VOILIER MONOTYPE

open 5.00

Photo : Ronny Kiaulhen
Torbole , Italy– Sept 2007

OWNER'S MANUAL

INDEX

1. Introduction

You have just acquired an OPEN 5.00 monotype sailing boat from the manufacturer Phileas.
This handbook is to help ensure your pleasure and safety in navigation. It contains technical information, descriptions for assembly, manoeuvres and maintenance tips.

If this is your first sailing boat, or a new kind of sailing boat for you, first of all familiarize yourself with it under lenient navigating conditions of.
Get in touch with local qualified clubs and schools in order to obtain the advice necessary for possible training.

PLEASE KEEP THIS HANDBOOK AND IF YOU SELL YOUR BOAT . PLEASE GIVE IT TO THE NEW OWNER

2. Documentation CE

EEC Documents

Declaration of Conformity : 2 originals joined to this handbook

We certify that the boat type OPEN 500 bearing the hull number FR PHI E
is built respecting in all points of the conformity certificate herewith according to directives 94/25/CE amended by directive 2003/44/CE.

Specifications :

- Type of boat: sailing boat
- Category of design: D/4 people - C/2 people
- Module : A
- Length of hull (m): 5.00
- Width of hull: 2.24
- Displacement (Weight) (kg): 300
- Maximum Power engine (cv): 2.2
- Maximum Number people: 4 for category D - 2 people for category C
- Maximum weight for people + luggage (kg): 175kg for category C/ - 310 kg for category D

Conception categories	**Maximum wind force**	**Maximum height of waves**	**Possible categories of navigation**
A (haute mer) High Sea	> force 8	> 4 m	1 à 6 1 to 6
B (large) Open Sea	force 8	4 m	2 à 6 2 to 6
C (zones côtières) coastal zones	force 6	2 m	4 à 6 4 to 6
D (eaux abritées) sheltered waters	force 4	0,50 m	6 6

3. Description

Standards used by the manufacturer

ISO DIS 10087 Hull number identification

Hull Identification

FR PHI E

Technical data

- Longueur HT : 5.00 m
  Length
- Longueur flottaison : 5.00 m
  Floating length
- Bau max. (largeur) : 2.24 m
  Beam max. (width)
- Déplacement : 300 kg
  Displacement (Weight)
- Surface de voile au près : 20.60 m2
  Sail surface close-hauled
- Manufacturer : PHILEAS

Maximum load

- 175 kg in category C
- 310 kg in category

Maximum power

Outboard Motor max. 2.2 horsepower

Rochefort, Date

Stamp and signature

4. Assembly manual

The Main Sail Halyard

The main sail halyard is threaded in the boltrope (see photos), up to the masthead after removing the sheave. It is then passed in the masthead after having been slid into the sheave. It comes down again and passes into the flying pulley (#224) equipped with a shackle (# 27.04), which will be used for fixing the head of the main sail. It then goes back up then up to the masthead where it is fixed by a simple knot. The reefing of the main sail halyard is accomplished

Drisse GV1

Réa enlevé

Remettre le réa

The Spinacker Halyard

First of all install the spinnaker hound pulley (#098) using the small end of the shackle #RF634, then install the #'retenue de spi' to the becket, 40cm above.
Be careful to leave the shackle turned towards the outside in order no to damage the mast(see photos).

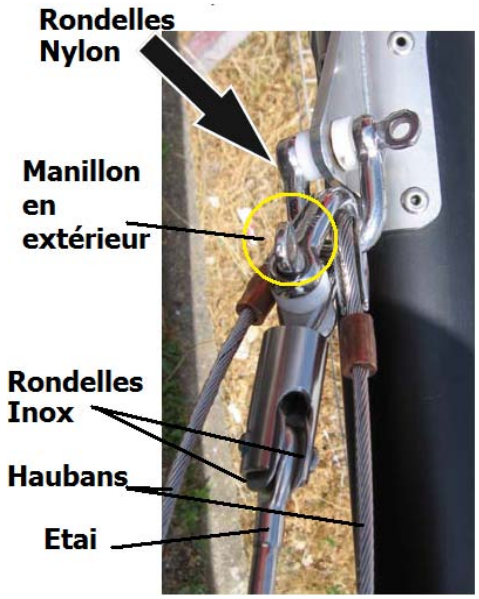
The halyard is simply passed into the hound pulley and comes down along the mast.

It is possible to use a Rilsan attach or an elastic at the level of spreader to prevent the spinnaker halyard from getting stuck behind spreader.

Shrouding (haubannage)

The shrouds are fixed to the mast by a shackle # HR08.
The forestay is fixed thanks to the swivel attached to the HR08 fixed on the hound shackle.
Nylon plastic washers have to be located correctly, as shown in the photograph.

Tighten the shackles with pliers to make sure that they are well fastened and if possible assure the fixture with adhesive tape or a small piece of rope.



Jib Halyard (drisse de foc)

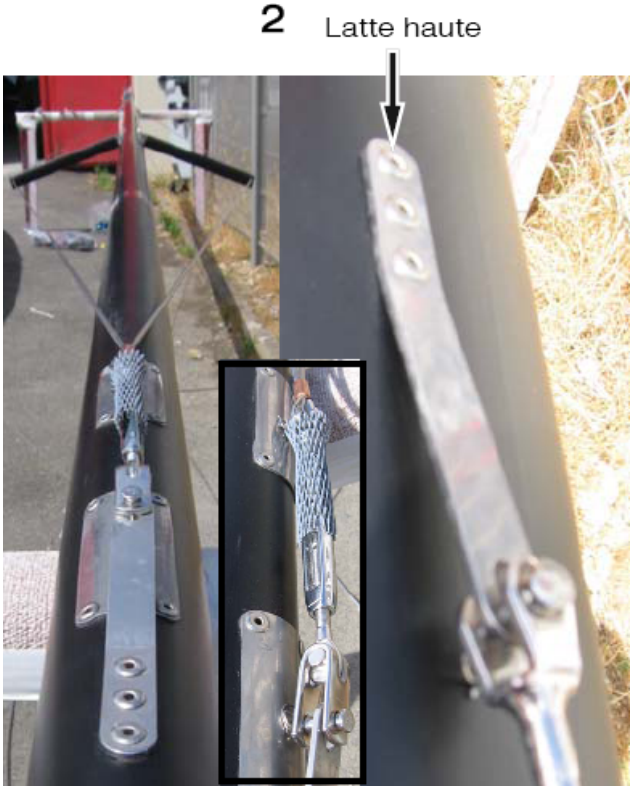
The jib halyard goes simply into the swivel hook (see photo).

Spreaders

It is imperative to assemble in the following order:

1- Release the adjuster then fix to the mast.
2- Fix the diamond cable to the adjuster by the central fixing.
3- Fix the diamond cables to the top fluke making sure that they stay clear (without turning).
4- Slip the spreaders into the mast.
5-Position the tips of the spreaders on the cables, and then fit into the spreaders. The washers must be positioned above the spreaders.
6-Tighten the adjuster so that the mast has a longitudinal spread (a tension of 180kg is recommended).

Once the diamond is correctly tightened, make sure that spreaders are perpendicular to the mast.



The cord drum for the snuffer

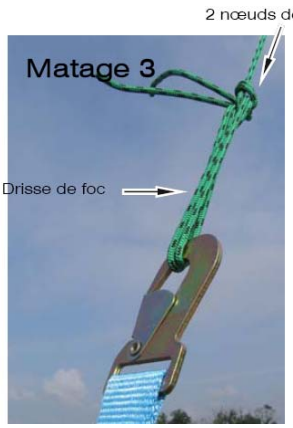
The Open 500 has a jib snuffer as standard equipment. The cord drum should be fixed to the chain plate situated at the mouth of the trumpet. It is imperative to put the split ring **behind** the snuffer.

The snuffer control rope should be fixed to the snuffer cord drum by making an overhand knot. It passes under the roof by the thro-hull then under the mast foot (port side light) and is fixed in the aluminium clam (see photos).
The aluminium clam is fixed to the snuffer cord drum with the surplus of the blue string from the jib pulleys #2661.

Stepping the Mast

It is best to leave the trailer hitched on the car while raising the mast, to assure the stability of the boat and the trailer. Otherwise you need to block the back of the trailer so that it cannot move or tip up.

It is advisable to start by arranging the mast on the boat, with the mast foot close to the rotation ball.



Fix the forestay to the hull plate (**second hole from the front**).

The adjuster plates should just have an average adjustment

Remove the pin and arrange with a flat profile (spreaders vertical) engage the mast onto the rotation ball and put the pin back in place.
It is imperative to keep the profile flat until the mast is vertical.
The same thing goes when bringing the mast down. This is why we advise not to help by pulling on the forestay, (it is better to use the spinnaker halyard).

A crew member gets into the boat and raises the mast until the shrouds are stretched. The jib halyard is then fixed to the winch of the trailer by 2 fingertip bowline knots which will be used for tightening the rigging while you fix the forestay.

Once the forestay is fixed to the adjuster plate of the drum, the winch is loosened.

Your mast is in place.

It is imperative when bringing the mast down to also respect the flat profile position of the mast (spreaders vertical) and to avoid lowering by the forestay or the jib halyard. If the pin of the mast foot has been taken out during navigation **it must be put back into place before lowering the mast.**

The jib

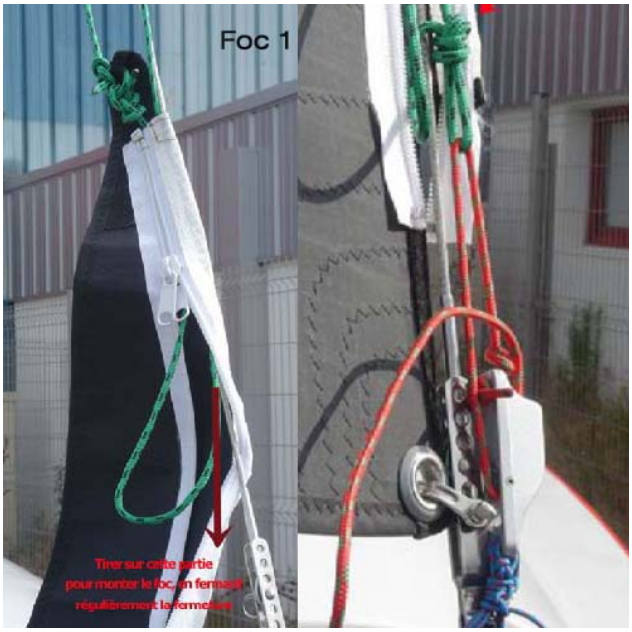
The jib is hoisted around the forestay, (both extremities of the halyard being fixed to the point of the jib halyard so that the halyard is uninterrupted) by closing the zip around the forestay and both parts of the halyard.

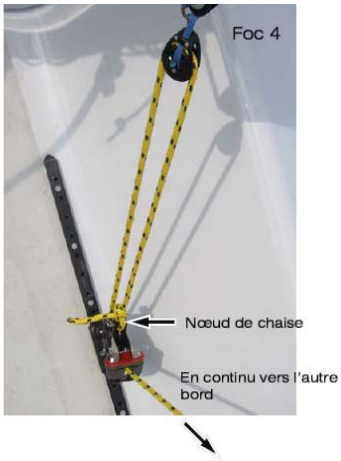
The tack point of the jib is fixed to the adjuster plate on the top of the drum (1st hole from the bottom).

Once the jib is hoisted, a loop is made in the downward part of the halyard (see photo) and the end fixed to the aluminium clam #CL230, passed through the loop before returning to the clam (see photos).

The right tension of jib halyard is the least possible which allows the removal or the reduction of the horizontal folds on the luff once the sail is hoisted. To protect it, avoid leaving the jib rolled up with a strong tension of the halyard rope.

Some people prefer using a halyard in 2 parts, a halyard and a messenger that needs to be removed once that the jib has been hoisted, and then put back before lowering the sail.





<u>Jib sheet</u>

The jib reefing pulleys #2651 are fixed to the shackle #2704 by the pieces of string enclosed in the supplied pulley bag (see instructions inside the pulley bag).
The jib should be rolled anticlockwise by hand before fixing the sheet, the snuffer drum empty (the working part of the snuffer having been pulled out and put on the cleat).
Respecting this safeguards the cables.

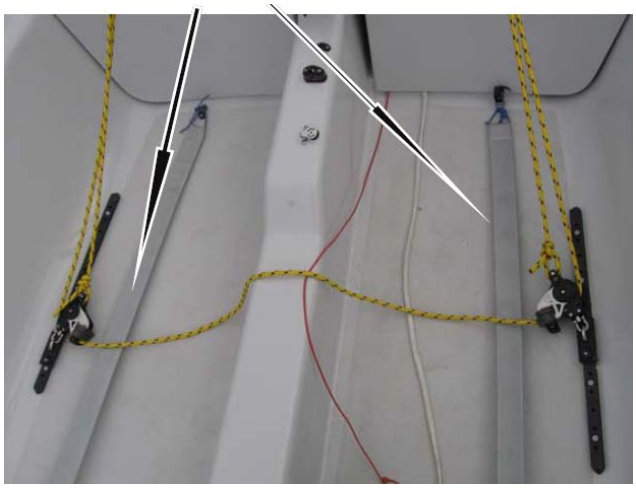
We can now fix the pulleys# 2616 on the # 2750 traveller and insert the plastic springs #369 on the shackle .

Ecoute Foc 1

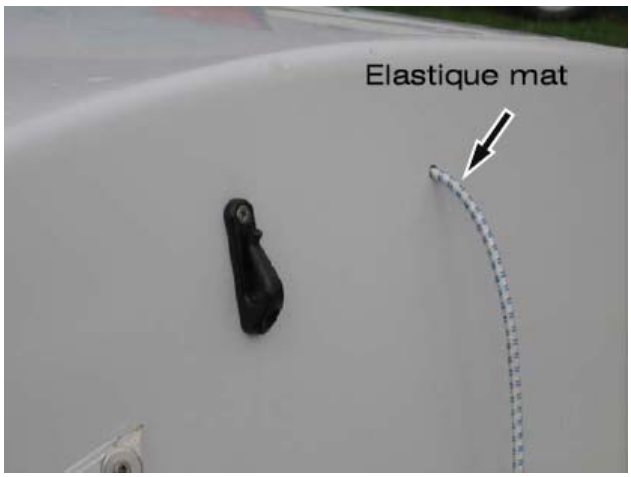
Now pass jib sheet as in the photograph, without interruption in to the cockpit.

To unroll the jib, release the end of the snuffer and pull on the sheet.

To roll up the jib, take care that the shettes are clear and draw on the end to wedge it on the clam.



The elastic of the sheet guard fixes in the hood on both sides of the bulkhead (see photo). It ends with a fingertip bowline knot which fixes on the plastic hook after having passed around the mast.



The boom is fixed on the gooseneck.

The Main Sail

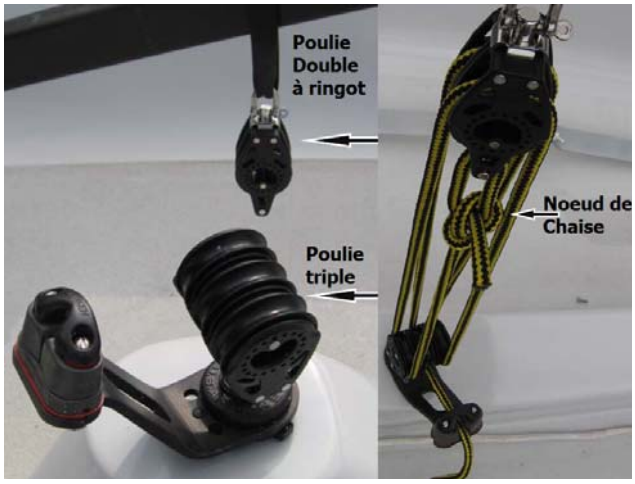
The Open 500 mainsail is "Full Batten" which means that its battens go from the leech to luff.
Tighten the battens slightly by using a six sided key.

Main sail supplied with **black battens ends** :
Screw to tighten, unscrew to slacken.
Main Sail supplied with **grey battens ends** :
Unscrew to tighten, screw to slacken.

The fabric must be very slightly stretched.
It is possible that after the first navation you may need to tighten again the battens a little as they will have found their places in the slots.

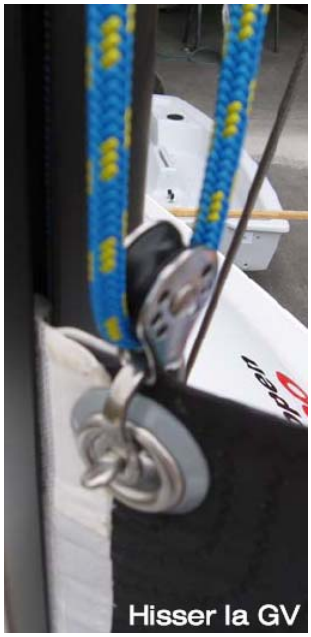
Caution: A tension too strong will make it difficult :

- to engage the sail in the mast when hoisting,
- to change the direction of the battens when changing tack and will make the sail too hollow.



The double ringot block #2603 is fixed on the strap in the middle of the boom; the triple pulley is fixed on the turret of the main sail.
The sheet passes as in the photo and is fixed on the ringot by a fingertip bowline knot, with a figure of eight knot to hold the extremity of the sheet.

The Main Sail halyard is fixed at the head, taking care that it does not turn right up to the top. Also be careful, when you hoist the main sail to guide it with the rope (by pulling towards the front of the boat) so that the edge of the main sail is lax.



The clew is fixed on the boom by the shackle (see photos of main sail sheet). This shackle needs to be tightly fixed.
The tension of edge is set by drawing or by slackening the regulator located towards the front and on the top of the boom.
Attention, just turning the boom when it is fixed on the mast makes the tackle located inside the boom rolling up.

The reefing point cord, if any use requested, passes in the tack point, in the reef eyelet then goes down onto the starboard pulley on the boom before being fixed in the clam.

The Cunningham

The Cunningham is fixed by a fingertip bowline knot on the gooseneck (see photo); it then passes in tack eyelet , goes down around the axis of the boom, back up into the main sail eyelet then into the turret block pulley (see photo).

When you use a reef, the Cunningham passes through the reef eyelet instead of the Cunningham eyelet.

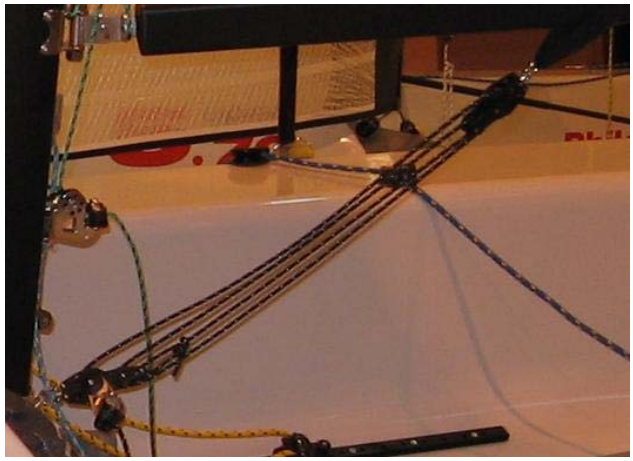
The Boom Vang

The Boom Vang is fixed to the mast thanks to the unused triple pulley shackle of the main sail (#2658)and to the boom on the strap (remark : the boom vang is only used to moderate the rising of the boom when bearing, it **should not be used for the adjustment of the tension of the leech**).
The tension of the leech is regulated by the tension of the main sail sheet.

Boom vang fixation.

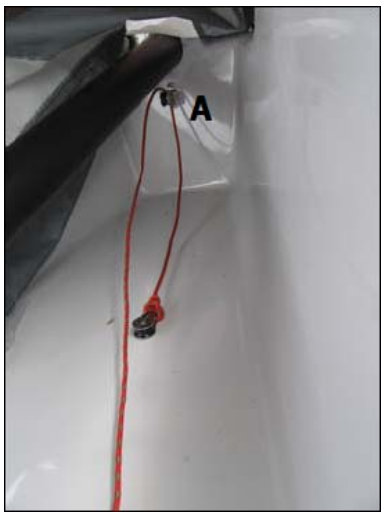
Les sangles de rappel ???

Cunningham 4 brins



Spinnaker Pole Assembly

Fix a simple pulley # 348 at one end of the control rope of the spinnaker pole. The other end is passed through the pulley located at the front of the boat (A) , then fixed on the pad-eye at the back of the spinnaker pole.



Spinnaker bag

The spinnaker bag has to be slipped inside the mouth of snuffer with the string holding the elastic placed into the guiding rail.
The lower part is fitted with some Velcro strap and has to be located onto the Velcro band taped on the cockpit.

Each end of the elastic is then passed in the fairlead ring then up through the loop and ends in two half hitch knots after having acquired the right tension.

The back end of the snuffer bag is fixed on the eye-pad at the end of the starboard jib rail by a piece of elastic.

On boats recently delivered , the spinnaker bag lyes onto the cockpit out of the roof.

The bag must be stretched so that the snuffer functions well.

Spinnaker halyard

Leave one end of the spinnaker halyard in front of the boat (the HEAD)

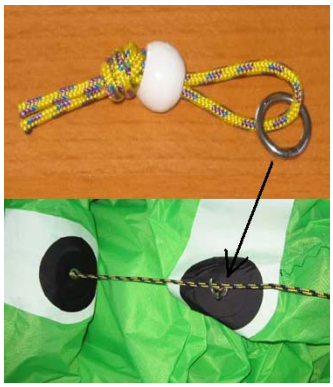
With the other end :

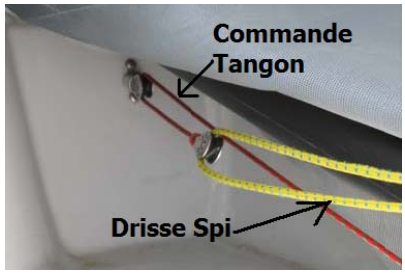
- Go through the pulley situated just in front of the mast foot.
- Then, through the spinnaker pole control pulley #348
- Back to the keel case going through the starboard hole under the foot of mast, then into the block A
- through the flying pulley #348 on elastic (on the becket located along the keel case, porthole)
- then, through the pulley #348 to be located at the central fixing of the starboard foot strap,
- then into the pulley located on the front of jib rail (B)
- and returns into the snuffer bag before coming out of the mouth of the trumpet (it is advised to use the stick to carry out this passage).

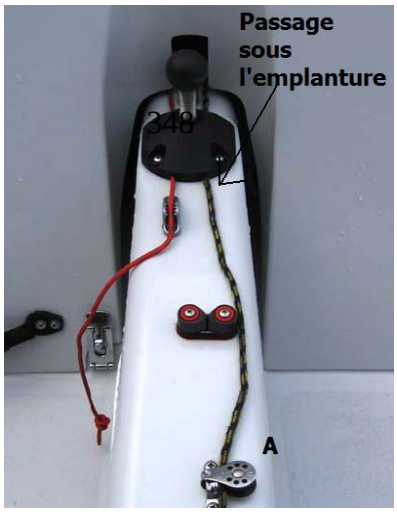
This same spinnaker halyard end will be used to enter the spinnaker.

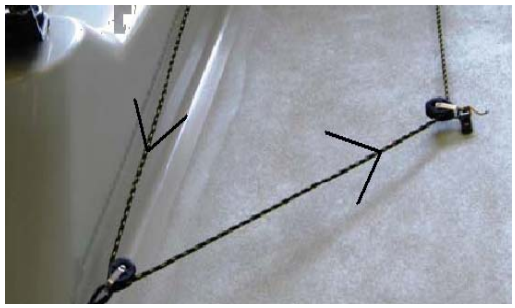
For this it goes through the eyelet situated on the bottom of the spinnaker, then through the second eyelet of the patch and is held in place by a single knot.

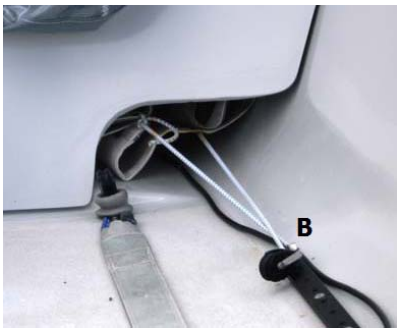
Note: The spinnaker halyard may appear to be a bit too short because of the sunken position of the boom when the boat is on its trailer.









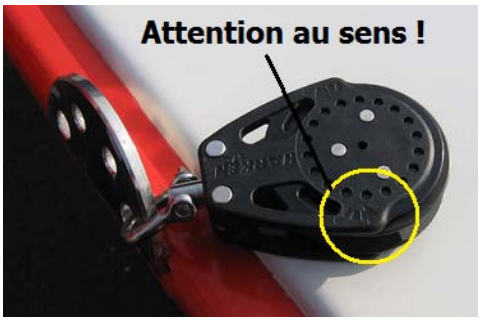


To help the spinnaker in and out of the snuffer, a specific product is delivered with each boat to treat the spinnaker. Vaporize the product, insisting on the surfaces close to the patches. Let it dry before carrying out the same operation on the other side of the spinnaker.

The spinnaker tack is fixed to the boom with the help of a strap - length 70 cm -diameter 4, provided with a ball to block it. It is fixed to the spinnaker by a fingertip bowline knot (made short) which can be solidified with adhesive.

Spinnaker sheet

The automatic winch pulleys #2625 allow you to gybe smoothly (without applied tension the pulley is traditional).
The sensitivity of these pulleys is adjustable (see Harken instructions).
The pulleys are assembled on the most forward hole of the shroud chain plate. It is best to position the shackle towards the inside.
The spinnaker sheet is without interruption. (clew / winch pulleys/ back to clew).



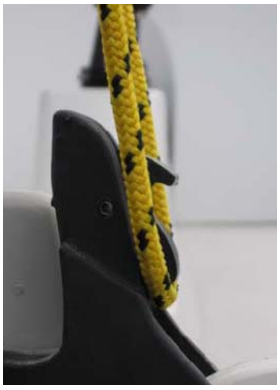
When hoisting the spinnaker, you need to have the wind behind you or with a very slight reach. The crew who carries out the manoeuvre will stand upright, legs bent, a foot of each side of the keel casting. Take care that his feet do not obstruct flow of the halyard.

To lower, the crew's position is the same. While holding the patch in the right hand, he needs to release the halyard with the left hand. As soon as it comes out of the cleat, do not retain it but take up the slack of the patch very quickly while the spinnaker comes down.
To pass the "cap" he will need to exert a greater effort.

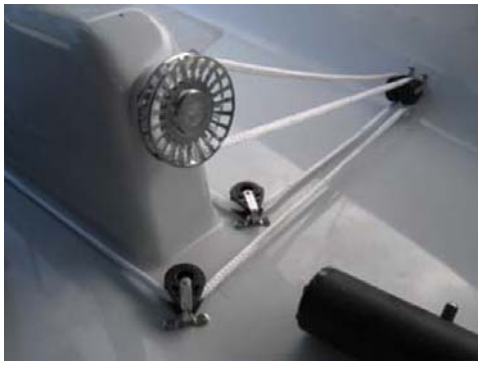
The rudder:

The open 500 is equipped with a hinged rudder.
Its action is controlled by the tiller.
Be careful that the rudder blade is always raised in the air before lowering the tiller to lock in place.
If the blade is blocked in the low position in spite of the raised tiller, we recommend you to use a part of the main sail sheet under the blade and onto the tiller then raise the tiller with force.
(see photos).

Be careful not to give any important angles to the tiller until the rudder has been lowered and locked in place.



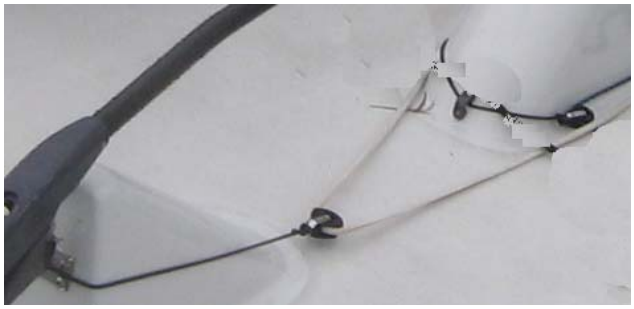
The Keel



The Open 500 is equipped with a keel (more than 90 kg) entirely retractable into its casing.

When the keel is in the low position, (draft 1,58 meters) a trap door covers the keel casing.
When the keel is brought up, the trap door is retracted. This action of the trap door is automatic. A bail system helps to empty the keel casing when the speed of the boat is sufficient.

The keel is raised and lowered by moving the loop of rope which activates the sheave which notches into a threaded rod. It is this threaded rod which moves the keel due the movement of the bronze part(located inside the upper part of the keel).
This loop of rod goes all along the keel casing through the #348 pulley fastened to an elastic at the rear of the boat (see picture 2.)
When the keel touches the sea bed, or the lowering control is activated but the keel is unable to go down (beached or on the trailer) then it is only normal the mechanism "slips out" and that the threaded rod appears.
To put the system back in working condition, it may be necessary to activate the threaded rod the in the same way as raising the keel before going afloat, while still holding the keel.



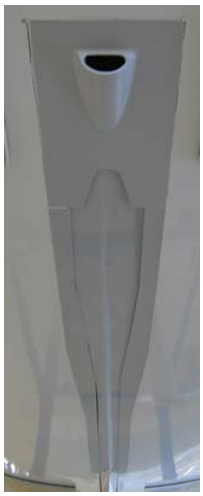
System disconnected

Never put hands or fingers into the mechanism.

It is imperative to regularly lubricate or oil the ball bearings, the stainless steel nuts and its spring, as well as the threaded rod and bronze part (by the trap door).

It is imperative to regularly lubricate or oil the ball bearings, the stainless steel nuts and its spring, as well as the threaded rod and bronze part (by the trap door).

Keel in lower position, you can see the bronze nut



5. Navigation

a) Manœuvres

These few indications are not intended to replace training needed to handle a sailing boat. The skipper of the boat is responsible for the control and condition of the boat; he must be able to sail in complete safety under the wind and sea conditions at the time of launching and the weather provisions for the time that he is on the water.

The Open 500 is conceived to make all of the manoeuvres on board as easy as possible. All of the controls are accessible from the cockpit.

Tacking

The boat is tacked in the conventional way; bend down to let the boom pass.

Gybing

Gybing is also done in the conventional way; it is advisable to take the new sheet firmly and to guide it for an easy passage of the spinnaker onto the new tack. By constant wind, keep the mainsail sheet slightly in, to moderate the passage on the new tack and to carry out a manoeuvre "fast and smooth" with the highest speed possible of the boat (thus decreasing the wind effect). The skipper determines the passage of the boom and will take care to inform the crew in time, in order to avoid any incident at the time of the passage of the boom onto the new tack.

b) Man overboard :

With the sail hoisted the skipper carefully approaches the man overboard by going around down wind keeping the sheet in or shocking the sail to moderate the speed (it is possible to carry out a loop while gybing or to make a ' figure of eight' while veering, then to go down wind).
With an engine the approach can be made easier, however you need frequently to control your position in comparison to the man overboard, taking in to consideration the reduced visibility from the back of the boat; it is essential to make sure that the engine is out of gear at the time of recovery.

c) Towing, mooring

It is possible to be towed if need be, by respecting the following instructions:
- Only use the stem plate made for this purpose.
- Only use elastic cords (avoid the pre-stretched ropes, spectra, dynema, kevlar...) in order to have the flexibility necessary to deaden the shocks.
- leave a sufficient length to allow a reaction time in the event of the towing boat changing direction or slowing down.

It is possible to moor the boat by using the stem plate made for this purpose as well as the pad-eyes located on the back of the main sail rail; it is recommended to use rubber shock absorbers as well as a safe fixing system (i.e. snap shackle with ***'baionette')*** when mooring at sea (i.e. buoy outside a port).

6. Security

MAKE SURE THAT THE PLUG-CAP IS SCREWED IN WELL BEFORE PUTTING THE BOAT ON THE WATER

It is the owner's responsibility to ensure that the boat is equipped with all of the mandatory safety equipment, and that this equipment is easily accessible while sailing if it should be needed. The standards can vary according to the country of registration.

- **On ground or on the water, always keep far away from electric wires. The contact of the mast with electric wire can involve serious injuries, even death.**
- **NEVER** navigate under the influence of alcohol or drugs.
- Always sail under comfortable conditions in which you feel at ease and in security. **Never sail under conditions exceeding your competences.** Consult the marine weather conditions before leaving.
- Everyone on board **must wear a life jacket at all times.**
- If you fall overboard, stay in contact with the boat, even if it capsizes. A boat drifts faster than a person can swim.
- Wear appropriate clothing. Wear a dry suit or a neoprene wet suit in cold waters or if it is cold. Protect yourself from the sun and heat. *Hydrate yourself. (Don't forget to drink)*
- Learn the priorities at sea, if you have a doubt, let the others go by first.
- When you are not sailing, **always direct the nose of the boat towards the wind,** whether you are on the beach or at sea.
- Read this manual carefully.
- **Make sure that everyone has read and understood these security rules**

7. Maintenance

A few tips in order to keep your boat in perfect sailing condition :

- The use of a boat cover (cockpit or complete) will give an adequate protection to the ropes, it will keep the equipment, deck and cockpit clean and protect against UVs.
- When used at sea, rinse the deck, cockpit, and deck equipment with fresh water regularly.
- Be careful to dry the inside of the hull, as well as the sails and accessories.
- After each navigation, fold the spinnaker and roll the sails in order to store them in the best possible position; this will guarantee a better longevity for them (do not to leave the jib rolled up too tightly or in the same position for too long at a time because of the risk of deforming it).
- Only wash the sails with cold or lukewarm water, eventually a little gentle soap ; never use strong detergents.
- Have your sails checked each winter by a sail-maker.
- Make a regular control of your deck equipment to avoid problems while navigating due to wear and tear.
- The pulleys and the roller with ball bearings are sensitive to dust and the accumulation of salt. ***Capsizing (Rinsing*)** even in sea water gives a satisfactory function to them.
- Repair of any small damages without waiting until they are accentuated.
- **If your boat must remain in water, it is strongly recommended to apply epoxy undercoat before the anti-vegetative paint (antifouling).**

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5.00 open