



NAERA

Assembly manual

NACRA

Assembly manual

Dear Customer,

Welcome to the Nacra family. We wish to thank you that you choose for Nacra Sailing.

It's our constant endeavour to provide you with products that offer excellent performance throughout their ownerships period. Which is why, in addition to producing great catamarans, we have also set up an extensive dealer network around the world.

Naturally, these Nacra Dealers knows everything there is to know about your catamaran and provides you with the best service possible. So please find your dealer in your region on www.nacrasailing.com 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 the important safety information which should be read and understood before moving on to the assembly manual. The assembly & operation manuals of our catamarans can be found under the "after-sales" button on our website; www.nacrasailing.com.

If this is your first sailboat, or you are changing to a new type of sailboat you are not familiar with? For your own comfort and safety, please ensure that you obtain handling and operating experience before assuming control of the catamaran. Nacra Sailing or 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.

Happy Sailing.

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O. Tools

1. Torque wrench
socket 14 mm
socket 5/16 hex



2. Wrench 7/16 2x



3. Wrench 9/16



4. Wrench 17 mm



5. Wrench 22 mm



6. Allen tool 3mm



7. Flat Screwdriver



8. Philips screwdriver



9. long nose Plier



10. Pump Plier



11. "Loose" tension gauge: fixed



- 12 Grease: watertight + lithium based



1. Platform assembly

Tools needed:

- torque wrench
- sockets

1.1 Hull assembly



1. Place the starboard and port hull next to each other and make sure that the hulls are facing the same way
2. Open the crossbar kit and grease the eight beambolt inserts on the hulls.

use a big wheel trolley and sterns to level the hulls .

3. 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 !



4. Grease all bolts and make sure the fiberglass washer is at the bottom and the metal washer on top . The washers for the front crossbar are already put in the slot on top of the front crossbar.
5. Handtight all the bolts before putting tension on them.
6. 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.

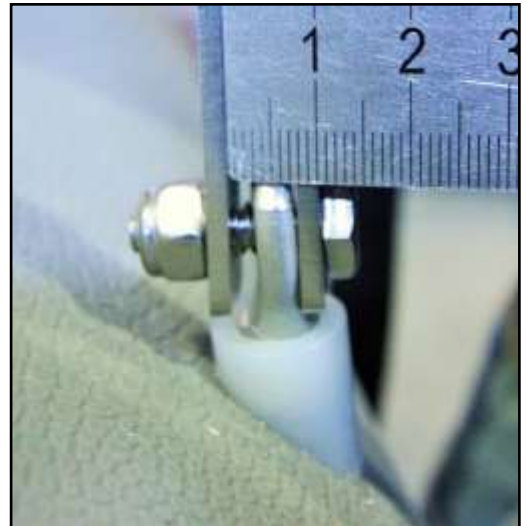


Tools needed:

- wrench 7/16
- philips screwdriver

7. Unpack the STA/Master

- Mount the STA/Master on the shroud eye
 - use a 7/16 wrench
- Check if the STA/Master is able to pivot as shown on the pictures.
 - Leave 3mm between shroud eye and STA/Master as shown on the picture
- Be sure that the nylock nut covers the thread of the bolt. ⚠

**WARNING**

Fully fixing the STA/Master can cause severe damage to the shroud eye.




- 8. Grease the pre-drilled holes next to the daggerboardcase. Screw the harken cam cleat on the hulls using the harken screws. The wire fairlead is facing inwards.**



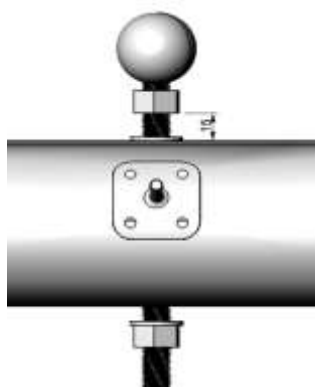
1.2 Front crossbar pre-bend



- 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! 
- During the season check the pre-bend regularly.


Tools needed:

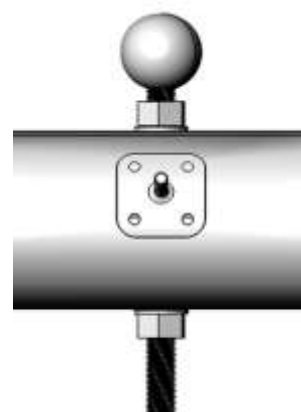
- wrench 22
- pump plier



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 crossbar to underside nut

4. screw the nut under the crossbar until both nuts are tightend.

When the mastpin starts to twist, fixade it with the pump plier wrench. Protect the mastpin from wearing! 



1.3 Trampoline



2. Insert the trampoline tie-rod into the slot in the rear of the trampoline.

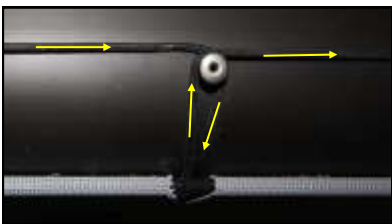


1. Unscrew a beamcap on one side. Then slide the front edge of the trampoline into the designated slot. The hiking straps should be facing up.



3. Loop the rear lacing line through the tie rod as shown in the picture. Start at the port side of the trampoline!

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



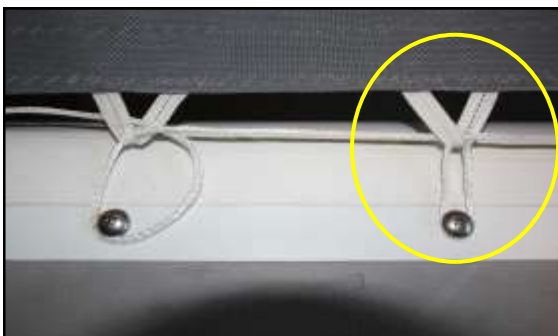
4. Loop the laces using the trampoline tie buttons



5. After tightening go back one button



6. Tie the rear lacing line with half hitch knot



7. Tie the side lace line to the loop closest to the front crossbar. Loop the lacing line making sure the spannerbands and loop look exactly the same as shown in the picture

The trampoline must be in the middle of the boat and in a straight line before putting tension on the line!!



8. Make a loop with the side lacing line at the last



9. go back two spanner bands and take the lacing line through the loop



10. tie the lacing line with half-hitch nut at the back of the pre last spanner.



- Tie the footstraps using the hiking strap ties.



- Use the strapeye on the rear crossbar to tie the footstrap in the middle.

1.4 Trapeze shockcord



1. Make a loop in the trapeze shockcord.

2. Use the ring adjusted in the middle of the crossbar under the trampoline to guide the shockcord.



3. Tie the shockcord on the rear lacing line on port and starboard side.

NOTE: F18 Infusion
The shockcord goes through the tube in the hull.

1.5 Rightning line



1. Tie one end of the rightning line on the mastpin under the front crossbar, then go through the eye in the middle of the trampoline.
2. Tie a knot at the top of the trampoline and put the remaining line in the pocket.



1.6 mast rotation



1. Take the mast rotation line and attach one end to the staymaster

2. Go through the harken cleat and under the side lacing line.



3. Use the grommet located in the middle of the trampoline. Put the remaining line in the pocket.

1.7 Spinnaker hal yard blocks



1. Tie a carbo 29mm block in the middle of the spin halyard shockcord. Lead the shockcord under the hiking straps
2. Use the small grommets in the trampoline and tie both ends to the rear lacing line.



3. Mount a 29mm carbo block with the trampoline block tie.

Make sure you do two loops!

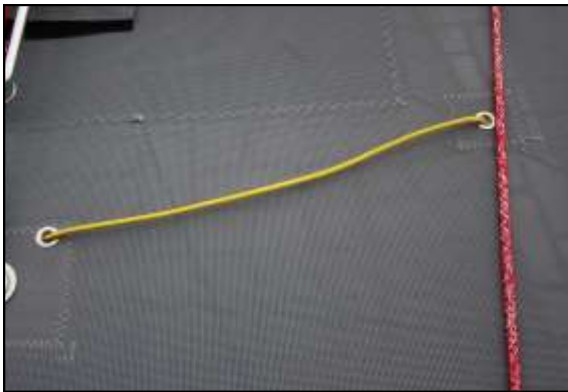


1.8 Spinnaker blocks



Attach the 57 mm carbo ratchmatic single spinnakerblocks on the strap eyes on the hull. Tie the spinnakerblock shockcord between the spinnakerblocks.

1.9 Spin tack system



1. Mount the tack-releaseline. Tie a figure 8 knot on the port side underneath the trampoline. Attach the ring 4x 25 at the other end on the starboard side underneath the trampoline.



2. Feed one end of the tackline through the block located underneath the front cross-bar next to the mastpin. Then lead the tackline through the ring, the cleat and the 16mm block next to the cleat.



3. After the 16mm block use the grommet on the starboard side of the trampoline



4. Tie the tackline shockcord to the end of the tackline and lead the shockcord through the grommet on the starboard side of the trampoline



5. Take the other end of the tackline shockcord and use the small grommet in the middle of the V-bar to exit. Tie a loop in the shockcord. This loop will be used to tie onto the middle of the spinsheet.



Note:

The F18 infusion and Carbon 20 has the tackline guided by a 29mm carbo block attached on the staymaster.

2. Mast assembly

Tools needed:
- long nose plier

2.1 Diamond wires

- It is preferable to place the mast on supports while building the mast.
1. Get the brass fitting from the rigbox kit diamond adjuster and the diamond wires.
 2. Lead the diamond wire through the slots in the mast. Grease the threads of the diamond wires and fit one wire into the brass fitting.
 3. To fit the other diamond wire into the brass fitting let another person cooperate by turning the diamond wire at the other end.



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



5. Bend the diamond wire tang away from the mast

4. Grease the diamond adjuster bolt and adjust the washers and mastbase in the order as shown on the picture.
Place the mastbase on the mast and pull the diamondwires further through the diamond slots in the mast.



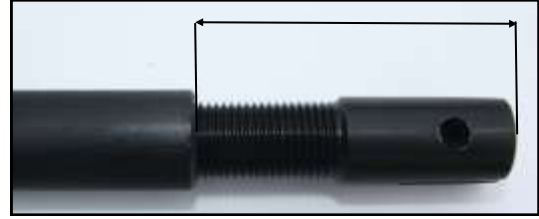
6. Adjust the diamondwires on the diamondwire tang with the two clevis pins 1/4 x 1/2 from the spreader attachment rigbox kit.
The ring must be on the outside! Tape the Ring!

2.2 spreaders

Tools needed:
- long nose plier



1. Grease the spreader tip



2. The spreadertip must be inserted at least 1cm! Lateron you can set the prepered spreader rake.



3. Assemble the two spreader bars using the clevis pins 3/16 x 5/8.
Now mount the spreaders on the mast with the spreadertip facing forward.

The splitrings must face the bottom of this mast!



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. Slide the diamond wires into the slots of the spreaders.

Make sure the diamond wire is completely in the slot!

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

7. Twist the two ends into each other.

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

9. Use vulkanizing 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 diamond tension

Tools needed:

- wrench 17mm
- "Loose" tension gauge

1. Put tension on the diamond wires by tightening the mast bolt with an wrench size 17mm. Use the "loose" tension gauge to measure the tension on the diamonds. Set the tension on 38 (280 KG/280 lbs)
2. After putting tension on the mast check if the mast is straight. Take a look along the rail 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 mast 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 mast bolt again. Redo this process if necessary

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



2.4 spreader rake

Measure the spreaderrake by putting a batten on the diamond stays next to the spreaders. Measure to the back of the rail

You can easily change the spreader rake by unleashing the tension on the diamonds and adjusting the spreader tip.



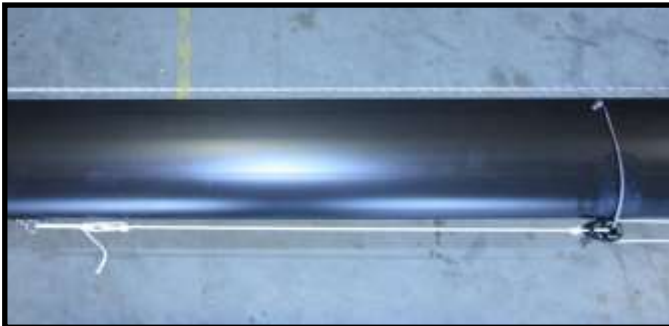
For specified tuning settings, check the trimsheets on www.nacrasailing.com

2.5 spinaker halyard



1. Take the spin bale line and a carbo 29 mm T2 block. Lead one end of the spin bale line through the pre drilled holes in the mast and tie a figure 8 knot. Lead the other end of the spin bale line through the of the block before mounting it to the mast.

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



2. Adjust the block line to the top of the block and the strapeye above. Fixate the block on the same height as the bale line!



3. Adjust the big bullet pivoting. The cleat is facing downwards



4. Pull the spinaker halyard through the topblock
5. Attach the dynema wire end of the spinaker halyard temporary to the big bullet

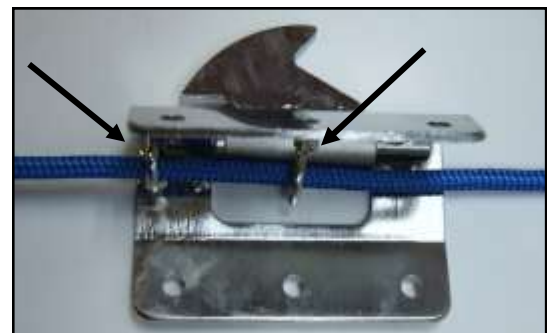


2.6 Main halyard



1. Mount the mast sheeve with the clevis pin 1/4 x 3/4 WL

Tape the ring!



2. Lead the main halyard line first around the mast sheeve. Then through both eyes of the main halyard swivel and guide the line towards the mastbase, using a small screwdriver
Make sure the line goes through both eyes of the main halyard swivel!



3. Tie a figure 8 knot at the bottom of the mast



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

2.7 Fixing the stays



Tools needed:

- long nose plier

3. Secure the shackle using the last monel wire piece. Do as shown in the picture.

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



4. Tape the monel wire piece using the vulcanizing tape.
Check for sharp edges and tape if necessary!



5. Unscrew the wire-end of the staymaster and mount it to the fork terminal of the shroud. Use the clevis pins 1/4x5/8.

2.8 jibhalyard



1. Take the jibhalyard and go through the eye of the adjusted forestay.

2. Both ends go through the ring at the forestay
check if the ring is located at the mastside.



3. Adjust one end with a bowline at the eyelet of the S-hook. The other end is adjusted with a figure-8 knot using the small hole

2.9 Cunningham system

1. Take the 1:16 cunningham kit and tie the d12 5mm line to the 16 mm double blocks.
2. Loop the cunninghamline through the blocks as shown on the drawing.

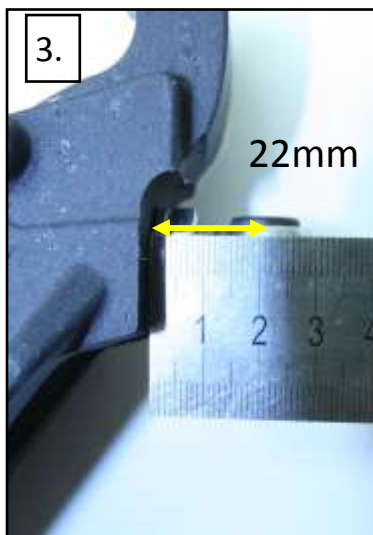


3. r UDDE RS




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

2. Use the self locking slot for the nylock nut at the **port** side of the castings!

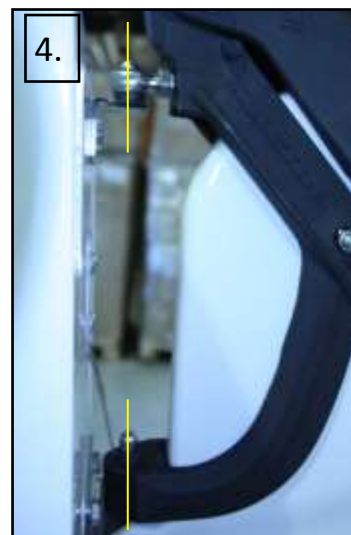


3. Measure from the back of the casting to the heart of the eye screw.

This must be 22 mm! 

- fix the eyescrew with a 9/16 wrench.

4. Check if the casting is able to pivot with out any resistance. If not, gently bend the pin of the rudder gudgeon in the right direction.



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

Parts are available at parts@nacrasailing.com



Warning

Changing the standard supplied distance (22mm) of the rudder system eyescrew can cause severe damage to rudder system, stern and rudder .



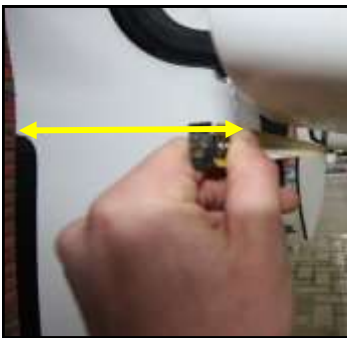
Tools needed:

- flat screwdriver
- philips screwdriver
- 7/16 wrench 2x
- 9/16 wrench

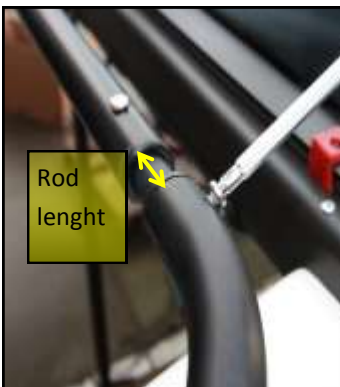


3. Put the boat on high support or a trailer to align the rudders. High enough to lock down the rudders

5. Take the Philips screw out of the tiller-arm.
6. Place the tiller extension in between the arms
check if the connector for the joystick is on top!!



7. Measure the length between the middle of the rudders at the back and front of the rudders. Measure at the same horizontal level!



8. The rudders must face 2 mm inwards, this is adjustable by changing the rod length.
9. Check if the rod length is the same at both sides before you screw in the phillipscrew.



10. Fix the sliding bolt for the kick up tension, with the rudder locked in. Push the bolt forward and fix the bolt while you're still pushing forward. Use two 7/16 wrenches.

4. Rigging

4.1 preparation



1. Mount the bridle wires, stay adjuster and compression pole on the bridle connection fitting.
Use the clevis pins 1/2 x 1/4
2. Adjust the ring 3x20 ss under the bridle on each side as shown in the picture.

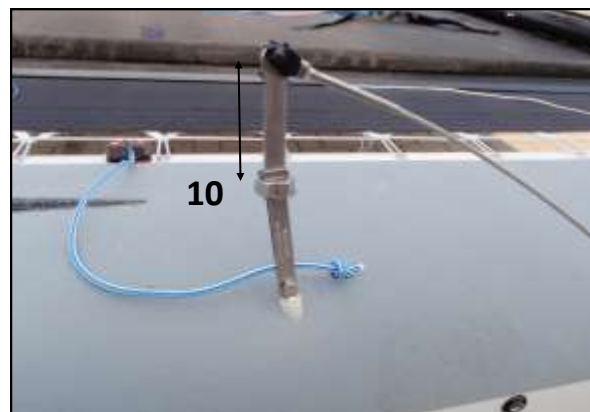
Note: The F18 Infusion has no compression pole and bridle connection fitting but a spi pole holder ring.



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 have shown in the manual.

5. Attach the schrouds to the staymaster to the staymaster use the clevispin 1/4 x 5/8 WL .

Make sure the staymaster is at his maximum length:10!



6. Attach the adjustable trapeze to the trapeze wires. [Check page ...how to assemble the system.](#)
7. Tie the adjustable trapeze wire to the trapeze shockcords.


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

4.2 Raising the mast

Before raising the mast the boat should be steady on level ground. If the surface is not level, point the 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. Place the mastbase on the mastball.
2. **1** holds the mast up with one spreader arm facing downwards, so the mastfoot doesn't hit the crossbar!
2 mount the mast pin and splittings in the mastfoot.

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! 

3. Check if all wires are in between the hulls
4. **1** walks forward lifting the mast and hand over the mast to **2**
2 holds the mast with one spreader arm facing downwards!
5. **1** grabs the trapezewires located on the front



5. **1** pulls the mast by hanging easily on the trapezewires
2 push the mast upwards, still making sure the mastfoot doesn't hit the crossbar.

WARNING!

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.



6. **1** holds the mast forward pulling on the trapeze
2 grab the forestay

7. **2** attach the forestay to the shroud adjuster.



8. Tape the rings!
9. Put tension on the shrouds.

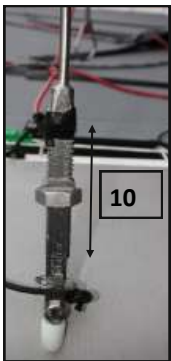


WARNING!

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.

4.3 Lowering the mast

Before lowering the mast the boat should be steady on level ground. If the surface is not level, point the 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. Detach the spigole!
2. **Check if the mast pin is in the mastfoot !!**
3. Undo the tension of the staymasters. Set them on maximum length:10
4. **1** holds the mast forward pulling on the trapeze
2 release the forestay from the stay adjuster.



4. **1** guides the mast by hanging easily on the trapezewires
2 lowers the mast, twist the mast with one spreaderarm facing downwards!! making sure the mastfoot doesn't hit the crossbar.



5. **1** hangs backward lowering the mast
2 lower the mast with one spreaderarm facing downwards!

6. **1** holds the mast up with one spreader arm facing downwards, so the mastbase doesn't hit the crossbar!
2 pull the pin out of the mastbase and take the mast of the mastball. Put the mast gently on the crossbar.



WARNING!

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.

4.4 snuffer bag



1. Take the spipole, snuffer ring and snufferbag and a hexmm.
2. Unscrew the hexscrew out of the spipole
3. Slide the snufferbag into the slot of the snuffer ring



4. Screw the snufferring handtight on the spipole, attach the snufferbag on the spipole using the velcro band.

4.5 spipole



Note: F18 infusion

First slide the spipole through the spipole holder ring .

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

Make sure the jibsheet is on top of the spipole



2. Attach the spipole on the spipole outholder
3. Push the spipole gently down in order to attach the front spipole bridle located on the front of the spipole on the bridle pin with the clevispins 3/16 x 3/8.



4. Tie the snufferline in front of the snuffer-ring. The other end must be tied on the ring at the bridle

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

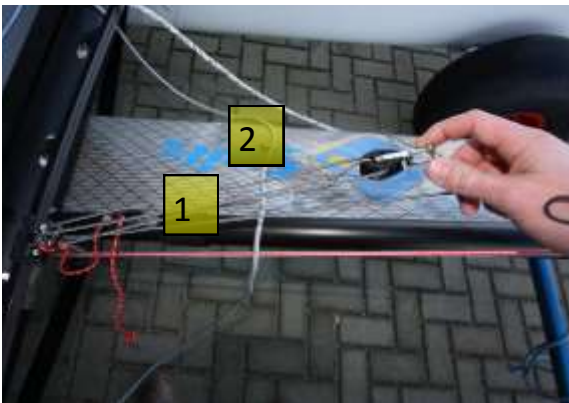


5. Tie the spipole bridle line in front of the spipole outholder. Tie the other end to the rings at both bridle wires.

4.6 Jibsheet

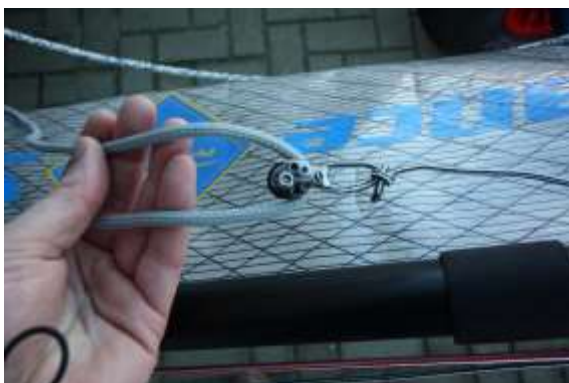


1. Take the jibsheet small, one carbo 29mm block and a Shackle D 5mm.
2. Tie one end onto the middle of the 29mm block and the feed the jibsheet through the the first sheave of the double block located on the traveller of the selftacking track.
3. Feed the line through the carbo 29mm block and through the second sheave of the double block.



4. The jibsheet small (1) must be on top of the jibsheet big (2).

5. Loop the end through the block on the spipole located back of the compression pole



6. Tie the end of the jibsheet small to the 16mm block already attached at the jibsheet big.

7. Feed the track travellerline of the jib through the cleat mounted on the spipole to range the track.

4.7 Tackline-cunningham-boom



- Pull the tackline forward and feed the the tackline through the 29mm block on the front of the spipole. Tie a figure-8 knot in the line.



- Tie both ends of the cunninghamline to the shock-cord coming, wich is accessible by pulling the mouseline pre-installed in the front crossbar.

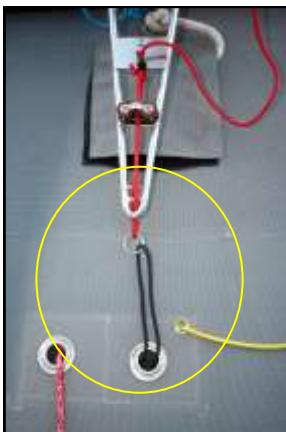


- Mount the boom on the mast using the philips screw .

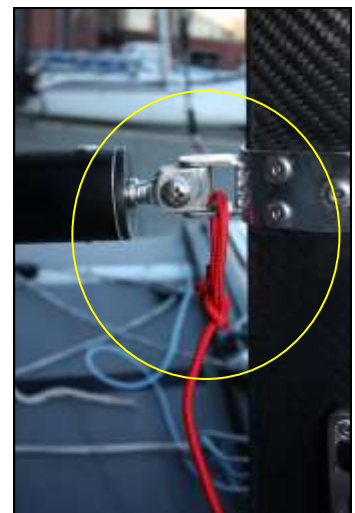
Tools needed:

- philips screwdriver

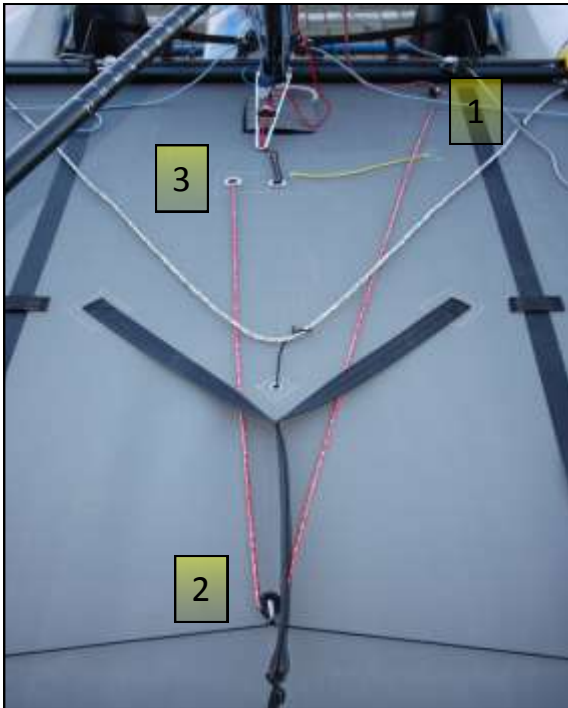
4.8 mast rotation



1. Loop the pre-installed mastrotationline through the ring located at the mastrator arm. Then go back through the same grommet.
2. Use the cleat on the other side and tie the end of the line to the staymaster.
3. Tie the end of the quick release line to the boombale



4.9 Spinal yard



1. Feed the spinaerhalyard through the trampoline 29mm block. Go underneath the cunningham line.
2. Go underneath the v-bar and through the retrieval 29mm block.
3. Use the port big grommet to go underneath the trampoline



4. Go through the grommet in the snufferbag



5. Use a batten or tiller extension to pull the spinhalyard through the snufferbag. Tie the line temporary onto the spipole.

4.10 spinsheet



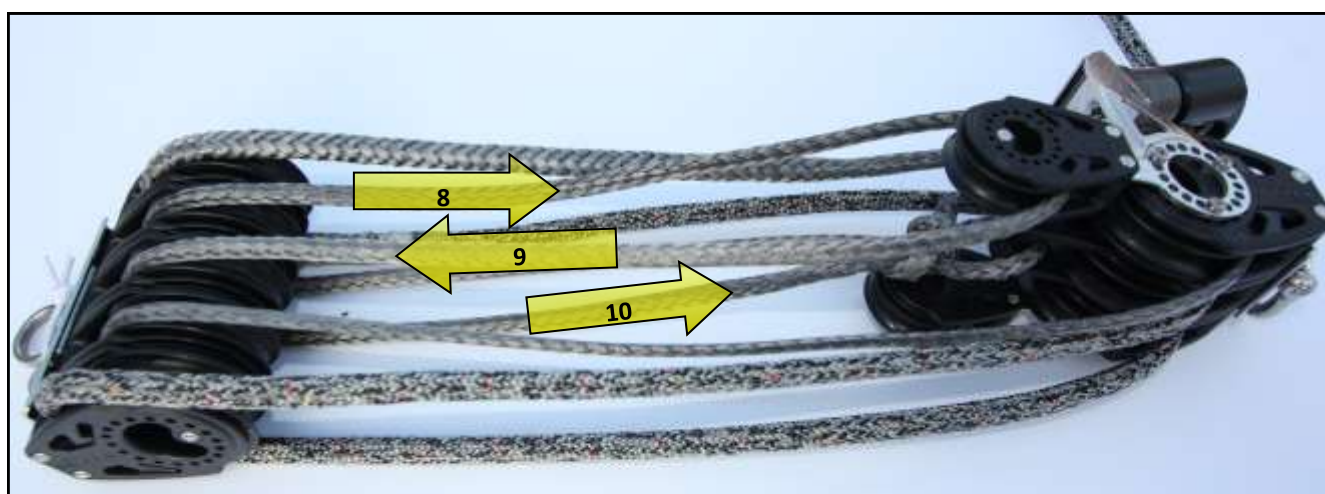
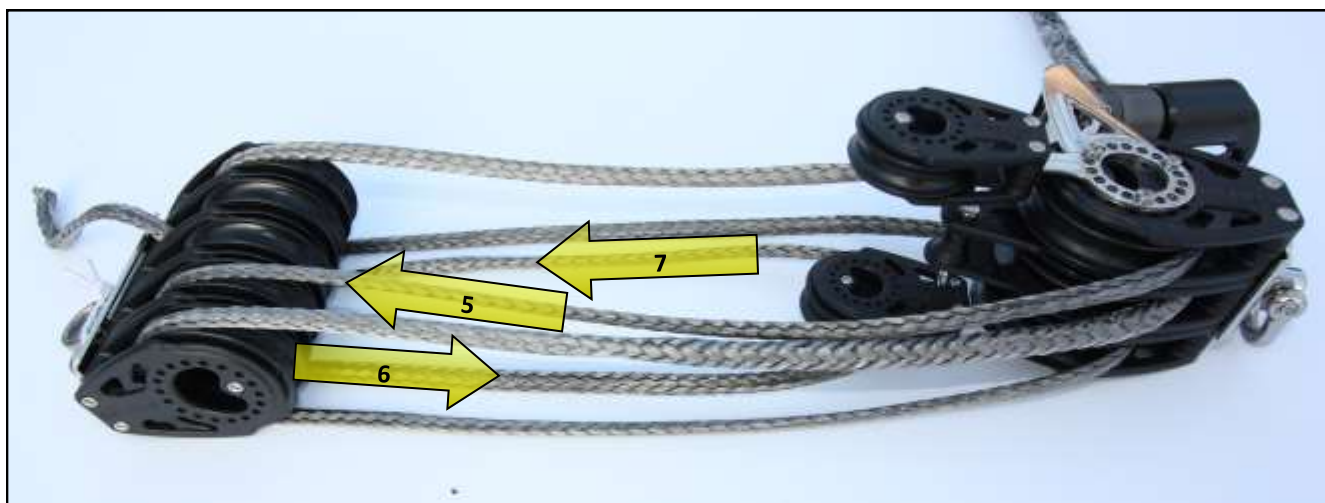
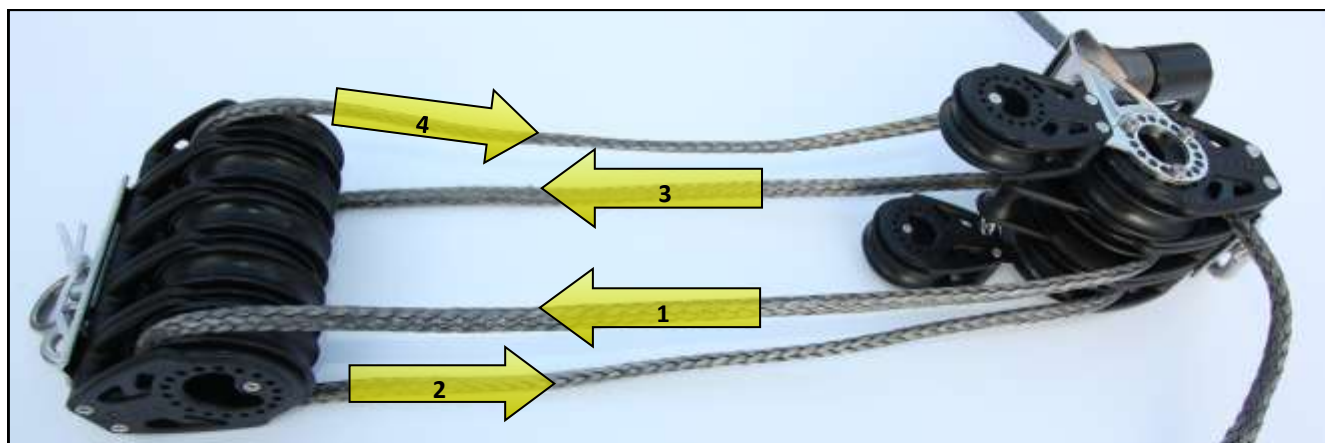
1. Tie the shockcord located in front of the v-bar to the middle of the spinsheet.



2. Go through the spiblocks as shown on the picture.

make sure the arrows of the rathmatic are inboard!

4.11 MAINSHEET 1:10



5. Setting the sails

5.1 spinaker



1. Attach the tack of the spinaker to the tackline



5.2 Raising the Jib



1. Hook the jib on the S-hook. Close the zipper while raising, with the jibhalyard zipped in with the jibhalyard in between.



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



Note: the jibdownhall is only standard on the

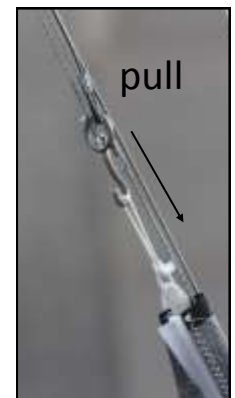
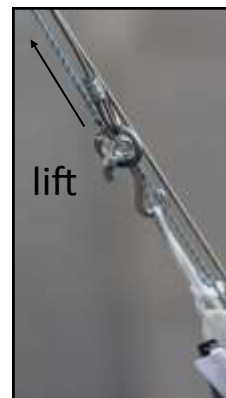


4. Feed the jibdownhall line through the 16mm-block located on the starboard side next to the compression pole. Go through the ring on the tack of the sail and loop around the pole in order to tie it around the ouholderbase.

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

5.3 Lowering the jib

1. To lower the jib release the jibdownhall and the jibsheet small.
2. Raise the jib a bit and pull on the other line, while keeping tension on both lines, in order to unlock the S-hook of the ring



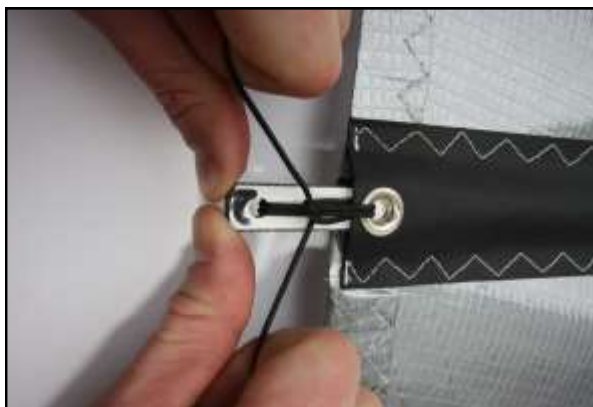
5.4 battens



1. Pull 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. Go through the grommet in the battenpocket from outside in.



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.

5.5 Raising the mainsail



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

**The knot must be on the mast side.
Occasionally 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. Lift the mainsail with the mainhalyard



5. Lift the mainsail until you reach the masthook.
6. Gently pull down to lock the mainhalyard ring in the masthook.
7. Slide the foot of the sail in the mastslot.

5.6 Lowering the mainsail



1. Pull on the mainhalyard to raise the mainsail.



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



3. Pull the mainsail down.



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



Prevent the sail from folding!

Always roll your mainsail top down with the topbatten taken out



6. Parts

6.1 Arrival of parts

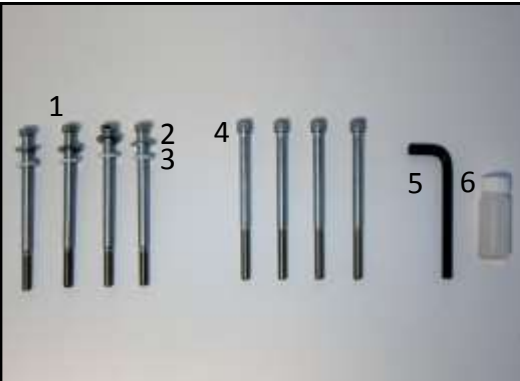
Description	Reference				quantity
					
Hull port	12058P	12059P	12048-2P	12051P	1
Hull strbd	12059S	12059S	12048-2S	12051S	1
Sipole complete w/o ring: in hullbox	31573	31622	30994	31145	1
Mast		31620	30169	31185	1
Hardwarebox	40006	40007	40004	40005	1
Front crossbar complete	31584	31607	30045	31142	1
Rear crossbar complete	31583	31610	30086	31144	1
Centerboard port	31599	31673P	31232	31156P	1
Centerboard strbd	31599	31673S	31232	31156S	
Rudderblades	31600	31747	30131	30131	2
Uppercasting with hardware Port	40117	40116	40108-2	40108-2	1
Uppercasting with hardware strb	40116	40117	40107-2	40107-2	1
Lowercasting with hardware	30114-2	40100-2	30114-2	30114-2	2
Boom complete	31574	31611	31078	31260	1
Tillerbar with connection part	30137	31612	30137	31562	1
Joystick	30371	30371	30371	31173	1
Trampoline	60270-01/02	60277-01/02	60284-01/02	60260-01/02	1
Trampoline tie rod	30291	30291	30291	31276	1
Mainsail	options	60273-01	Options	options	1
Jib	options	60274-01	options	Options	1
Spinnaker	options	60275-01/02/03	Options	options	1
Spi snuffer bag	31572	31674	30924	31238	1
Spi snuffer ring	30916	30916	30916	30916	1
Owners manual					
CE documents					
Sailnumbers	31530				
Rigbox	40017	40018	40015	40016	1

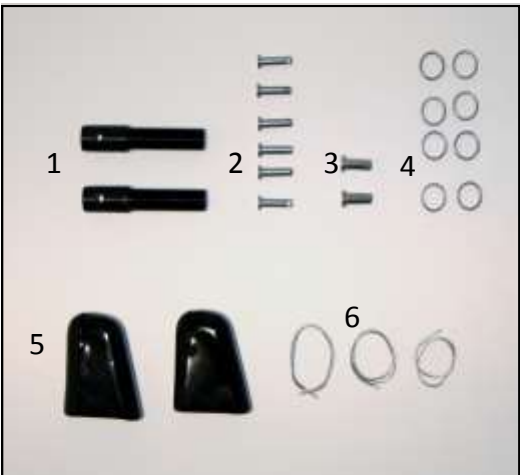
6.2 Rig box




NR.	Description	Reference				quantity
		NAERA FIG	NAERA 17	NAERA FIG infusion	NAERA F20 Carbon	
1	Kit crossbar	40120	40120	40120	40120	1
2	Kit misc	40129	40130	40122	40122	1
3	Kit spreader attachment	40124	40124	40124	40124	1
4	Kit diamond adjuster small	40126	40126	40126	40126	1
5	Cunningham system 1:16	31731	31731	31731	31731	1
6	Riggingset	40508	40505	40502	40503	1
7	Linepackage race	31589	31618	30682	31169	1
8	big bullet pivoting exit	31719	31719	31719	31719	1
9	vulkaniserend tape	10110	10110	10110	10110	1
10	mast base complete	40114	40111	40111	40112	1
11	compression pole	31700	31700	-----	31190	1
12	spreader bar aft black	30335	30335	30335	31194	2
13	spreader bar fwd black	30336	30336	30336	31193	2
14	57mm boom block 5sh	30673	30673	30673	30673	1
15	57mm ratchet block 5sh	30958	30958	30958	30958	1
16	Spipole holder ring	-----	-----	30216	-----	1

6.3 Assembly kits

	<i>Rigbox kit crossbar</i> 40120		
	<i>NR</i>	<i>discription</i>	<i>reference</i>
	1	Crossbar bolt front	30360
	2	Crossbar bolt rear	30361
	3	Washer ss rear crossbar	31114
	4	Fiberglass washer	31113
	5	Allen tool size 5/16	31456
	6	NACRA grease	31697

	<i>Rigbox Kit spreader attachment</i> 40124		
	<i>NR</i>	<i>discription</i>	<i>quantity</i>
	1	spreader bar screw fine	30337
	2	clevis pin 3/16 x 5/8 WL	31624
	3	clevis pin 1/4 x 1/2 WL	30524
	4	Split Ring	30553
	5	spreader tip cover	30322
	6	Monel wire piece	31462

	<i>Rigbox Kit diamond adjuster</i> 40126		
	<i>NR</i>	<i>discription</i>	<i>quantity</i>
	1	bolt diamond adjuster	30187
	2	brass fitting	31701
	3	washer ss front crossbar	31117
	4	fiberglass washer	31113
	5	mast step pin	30356
	6	Split Ring	30553

	<i>cunningham system 1:16</i> 31731		
	<i>NR</i>	<i>discription</i>	<i>quantity</i>
	1	16mm double	30649
	2	wire block 29mm	30634
	3	Split Ring	30553
	4	d12 5mm	10055
	5	bullet pivoting exit	31720

6.4 misc kit



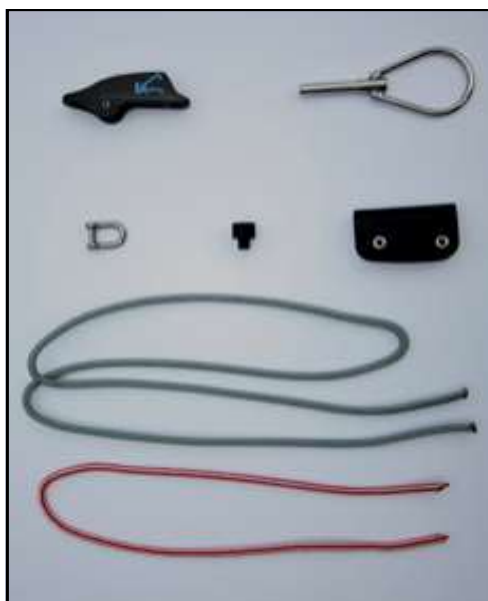
NR	discription	reference	quantity
1	Daggerboard holder wide (spare)	31590	2
2	Screw 4.2x25mm (spare)	31463	4
3	Staymaster 1/8"	30372	2
4	Clevis pin 1/4 x 5/8 WL (staymaster)	31077	2
5	Clevis pin 1/4 x 1/2 WL (bridle)	30524	6
6	Clevis pin 3/16 x 3/8 WL (spibridle)	30488	2
7	Clevis pin 3/16 x 5/8 WL (compression pole)	31624	2
8	Clevis pin 1/4 x 3/4 WL (Mast sheeve)	30416	1
9	Split ring	30553	13
10	Shackle 8mm 5/16	30779	1
11	Shackle 6mm 1/4	30685	1
12	Shackle washer nylon	40201	4
13	Shackle D 5mm	31458	1
14	s-hook jib	30334	1
15	Main halyard ring w/shackle	30312	1
16	Ring 4x25mm ss	30816	1
17	Carbo 29mm single fixed assymetric (1 extra for f18 inf./C20)	30640	4
18	Harken 29mm T2 carbo soft attach single (spi block top)	31904	1
19	Carbo 57 ratchmatic single	30605	2
20	Cleat harken small w/ wire fairlead	31470	2
21	Screw for harken cam cleat	31466	4
22	shroud adjuster	30326	1
23	Bridle connection fitting (Only F16/N17/C20)	31698	1
24	Shackle 6mm w/shockcord	30683	1
25	Mast sheave (spare N17)	30185	1
26	Ring 3x20mm ss	30702	2
27	Allen tool size 3	31714	1

6.5 Rigging set



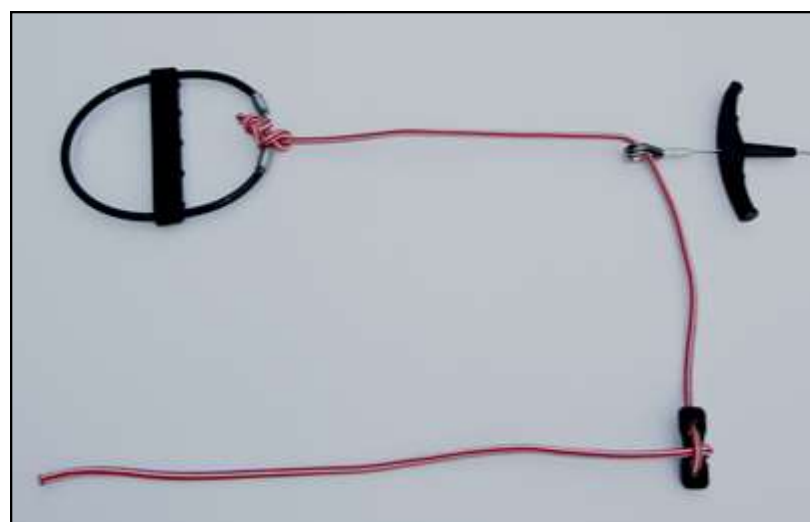
Nr.	Description	Reference				quantity
		NAERA F16	NAERA 17	NAERA F18 infusion	NAERA F20 Carbon	
	forestay	31728-2	31613	30218-2	31147-2	1
	shroud	31581-2	31614	30696-2	31146-2	2
	trapeze wire double	31582	30222	30222	31151	2
	diamond wire	31578	30223	30223	31154	2
	bridle wire	31577	31617	30220	31148	2

6.6 Trapeze systems



option adjustable trapeze

NR.	discription	reference	quantity
1	Shackle D 5mm hex	31707	4
2	Clam cleat trapeze cl253	30923	4
3	Trapeze block black	30692	4
4	Trapeze ring race	30681	4
5	Trapeze stop	30938	4
6	Line package adjustable trapeze	31713	1



option can't miss

NR.	discription	reference	quantity
1	Trapeze ring can't miss	30333	4
2	Trapeze height adjuster	30695	4
3	Line package standard trapeze	31712	1