (cyanoacrylate/superglue).
- A pair of thin nosed pliers.
- A pair of normal pliers.
- A sharp craft knife or scalpel.
- Transmitter & Receiver.
- Transmitter batteries.
- Receiver battery (a 2c 1000Mah LiFe battery with Futaba type plug is recommended).

HULL COMPONENT NAMES



COMPONENT NAMES

Two-part Mast. Pre-drilled for all wires & fittings, complete with Gooseneck, Kicking Strap, head & foot fittings.

Main Boom, including all fittings.

Note: the mainboom is supplied fitted to the mast.

Foresail Boom, including all fittings.

Carbon Keel supplied with top & bottom fixings

Keel Bulb

Rudder

Rudder Shaft

--- Storage Boxes -----

Transom Patches

Rear Deck Patches

Servo Tray Patches

Hull Corrector
Weights

Dyneema Cord

Allen Key tools

Counterweight

Mainsail
Head Swivel

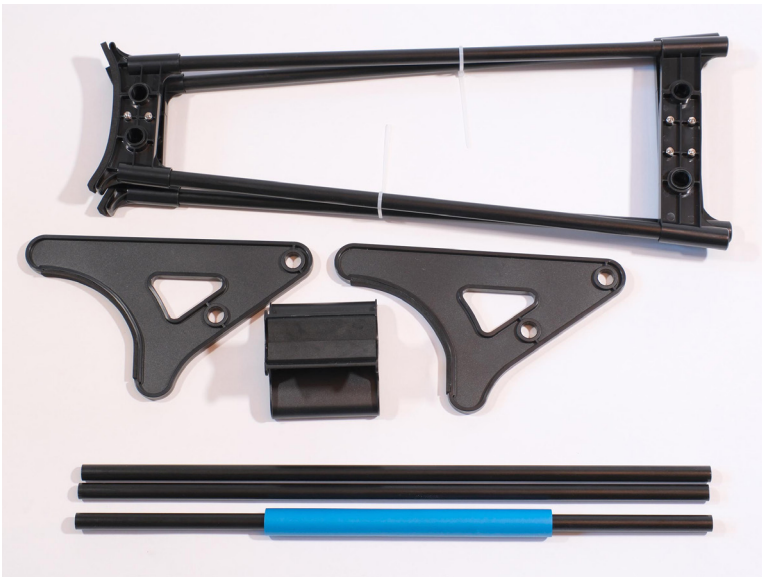
lastic balls

Pack of Bowsies

Elastic for Headsail
Topping Lift tension

Servo Hatch Cover
incorporating
rubber cover for
battery access

BUILDING THE BOAT STAND



Identify all the boat stand components shown here.



Assemble all the parts as shown here. No tools are required, everything is a push fit.

The keel bulb support is optional and can be removed if preferred.

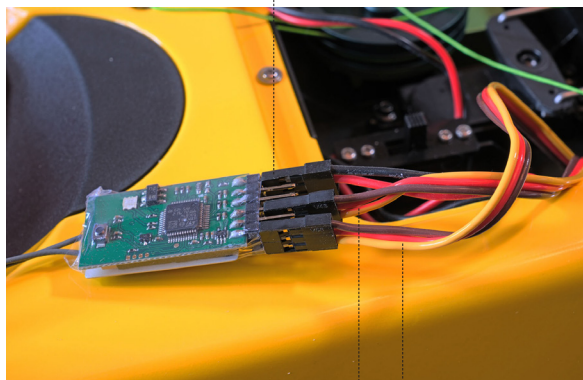


Use the stand in the upright position for easy access when rigging and for indoor storage (shown above left), or the stand can be laid on its side and the boat secured in an almost horizontal position (shown above right) for additional stability outdoors.

INSTALLING YOUR TRANSMITTER & RECIEVER

1 In the standard package, the Mint is not supplied with a Transmitter or Receiver, but the sailwinch, rudder servo & power switch are all installed and the wiring is ready to connect to your receiver as shown in the photo below.

Switch lead connects to channel 6 (or any spare channel)

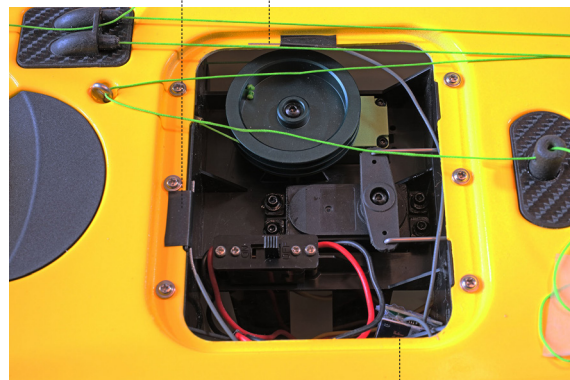


Sailwinch connects to channel 3

Rudder servo connects to channel 1

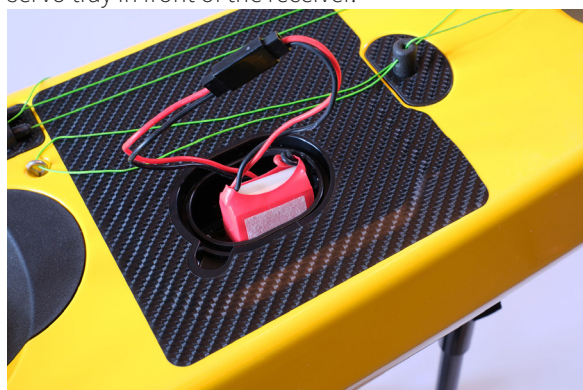
2 Place the receiver at the rear end of the channel in the servo tray. Using tape, fix the tips of the receiver aerials in the positions shown below so that they are at 90° to each other.

Aerial tips

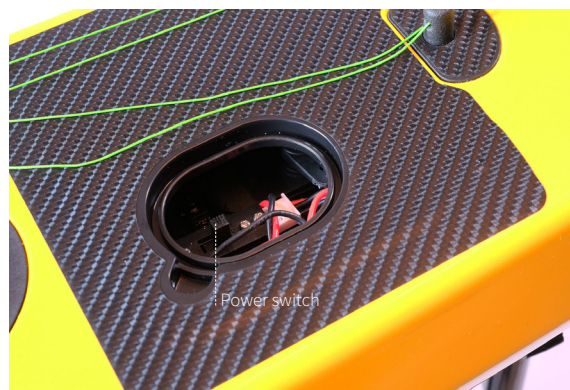


Receiver positioned in servo tray channel

3 Fit the servo tray hatch and apply the servo tray patch. Connect the battery and slide into the channel in the servo tray in front of the receiver.

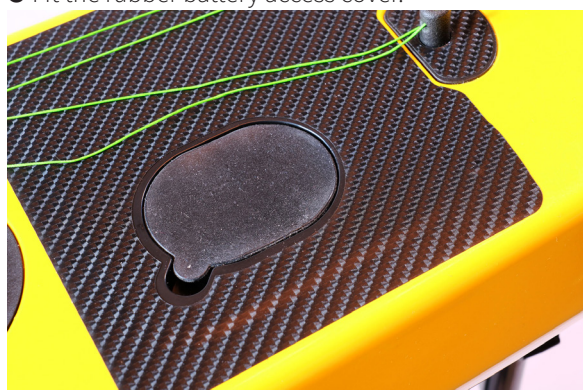


4 Push the spare wiring into the hatch to give yourself easy access the power switch



Power switch

5 Fit the rubber battery access cover.



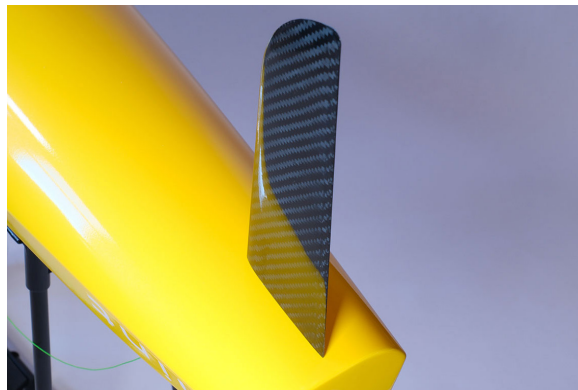
INSTALLING THE RUDDER

1 Remove the security bolt before installing the rudder. This is fitted to protect the rudder linkage during transport.

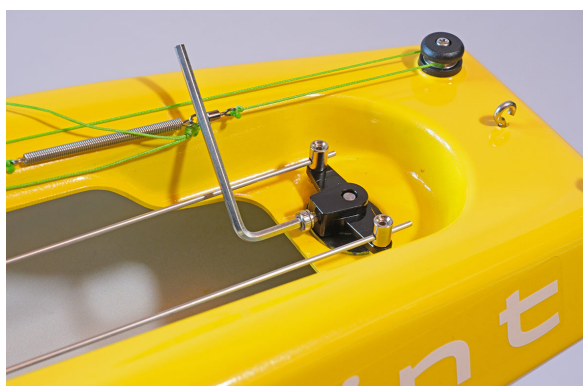


2 Before fitting the rudder switch on your transmitter and receiver. Make sure that the rudder fine trim on your transmitter is set in its central position (refer to your transmitter manual if you are unsure how to do this).

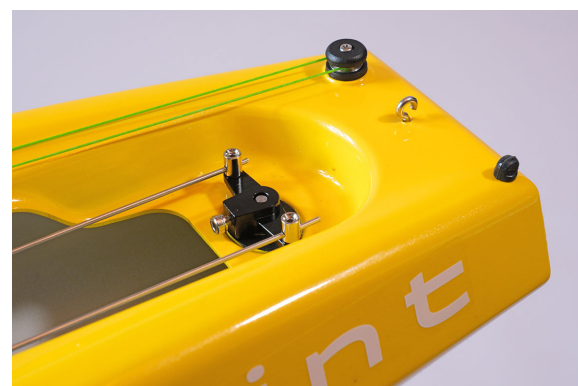
Fit the rudder into the rudder tube from underneath the boat.



3 Use the allen key provided to clamp the tiller arm to the rudder shaft



4 Using the provided allen keys adjust the two swivels on the tiller arm to perfectly align the rudder along the centreline of the boat.



5 Check that the rudder stick on your transmitter moves the rudder in the correct direction, if not, reverse the channel movement through the menu system on your transmitter (refer to your transmitter manual if necessary).

Set the end points on your transmitter so the rudder moves through approximately 40° from the centreline in both directions.



6 When you have finished fitting and adjusting the rudder, stick on the rear deck patch and transom patch.



INSTALLING THE KEEL

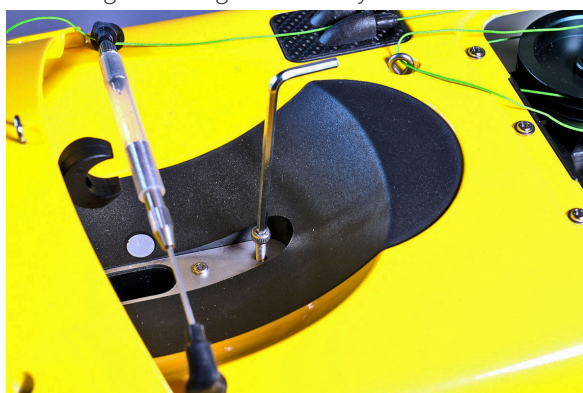
1 Remove the top and bottom bolts from the keel



2 Insert the keel into the keel bulb and secure with one of the bolts.



3 Insert the keel into the hull and secure with the remaining bolt using the allen key as shown below.



4 Remove the clear tube connecting the two shroud bottlescrews.



IDENTIFYING THE RIGGING WIRES

The shrouds, backstay, headsail stay, mainsail jackline and headsail boom topping lift are supplied in the wire pack. They are all fitted with their correct end fittings. Identify them as shown below.

HEADSAIL STAY

Top end



Bottom end



HEADSAIL BOOM TOPPING LIFT

Top end



Bottom end



MAINSAIL JACKSTAY

Top end

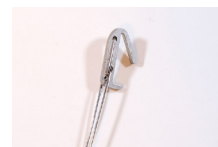


Bottom end



SHROUDS

Top end



Bottom end



BACKSTAY

Top end



Bottom end



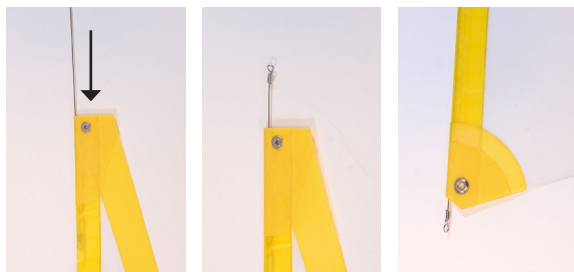
FIT THE WIRES INTO THE SAILS

- 1 Take out the sails from their packaging and unroll.



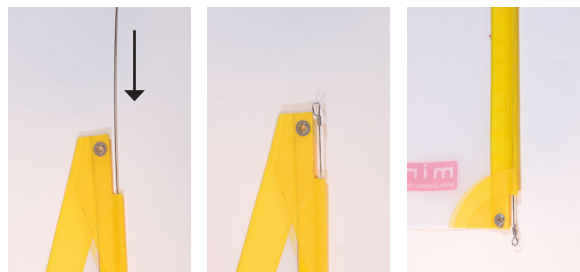
2 HEADSAIL STAY

Insert the headsail stay wire into the luff pocket in the headsail from the top and slide down until the end loops are showing at both ends.



3 MAINSAIL JACKSTAY

Insert the jackstay wire into the luff pocket in the mainsail from the top and slide down until the end loops are showing at both ends.



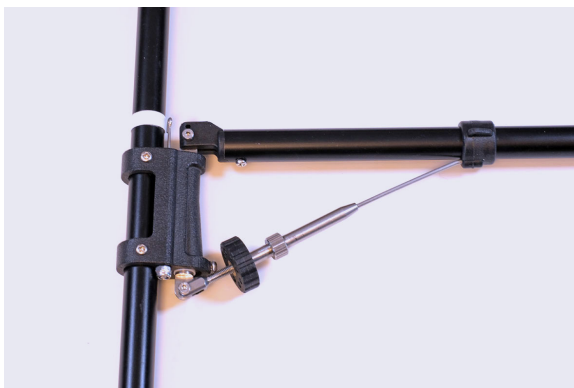
BUILDING THE MAST & MAINBOOM

GOOSENECK & KICKING STRAP

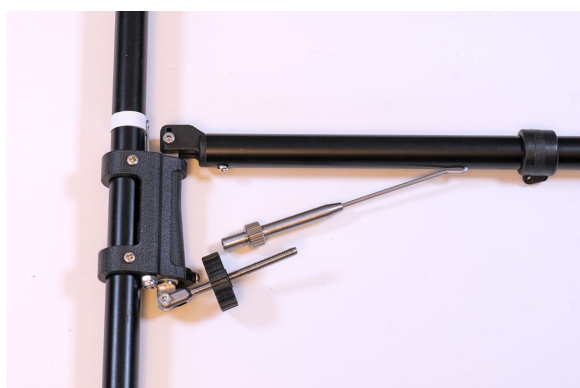
- 1 Angle the boom down as shown below



- 3 Screw the two halves back together and slide the plastic cover on the boom over the outer end of the kicking strap.



- 2 Unscrew the two halves of the kicking strap and insert the hooked end into the hole in the underside of the boom.



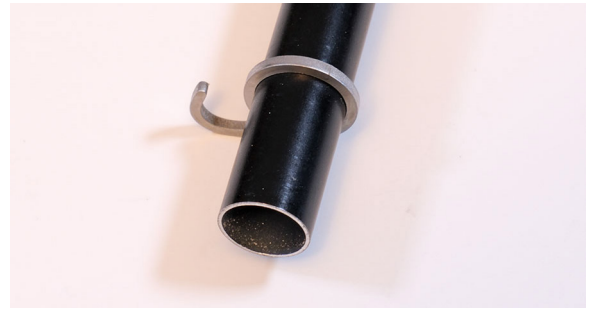
- 4 The bottom ceramic bearing in the gooseneck can be adjusted fore & aft using the grub-screw in the base of the gooseneck moulding with one of the allen keys provided.

As a starting point set the bearing to it's furthest forward position. When your boat is fully rigged you can use this adjustment in the following way.

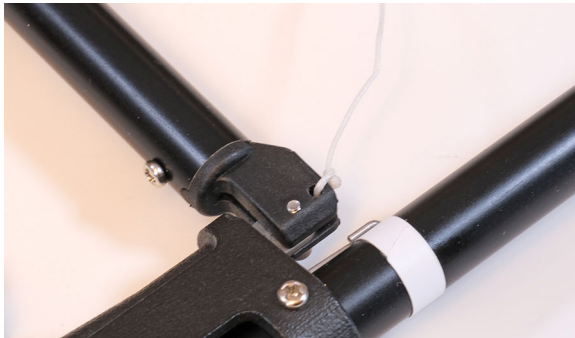
Starting with your mainsail sheeted out in the running position, adjust the kicking strap to reach the desired mainsail leech tension. When sheeted in the mainsail leech will be too tight. Without adjusting the kicking strap you can ease the leech tension by allowing the bearing to move backwards by adjusting the grub-screw. This adjustment will only affect leech tension when close-hauled and will not alter the running position leech tension you have already set.

BUILDING THE MAST & MAINBOOM

1 Using a pair of thin nosed pliers, bend open the mainsail clew ring (as shown in the right hand photo) ready to accept the mainsail clew eye.



2 Cut a 300mm length of cord and tie through one of the holes in the Mainboom front end fitting. This will become the cunningham cord when the sail is fitted.



3 Join the two halves of the mast together as shown so the nib fits into the cutout in the other section.

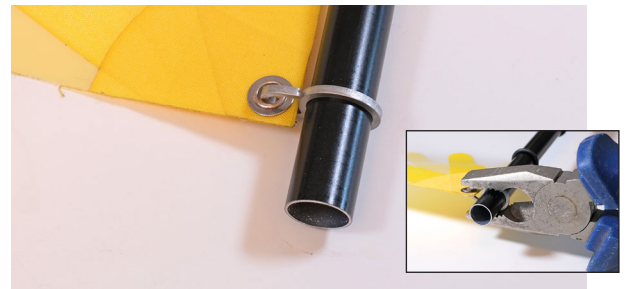


FITTING THE MAINSAIL TO THE MAST & BOOM

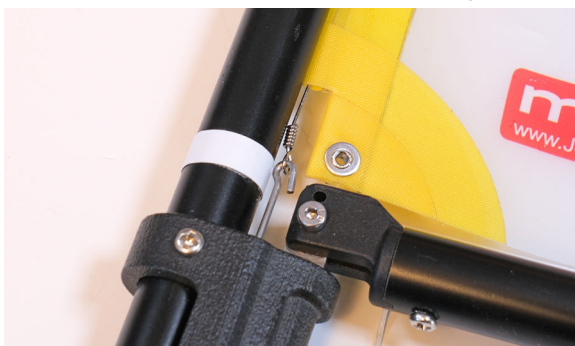
1 Start by threading the mainsail clew eye into the opened clew ring.



2 Using the thin nosed pliers, close up the clew ring back to its original shape. If the clew ring is a little loose on the mainboom, a very gentle squeeze with a set of pliers, as shown, will give it enough friction to stay in place when sailing.



3 Fit the lower end of the jackstay to the hook coming from the top of the gooseneck. The hook height can be adjusted by the allen key socket next to the hook. Turn clockwise to extend it and anti-clockwise to tighten it.

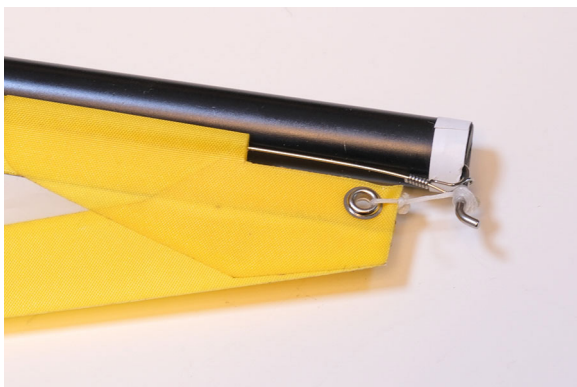


4 Fitting the wire swivel. Start by putting the two small bearings into the round hole in the mast head fitting. Slide the wire swivel through the loop in the top of the jackstay and into the round hole in the mast head fitting.



FITTING THE MAINSAIL TO THE MAST & BOOM

1 Cut a short length of cord and tie the mainsail head eye to the wire swivel. The head of the sail should be just below the bottom edge of the white band to comply with the IOM class rules.



2 Thread the cunningham cord through the tack eye in the mainsail and then through the spare hole in the mainboom front end fitting (this can be very difficult to thread, so a sewing threader, as shown, should make this a lot easier). Thread a bowsie onto the tail of the cord and thread the cord through the hole in the kicking strap cover, back to the final hole in the bowsie and tie off.



3 Tie the mainsail luff to the mast at the head, tack and the three other points along the luff.

Cut a 150mm length of cord for each fixing. At the head and foot of the sail thread it through the sail eye and around the mast, tie it off to form a loop around the mast leaving a gap of 2-3mm between the back edge of the mast and the front of the sail luff. Repeat for the other three points along the luff ensuring that the cord goes around the mast and the jackstay wire. Again, leave a 2-3mm gap.



4 Fit the backstay crane and wire into the slotted hole in the masthead fitting.

The mainsail is now fully attached to the mast and boom.

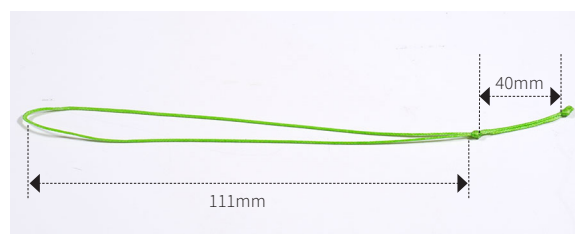


HEADSAIL BOOM

1 Using a pair of thin nosed pliers, bend open the headsail clew ring (as shown in this photo) ready to accept the headsail clew eye.

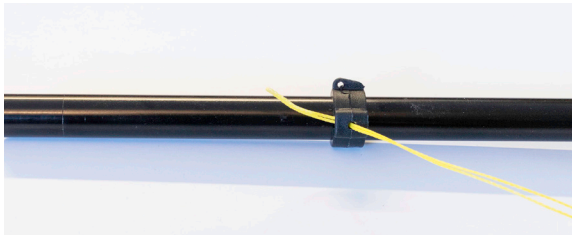


2 Cut a 450mm length of cord and tie to form a loop of 111mm and a tail of approximately 40mm.

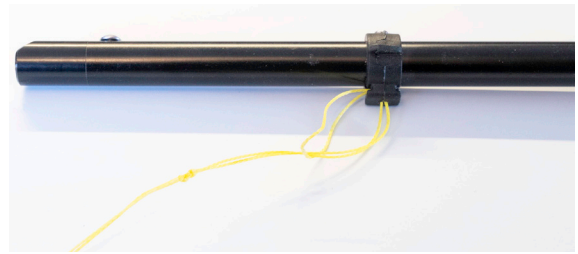


HEADSAIL TIE DOWN

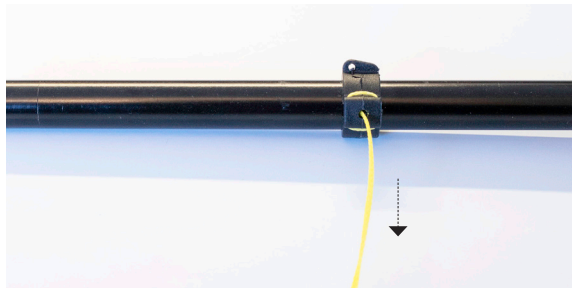
3 Thread the end of the long loop through the eye in the headsail boom fitting as shown below.



4 Thread the tail of the loop through the loop front end as shown below and then bend the closed end of the loop back over the fitting.

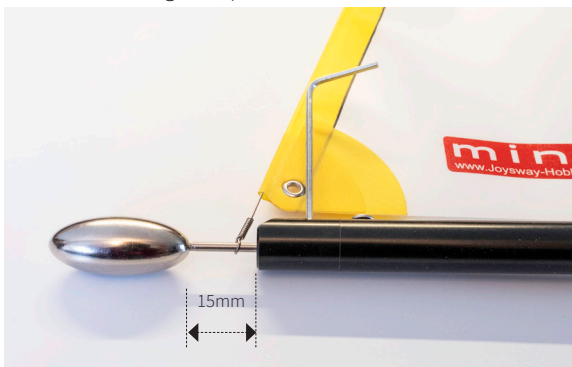


5 Pull down the tail of the loop to lock it around the fitting.



FITTING THE HEADSAIL TO THE BOOM

1 Slide the counterweight shaft through the loop in the bottom end of the headsail stay, then slide into the hole in the front end of the fitting, leaving a 15mm length of shaft exposed. Using the supplied grub screw, tighten it down with the allen key to fix the counterweight in position.



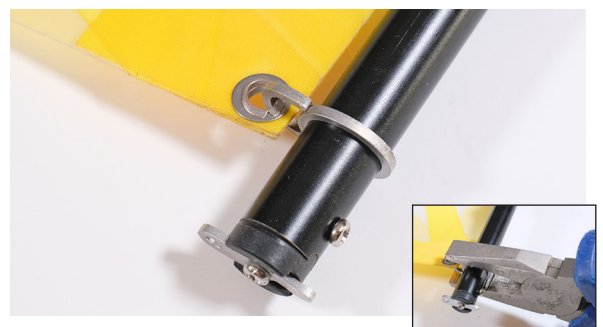
2 Cut a 150mm length of cord, thread the cord through the sail eye and around the counterweight shaft and tie into a loop as shown, leaving a gap of 3-5mm between the foot of the sail and the top of the boom tube.



3 Thread the headsail clew eye into the opened clew ring.



4 Using the thin nosed pliers, close up the clew ring back to its original shape. If the clew ring is a little loose on the headsail boom, a very gentle squeeze with a set of pliers, as shown, will give it enough friction to stay in place when sailing.



FITTING THE HEADSAIL TO THE BOOM

5 Cut a 250mm length of cord. Tie one end to the eye in the headsail eye, then thread on a bowsie.

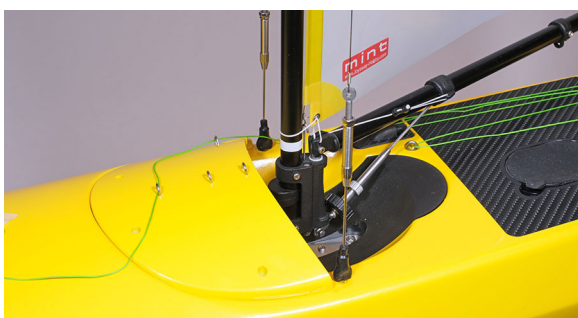


6 Cut another 250mm length of cord. Tie one end to the loop in the top of the headsail stay, then thread on a bowsie.

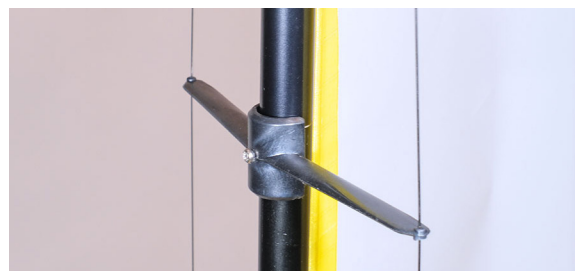


FITTING THE RIG TO THE HULL

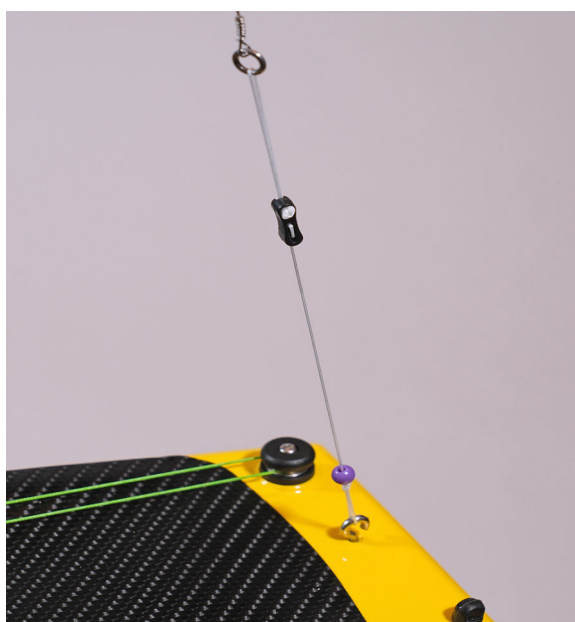
1 Place the mast/mainsail assembly into the mast socket in the hull, hook the top of the shroud wires into the mast and screw the lower ends of the shroud wires into the bottlescrews attached to the hull. Only put light tension into the shrouds at this point.



2 Clip the spreaders to the mast so that the screw locates in the hole just below the mast joint.

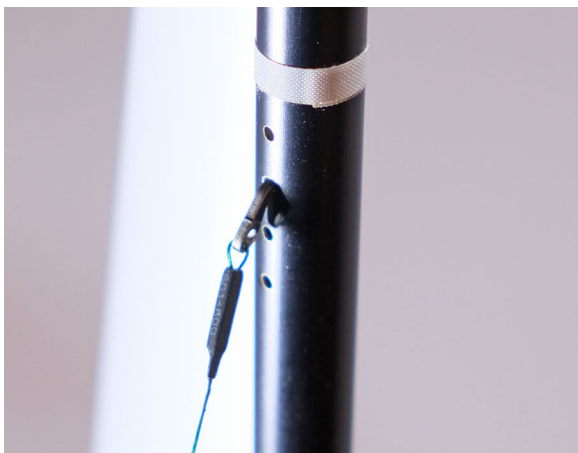


3 Cut a 300mm length of cord and tie a 15mm loop at one end. Feed one of the small plastic balls onto the string, then feed the end of the string through the first two holes of a bowsie. Attach the loop end to the backstay hook on the hull and feed the other end through the metal ring on the bottom of the backstay. Finish off by threading the cord through the final hole in the bowsie and tie a closing knot. Once complete, as shown below, apply a light tension by adjusting the bowsie.



FITTING THE RIG TO THE HULL

4 Hook the top end of the headsail topping lift into the second hole down just below the middle, white measurement band on the mast.



5 Thread the headsail boom tie down through deck eye 1 and secure the end of the long loop to the deck hook as shown.



6 Thread the cord attached to the headsail stay through the eye on the metal topping lift hook, back down to the bowsie and tie off. Apply a light tension by adjusting the bowsie.



7 Thread the cord attached to the headsail eye through the same eye on the metal topping lift hook, back down to the bowsie and tie off. Apply a light tension by adjusting the bowsie. Trim off the loose ends.

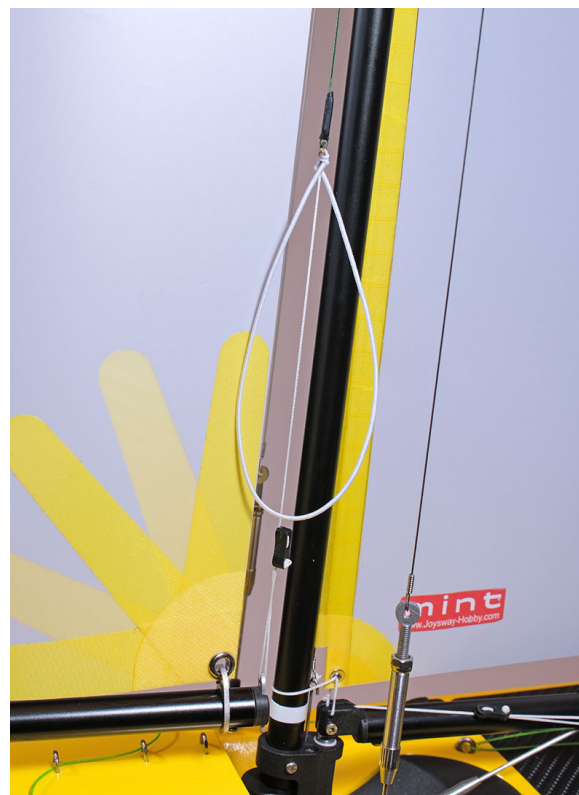


FITTING THE RIG TO THE HULL

8 Cut a 400mm length of cord to form the headsail topping lift adjuster. Tie one end to the ring at the lower end of the topping lift, thread a bowsie onto this line, thread through the metal eye in the headsail boom rear end fitting and back up to the bowsie (as shown below) and tie off. Trim off the loose end and apply a light tension.



9 Using the elastic provided tie a loop to the metal ring at the lower end of the topping lift. The length of the loop should be approximately $\frac{2}{3}$ the length of the topping lift adjustment cord.

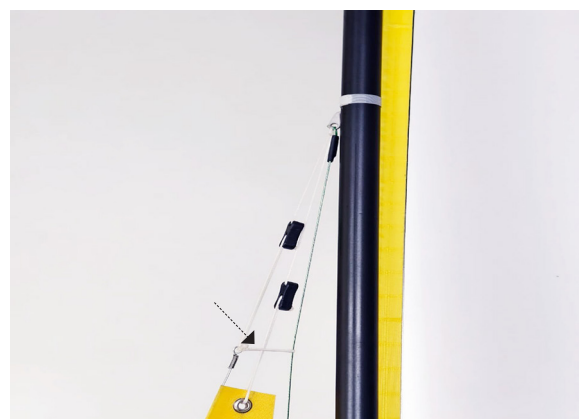


10 Hook the lower end of the elastic loop around the small metal tang at the base of the headsail end fitting.

The tension in this elastic will help to prevent the shroud wires from catching on the end of the spreaders during a gybe manoeuvre when the topping lift can become untensioned.



11 To prevent the Topping Lift from catching on the end of the spreaders during a gybe manoeuvre, tie a short length of cord to the eye in top of the Headsail Stay and loop around the topping lift and tie back to the eye with enough tension to pull the Topping Lift away from the mast as shown below..



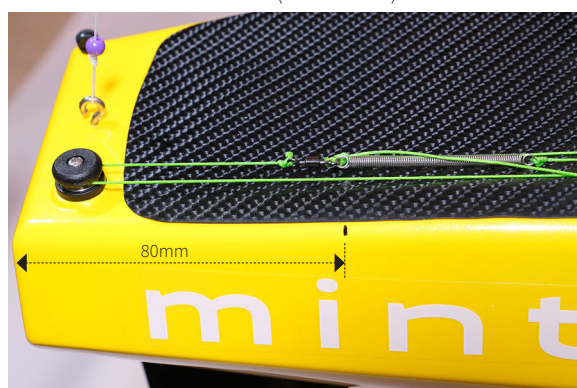
INSTALLING THE SHEET LINES

SETTING THE WINCHLINE END POINTS

Position the sheet control stick on your transmitter to its middle position, this is a safety measure to ensure you do not damage the boat before you have set the winchline end points. Turn on your transmitter and boat batteries. Check that when you move the stick down it moves the winchline string towards the aft end of the boat. If not, you will need to reverse the action of the stick through your transmitter menu system (refer to your transmitter manual if you are unsure how to do this).

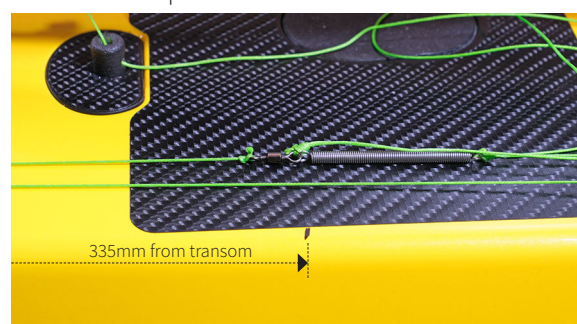
SETTING THE CLOSE HAULED (SHEETED IN) POSITION

1 Before setting the end point, ensure that the fine adjustment control on your transmitter is set in its central position. Using the end point adjustment menu, adjust the travel so that the front end of the swivel behind the tension spring is set at a distance of 80mm from the transom (see below).



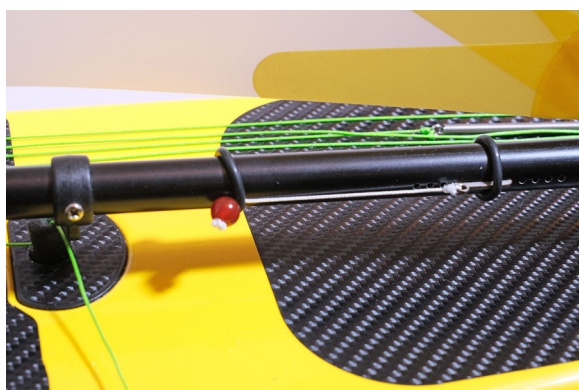
SETTING THE RUNNING (SHEETED OUT) POSITION

2 Slowly move the sheet control stick on the transmitter to its fully up position, being careful that the tension spring does not reach the fitting where the winchline goes through the deck. Adjust the end point on the menu so the front of the swivel is set at a distance of 335mm from the transom. This will give you 255mm of sheet travel which is enough to go from sheeted in to out. This can be fine tuned later if it needs further adjustment. It is a good idea to mark these extreme points on the hull for future reference.



MAINSHEET

1 There is a pre-installed hook on the main boom, place this in the centre hole. Cut a short length of cord, tie one end to the hook, feed the other end under the rubber ring and through a plastic bead and tie the end off as shown below.

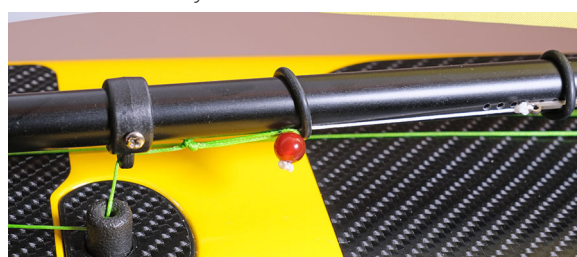


2 Thread the mainsheet up through the mainsheet post and through the sheeting eye on the boom.

Set the transmitter sheet stick to its sheeted in position (down). Set the sheet eye 5mm to the side of the mainsheet post and make a mark on the sheet line where it meets the plastic ball.



3 Tie a loop in the end of the sheet line keeping the mark in its same position, trim off the excess cord and pass the loop over the plastic ball. Tension the sheet line and it will stay locked around the ball.



INSTALLING THE SHEET LINES

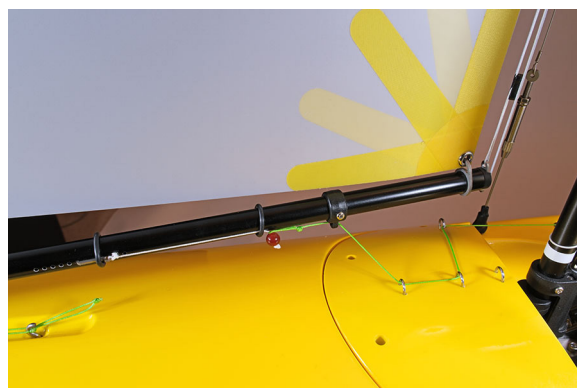
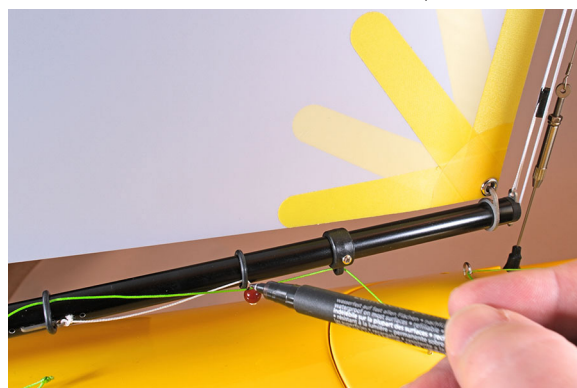
HEADSAIL SHEET

1 Starting from the tension spring, lead the headsail sheet line through the bridge in the winchline deck fitting, forwards inside the shroud, through the sheet eye. For Rig A (which comes with the boat), take the sheet line through sheet eye 2 and forward through sheet eye 1. (For Rig B, route it through sheet eye 3 and then forward through sheet eye 2. For Rig C, route through sheet eye 2 and back through sheet eye 3). This routing ensures you have the same Headsail boom angle on both port & starboard tacks.



2 As there was in the main boom there is a pre-installed hook on the headsail boom, place this in the centre hole. Cut a short length of cord, tie one end to the hook, feed the other end under the rubber ring and through a plastic bead and tie the end off as shown below.

Thread the headsail sheet line through the sheeting eye on the boom. Set the transmitter sheet stick to it's sheeted in position (down) and position the aft end of the headsail boom to a position just inside the shroud wire, mark the sheet cord at the point where it reaches the plastic ball. Tie a loop in the end of the sheet line keeping the mark in it's same position, trim off the excess cord and pass the loop over the plastic ball. Tension the sheet line and it will stay locked around the ball as shown on the lower photo.

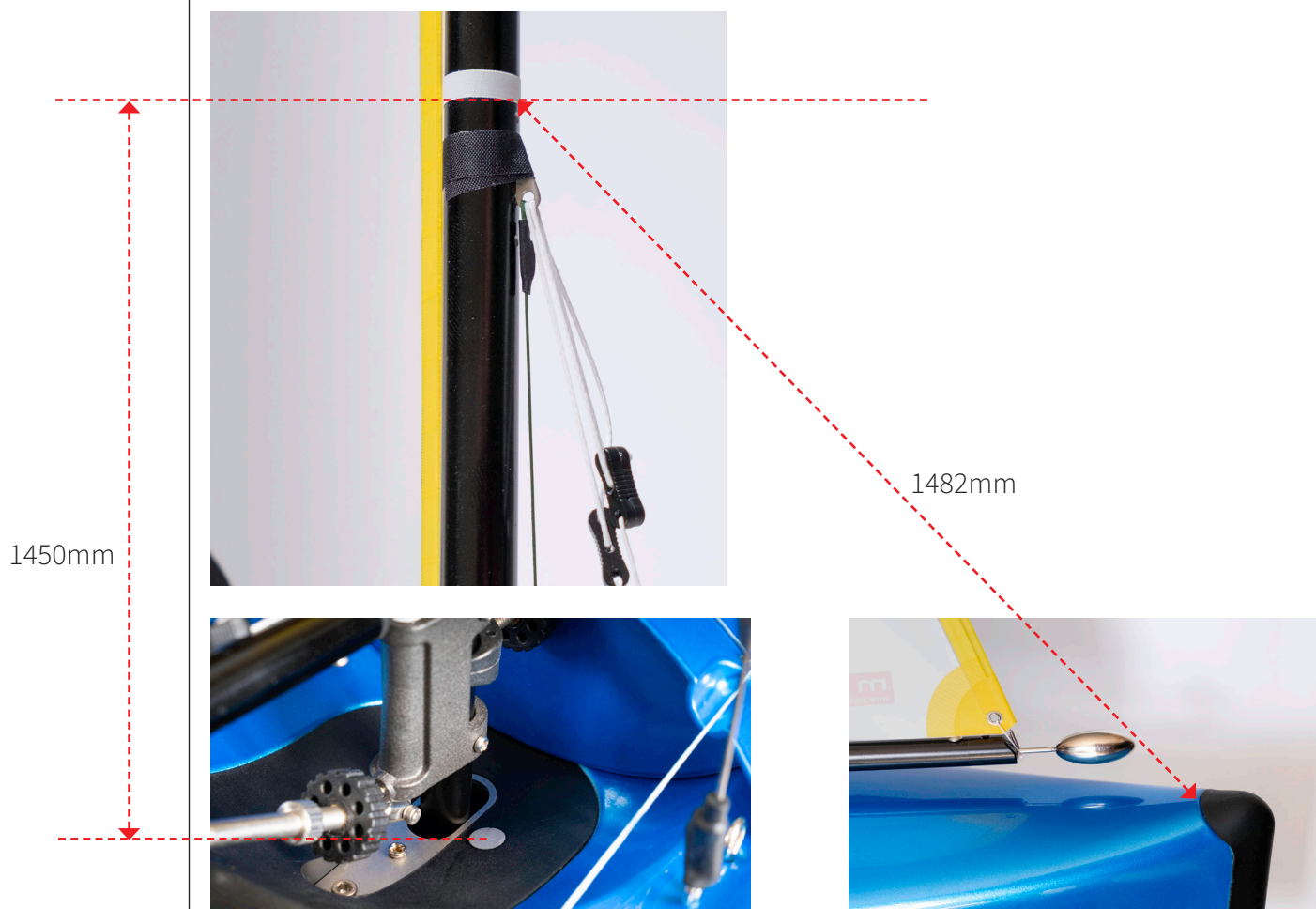


Adjust the headsail stay, backstay and shroud tensions to achieve the mast rake shown on the next page. Lightly tension the headsail and mainsail cunningham lines to eliminate any creasing in the sail luffs. You have now completed assembling the boat and rig. All that's left is to fine tune the setup to suit the weather conditions when sailing.

SETTING MAST RAKE

The measurements shown here for the Mint A Rig should give you a balanced, neutral handling boat. If you like your boat to have a slight degree of weather helm (the boat will slowly head up into the wind) increase the mast rake aft slightly.

Once you have found a rake angle that suits your style of sailing it's a good idea to make up a rod with your mast rake marked on it for quick reference when rigging the boat.



1 Take a measurement from the Deck Limit Mark (the white dot) up to the lower edge of the middle Mast Measurement Band. This should be 1450mm.

If the measurement on your boat is slightly longer or shorter, adjust the measurement from the Bow Bumper accordingly.

2 Measure from the rear edge of the rubber Bow Bumper to the lower edge of the middle Mast Measurement Band. This should be 1482mm.

Adjust the Forestay bowsie to achieve this.

BASIC A RIG SETTINGS

The measurements below provide a starting point when fine tuning your Mint in A Rig sailing conditions. There are no magic set of numbers that will give you optimum performance in all wind and wave conditions, experiment with your own settings to achieve a handling balance that you are happy with.

Mast Bend. Using a combination of mast ram adjustment and shroud tension (more shroud tension increases the effectiveness of the spreaders in restricting fore/aft bend in the middle of the mast) to have a mast that is almost straight up to the top of the Headsail Stay and then adjust the Backstay to induce a very slight aft bend above that point.

Sheeting. Aft end of Headsail Boom to centre of Mast 50-55mm. Mainsail Boom set at 10-12mm from centre of Mainsheet Post.

Foot Depth. Headsail foot depth 20mm from centre of Headsail Boom at deepest point. Mainsail foot depth 20mm from centre of Boom at deepest point.

Headsail Twist. 25-30mm measured from Headsail Topping Lift to Headsail Leech.

Mainsail Twist. Once you have set all the above measurements experiment with Mainsail Leech twist to achieve a neutral handling boat. The amount of twist will vary according to wind conditions.



Please note that this product cannot be disposed of in general household waste as it contains electrical components. Under the Waste Electronic and Electrical Equipment Directive (WEEE), this product should only be disposed of at a correct re-cycling facility or by returning it to the shop it was purchased from. Please contact your local authority for details of your local re-cycling centre.



This product complies with the essential requirements of all relevant EU Directives. A copy of the Declaration of Conformity can be obtained from the following website www.joysway-hobby.com

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PLEASE KEEP THIS INFORMATION FOR FUTURE REFERENCE

FCC REQUIREMENT



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications to this product not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.