NACRA F18 EVOLUTION

ASSEMBLY MANUAL

CAREFULLY READ THIS MANUAL BEFORE OPERATING YOUR NACRA.

Dear Customer,

Thank You for purchasing a Nacra F18 Evolution. Before you start using this Nacra, read this Operator's Manual and owner's Manual carefully and familiarize yourself with this boat and its operations. For your own safety and a longer operating lifespan of your brand new Nacra, follow the instructions and warning notices in this Manual and owner's manual carefully.

Outside manuals we have an extensive dealer network around the world. Naturally, these Nacra dealers knows everything there is to know about your Nacra and can provides you with the best service possible. So please call your dealer in your region for any servicing needed and make sure that only genuine spares are used for your Nacra.

This manual will familiarize you with the operation and maintenance of your new Nacra. It will also provide you with important safety information which should be read and understood before moving on to assemble your Nacra.

If this is your first sailboat, or you are not familiar with this kind of sailboat? For your own comfort and safety, please ensure that you obtain handling and operating experience before assuming control of this Nacra catamaran. Nacra Sailing experience centres, National Sailing Federations or yacht clubs will be pleased to advise you about sailing schools or competent instructors.

When you have any query, please feel free to contact your local dealer. Manuals can also be found on our website:
https://www.nacrasailing.com/nacradownloads/

Tools

- Torque wrench 
- Socket 9/16 
- Socket 5/16 hex 
- Philips screwdriver 
- Flat screwdriver 
- Wrench 1/2 
- Wrench 7/16 2x 
- Wrench 9/16 
- Wrench 11mm 
- Wrench 17mm 
- Wrench 22mm 
- Allen tool size 3mm 
- Measurement tape 

- Long nose plier 
- “Loose” tension gauge (fixed) 
- Grease (watertight + lithium based) 

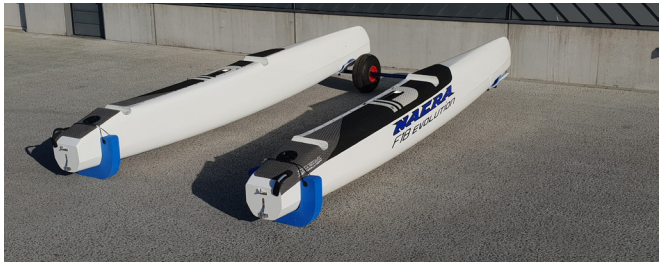
1. Platform assembly

1.1 Hull assembly

Tools needed:

- Torgue wrench
- Socket 9/16
- Socket 5/16 hex
- Philips screwdriver

1. Place the starboard and port hull next to each other and make sure that the hulls are facing the same way. Level the hulls, preferable with the big wheel trolley and sterns supports.



2. Place the crossbars in the crossbar sockets on the hulls and make sure that the crossbars are facing the right way.

- The front crossbar has a jib track mounted, which should be on top and facing the front of the boat.
- The rear crossbar has two eyelets mounted on the back which should be facing the back of the boat.

Take time to align the crossbars !

3. Grease the eight beambolts and make sure the fiberglass washer is at the bottom and the metal washer is on top. The washers for the front crossbar are already put in the slot on top of the front crossbar.

4. Handtight all the bolts before putting tension on them.

5. After hand tightening the bolts, use a torque wrench to tighten the beambolts to 30 Nm maximum.

Do not exceed the recommended 30 Nm, over tightening the bolts results in damaged threads.

6. Make sure you place the cam wedge correctly underneath the camcleat. See the picture below.

7. Grease the pre-drilled holes next to the daggerboardcase. Screw the harken cam cleats on the hulls using the bolt 8-32 UNC. The wire fairlead is facing inwards.

8. Attach the carbo 57mm ratchamatic single/swivel and the spring to the strap eye on both sides.

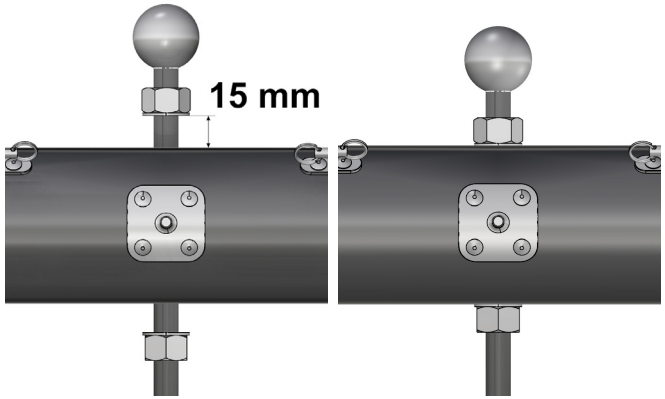
1.2 Front crossbar pre-bend

Tools needed:
- Wrench 22mm
- Wrench 1/2

- There should always be a pre-bend on the front crossbar. This is been achieved by the tension on the dolphinstriker.
- On new beams the tension on the dolphinstriker must be reset after:
  - 2 hours of sailing and
  - 10 hours of sailing
- Reset without mast!
- During the season check the pre-bend regularly.

Check pre-bend always without mast mounted on.

1. Release the tension on the nut located on top.
2. Release the tension on the nut located under the crossbar.
3. Put grease on both nuts.
4. Measure 15mm from top side of the crossbar to the bottom side of the upper nut.
5. Tension the nut underneath the crossbar until both nuts are tightened.



1.3.1 Trampoline MK I

MK I: Serial numbers up to 45. Find the number on the starboard stern.

Tools needed:
- Long nose plier

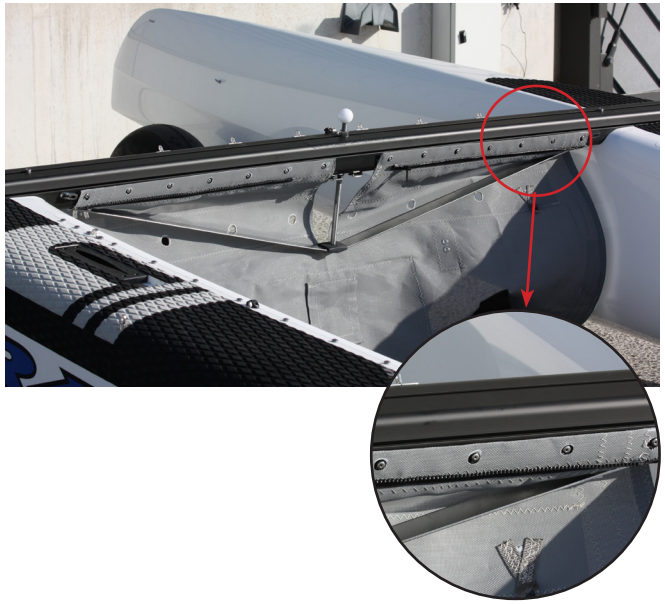
1. Un-install the self tacking jib track from the front crossbar.

Be aware that the clevis pins have different dimensions.

2. Insert the trampoline plates from the outside into the trampoline slot on the front. Do this on the starboard and port side.

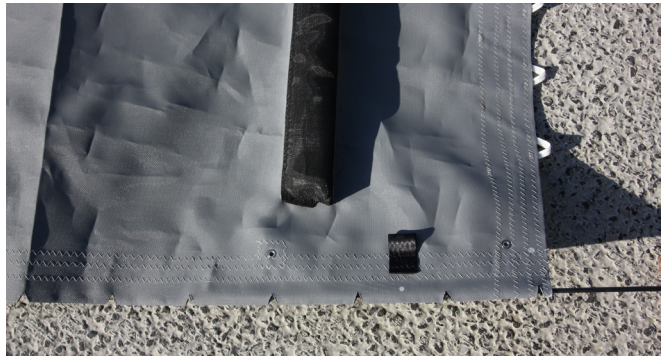
3. Fixate the trampoline with the trampoline plate on the buttons on the front crossbar. Make sure you bring the two loose flaps between the beam and the dolphin striker.

4. The plate needs to be against the front crossbar. Make sure the buttons stick out adequately.



5. Wrap the trampoline around the front crossbar.Make sure the six cutouts fit the bases of the self-tacking jib track.

6. Insert the trampoline tie-rod into the slot on the rear of the trampoline.



7. Loop the rear lacing line through the tie rod, as shown in the picture below. Start at the port side of the trampoline.

8. Re-install the self-tacking jib track. Pay attention to the different lengths of the clevis pins.

9. Continue from 1.3.3 trampoline tensioning.

1.3.2 Trampoline MK II

MK II: Serial numbers 45 and onwards. Find the number on the starboard stern.

Tools needed:
- Long nose plier

1. Un-install the self-tacking jib track from the front crossbar.

Be aware that the clevis pins have different dimensions.

2. Insert both front flaps of the trampoline between the dolphin striker and the front beam. Insert the flaps from the front to the back of the catamaran.

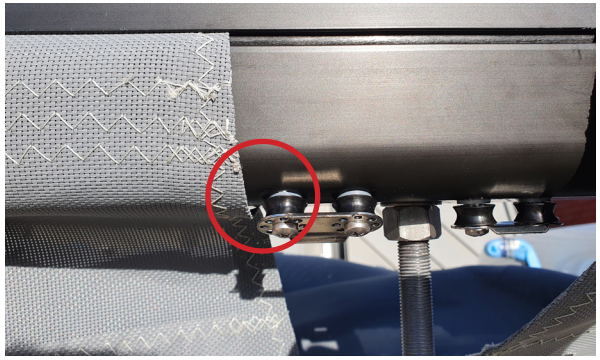
3. Insert the starboard flap inside the track on the beam.

4. Push the 6mm trampoline tie-rod into the track through the sleeve in the trampoline.

5. Push the rod to the middle, insert the port flap into the track and push the rod further through the port sleeve.

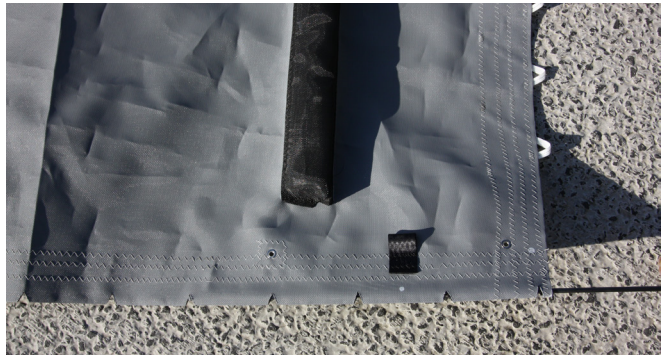
6. Use the 8mm rear beam tie-rod to push the 6mm tie-rod the last 30cm into the track.

7. Position both flaps to keep both the pre-installed sheaves clear.



8. Wrap the trampoline around the front crossbar. Make sure the six cutouts fit the bases of the self-tacking jib track.

9. Insert the trampoline tie-rod into the sleeve on the rear of the trampoline.



10. Loop the rear lacing line through the tie-rod, as shown in the picture below. Start at the port side of the trampoline.

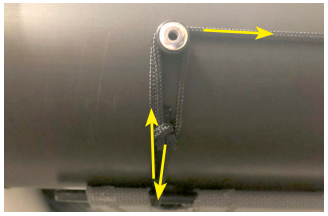
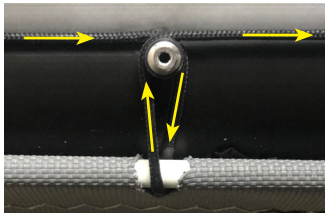
11. Re-install the self-tacking jib track. Pay attention to the different lengths of the clevis pins.

12. Continue from 1.3.3 trampoline tensioning.

1.3.3 Trampoline tensioning

Make sure the trampoline is in the middle of the catamaran.

1. Loop the laces using the trampoline tie buttons.

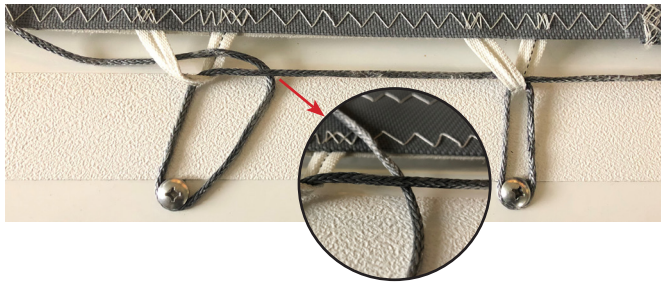



2. Tension the line slightly and secure it temporarily.

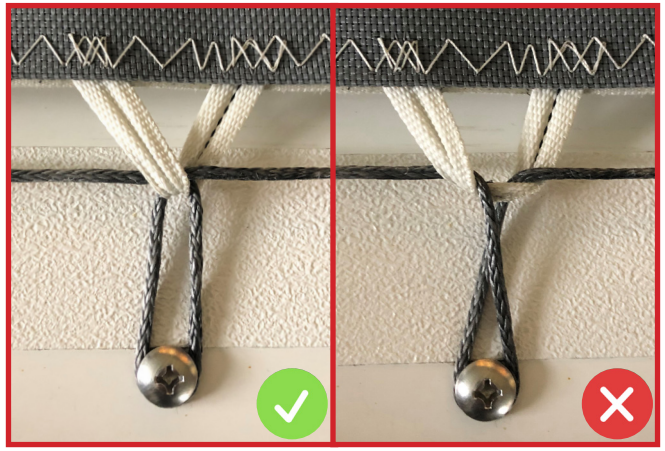
3. Tie the side lace line on the ***starboard*** side to the most forward loop closest to the front crossbar.

4. Feed the line through the loops from top to bottom.

5. Loop around the bolt and continue underneath the line.



6. Tension the line slightly.



7. Tie the lacing line temporarily with a half-hitch knot at the last loop.

8. The beginning of the port side is a reflection of the starboard side.

9. Feed the line through the loops from bottom to top.

10. Loop around the bolt and continue ***above*** the line.

11. Tension the line slightly and tie it temporarily at the last loop.

12. Now fully tension the trampoline sideways from front to rear.

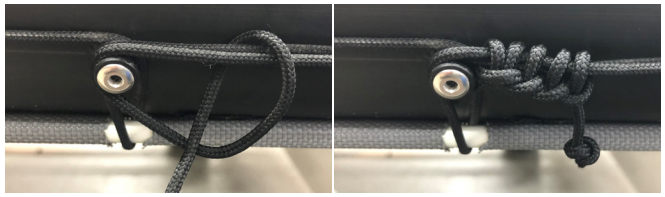
13. To secure the line, feed it underneath the second loop and tie the lacing line with half-hitch knots.

14. Continue until you reach the end of the line and install a security knot.

15. Tension the trampoline loop by loop from front to rear.

16. After tightening, go two buttons back to secure the line.

17. Tie the rear lacing line with a half-hitch knot. Continue until you reach the end of the line.

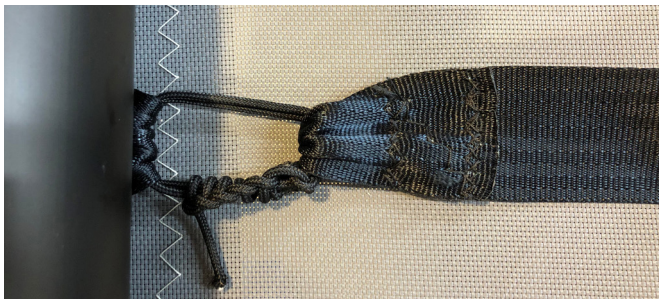


18. Close the trampoline with the two zippers underneath.

This step is performed after installing all systems running in between the two trampoline layers.

19. Use the strap eye on the rear crossbar to tie the V-strap in the middle.

20. Tie the hiking straps by using the hiking strap ties.



1.4 Spinnaker blocks

1. Attach the four 29mm carbo single fixed assymetric blocks on the right positions as shown in the picture.
2. Attach the two carbo 40mm single/swivel blocks to the loops on both sides located at the front of the trampoline.

1.5 Trapeze shockcord

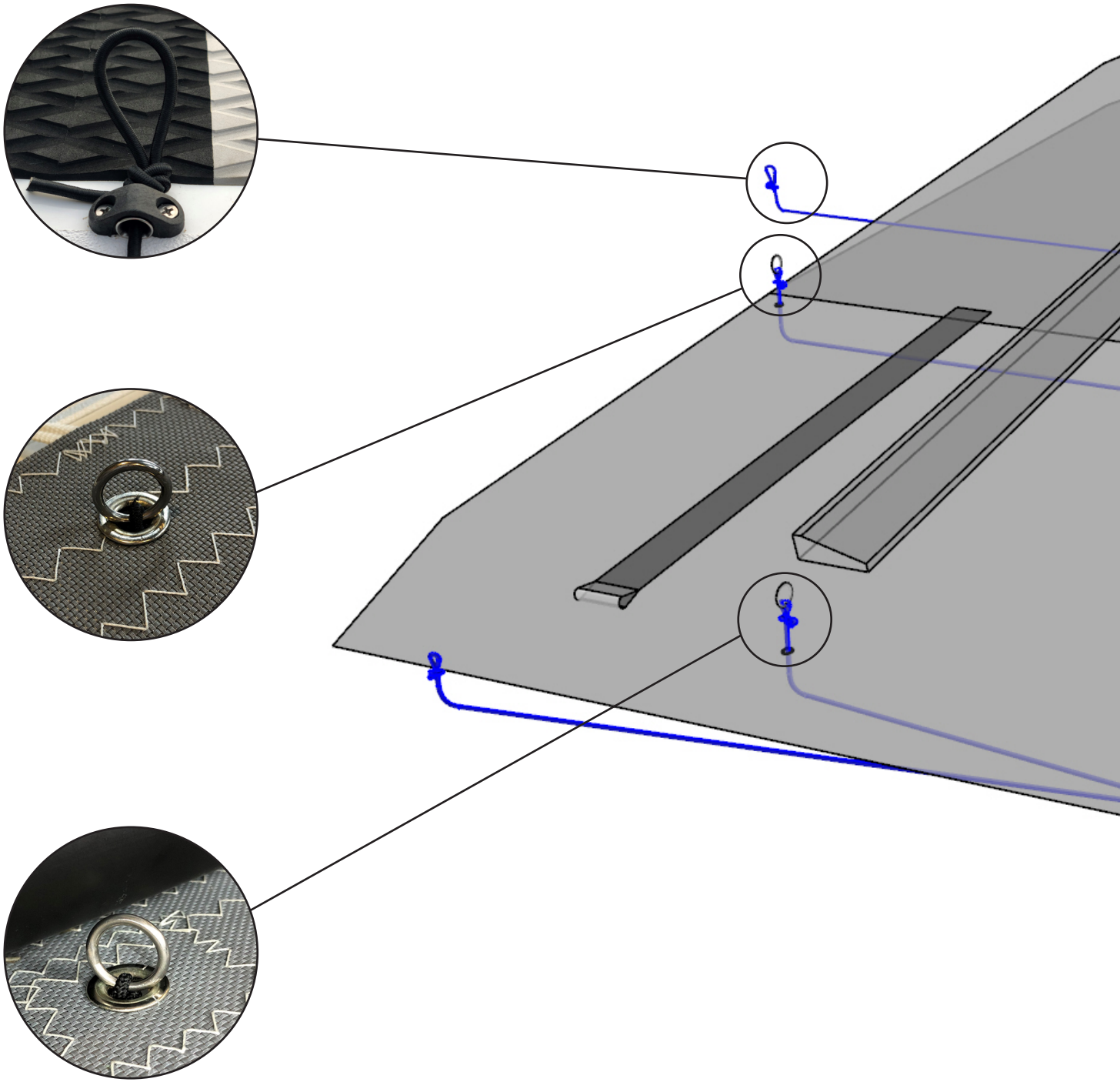
1. Knot a loop in the trapeze shockcord and feed the other end through the fairlead.
2. Pull the shockcord underneath the trampoline to the other side.
3. Feed the shockcord through the fairlead and knot a loop.

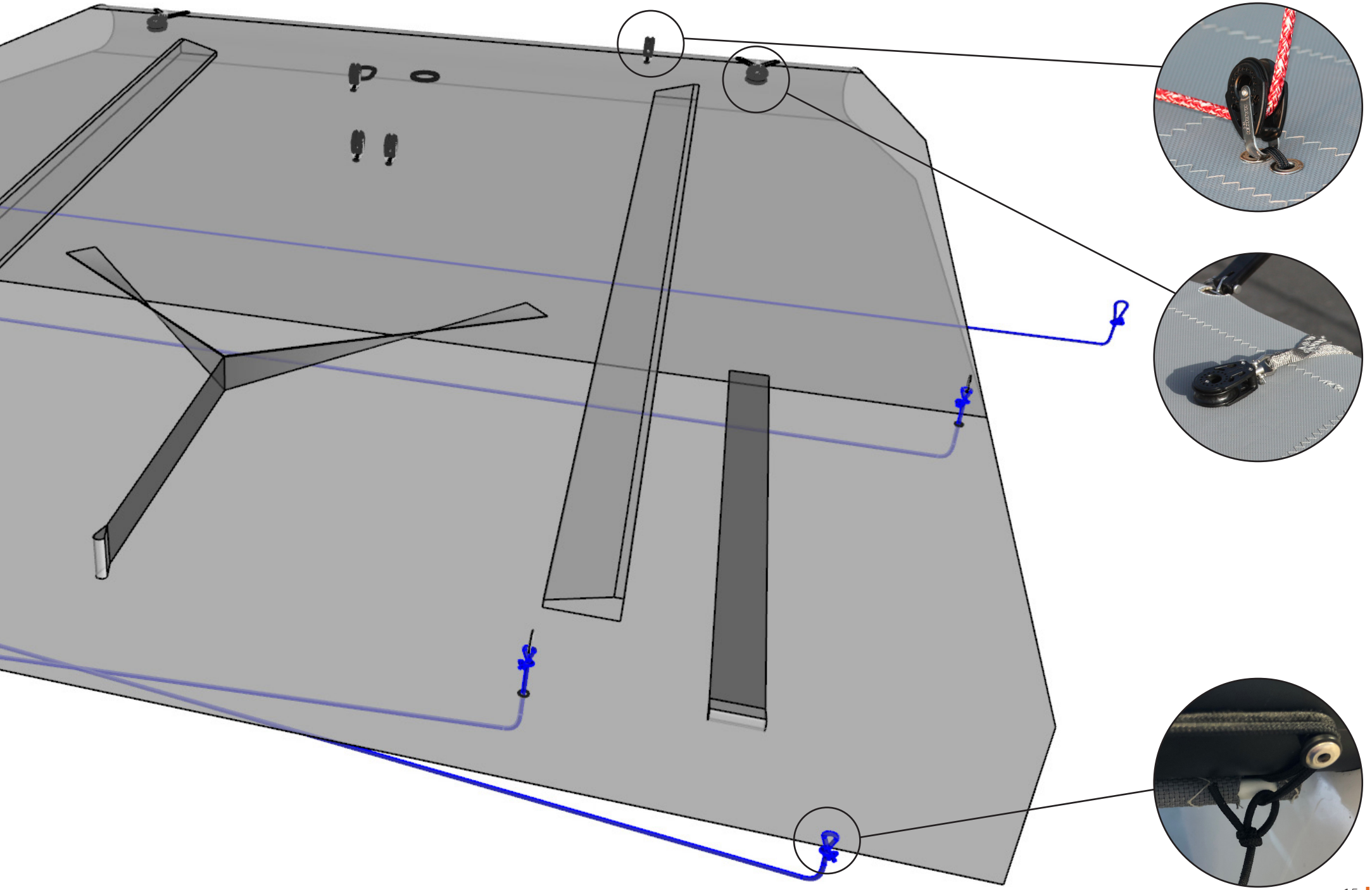
1.6 Spinnaker sheet rings

1. Tie a 15mm ring to the end of the shockcord.
2. Feed the shockcord through the eyelet from above and pull the shockcord to the other side and feed it through the eyelet from below.
3. Attach a 15 mm ring to the end of the shockcord.

1.7 Spinnaker halyard rings

1. Tie a 15mm ring to the end of the shockcord.
2. Feed the shockcord through the eyelet from above and pull the shockcord underneath the rear crossbar to the last tramp button.
3. Attach the shockcord with a bowline on the tramp lace rear.



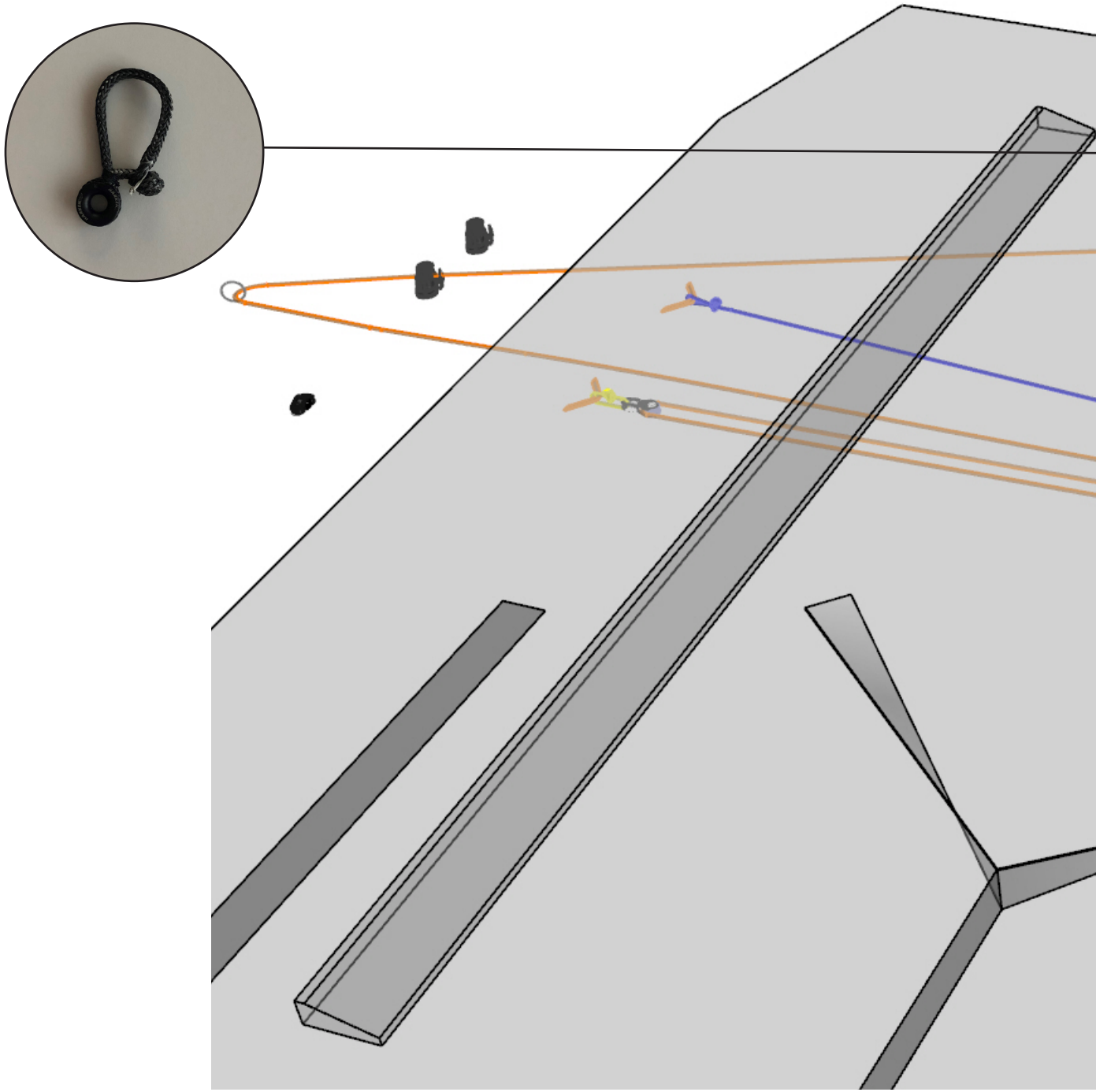


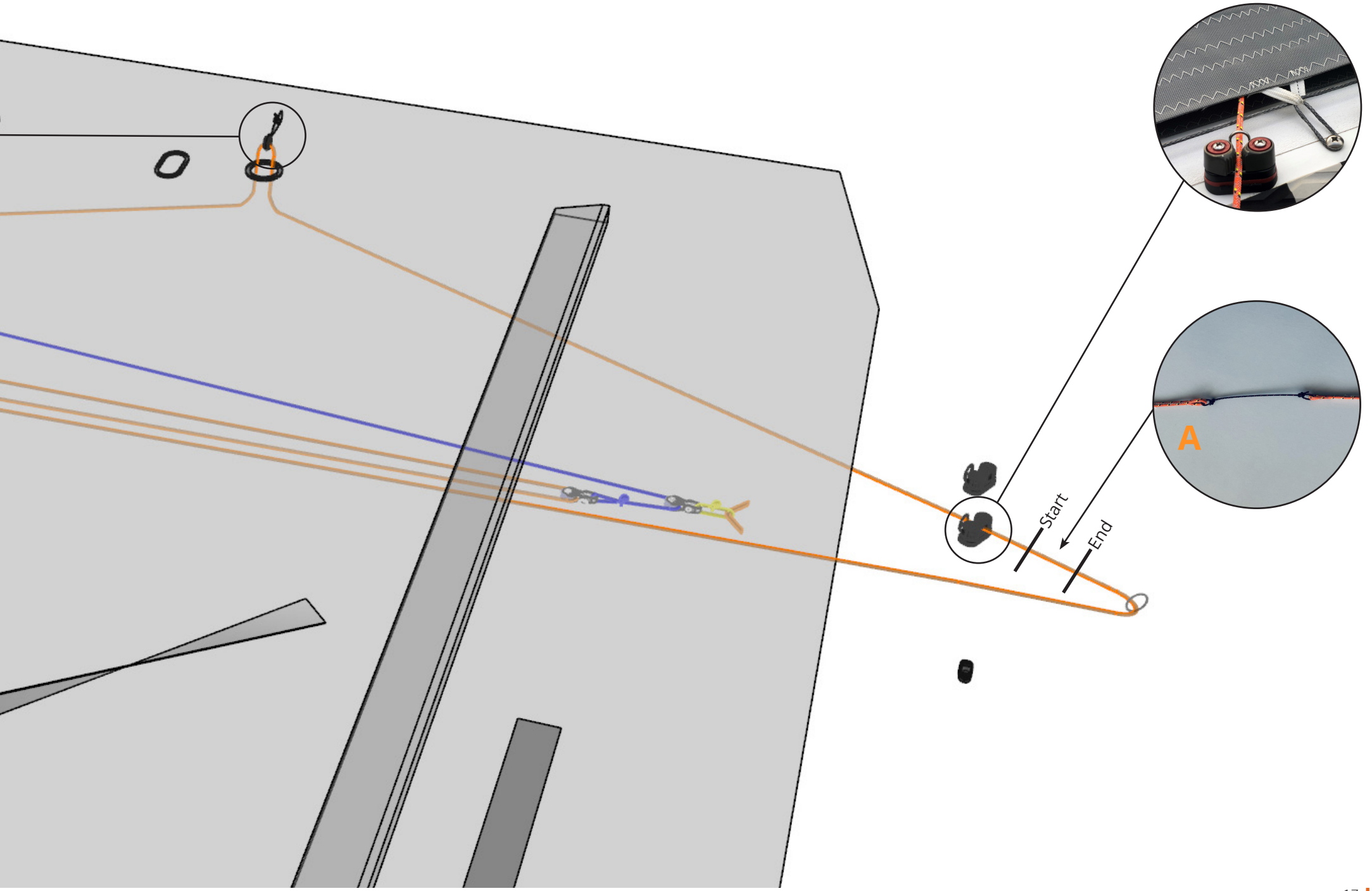
1.8 Mast rotation continuous system

1. Tie the two 16mm blocks on both sides on the loops underneath the trampoline.
2. Attach the shockcord (blue) by making a bowline to the loop at the port side.
3. Take the loose end of the shockcord and feed it through the 16mm block on starboard side. Attach the 16mm block on the end of the shockcord with a bowline.
4. Fixate the line (orange) on the starboard side in the rear camcleat and feed it between the trampoline and the tramp lace underneath the trampoline. Pull it upwards through the big eyelet in the middle.
5. Feed the line through the Harken lead ring and return it down below through the same eyelet towards the port side.
6. Feed it between the trampoline and tramp lace and feed the line through the rear camcleat. And through the ring.

Go from the front to the back through both of the 16mm block so that the line does not cross.

7. Feed it between the trampoline and the tramp lace underneath the trampoline, continue through the 16mm block (attached to the shockcord) on starboard side and feed it back through the fixated 16mm block on port side.
8. Finally pull the line towards the starboard side and feed it between the trampoline and the tramp lace. Then feed the line through the ring.
9. Attach both ends to each other as shown in photo **A** with two bowlines.
10. Adjust the connection to locate it inside the trampoline.

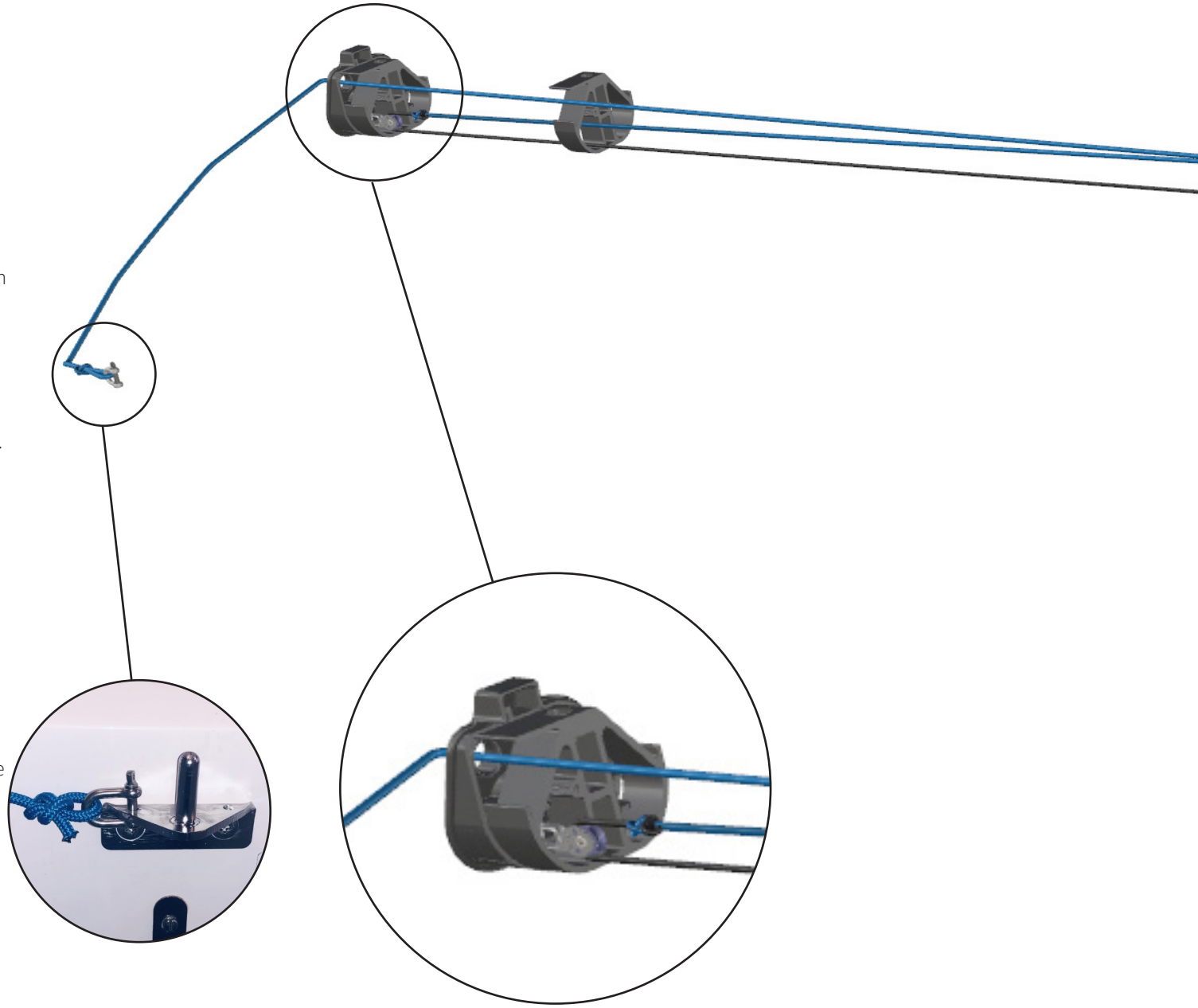


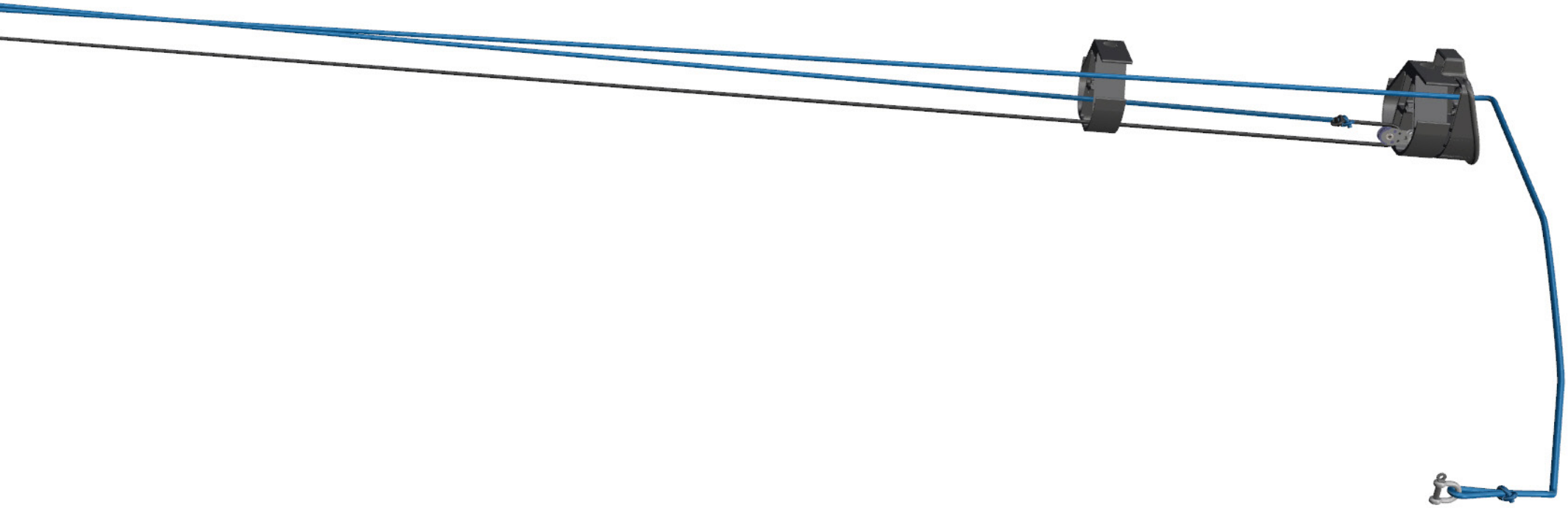

A
Start
End

1.9 Chickenline system (optional)

Tools needed:
- Flat screwdriver

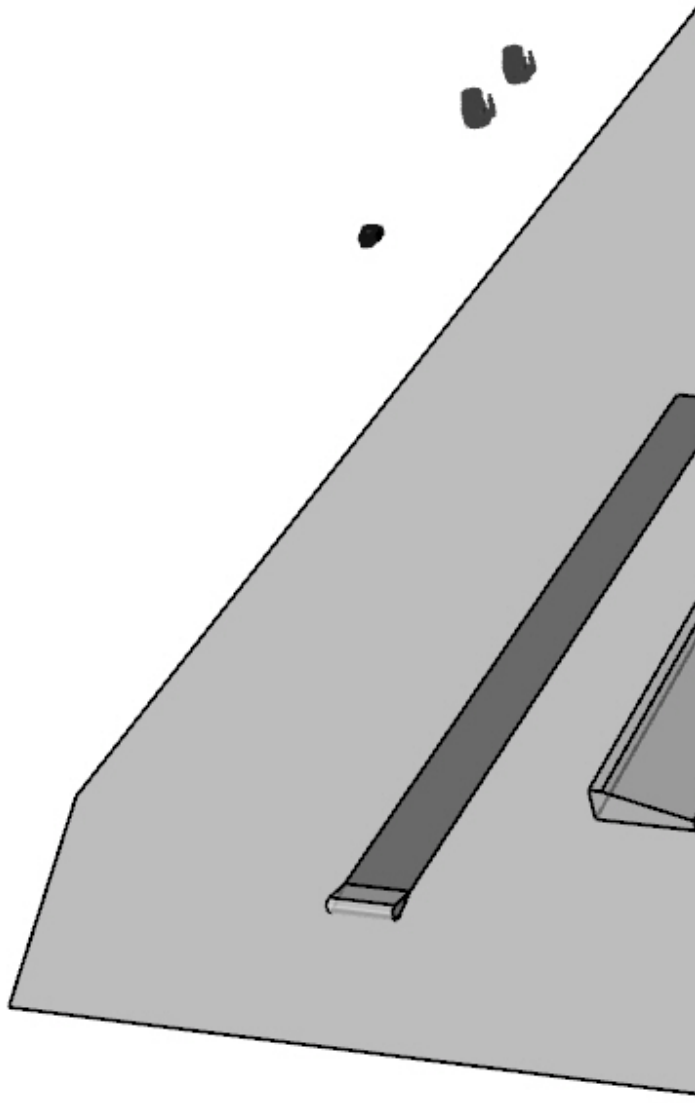
1. Remove both endcaps from the rear crossbar.
2. Instal the 16mm blocks on both endcaps.
3. Knot one end of the (port) ckickenline to the shockcord with two bowlines.
4. Knot the other end of the chickenline to the shackle with a bowline and install the shackle to the outside hole at the upper gudgeon on port side.
5. Feed the shockcord (where the port chickenline is tied to) through the hole in the port endcap.
6. Pull the shockcord to the other side with a long thin rod. Take a close look at the drawing, the line/shockcord is crossing the crossbar diagonal.
7. Feed the shockcord through the 16mm block ***from top to bottom.***
8. Pull the shockcord to the other side and feed it through the 16mm block ***from bottom to top***.
9. Tie the starboard line with a bowline to the shackle and install the shackle to the outside hole at the upper gudgeon on starboard side.
10. Finally pull the shockcord diagonal to the starboard side (at this point there is a lot of tension on the shockcord) and knot it to the starboard line with two bowlines, make sure you feed the line through the endcap.

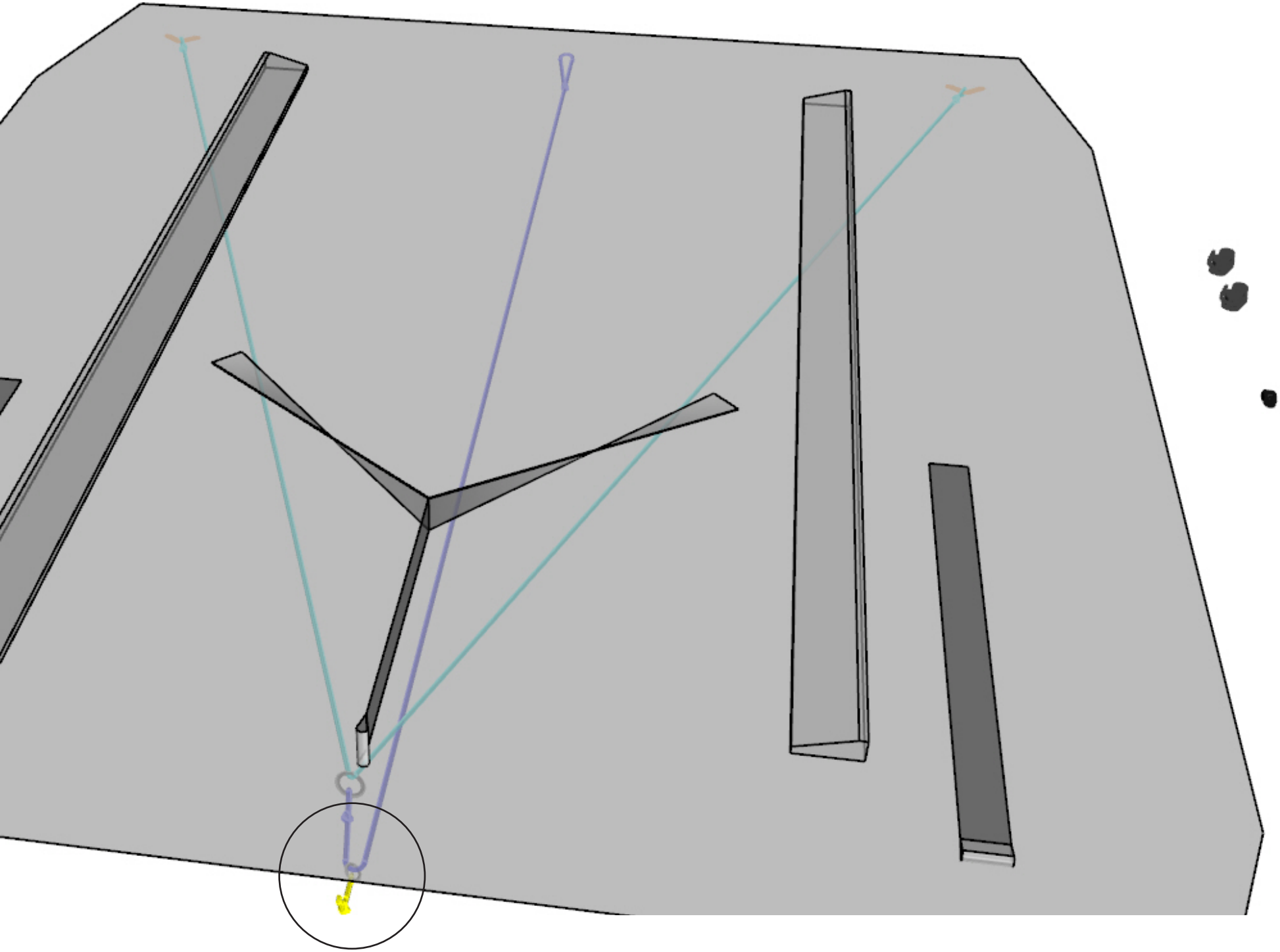




1.10 Righting line

1. Tie the 20mm ring with a 4mm line to the middle trampoline tie button.
2. Attach the shockcord with a bowline to the dolphin striker rod.
3. Feed the other end of the shockcord through the 20mm ring and tie it to the second 20mm ring with a bowline.
4. Attach the righting line to the loop under the front crossbar, on any side.
5. Feed the line through the ring and attach the line on the other loop underneath the front crossbar.





2. Mast assembly

2.1 Diamond wires

Tools needed: - Wrench 17mm
- Long nose plier - Grease

It is preferable to place the mast on supports while building the mast.

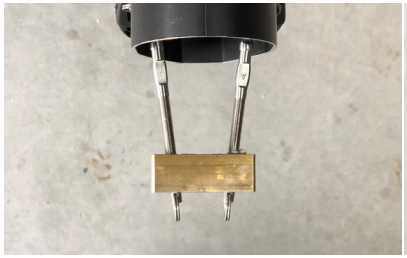
1. Take the brass fitting from the rigbox kit diamond adjuster and the diamond wires.

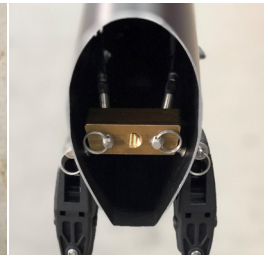
The brassfitting is asymmetric. Make sure the brassfitting is in the same position as shown in the pictures!

2. Feed the diamond wire through the slots in the mast. Grease the threaded ends of the diamond wires and fit one end into the brass fitting. Turn until you see the full hole in the end which sticks out of the brass fitting.

3. To fit the other diamond wire into the brass fitting let another person help you by turning the diamond wire at the other end.

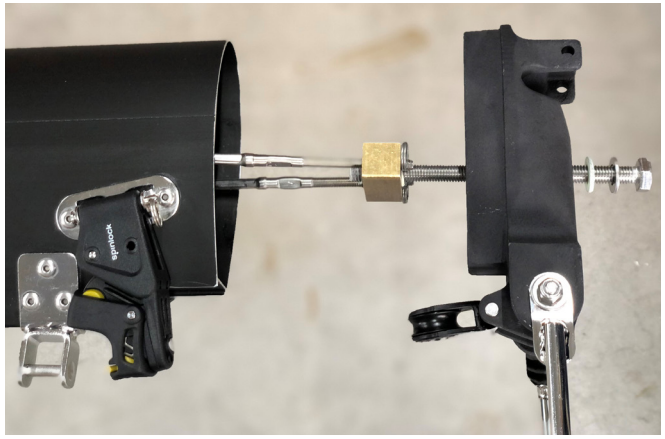
4. Mount the split rings on the diamond wires.





5. Grease the diamond adjuster bolt and adjust the washers and mastbase with the washer on top. Make sure the bolt is at least 5mm in the brass fitting.

6. Place the mastbase on the mast and pull the diamondwires further up through the diamond slots in the mast.



7. Bend the diamond wire tang away from the mast.

8. Attach the fork terminals of the diamondwires on the tangs with the two clevis pins 1/4 x 1/2 from the spreader attachment rigbox kit.

The ring must be on the outside!

2.2 Spreaders

Tools needed:
- Long nose plier - Grease

1. Grease the spreader tip

2. The spreadertip must be inserted at least 1cm! Later on you can set the prefered spreader rake.

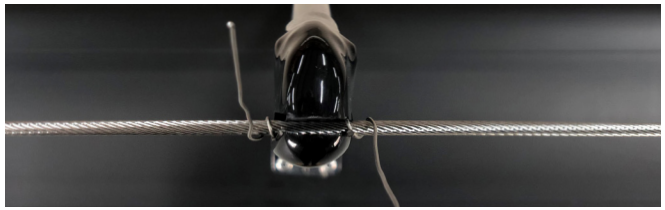
3. Assemble the two spreader bars using the clevis pins 3/16 x 5/8.

4. Take the spreader tip cover and a monel-wire piece. Wind the wire around the spreader arm and put the two ends through the cover. Slide the cover over the spreader arm.

5. Attach the spreader to the mast with the spreadertip facing forward.
- **The splitrings must face the bottom of the mast!**

6. Slide the diamond wires into the slots of the spreaders.
- **Make sure the diamond wire is completely in the slot!**

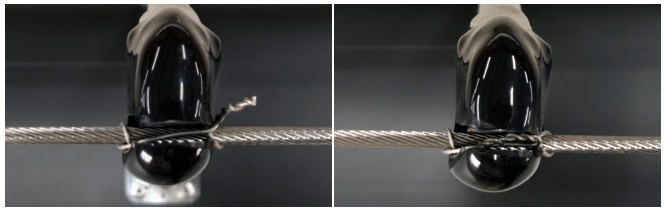
7. Twist the wire ends around each side of the diamond wire.



8. Twist the two ends into each other.

First perform 2.4 Diamond tension before continuing the next steps.

9. Cut off the excess monel wire and ensure it is bent neatly onto the diamond wires to prevent the wire from tearing the sails.



10. Use self amalgamating tape to tape the spreader ends and the pins and rings

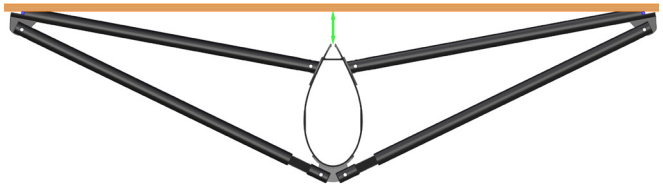
Protect your sails, make sure no sharp wire ends are sticking out!

2.3 Spreader rake

- Measure the spreader rake by placing a batten on the diamond stays next to the spreaders. Measure to the back of the mainsailtrack.
- You can change the spreader rake by unleashing the tension on the diamond wires and adjusting the spreader tips. Always check if the spreader tips are screwed out equally.
- Basic settings: set spreader rake on 45 mm.

Not respecting the minimum or maximum spreader rake can cause severe damage/ breakage of the mast while sailing.

Minimum spreader rake	Maximum spreader rake
15 mm	70 mm



- For specified tuning settings, check the trimsheets on www.nacrasailing.com

2.4 Diamond tension

Tools needed:
- Wrench 17 mm
- “Loose” tension gauge (fixed)

1. Put tension on the diamond wires by tensioning the diamond adjuster bolt with a wrench size 17mm. Use the “loose” tension, or an equivalent gauge to measure the tension on the diamond wires.

Basic setting Nacra F18 Evolution
* Set the diamond wire tension at 35 (loose), 225 KG for 4mm wire.

Diameter wire	Minimum load (KG)	Maximum load (KG)
4 mm	195 KG	360 KG

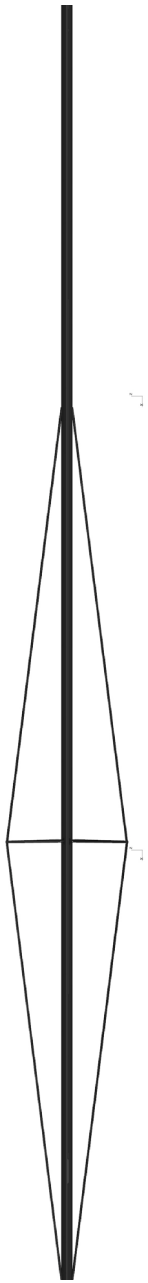
Overdoing the minimum or maximum diamond wire tension can cause severe damage to the mast while sailing.

2. After putting tension on the mast check if the mast is straight. Take a look along the sail groove from mast base to mast top.

If the mast is bended to ***starboard***:
- Unleash the diamond tension
- Detach the ***port*** diamond wire at the tang and shorten the wire with 1 full twist clockwise.
- Attach the ***port*** diamond wire at the tang and put tension on the diamond adjuster bolt again. Redo this process if necessary

If the mast is bended to ***port***:
- Unleash the diamond tension
- Detach the ***starboard*** diamond wire at the tang and shorten the wire with 1 full twist clockwise.
- Attach the ***starboard*** diamond wire at the tang and put tension on the diamond adjuster bolt again. Redo this process if necessary

3. Tape the rings of the diamond tang when done.



2.5 Spinnaker halyard

Tape the ends of the bale line to slide easily through the pre drilled holes!

1. Take the spin bale line and a carbo 29 mm T2 block.
2. Feed one end of the spin bale line through the pre drilled holes in the mast and tie a figure 8 knot.
3. Feed the other end of the spin bale line through the middle of the 29mm block and feed it through the pre drilled holes and fixate it tightly with a figure 8 knot.
4. Install the block line to the top of the block and the strapeye above. Fixate the block on the same height as the bale line is positioned.

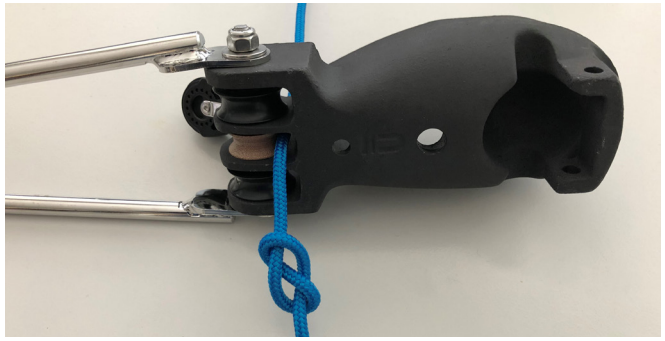
5. Install the 40mm carbo pivoting lead block. The cleat is facing downwards.

6. Feed the spinnaker halyard form inside to outside through the topblock.

7. Attach the dynema line end of the spinnaker halyard temporarly to the big bullet.

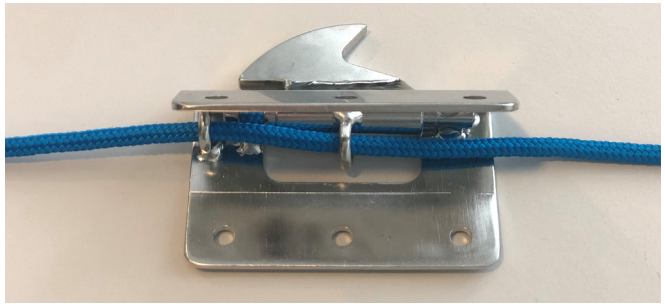
2.6 Main halyard

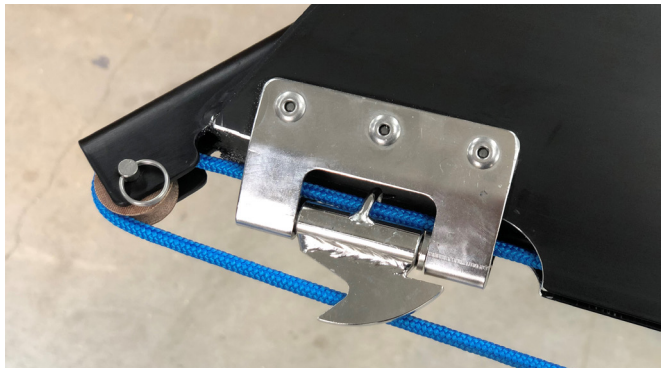
1. Knot a figure 8 knot at the bottom of the mast.



2. Feed the main halyard line through the sail groove towards the main halyard swivel hook. Feed it through both eyelets of the hook and guide the line around the mast sheeve.

Make sure the line goes through both eyelets of the main halyard swivel hook!





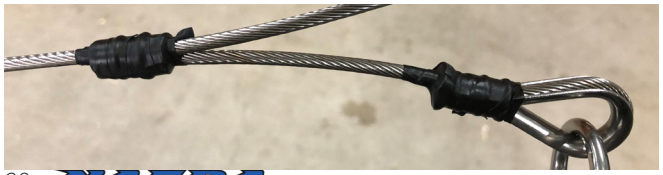
3. Knot the other end of the main halyard line with a figure 8 knot to the eyelet on the main halyard ring. Tie everything temporarily to the mast.

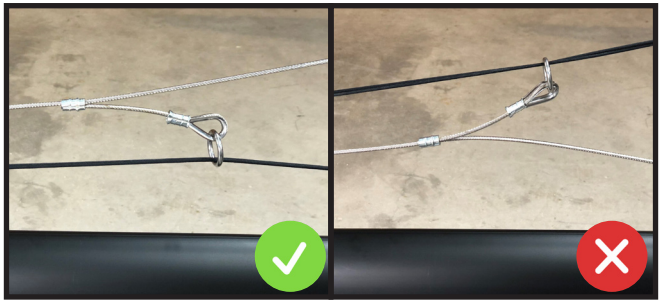
2.7 Fixing the stays

Tools needed:
- Long nose plier

1. Use the shackle 6mm 1/4, 2 nylon washers and the trapeze ropes. Put the shackle through the center hole and install two trapeze ropes on each side.
2. Use the shackle 8mm 5/16, 2 nylon washers, the shrouds
3. and forestay. Install them as shown in the picture. The fore stay must be located in the middle.
4. Tape the crimp sleeves of the forestay.

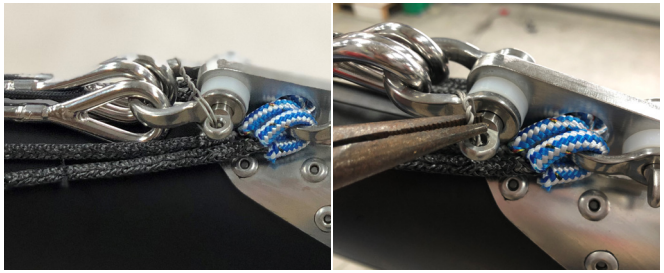
- **Make sure the ring of the forestay is facing inwards!**
- **Tighten both shackles firmly with the long nose plier!**





5. Secure the shackle using the last monel wire piece. Look closely to the pictures.

Cut the excess wire and bend it back through the hole of the shackle pin before taping it!



6. Tape the monel wire piece using the self amalgamating tape.

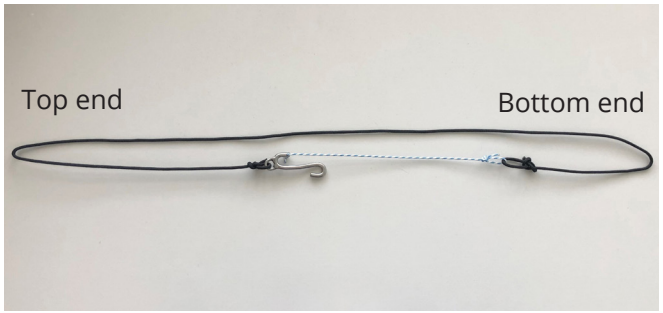
- **Check for sharp edges and tape them if necessary!**

2.8 Jib halyard

1. Use the 3mm jib halyard line and feed it through the teardropeye of the installed forestay.

2. Both ends go through the ring at the forestay. Check if the ring is facing inwards.

3. Knot one end with a bowline at the eyelet of the S-hook. The other end is attach with two bowlines unto the 1.6mm (short) jib halyard line. the loose end needs to be fed through the small hole in the S-hook and secured by a figure 8-Knot.



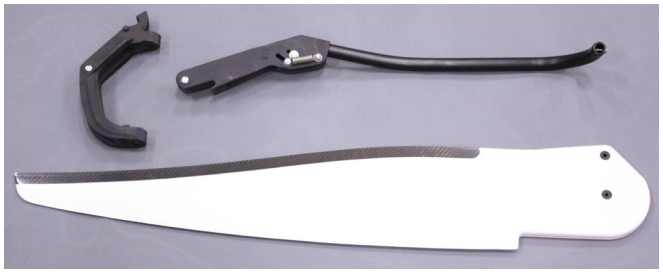
2.9 Cunningham system

1. Use the 1:16 cunningham kit and knot the d12 5mm line to the 16 mm double blocks.
2. Install the spinlock cleats.
3. Loop the cunninghamline through the blocks as shown on the drawing.

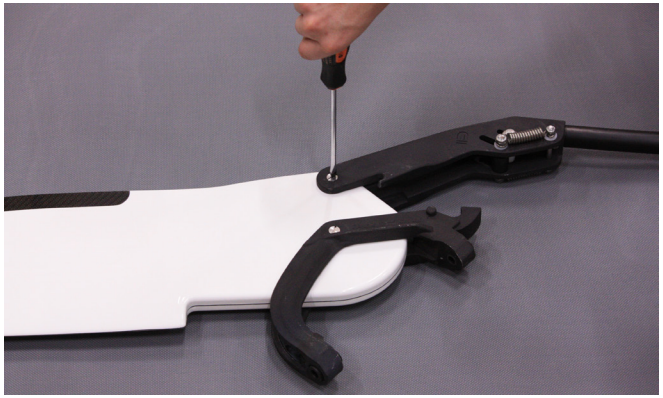
3. Rudders

Tools needed:

- Wrench 7/16 2x
- Measurement tape
- Grease
- Philips screwdriver
- Flat screwdriver
- 3mm drill



1. Assemble the upper and lower casting on the rudderblade. Use a flat screwdriver and grease.



2. Use the self locking slot for the nylock nut at the port side of the casting.

3. Put the boat on a high support or a trailer to allign the rudders high enough to lock down the rudders.

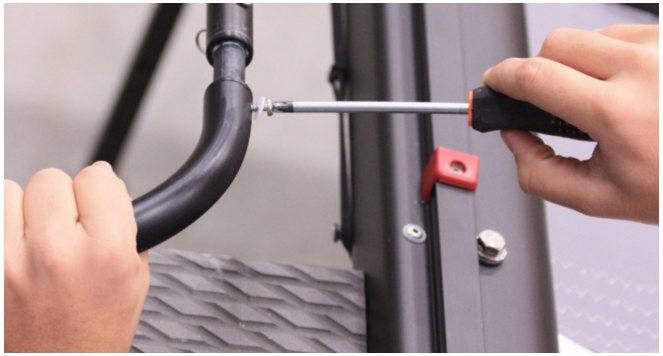
4. First place the lower pin through the lower casting.

5. Put the top pin through the lower casting.

6. Push the casting all the way down and check if the retainer clip is over the casting.

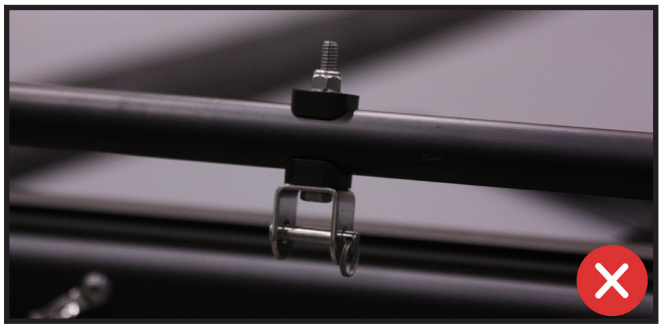
7. Lower the blades and lock both systems.

8. Take the philips screw out of the tillerarm.



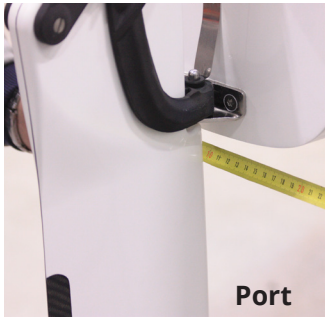
9. Place the tiller crossbar in between the arms.

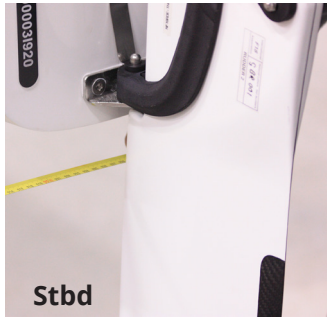
- **Check if the connector for the tiller extension is on top.**

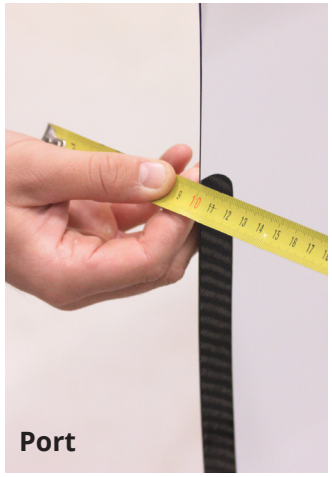


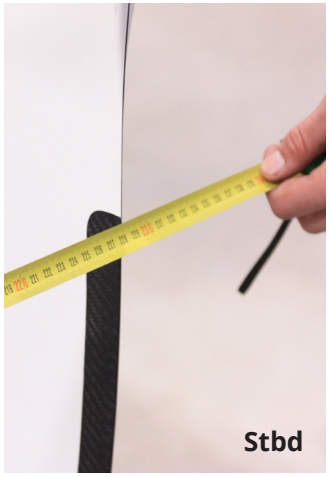
10. Measure the length between the middle of the rudder at the back and front of the rudders.

- **Measure at the same horizontal level and start at 10 cm to measure more precisely.**



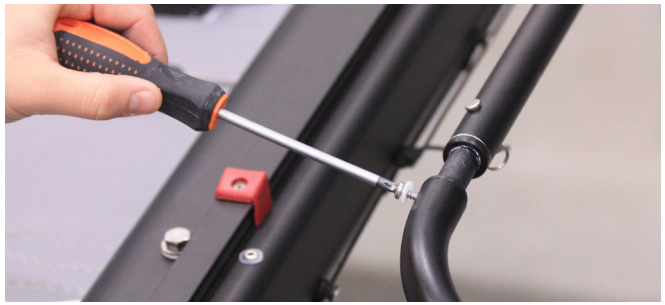






11. The rudders must face 2 mm inwards, this is adjustable by changing the rod length.

12. Check if the rod length is the same at both sides and pre-drill with the 3mm drill before you screw the philips screw.

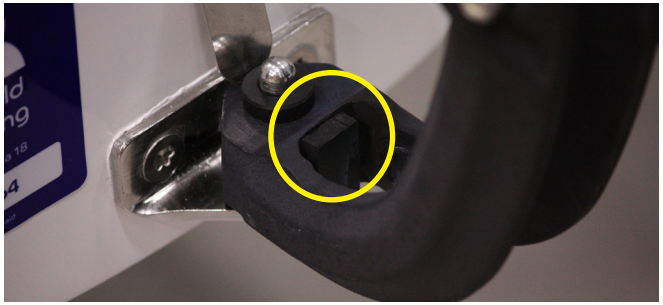


13. Fix the sliding bolt for the kick up tension. Push the bolt forward and fix the bolt while you're still pushing forward. The sliding bolt needs to be tightend firmly.

- **Use the two 7/16 wrenches.**

14. If you want to change the rudder rake, change the rubber for a smaller or bigger rubber.

- **Parts are available at www.webshop.nacrasailing.com**

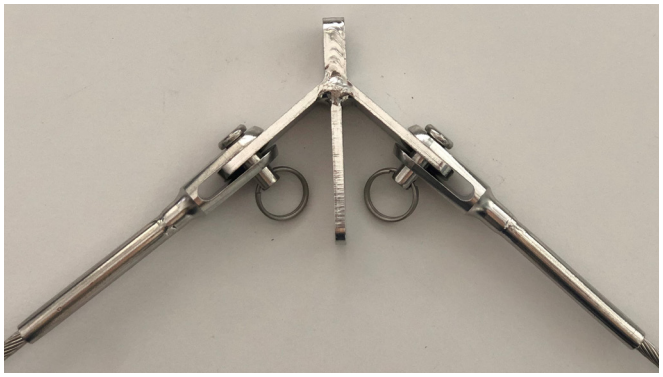


4. Rigging

4.1 Preparation

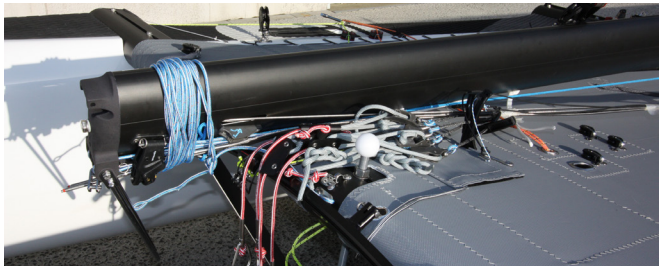
Tools needed:
- Allen tool size 3 - Wrench 11mm

1. Mount the bridle wires on the bridle connector. Use the clevis pins 1/2 x x 1/4.

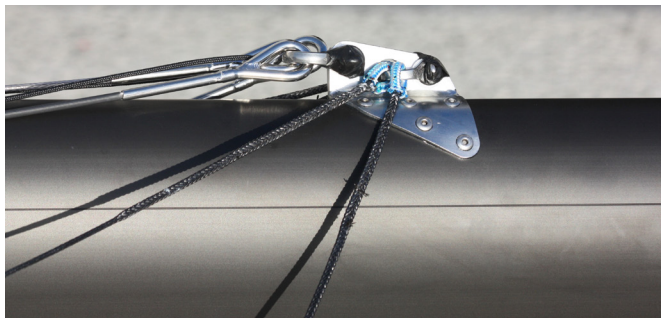


2. Install the ring 3x20 ss under the fork terminal on port side as shown in the picture.

3. Place the mast with care on the trampoline with the masttrack down, support the back of the mast to prevent it from scratching!



4. Check if the rigging and the shackles are connected on the mast as shown in **2.7 Fixing the stays**.



5. Attach the turnbuckle to the shroud eye and make sure you attach the ring from the continues mast rotation system on the inside of the turnbuckle.

- **Make sure the turnbuckle is at his maximum length of 0!**

6. Install the adjustable trapeze with the shackle to the trapeze line. Check page 51 how to assemble the trapeze system.

7. Knot the adjustable trapeze line to the trapeze shockcords.

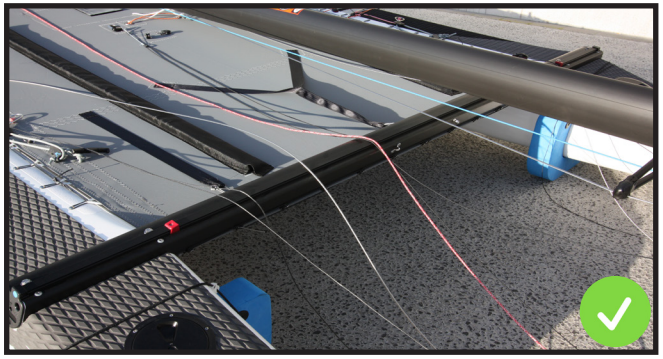
Check if the shrouds and trapeze lines are in the right order before raising the mast!

4.2 Raising the mast

Tools needed:
- Wrench 11mm

Before raising the mast the boat should be steady on level ground. If the surface is not level, point both bows downhill. If the boat is on a trailer be sure it is tied down and the trailer tongue is secure to the hitch!

1. Check if all wires are on top of the trampoline in between the hulls.

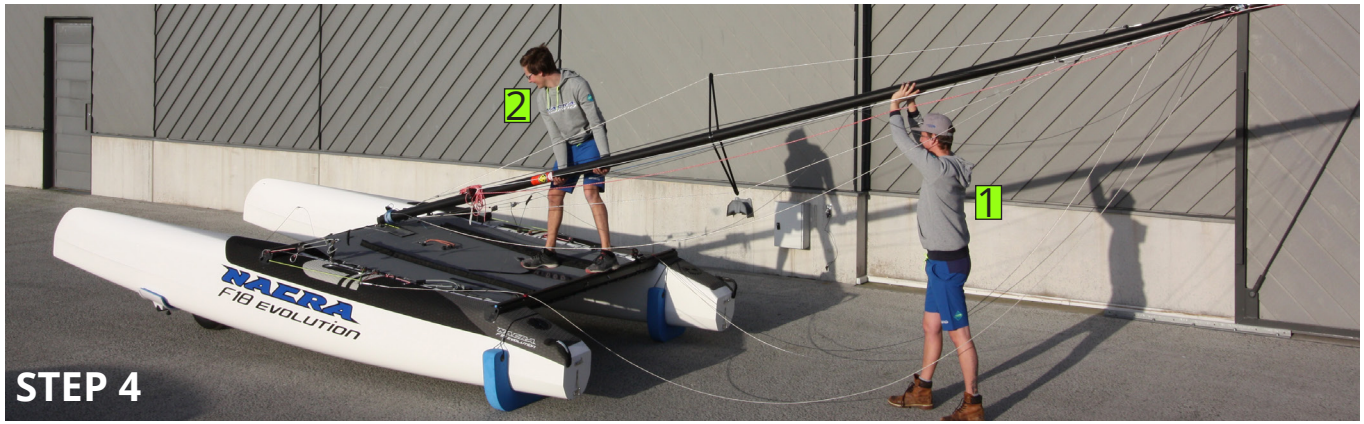


CAUTION: Check for overhead wires and be sure the area behind the boat is clear of people! A mast which comes in contact with electrical power lines can cause serious injury or death!

2. - **Person 1** Holds the mast up with one spreader arm facing downwards, so the mastfoot doesn't hit the crossbar.
   - **Person 2** Places the mastbase on the mastball.

3. Mount the mast pin and splitrings in the mastfoot.

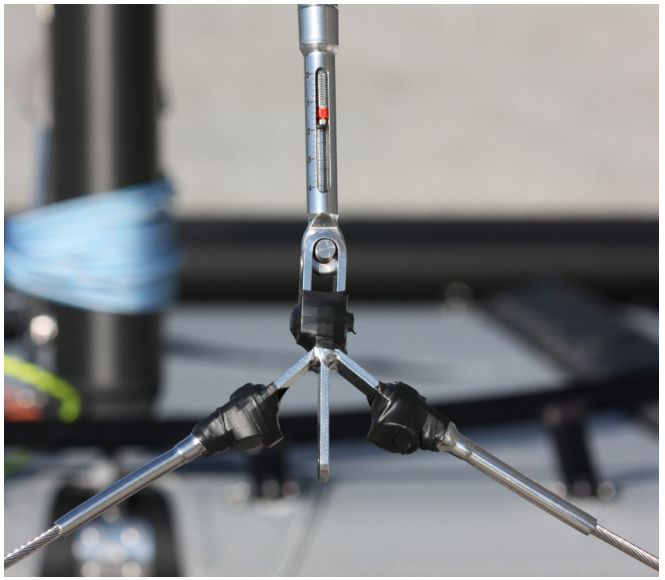
4. - **Person 1** Walks forward lifting the mast and hand over the mast to **2**.
   - **Person 2** Holds the mast with one spreaderarm facing downwards.



5. - **Person 1** Grabs the trapeze lines located at the front crossbar.
6. - **Person 1** Pulls the mast by hanging easily on the trapeze lines.
   - **Person 2** Pushes the mast upwards, still making sure the mastfoot doesn't hit the crossbar.

7. - **Person 1** Holds the mast forward pulling on the trapeze lines.
   - **Person 2** Grabs the forestay with turnbuckle.
8. - **Person 2** Attaches the forestay turnbuckle to the bridle connector.

9. Tape the pins and rings.



10. Put tension on the shrouds.

4.3 Lowering the mast

Tools needed:
- Wrench 11mm

CAUTION: Check for overhead wires and be sure the area behind the boat is clear of people! A mast which comes in contact with electrical power lines can cause serious injury or death!

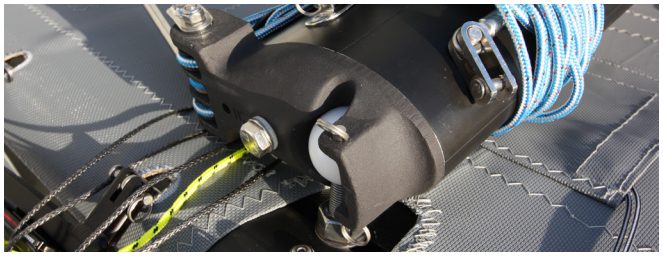
1. Detach the bowsprit if installed.
2. Check if the mast pin is in the mastfoot.
3. Undo the tension of the turnbuckles. Set them on maximum length of 0.

4. - **Person 1** Holds the mast forward pulling on the trapeze lines.
   - **Person 2** Remove the tape and release the forestay from the tunrbuckle.

5. - **Person 1** Guides the mast by hanging easily on the trapeze lines.
   - **Person 2** Lowers the mast, twist the mast with one spreaderarm facing downwards. Making sure the mastfoot doesn't hit the crossbar.

6. - **Person 1** Hangs backward lowering the mast.
   - **Person 2** Lowers the mast with one spreaderarm facing downwards.

7. - **Person 1** Holds the mast up with one spreader arm facing downwards, so the mastbase doesn't hit the crossbar.
   - **Person 2** Pulls the pin out of the mastbase and takes the mast of the mastball. Put the mast gently on the crossbar.



4.4 Snufferbag

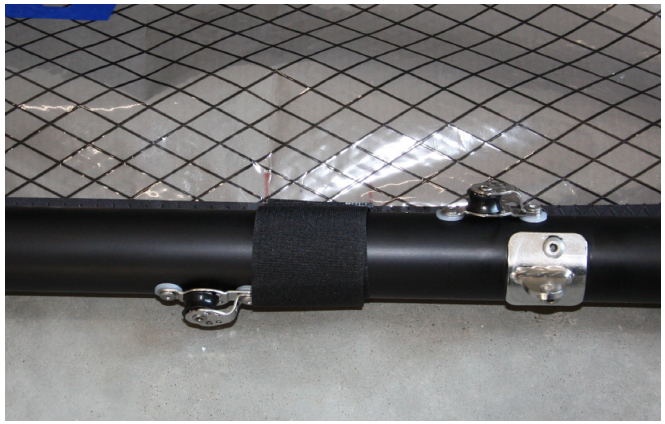
Tools needed:
- Allen tool size 3

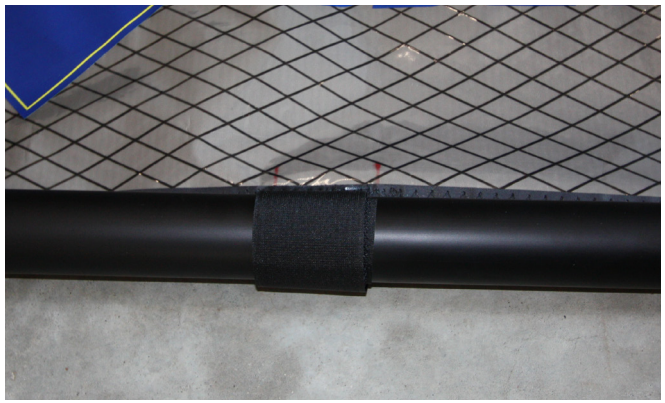
1. Use the bowsprit, snuffer ring and snufferbag and the allen tool size 3.

2. Slide the snufferbag into the slot of the snuffer ring.

3. Unscrew the 3 hexscrews out of the bowsprit.
4. Install the snufferring handtight on the bowsprit.

5. Install the snufferbag on the spipole using the velcro band.





4.5 Bowsprit

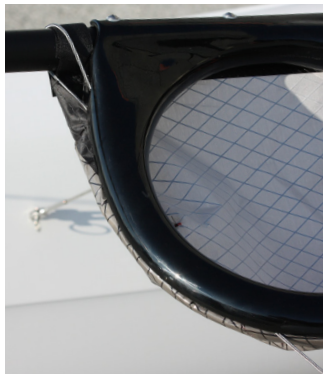
1. Slide the spipole over the bowsprit pin on the front crossbar.

2. Install the bowsprit to the bridle connector, with the bolt and the nut.

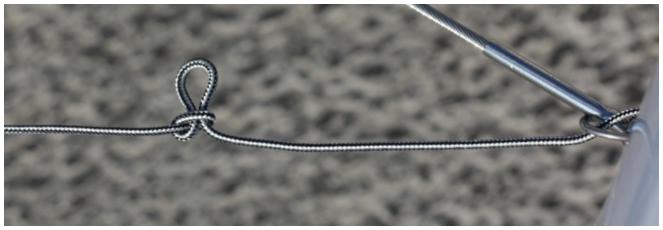
3. Push the bowsprit gently down in order to install the bowsprit bridle line on the bridle pin with the shackle narrow.

4. Knot the snufferline with a bowline around the pole and insert it in the slot of the ring.

The line goes in the slot on the front of the snuffer ring!



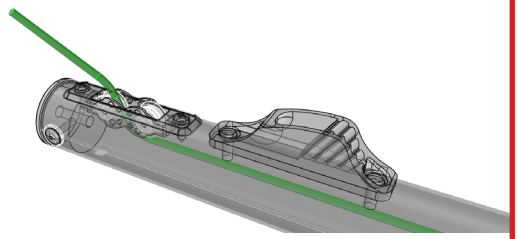
5. The other end must be tied on the ring at the bridle.



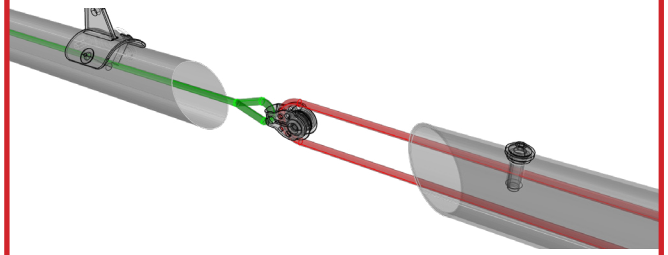
6. Attach the hooks at the end of the snufferbag to the loops at the bottom of the trampoline.

If the lines are out of the spipole, this is the correct way of installing.

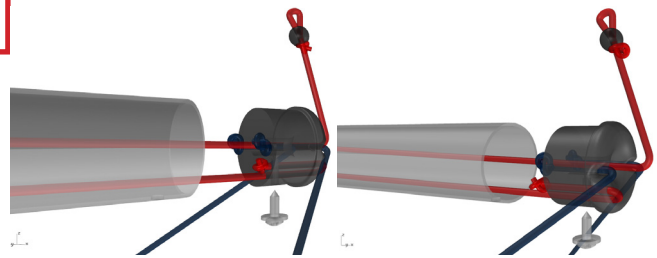
Detail view A

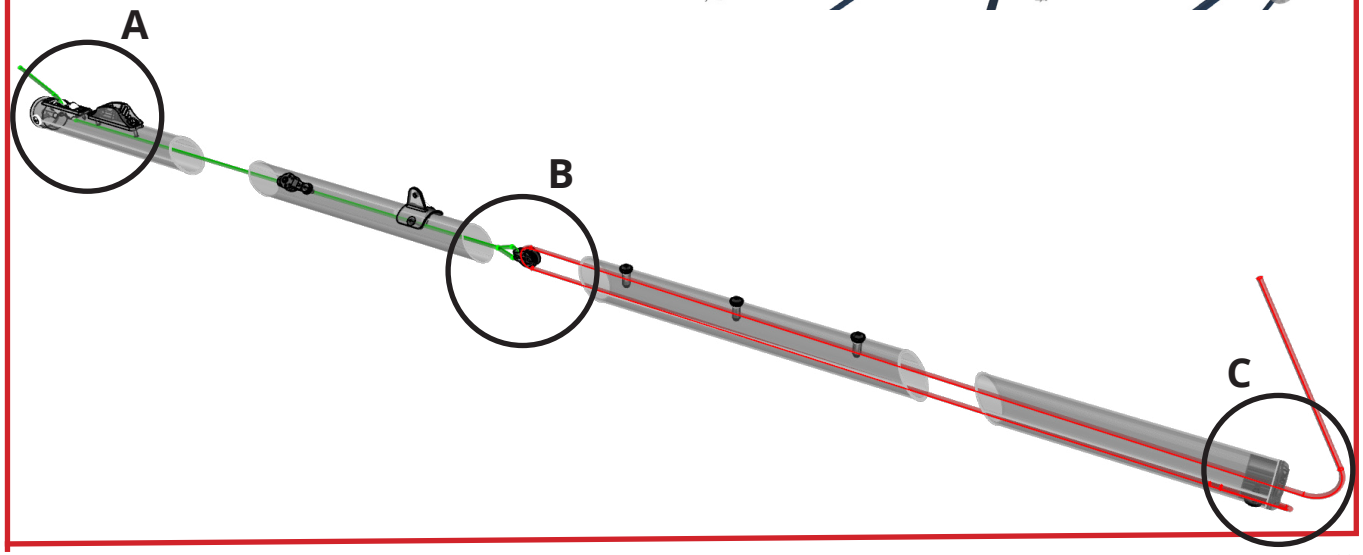


Detail view B



Detail view C

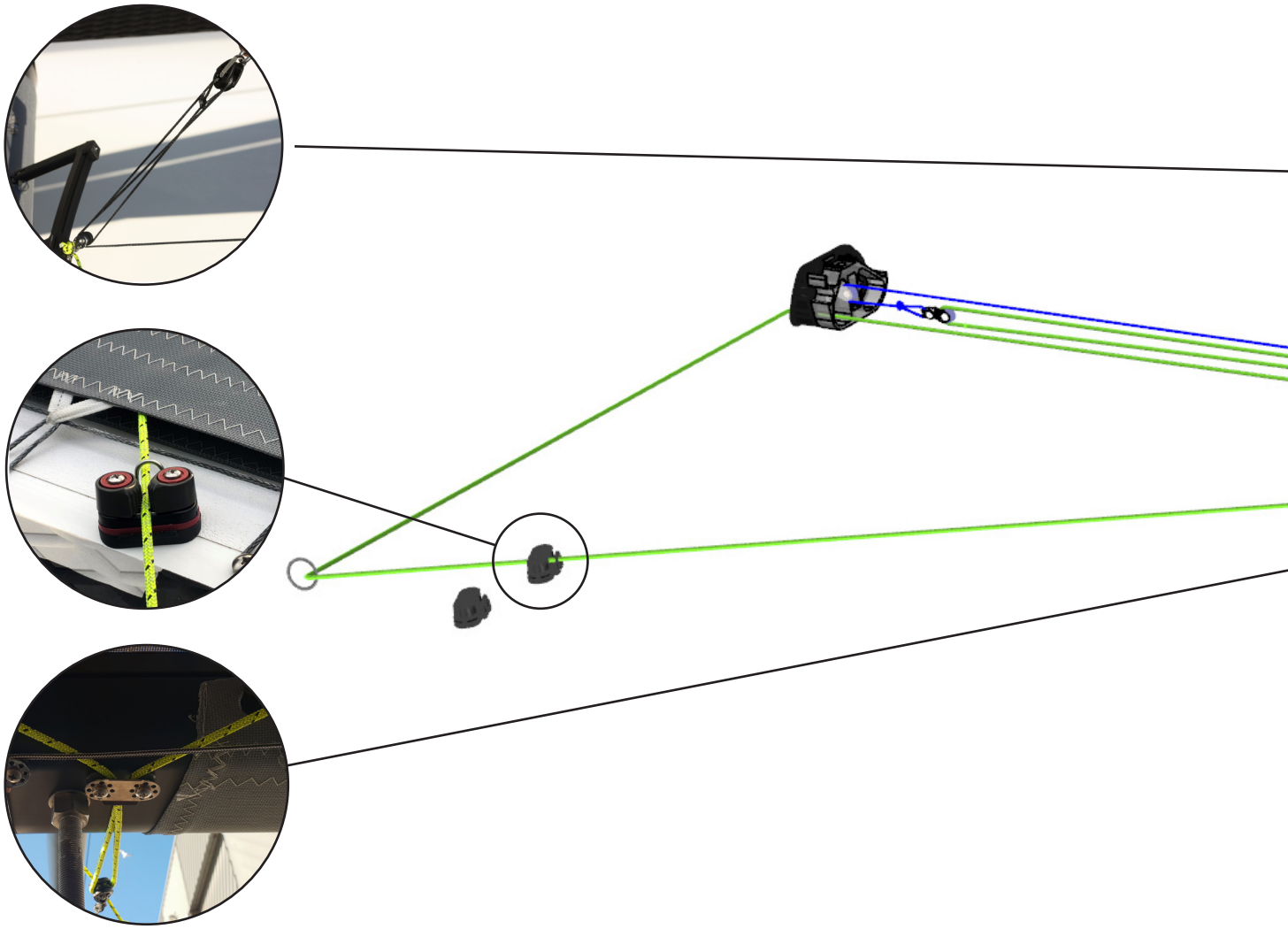




4.6 Jibsheet continuous system

Tools needed:
- Flat screwdriver

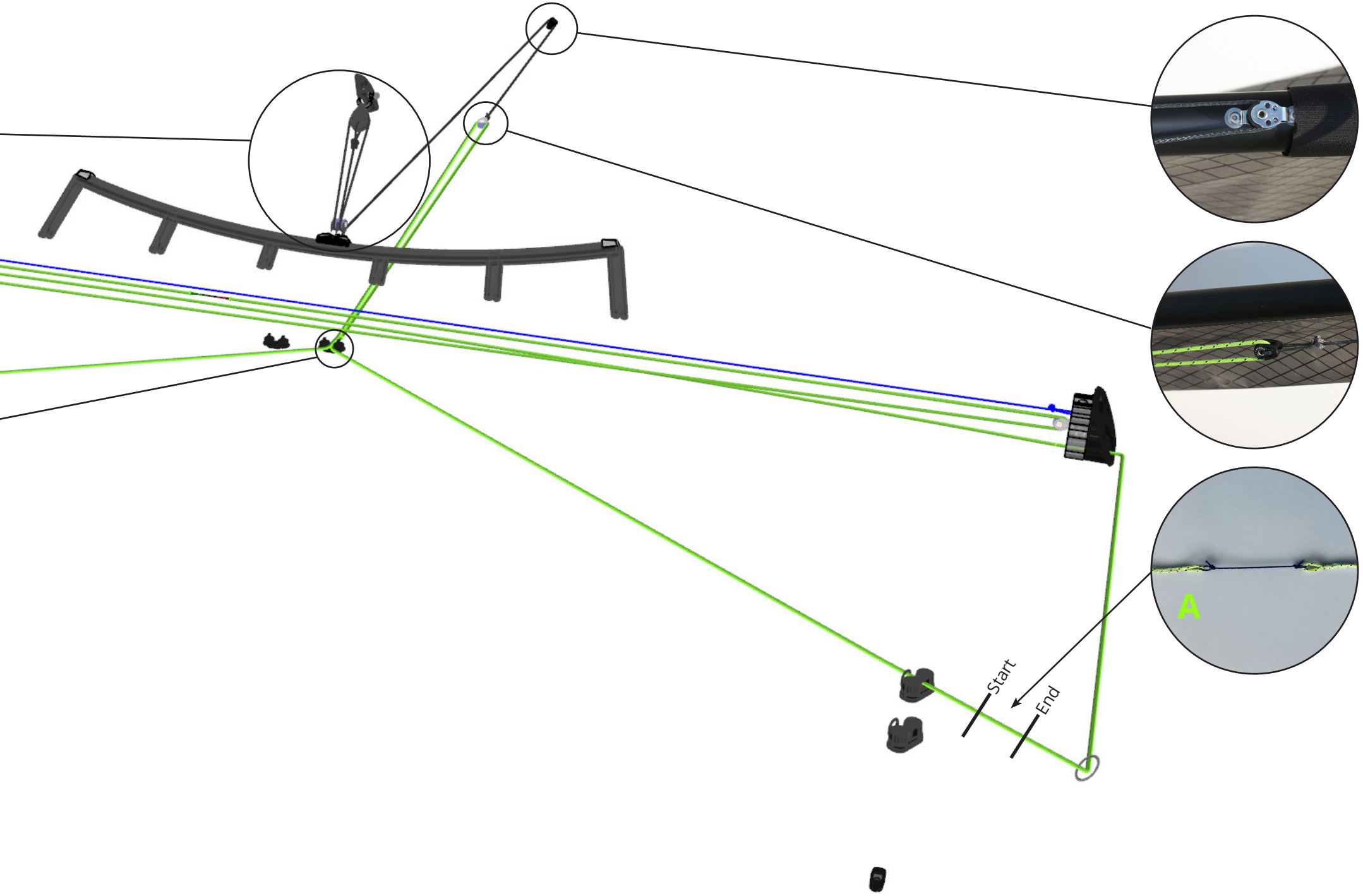
1. Use the jibsheet small, one carbo 29mm block and a shackle D 5mm.
2. Knot one end to the middle of the 29mm block with a bowline and feed the jibsheet small ***from top to botom*** through the first sheave of the double block located on the traveller of the selftacking track.
3. Feed the line back ***from bottom to top*** through the carbo 29mm block and back through the second sheave of the double block ***from top to botom***.
4. Feed the line ***from top to bottom*** through the block on the bowsprit located on the starboard side.
5. Knot the line to the T2 carbo 18mm block.
6. Feed the pre-installed travellerline of the jib through the cleat mounted on the bowsprit to range the track.
7. Fixate the jibsheet big line on the starboard side in the front camcleat and feed it between the trampoline and the tramp lace underneath the trampoline, through the bullet sheaves installed underneath the front crossbar on starboard side.
8. Feed the line through the T2 carbo 18mm block which is attached on the jibsheet small.
9. Feed the line on port side between the trampoline and tramp lace.
10. Feed it through the front camcleat and the ring already attached to the turnbuckle.
11. On port side, un-knot (from the small clamcleat) the rear pre-installed mouseline in the front crossbar, and attach it on the jibsheet big.
12. On starboard side, Pull the jibsheet big with the mouseline through the internal system until it comes out of the front crossbar.



13. Feed the line through the ring already attached to the turnbuckle.
14. Attach both ends to each other as shown in photo **A** with two bowlines.
15. Adjust the connection to locate it inside the Front crossbar.

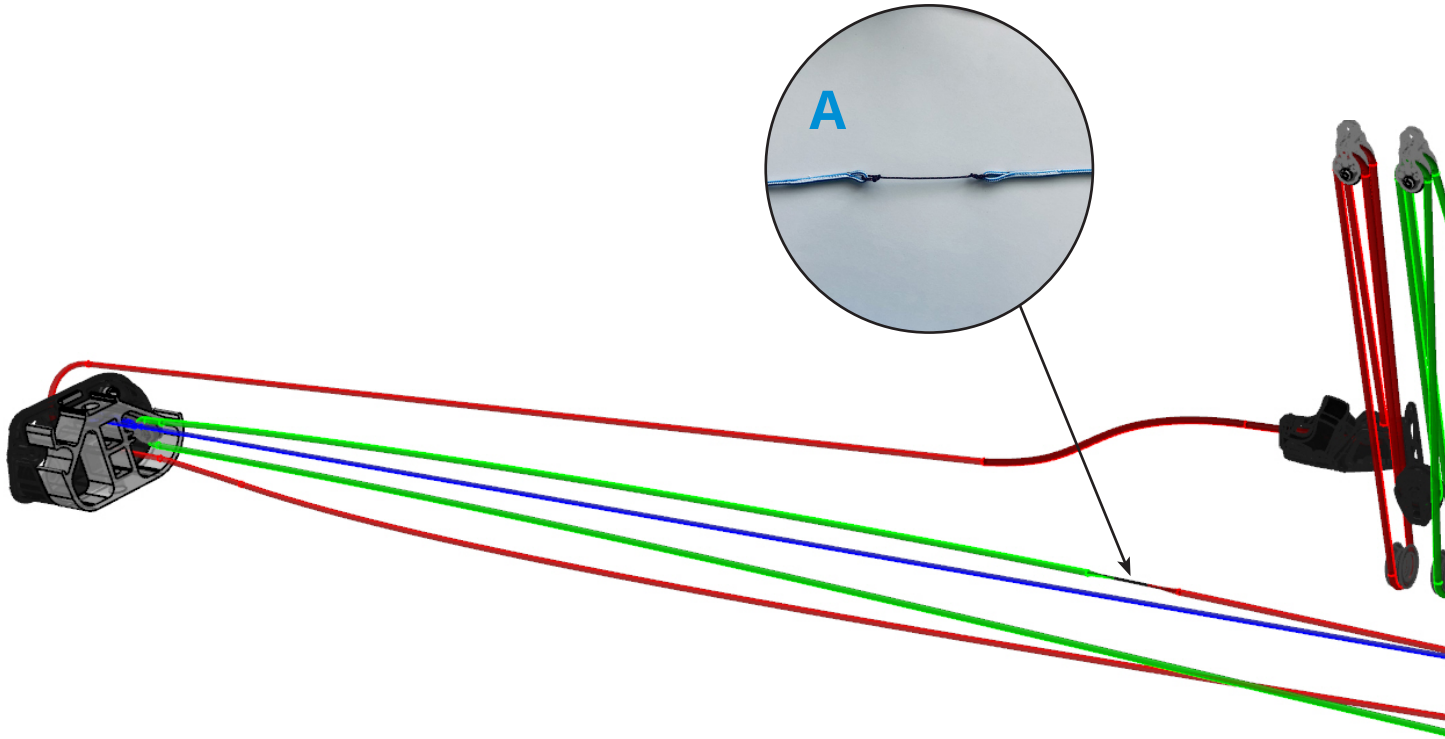
Watch out for the tension on the mouseline!

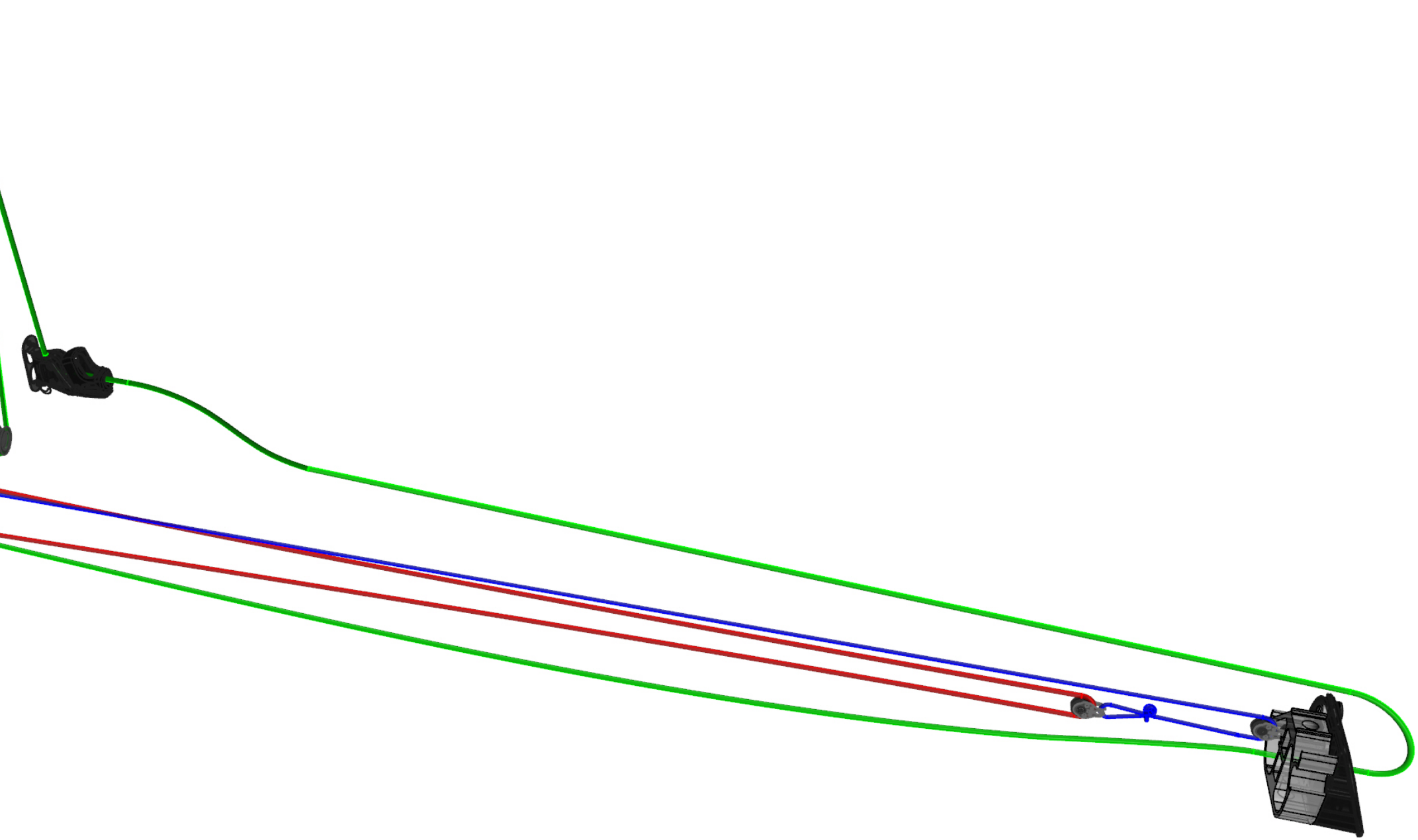
If the mouseline accidentally slips into the front crossbar take a close look at the drawing of the internal system.


Start
End
A

4.7 Cunningham continuous system

1. Knot both ends of the cunninghamline to the mouseline pre-installed in the front crossbar.
2. On port side, un-knot (from the small clamcleat) the front pre-installed mouseline in the front crossbar (from the small clamcleat) and attach it with the port side cunningham line with two bowlines.
3. On starboard side, un-knot (from the small clamcleat) the mouseline and pull the line through the internal system until it comes out of the front crossbar.
4. Attach both ends to each other as shown in **A** with two bowlines.
5. Adjust the connection to locate it inside the front crossbar.
6. When lowering the mast, you need to re-install the mouseline.

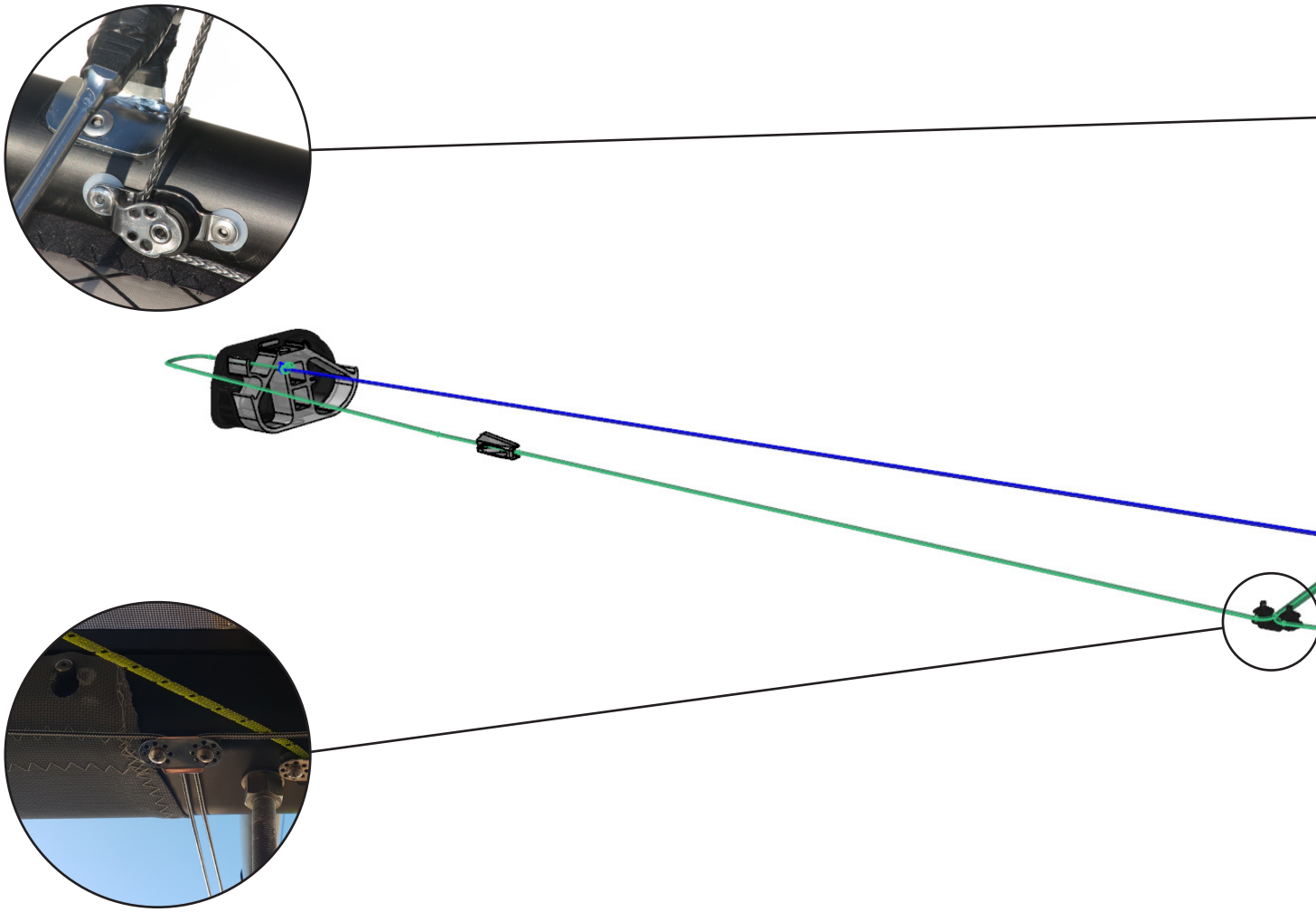


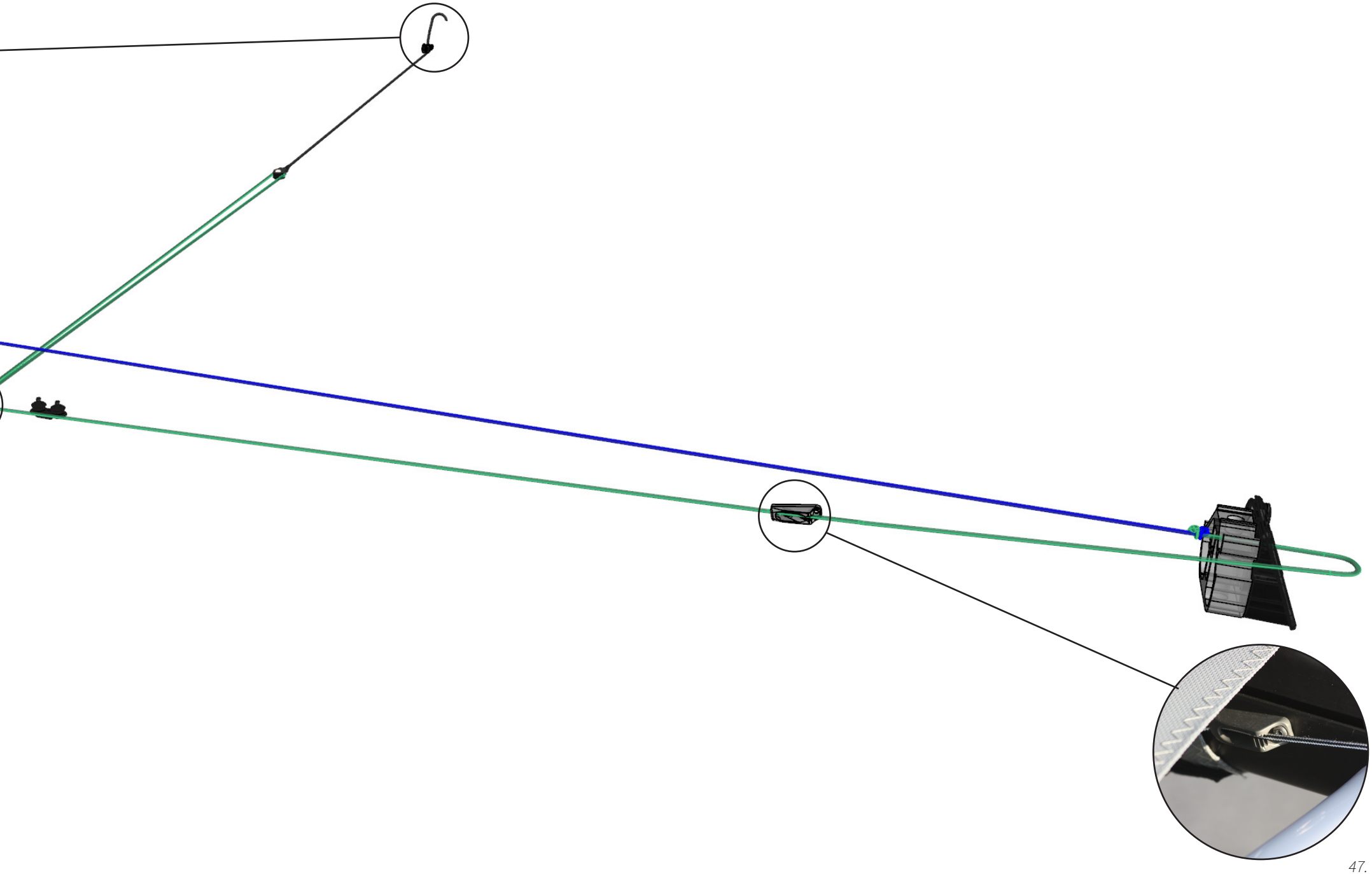


4.8 Jibcunningham

Tools needed:
- Flat screwdriver

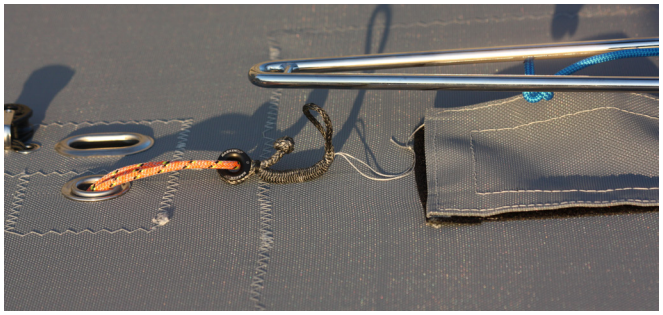
1. Use the two jib cunningham lines and the 18mm T2 block.
2. Un-knot the shockcord from the clamcleat on the starboard side, and attach one end of the jibcunningham line (long) to the shockcord with two bowlines.
3. Feed the other end of the jibcunningham line (long) through the small clamcleat.
4. Feed the line through the bullet sheaves located on the dolphin striker rod underneath the front crossbar.
5. Feed it through the T2 18mm block, return through the bullet sheaves.
6. Un-knot the shockcord from the small clamcleat on the port side.
7. Feed the line through the clamcleat and attach the shockcord to the line with two bowlines.
8. Knot the jibcunningham line (short) with a bowline to the T2 18mm block.
9. Feed the line through the cheek block (from bottom to top).





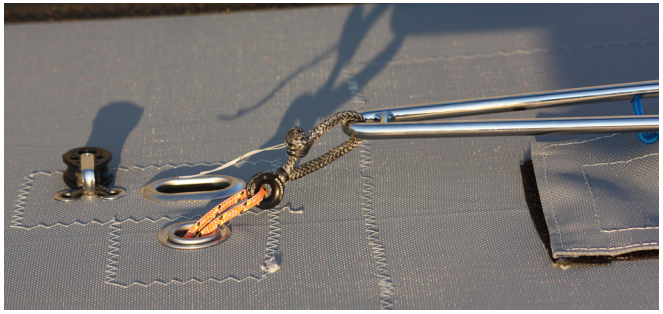
4.9 Mastrotation

1. Open the mastrotation soft shackle.



2. Feed the loop through to the mast rotator wishbone.

3. Feed the knot through the loop and pull.

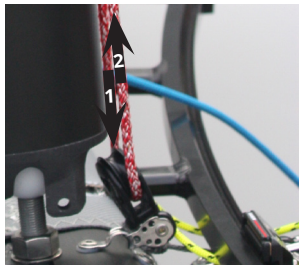


4.10 Spinnaker halyard

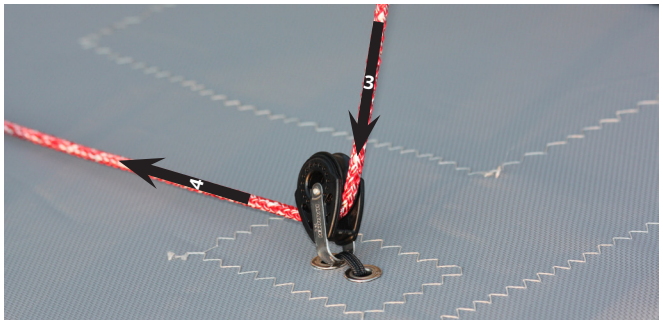
- Continue from **2.5 Spinnaker halyard step 7**.

1. Feed the pre- installed line coming out of the bowsprit through the 16mm block located on the front crossbar and attach the 29mm T2 block to the end.

2. Feed the spinnaker halyard first through the 29mm T2 block and then through the 40mm block located on the mast.



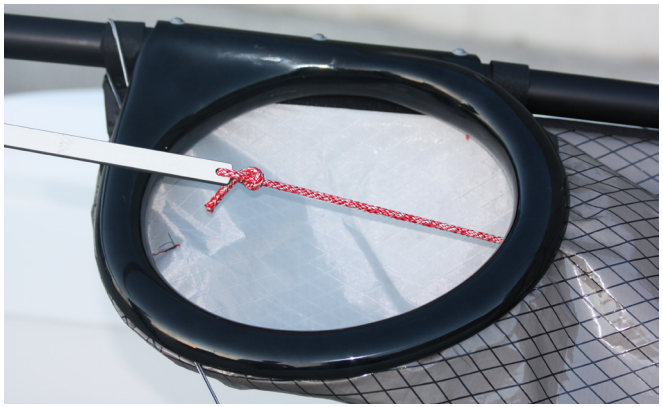
3. Feed the end of the spinnaker halyard (the one coming out of the cleat from the 40mm block) through the most front 29mm block on the trampoline.



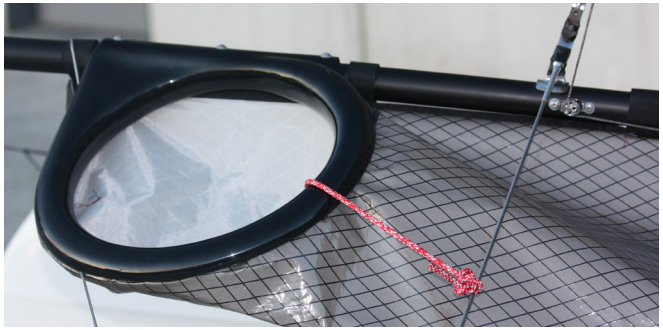
4. Feed the line through the rings and over the V-strap.

5. Feed the line through the 29mm block in front of the ovel grommet and pull the line underneath the trampoline.

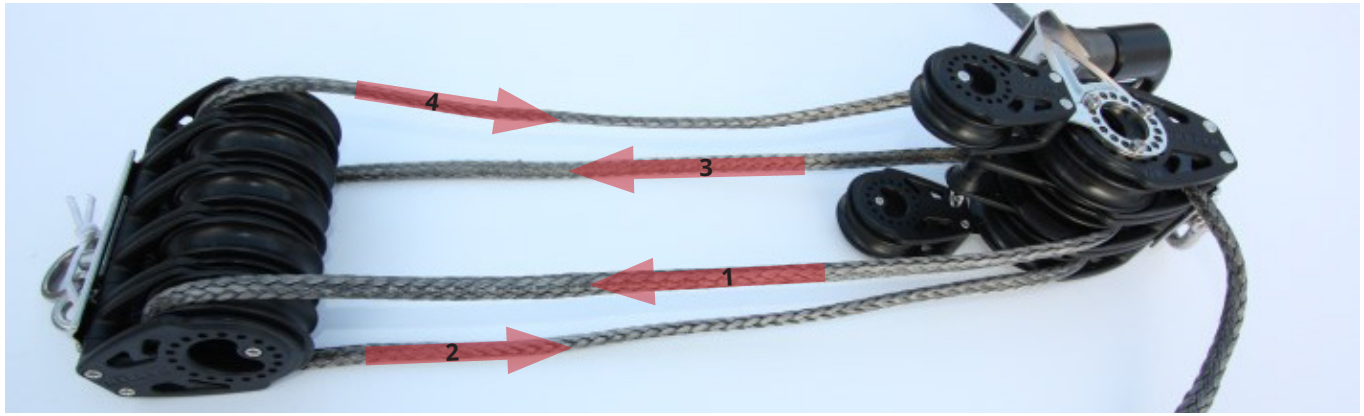
6. Feed it through the eyelet in the snufferbag.
7. Use a batten or tiller extension to pull the spinhalyard through the snufferbag.

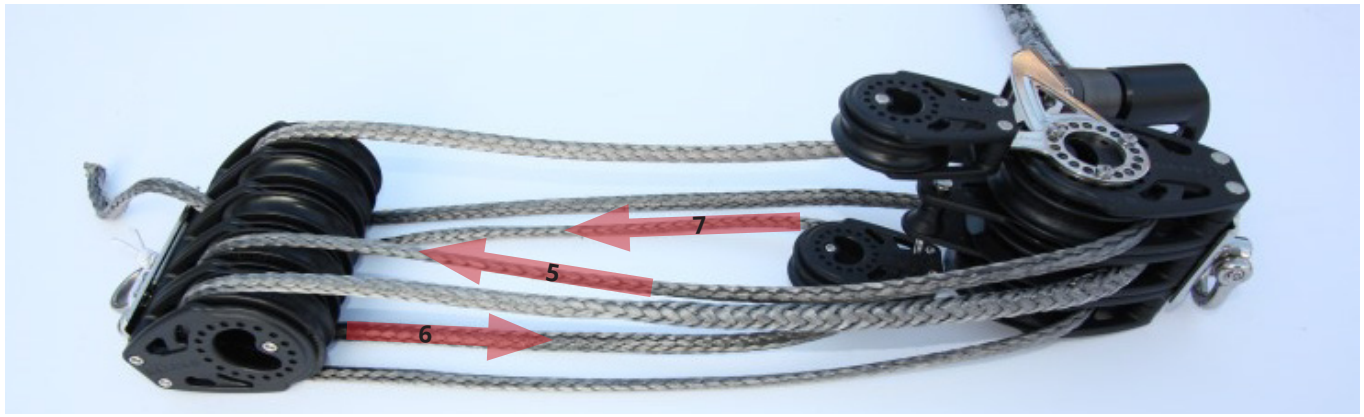


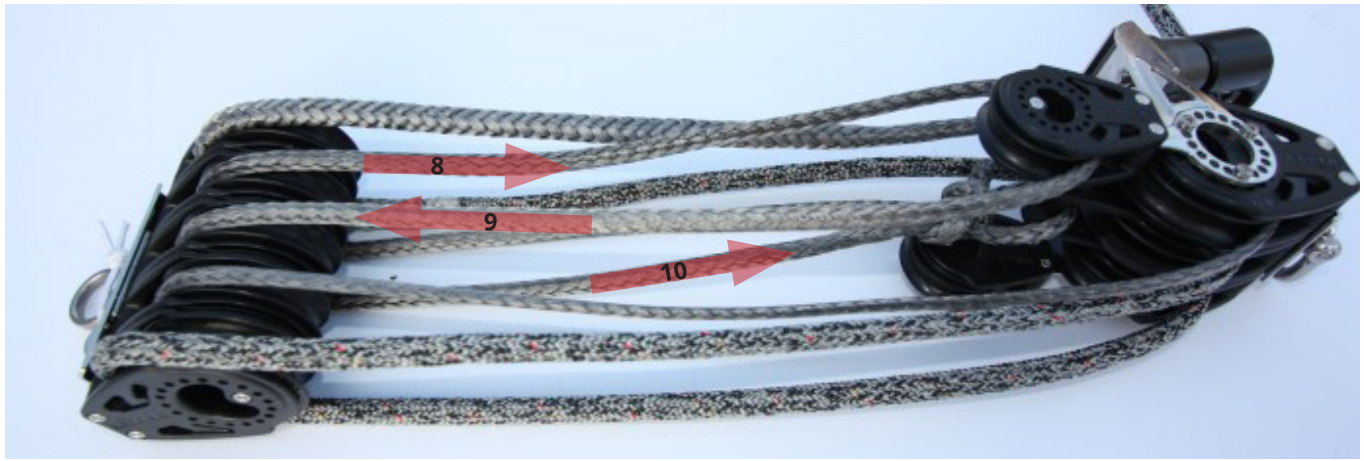
8. Attach the line temporary on the bridle wire.



4.11 Mainsheet 1:10



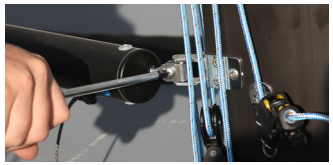
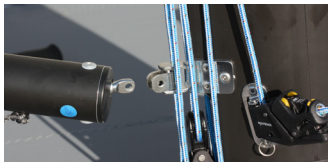




4.12 Boom

Tools needed:
- Philips screwdriver

1. Mount the boom on the mast using the philips screwdriver.

2. Attach the short line on the strapeye, mounted on the mast, with a bowline.

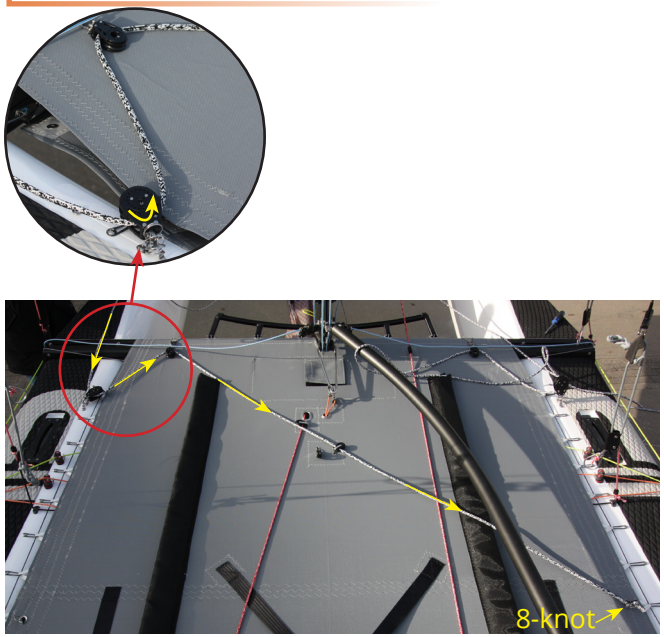
3. Hook the pre-installed bowline on the button underneath the boom to prevent the boom to twist.

5. Setting the sails

5.1 Spinnaker sheet

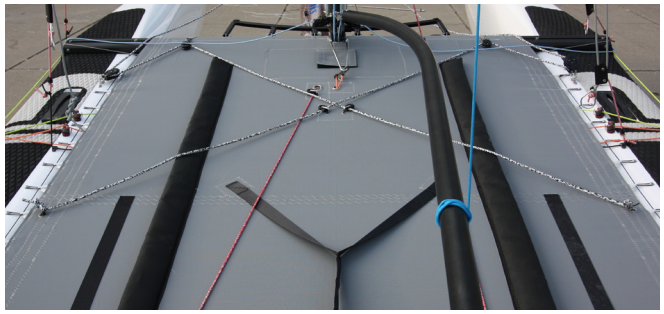
1. Take both ends of the spinsheet and feed it through the 3 blocks on the deck (shown in the picture) and fixate it on the installed rings.

Make sure the arrows of the rathmatic are inboard!



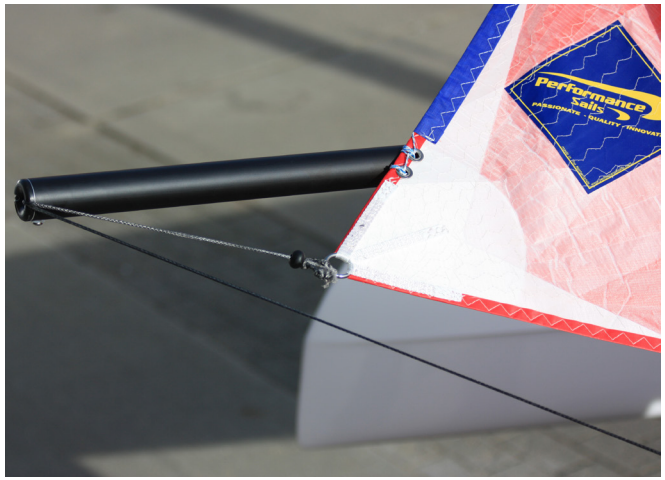
2. Thread the other side in mirror image.

Make in front of the (front) trapeze line and in front of the forestay!



5.2 Spinnaker

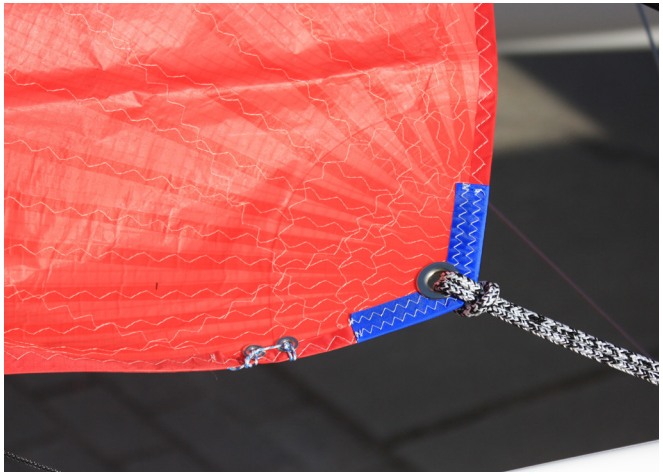
1. Attach the tack of the spinnaker with a bowline to the tackline.



2. Un-knot the spinnaker halyard (temporarily fix on the 40mm cleat) and knot it to the head of the spinnaker with a bowline. Make sure the line is running free from all other rigging.

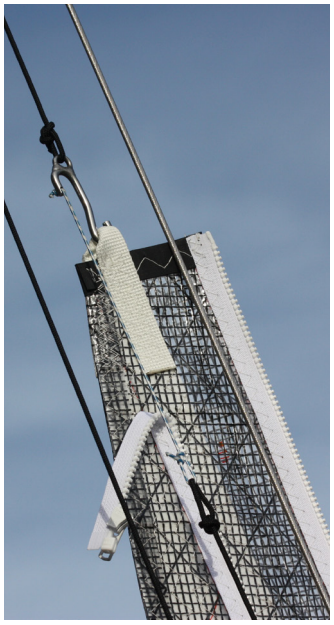
3. Un-knot the spinnaker halyard (temporarily fix on the bridle) and feed it through the two bottom patches and fixate it to the loop of the 3rd patch with a bowline.

4. Divide the spin sheet in two egual lengths and loop the sheet through itself as shown in the picture.

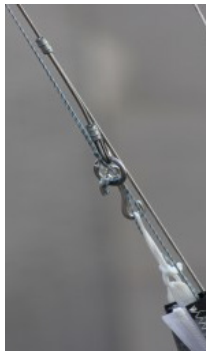


5.3 Raising the jib

1. Hook the S-hook on the jib, make sure the upper hook is facing the mast.
2. When closing the zipper, make sure the halyard is zipped in the luff of the sail. Hoist the jib in small episodes in order to zip down.



3. Hoist the jib until the S-hook is pulled through the ring.
4. Gently pull the jib down to lock the S-hook in the ring.

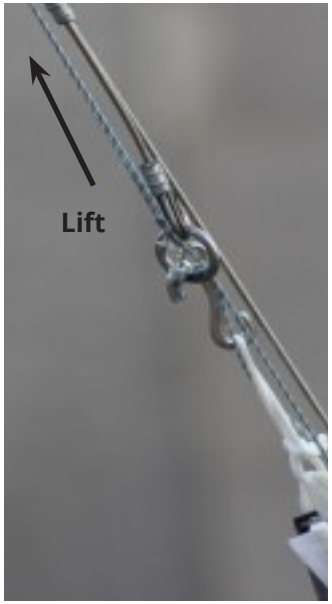


5. Install the jib downhaul line by feeding it through the eyelet, wrapping it around the pole and fixating it to the base with a bowline.
6. Wrap the velcro tape around the front turnbuckle.

7. Attach the jibsheet small to the clew of the sail.

5.4 Lowering the jib

1. To lower the jib un-install the jibdownhaul and the jibsheet small.
2. Hoist the jib a bit and keep tension on the halyard. Now pull on the other side (loose halyard) in order to unlock the S-hook from the ring.

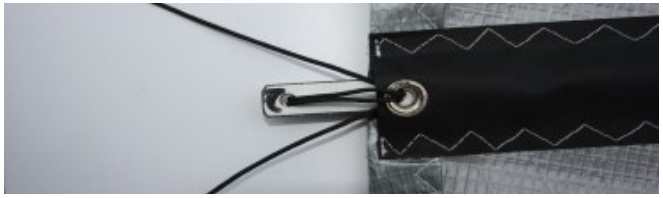


5.5 Battens

Insert the (numbered) battens into the main sail. Number 1, being the top one, counting down.

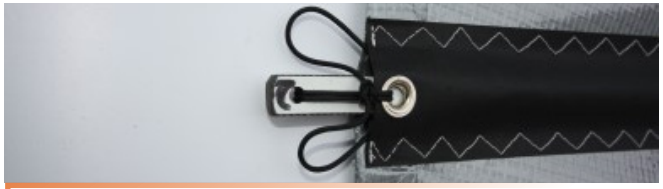
1. Feed the two batten tension lines through the small hole in the batten from bottom to top. Make sure each line stays on his own side.

2. Feed both lines through the eyelet in the battenpocket from top to bottom. Make sure each line stays on his own side.



3. Push the batten forward for tension, tie the overhand knot at the same time. Just get rid of the wrinkles in the sail.

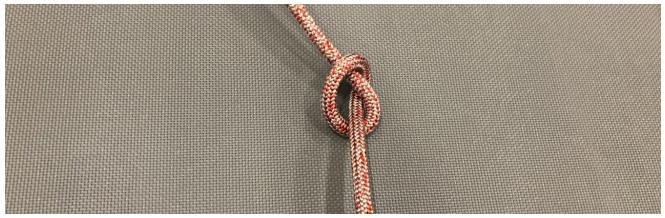
4. Finish tying with a square knot and tuck the loose ends in the batten pocket.



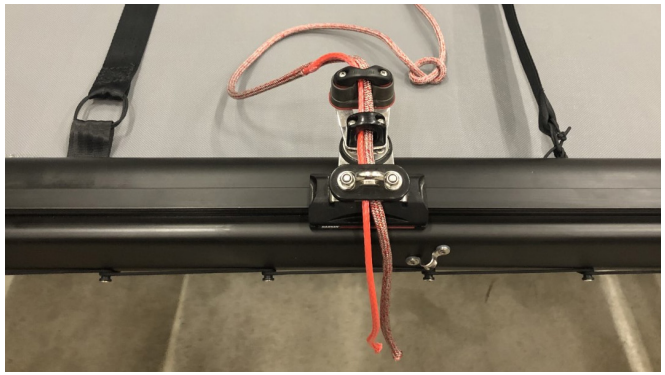
Do not enter the DS battens yet!

5.6 Traveler system

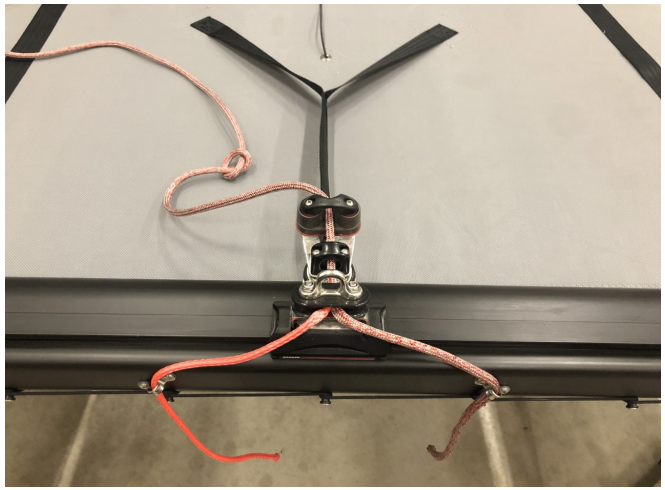
1. Make a knot in the mainsheet.



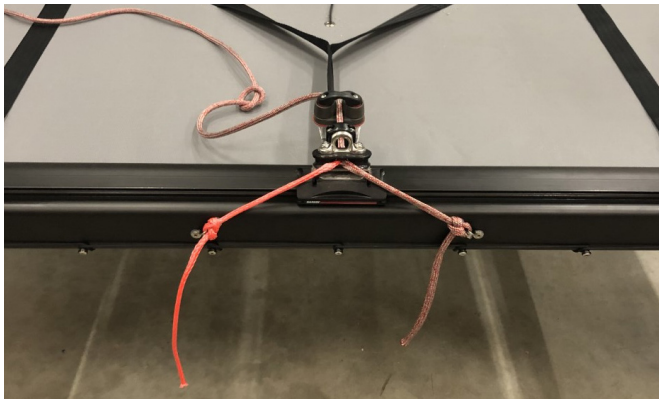
2. Feed the split end through the traveler car as shown in the picture.



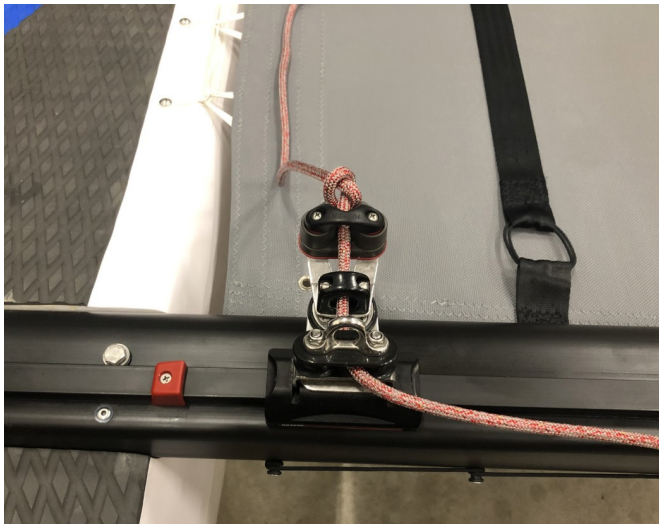
3. Make sure the line splits after passing through the traveler car.



4. Knot the ends to the strapeyes. Make sure the traveler car is in the middle of the rear crossbar.



5. Move the traveler car to the side, a few centimeters away from the red traveler stop, and replace the knot from **step 1** towards the cleat on the traveler, making sure the car is not able to hit the (security) end stop.



5.7 Raising the mainsail

1. Roll the mainsail from bottom to top.
2. Attach the mainhalyard ring to the sail.

The knot must be on the mast side. It can happen that the system works better with the knot on the other side.

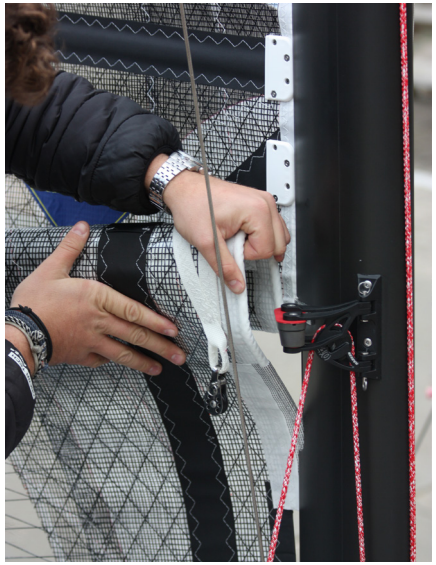
3. Guide the mainsail into the slot of the mast.

4. Hoist the mainsail with the mainhalyard.

5. Hoist the mainsail until you reach the masthook.
6. Gently pull down to hook the mainhalyard ring into the masthook.

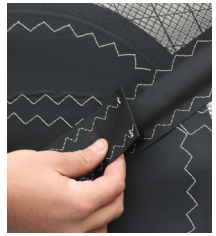


7. Silde the bottom part of the luff downwards into the masttrack.



8. Insert the diagonal DS batten inside it's pocket and tension it as described in **5.5 Battens**.

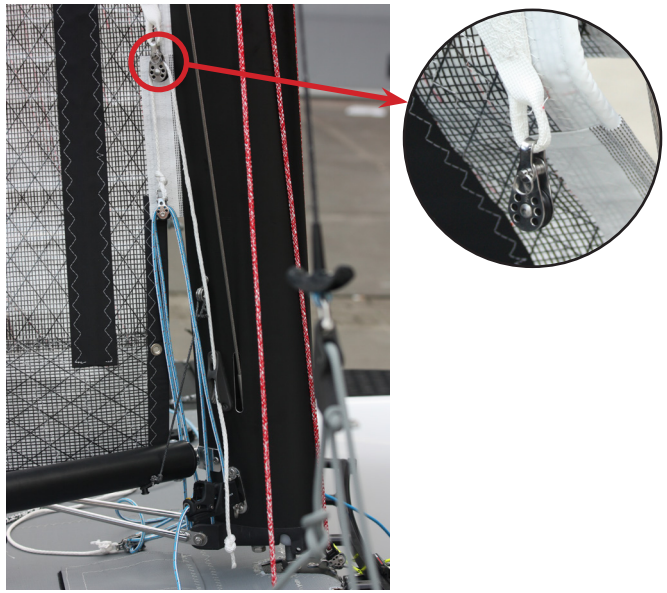




9. Insert the last DS batten in it's pocket parallel to the mast. Tension it by using the velcro cover.



10. Install the two 29mm wire blocks on t he loops at both side of the mainsail.
11. Feed the white line of the cunningham system through the wire block and fixate it in the clamcleat mounted on the mast. Secure it with a figure 8 knot.
12. Tension the tack of the mainsail by using the pre-installed white line as shown in the picture.



13. Thread the outhaul the following way and let the webbing strap hang loose.

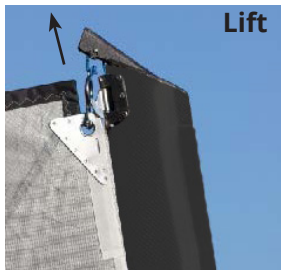
Too much tension on the foot of the sail can cause the mainsail coming out the track.

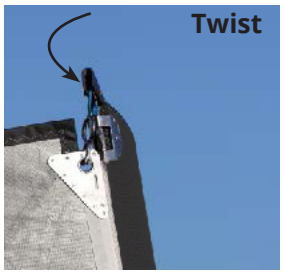
14. Attach the main sheet to the webbing strap.

5.8 Lowering the mainsail

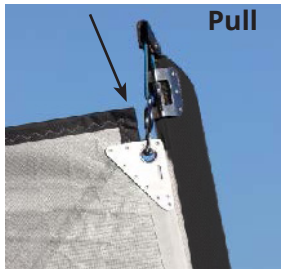
1. Pull on the mainhalyard to raise the mainsail.

2. Twist the mast 60 degrees while still having tension on the mainhalyard.





3. Pull the mainsail down.



4. Gently lower the mainsail starting at the foot of the sail.

Prevent the sail from folding!

Always roll your mailsail top down with the topbatten taken out.

To keep your sails in good condition you must let your sails dry after sailing!


Performance
Sails
RAPTOR
F10 EVOLUTION

6. NOTES

7. Standing rigging

Advisory and standard supplied standing rigging measurements Nacra F18 Evolution						
		size		material	associated Hardwere	Options or restrictions
	Qty	Length	Diam.			
		mm	mm			
Forestay	1	6775(1)	4.0	Standard 1 X 19 stainles steel wire	Turnbucle 4mm calibrated partnr:32401	length ± 5 mm
Shrouds	2	6890(1)	4	Standard 1 X 19 stainles steel wire	Turnbucle 4mm calibrated partnr:32401	length ± 5 mm
Diamonds	2	6100(1)	4	Standard 1 X 19 stainles steel wire	Turnbucle 4mm calibrated partnr:32401	length ± 5 mm
Bridle wire	2	1080(2)	4	Standard 1 X 19 stainles steel wire		length ± 5 mm
Bowsprit bridle	2	1580(3)	3	Dyneema sk75/80		length ± 5 mm
Trapeze lines	4	6370(2)	3	Dyneema sk75/80	Trapeze t-handle partnr:30515	length ± 5 mm

(1) length is the distance taken between the bearing surface of the rigging and the end of the tread of the turn buckle
(2) length is the distance taken between the bearing surface of the rigging
(3) length is the distance taken between the bearing surface exlcuding the shackle of the rigging and the bowsprit frond endcap
Dyneema measurements are measured pre stratched

8. Parts

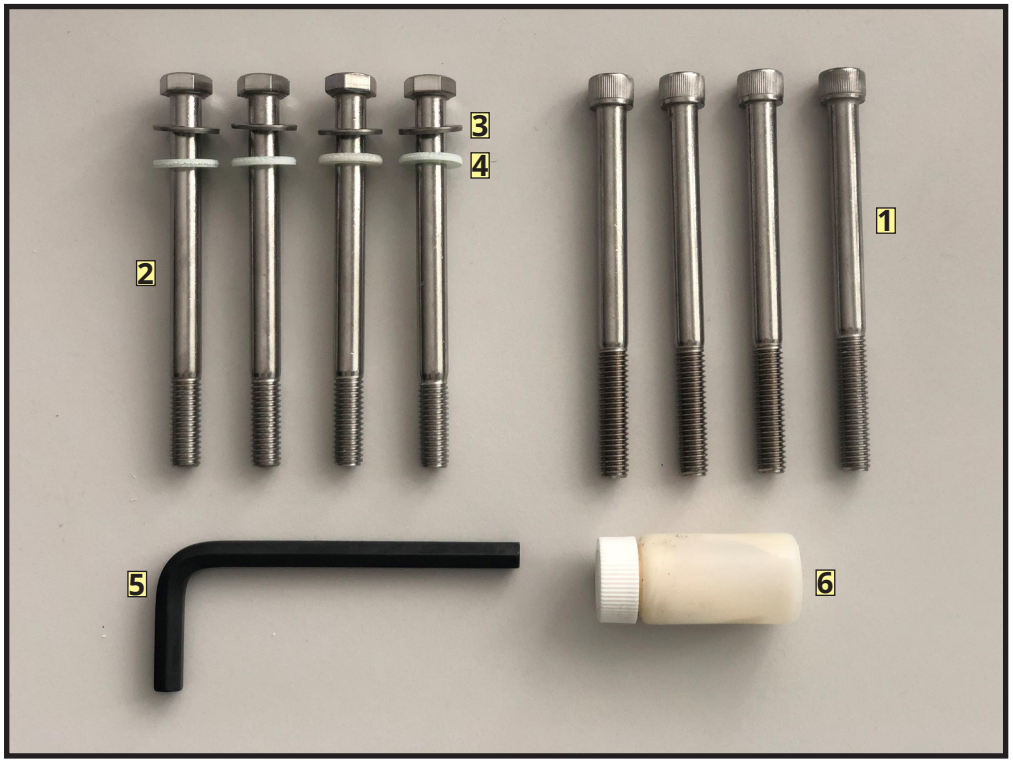
8.1 Arrival of parts

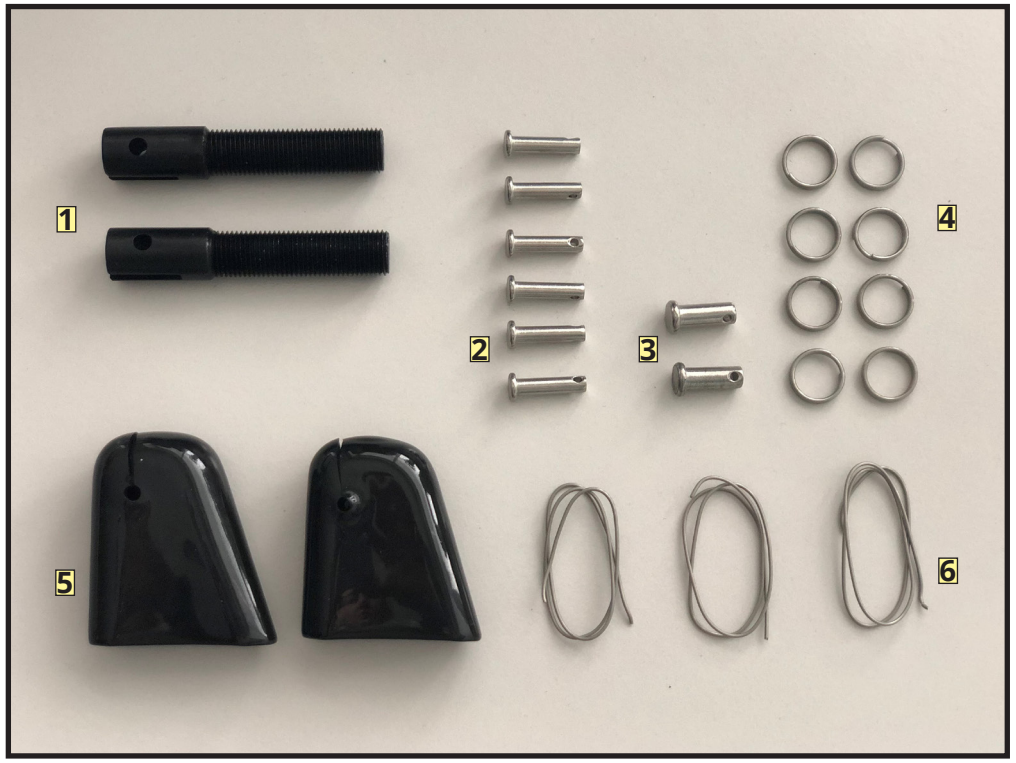
Description	Article number	Quantity
Hull port	12065P	1
Hull stbd	12065S	1
Wing trampoline w/ outkickers	60342	1
Trampoline aluminium plate (wing)	31001	2
Trampoline tie rod	32171	1
Bowsprit complete w/o ring: in hullbox	32702	1
Snufferring	30916	1
Snufferbag race large	30924	1
Boom DS	32701	1
Tiller crossbar	32704	1
Mast	30174	1
Mast cover	13541	1
Front crossbar	32342	1
Rear crossbar	32343	1
Daggerboard	31232	2
Daggerboard cover	31213	1
Rudder blade	31768	2
Rudder system lower	40100-3	2
Rudder system upper port	40107-2	1
Rudder system upper stbd	40108-2	1
Rudder cover	10399	2
Rigbox Nacra F18 Evolution	40028	1

8.2 Rigbox

NR.	Description	Article number	Qty.
1	Rigbox Kit Crossbars	40120	1
2	Rigbox Kit misc	40144	1
3	Rigbox Kit diamond adjuster	40125	1
4	Cunningham system 1:16	31731	1
5	Riggingset	40507	1
6	Linepackage Nacra F18 Evolution Basic	30686	1
7	Rigbox Kit spreader attachment	40124	1
8	Self amalgamating tape (vulca) 19mmx5m	10110	1
9	carbo 57mm boom block 5sh	30673	1
10	Rigbox kit adjustable trapeze	40127	1
11	carbo 57mm ratchet block 5sh	30958	1
12	harken 40mm carbo pivoting lead block rev. cam (w/o base)	31830	1
13	Spreader bar fwd Nacra F18 Evo/570/580/F16/Inf	30336	2
14	Spreader bar aft n570/ n580/nf16/nf18inf	30335	2
15	Mast base nf16/nf18inf standard complete	40118	1

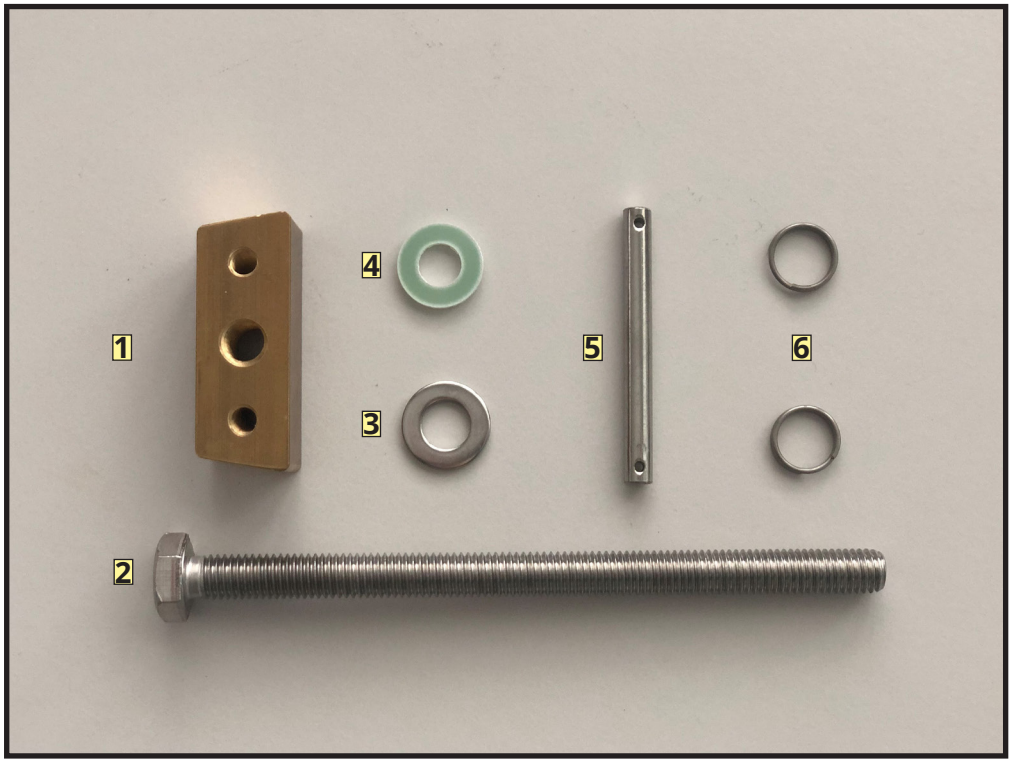
8.3 Rigbox assembly kits



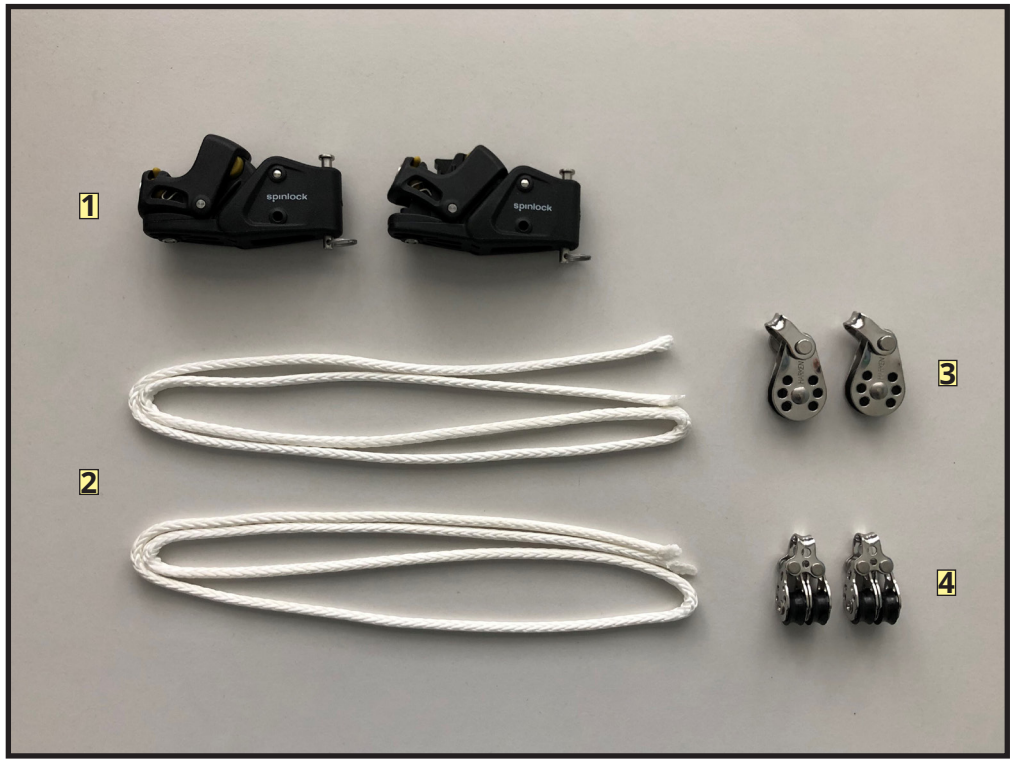


Rigbox kit crossbar		40120	
NR.	**Description**	**Article number**	**Quantity**
1	Crossbar bolt front UNC 3/8 x 4.1/2 socket	30360	4
2	Crossbar bolt rear UNC 3/8 x 4.1/2 hex head	31992	4
3	washer ss Crossbar	31117	4
4	fiberglass washer	31113	4
5	allen tool size 5/16	31457	1
6	Nacra grease	31697	1

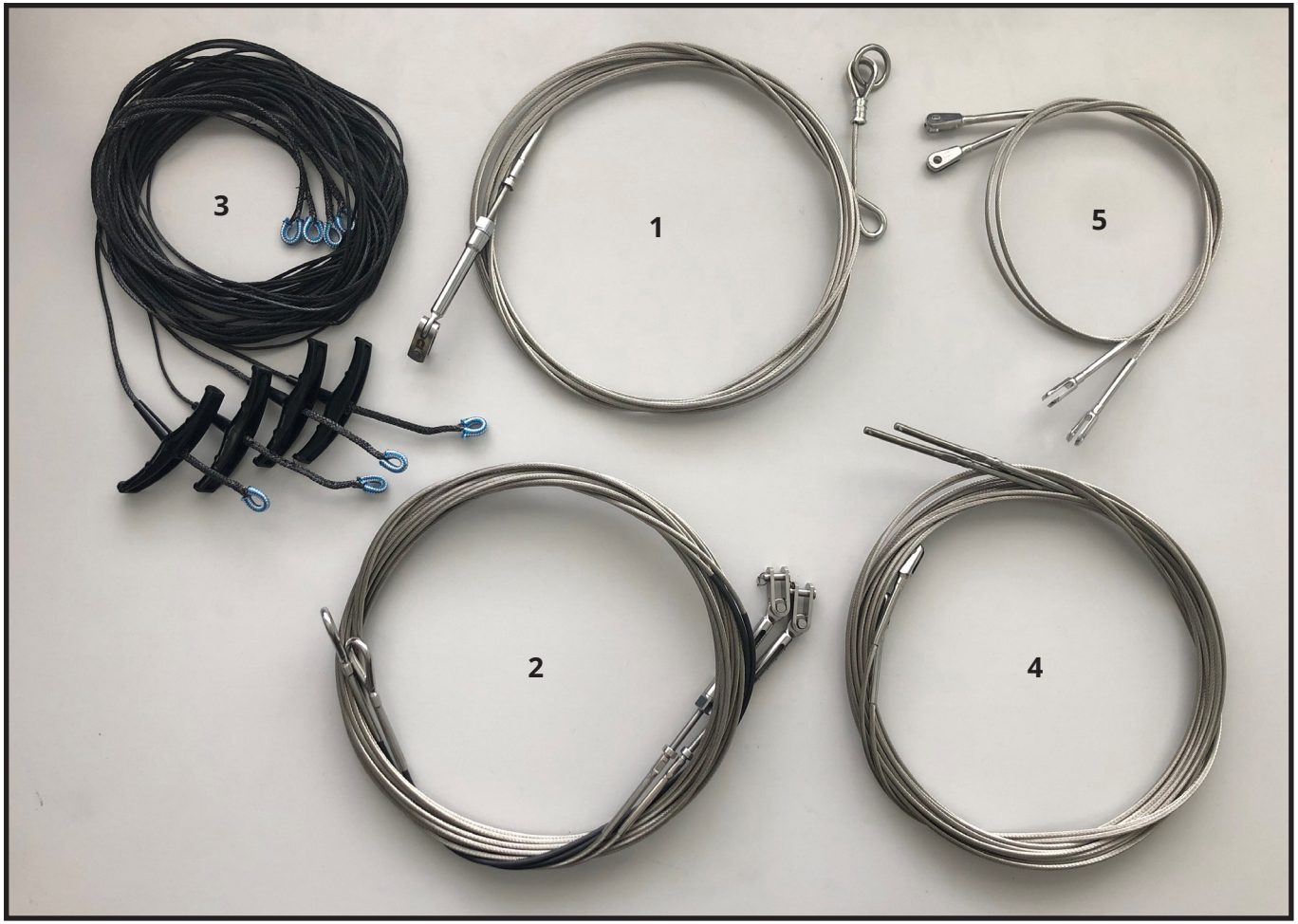
Rigbox kit spreader attachment		40124	
NR.	**Description**	**Article number**	**Quantity**
1	Spreader bar screw UNF	30337	2
2	clevis pin 3/16 x 5/8 WL	31624	6
3	clevis pin 1/4 x 1/2 WL	30524	2
4	split ring ss	30553	8
5	spreader tip cover	30322	2
6	Monel wire piece	31462	3



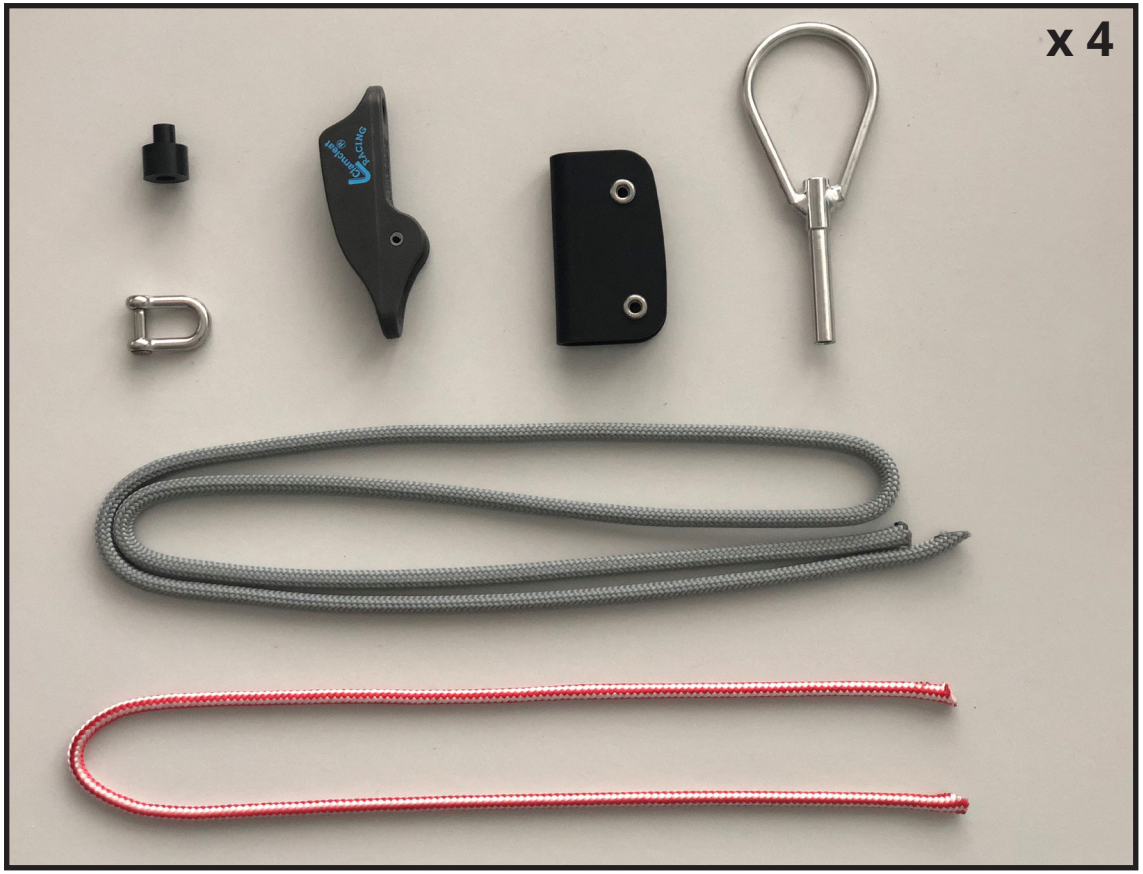
Rigbox kit diamond adjuster		40125	
NR.	**Description**	**Article number**	**Quantity**
1	Brass fitting diamond adjuster	31456	1
2	bolt diamond adjuster	30187	1
3	washer ss Crossbar	31117	1
4	fiberglass washer	31113	1
5	Mast step pin	30356	1
6	split ring ss	30553	2



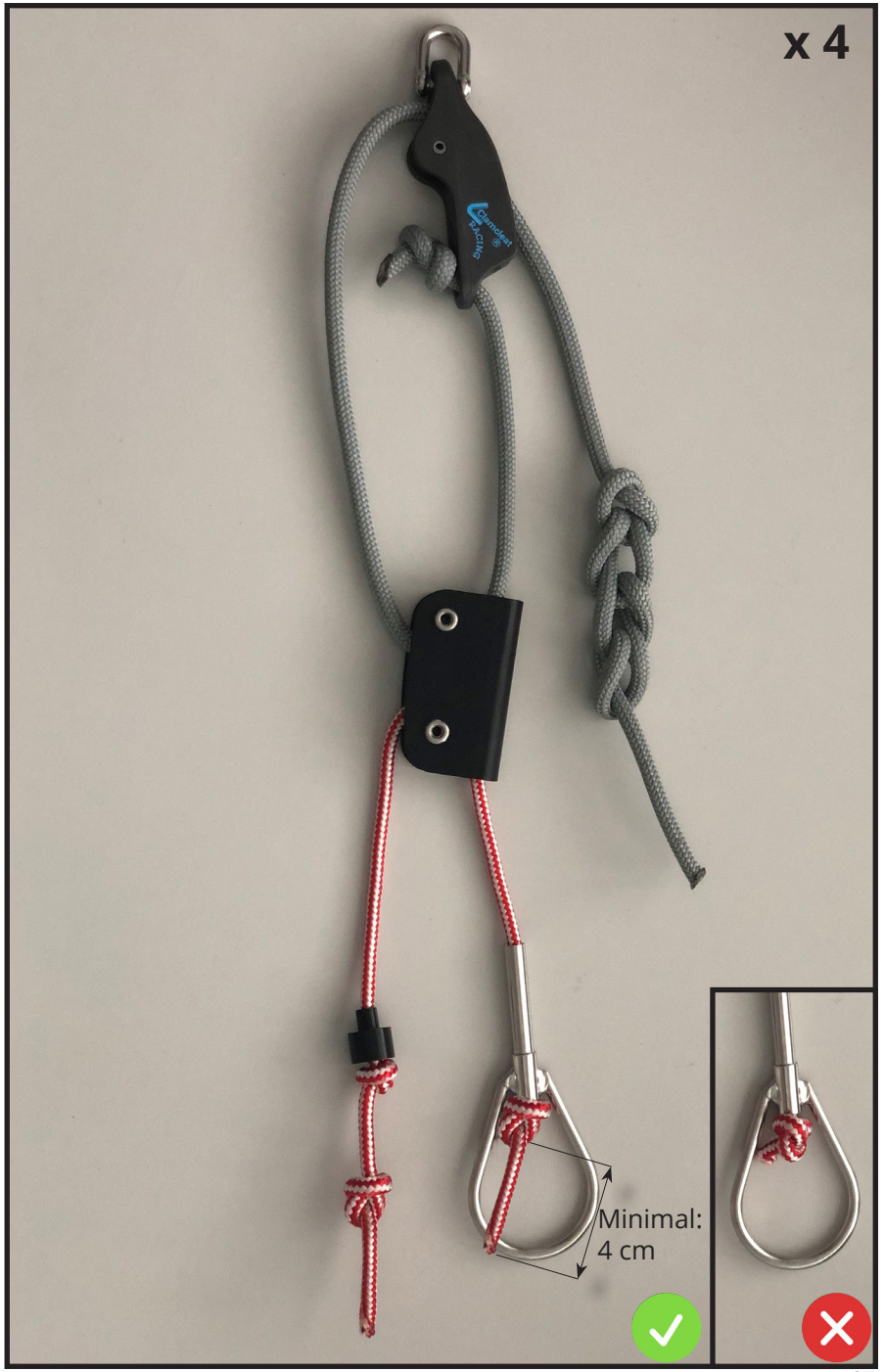
Cunningham system spinlock 1:16		31732	
NR.	**Description**	**Article number**	**Quantity**
1	spinlock PXR cam cleat 2-6mm vertical pivot	30790	2
2	D12 white 5mm (Length= 1m)	10055-WT	2
3	Harken wire block 29mm	30634	2
4	16mm double	30649	2



Riggingset		40507	
NR.	**Description**	**Article number**	**Quantity**
1	Forestay w/ turnbuckle	30009	1
2	Shroud w/ turnbuckle	30011	2
3	Trapeze rope	30222-ROPE	4
4	Diamond wire	30223	2
5	Bridle wire	30008	2



Rigbox kit adjustable trapeze		40127	
NR.	**Description**	**Article number**	**Quantity**
1	Shackle D 5mm hex	31707	4
2	Clam cleat cl253 adjustable trapeze	30923	4
3	Trapeze block (black)	30692	4
4	Trapeze ring race	30681	4
5	Trapeze stop	30938	4



RIGBOX KIT MISC		40144	
NR.	**Description**	**Article number**	**Quantity**
1	daggerboard rubber holder	30014	2
2	Bolt pan head w/ collar M5x20mm socket	32266	4
3	clevis pin 1/4 x 1/2 WL	30524	4
4	split ring ss	30553	5
5	ronstan shackle 8mm 5/16	30779	1
6	ronstan shackle 6mm 1/4	30685	1
7	shackle washer nylon	40201	4
8	shackle D 5mm	31458	1
9	s-hook jib	30334	1
10	main halyard ring w/shackle	30312	1
11	ring 3x20mm ss	30702	3
12	ring 3x15mm ss	30845	6
13	Harken 29mm carbo single fixed assymetric	30640	5
14	harken 29mm T2 carbo soft-attach single	31903	2
15	carbo 57mm ratchamatic single/swivel	30605	2
16	Harken micro cam-matic w/ wire fairlead	31470	4
17	bolt pan head 8-32 x 1.1/2" UNC	31466	8
18	Allen tool size 3	31714	1
19	Harken 18mm T2 carbo soft-attach single	31874	2
20	harken stand-up spring	30563	2
21	carbo 40mm single/swivel	30608	2
22	16mm single	30647	3
23	shackle D w/ 4mm pin (harken 417)	32339	2
24	cam wedge	30574	4
25	harken lead ring 8mm	31879	1
26	Shackle narrow 3/16 ronstan	31455	2
27	nut nylock M5	31512	1
28	bolt cheese head M5x12mm SLOTTED	31980	1
29	Nacra bridle connector for N15/16/17/20	31698	1
30	Snapshackle mainsheet system	30837	1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