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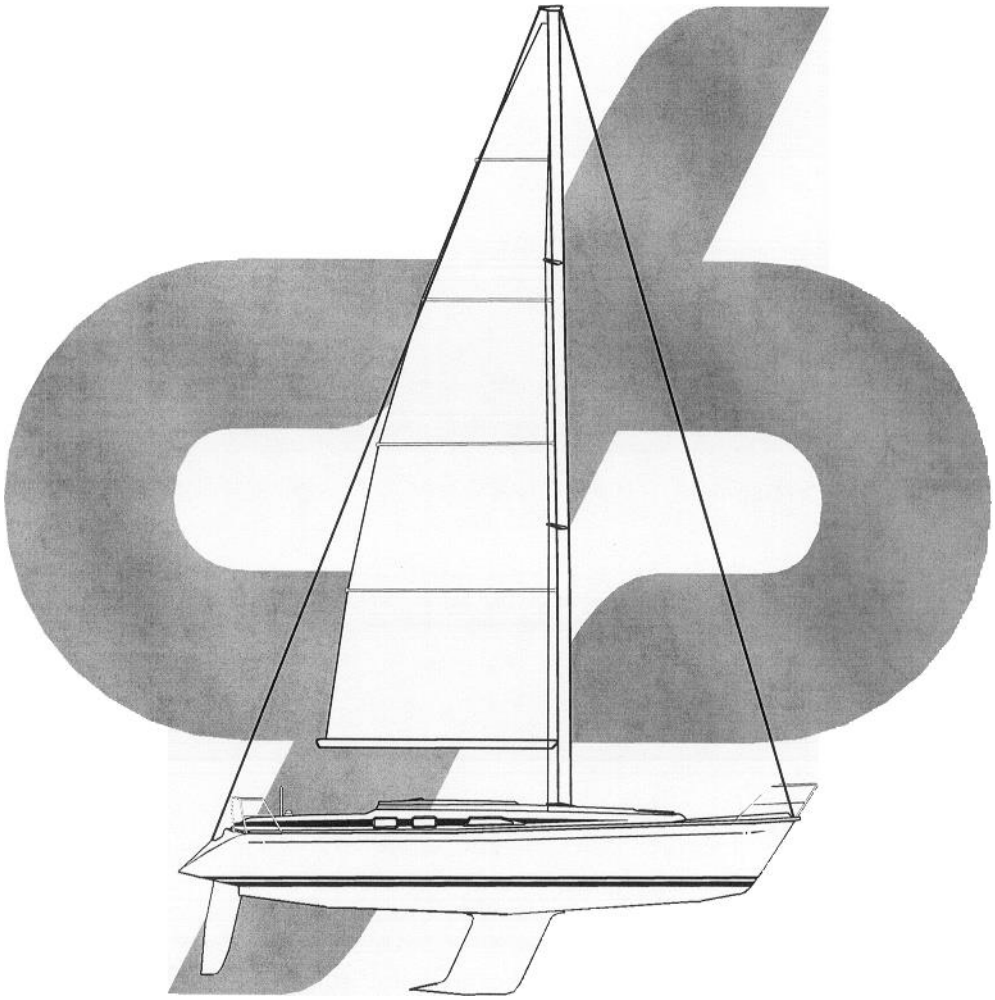

Grand Soleil 40

Owner's Manual 2002

ALL YOU NEED TO KNOW ABOUT THE GRAND SOLEIL 40

Project Classification

A

IN OPEN SEA: Yacht designed to cover long distances, during which the sea may reach force 8 or more (Beaufort Scale) with waves' height exceeding 4 metres. Yacht widely self-sufficient.

IDENTIFICATION NUMBER

CE

INSTRUCTIONS FOR USE AND MAITENANCE OF THE SINGLE PARTS

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Grand Soleil 40
Owner's Manual
Introduction

This manual has been conceived with the aim to provide the owner to use his yacht safely and with great satisfaction. It contains all the information about the boat, the on-board installed systems, the equipment and other instruction for the practical use and general maintenance.

We recommend you to read it carefully in all its parts to achieve familiarity with your yacht before using it.

If you own a yacht for the first time or you have changed of model which is not familiar to you, for your safety and fulfilment, please be sure you have attained the main manoeuvring and use experience before taking over the command of the yacht.
Your dealer or the Italian Sail Federation will be glad to signal you a local nautical school or a qualified instructor.

Please save this manual with care in a safe place and consign it to the new owner whether you decide to sell your yacht.

CONTENTS

Preface

This manual has been conceived by Cantiere del Pardo to provide the user of the Grand Soleil 40 with an instrument that allow to have a deep knowledge of the yacht for better appreciate its quality and attain its technical power.

This manual cannot obviously replace the fundamental knowledge, experience and seamanship required to sail a yacht and maintain in full working order a yacht of the same class as the Grand Soleil 40.

The user of such a yacht should have acquired, through direct experience the necessary skill, which cannot be either substituted or completed by a manual.

We strongly recommend the user to read carefully the information provided and follow all the recommendations that the Builder has included in this booklet: they will allow him to take full advantage of the yacht's performance in full safety.

The Grand Soleil 40' is the result of a great effort made by Cantiere del Pardo to build an extremely comfortable and pleasant boat, adopting high quality materials, components and systems, considered the most qualified, which together are the result of a very innovative product.

In addition to all the technical data provided by this owner's manual we recommend a careful reading of all the attached Manufacturers' manuals and booklets about the various components installed on the yacht.

Owners must always consult these manuals before undertaking any work which is not routine maintenance.

In order to be complete, the present manual includes and shows all equipment which can be installed on board of the Grand Soleil 40'. Please refer to the standard equipment list and the option list to identify which ones are optional.

Cantiere del Pardo reserves the right to modify the type and position of any equipment and accessories entirely at its discretion.

We recommend to the user to verify always what is reported in this manual before carrying out any intervention which is not contemplate within the usual yacht's maintenance.

The Grand Soleil 40', as delivered, is structurally adequate for peoples and things' safety All modifications must be carefully studied and calculated by professionals in order to maintain the structural integrity and stability of the yacht as designed.

Il Cantiere del Pardo

How to consult the manual

This manual contains all the information, drawings and detailed schemes that regard not only the yacht's knowledge use and maintenance, but also its equipments and accessories.

Mast

The subjects included in each chapter are presented as in the following layout :

Transversal supporting

The subjects are analysed as follows:

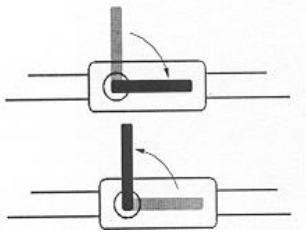
- description,
- instruction for use,
- warnings and cautions,
- maintenance.

Where necessary, for a better clarity, references to schemes and drawings are made specific.

Glossary of terms

Starboard – Port (left) The following terms "**Starboard**" or "**port (left)"** refer to the direction from which we look at the boat that is **from stern to bow**. Whether is made reference to another direction, the term starboard is replaced by "right"

Close - Open The following terms "**Closed**" or "**Opened**", refer to the 90°control closing valves, to the position of open/close handle:



- when the lever is parallel to the valve itself and to the pipes, the valve is **opened**;
- when the lever is transversal to the valve itself and to the pipes, the valve is **closed**

Symbols references

Danger

Indicates the possible presence of a grave risk that should cause a high death, accident or injure possibilities, whether the main precautions are not taken into consideration in relation to the type of danger recalled by the signals.

Warning

Indicates the presence of a risk that should cause accident or death if not adopted the appropriate precautions.

Attention

Indicates a recall to the use safety actions or it recalls the attention to unsafely manners that may cause personal injures or damages to the boat or to the crew.

Attention

Recalls the attention to the **waste of dangerous substances in the environment.**

Maintenance

Recalls the attention to the necessity to take precautions or observe safety rules.

Use

Recalls the attention to the necessity to adopt maintenance rules on a particular dealing subject.

Notes on environmental pollution and accident's prevention.

The following brief summary of the current E.C. rules about environmental pollution, waste materials and accident's prevention rules is valid only if the boat is used exclusively for private use without crew officially employed on board.

These rules derive from the International Convention for the Human Life Safety at sea issued in London on the 1st of February 1974 and following revisions and modifications.

Environmental pollution and waste material

The environmental pollution is divided into three main categories:
Water
Air
Soil

- Oil-free and black waters *(those containing only human organic wastes)* can be discharged in open sea. Within coastal area they should be kept in specific tanks and then discharged in open sea or through adequate fixed emptying system available on the quay or by draining sewage trucks.
- The regulations concerning the air pollution produced by a boat can are basically limited to the prohibition of using sprays containing C.F.C. gas and the limitation of external noises that, at a distance of 5mt. from the perimeter of the boat, should not exceed 65 dB (a) (decibel) from 6 to 22 hours and 55 dB (a) from 22 to 6 hours.

The ground pollution concerns the solid wastes unloaded on land.

The E.C. normative law n. 91/689 concerning the pleasure craft provides as follows:
It is forbidden to discharge at sea non-biodegradable product both foodstuffs and commercial products.
Within coastal area the **normal wastes** are considered as **urban wastes** and therefore can be closed into hermetic plastic bags and then placed into trash bins.
The **special wastes** must be placed into special containers or, if not available, consigned to the local collectors in conformity with the rules emanate from the local harbour-master's office. These special wastes are :

- Oily waters or mixtures (such as bilge water);
- Black and/or white waters from W.C. or sinks;
- Oils (fuels, additives and lubricants);
- Chemical products labelled as "**toxic/noxious**"(battery acid, paints, thinners, including their containers);
- Spray products containing CFC gas
- Exhausted batteries in general
- Expired flares
- Expired medicines
- Materials containing lead or asbestos
- etc.

Remember that, according to the EC laws, until the above materials will not be consigned to the collector, you will be considered holder and consequently persecuted in case of abusive dumping. In case the trash bins should not be available in the harbour area, the competent authority for the dumping is always the Harbour master's office.

Accident's prevention

Although recommendations are for the large part treated in each chapter of the manual, we think useful to remind you some general rules:

- First of all, it is important to check that the compulsory equipment belonging to the security have the approved label and that the periodical check is subjected to short dated. These kind of equipment include:
  - Floating devices (life jackets, life buoys, horseshoe buoys with floating lights and life raft or inflatable life raft);
  - Distress signals (smoke signals, flares, EPIRB and/or LOCAT, VHF e SSB);
  - Fixed and movable extinguishers fire (an adequate number, well indicated and of easy access);
  - Approved first aid kit with valid medicaments.

Advices

- Make sure that the safety equipments (like life raft and inflatable raft etc.) are always save and ready for use.

- Do not leave opened hatches, portholes and forepeak. They should be dangerous pitfalls!

- Always check that handrail, deck walkways and the non-skid on the top of the plexiglas, on the deck panel and on the stairs are well fixed, in good conditions and free from slippery and oily substances.

- Check periodically the efficiency of steering wheel instruments, standing and running riggings, winches and blocks, etc.

- Avoid to approach to the engine when in movement.

- Cantiere del Pardo delivers all its boats well finished and therefore free from accidental abrasions. In case you should add extra fittings, make sure not to leave exposed sharp and cutting objects such as screws, bolts or edgewise in general.

- We want to remind you that the above mentioned International Convention of London for the human survival at sea provides that at least once a year, or before any transcontinental voyage, all passengers and crew should carry out a rescue simulation introduced by seven or more whistles or siren sounds and that at the end this operation should be recorded in the log book..

- Finally we recommend you to use while manoeuvring deck shoes and gloves .

Main fire-proof rules

Although the best materials are used, fibreglass and wood that together contribute to the creation of a pleasant boat, they easily burst. Don't hesitate to scold people when necessary to avoid and prevent dangerous behaviours that should create fire risk.

Among the main fire causes, the electrical plant is one of the more dangerous. Its decay is provoked to the devastating action of the marine environment which rust and corrode all the electrical contacts and that become even more dangerous in case of a neglected maintenance.

To reduce the fire risks we recommend to respect all the suggestions listed in this booklet and in the manufacturers' manual, in particular:

- Do not smoke while inspecting the bilges, the batteries and engine rooms, the fuel tank;
- Do not use fire/flames either inside or outside the boat;
- Do not stow in the forepeaks containers or cylinders containing inflammable or dangerous substances;
- Respect all the use and maintenance rules indicated in the paragraph concerning gas system;
- Do not use portable or provisional hating devices;
- Check all the rooms and bilges in particular those next to the engine room, in the very first hours of sailing.

Beside all the precautions taken a fire should happen, in this case try to quickly intervene cutting off the electrical current and don't forget to use only:

- Fire-extinguishers or water in case of solid materials like wood, coverings etc..;
- Portable powder extinguishers in case of electrical parts, fuel, etc..

Finally, **we want to remember you that the boat must be equipped of all the necessary fire-extinguishers** and other devices to promptly intervene in case of fire.
Cantiere del Pardo advices you the use of extinguishers of 1 kg. of weight with RINA approbation, which have to be set in easily accessible place and ready to be used.
The strategic position are:

- N° 1 in the galley and in the bows side of the boat;
- N° 1 for the engine and in the stern side of the boat;
- N° 1 for the lateral and bows forepeaks, for the deck in general.

Please check all the fire-extinguishers every 6 months and change the powder inside according to the regulations.

Technical Data

Designer	Builder
DUCK Design	Cantiere del Pardo

Specifications

Overall length ISO 8666 (pulpit included)	m	12,29
Hull overall length ISO 8666	m	11,99
Waterline length ISO 8666	m	10,50
Maximum beam ISO 8666	m	3,76
Draft	m	2,15/2,40
Full load Displacement	kg	8.918
Displacement	kg	7.500
Ballast	kg	2.550
Berths	n°	4/8
Passengers maximum capacity	n°	10
Maximum load (passengers + luggage)	kg	900
Fuel tank capacity	kg/lt.	148/180
Water tank capacity	kg/lt.	370
Maximum installable engine.	kw/hp	29/40

Certification

Certifying Authority

I.M.C.I - INTERNATIONAL MARINE CERTIFICATION INSTITUTE
Rue Abbé Cuypers, 3 - B-1040 Brussels (BELGIUM)

n° certificate **BPARDO004**

Issued: 26th February 2001

Sails area

Taller Mast

Mainsail			mq	42,60
Furling Genoa			mq	49,60
I = 14,60	J = 4,55	P = 13,80	E = 5,20	LPG = 6,30

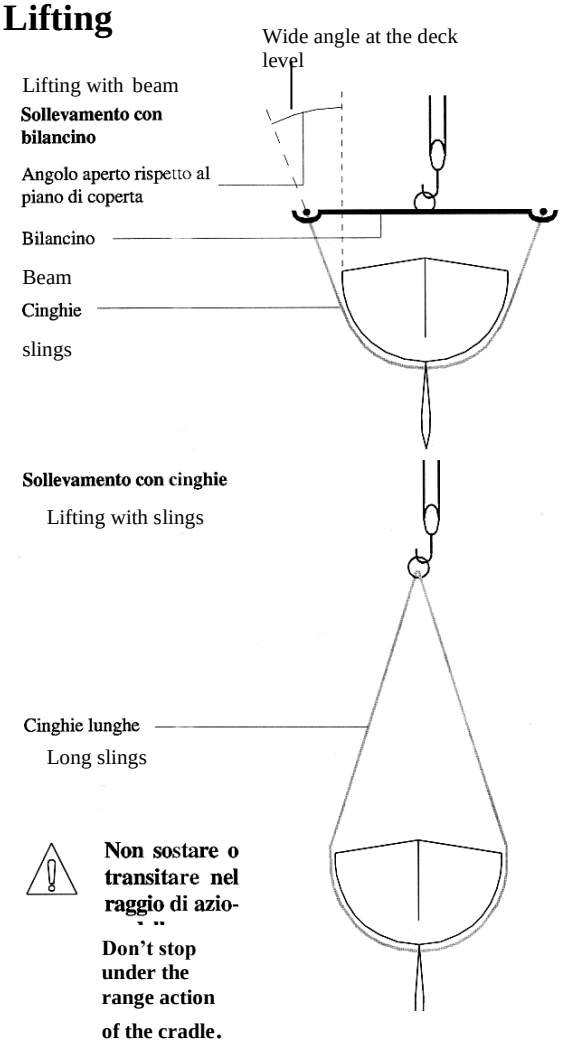
Racing Mast

Mainsail			mq	47,90
Furling Genoa			mq	53,75
I = 15,50	J = 4,55	P = 14,80	E = 5,40	LPG = 6,30

Haulage and Launch

The haulage and the launch of a Grand Soleil model are accurate operation to be done only in a well equipped shipyard under the supervision of specialised technicians.

Lifting



Before starting the lifting operation it is useful to operate the following controls:

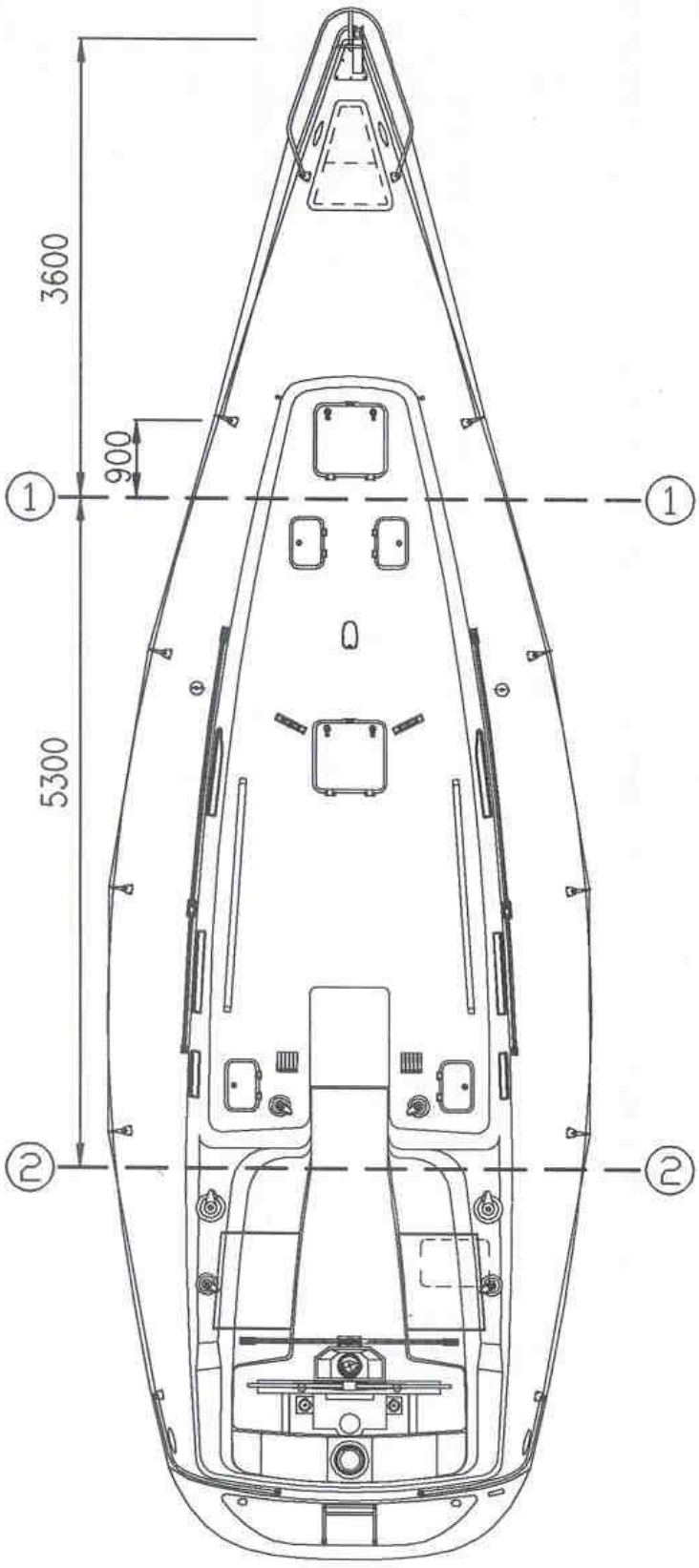
- To avoid the sling's pressure on the deck level it is recommended to join the slings to a beam large enough to let them stay vertical or make sure that the slings are long enough to avoid a wide angle at the deck level which could cause excessive pressure on the deck.
- If you are not capable to find a beam, be sure that the slings are long enough to avoid a narrow angle on the deck which could cause excessive pressure on the deck.
- Clean the internal part of the slings and possibly cover them with packing plastic to prevent them from scratching and removing the antifouling or the gel coat.
- Make sure that the slings are securely fastened or joined together so that they do not slide towards the extremity of the hull.
- Remove the log transducer's label if installed.
- Make sure that the slings have been positioned in a correctly way not to damage the S-Drive and the propeller, the Log transducer and the echo sounder.

For a well balanced lifting of the Grand Soleil 40 we suggest you to position the slings as follows:

- **Bow sling:** 90 cm. afore the 1st stanchion (from bow) between the hatches and the bow cabin.
- **Aft sling:** 5,30 m. , abaft from the previous one between the coach roof and the genoa winch.

Lifting position

1. bow sling
2. aft sling



Attention

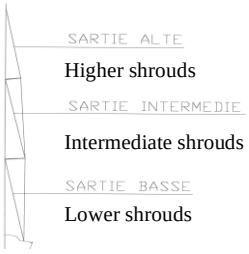
The precautions given are valid only in case of regular yacht's trim. The loads on board have to be well balanced.

Caution: while positioning the slings pay attention to the S-drive, Log Transducer and Echo Sounder if installed.

Mast

The mast is equipped with two spreaders, slightly astern inclined of about 16°, and passing through the deck, leaning on a metal step, it is fastened on the hull's ribbing.

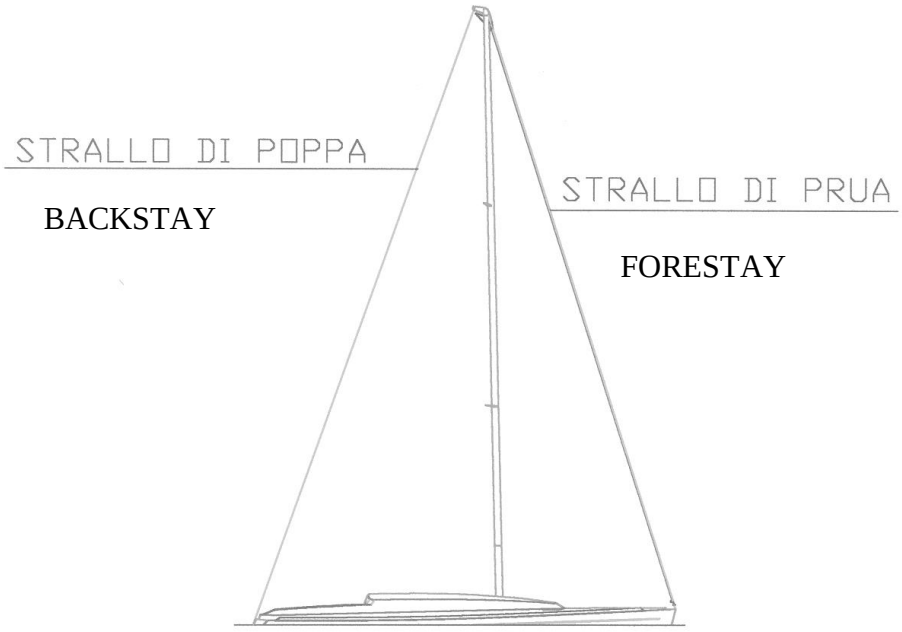
Transversal Supporting



All the transversal and longitudinal supporting consist of steel spiral cable. On the longitudinal side the mast is sustained by the backstay and the forestay. In fact the inclined spreaders allow not to use baby stay and shrouds.

Longitudinal Supporting

All the longitudinal supporting consist of steel spiral cable. On the longitudinal side the mast is sustained by the backstay and the forestay. In fact the inclined spreaders allow not to use baby stay and shrouds.



General guidelines on mast adjustment

The mast of the Grand Soleil 40 has been studied and calculated according to the highest standard of safety and performance.
The yacht is delivered with the standing and running rigging already settled by specialised staff and leaded to avoid tampering which could endanger people's and boat's security
After some weeks it could be necessary a new adjustment of the standing and running rigging owing to the normal stretching of the spiral cables. Cantiere del Pardo is able, following to customer's request, to put at his disposal a specialised technician for the final adjustment. In this occasion the plumbing of all regulation systems will be redone. It is important not to remove any piece without the written permission of the builder for all the guaranty period.

Then to regulate all the riggings, we think important to follow the suggestions below, an incorrect use of the regulation system of the standing and running rigging, may subject the mast and the rigging to excessive and anomalous risky efforts.

Backstay: instruction and warning

The backstay is controlled by a mechanical turnbuckle. When sailing on a bowline the turnbuckle must be adjusted according to the wind in order to reduce the forestay sag: the stronger the wind, the higher the tension.
- When sailing off wind, reduce the tension just enough to eliminate the excessive slack in the forestay, which should compromise the mast support and the correct working of the genoa furling system.

Rigging adjustment

Looking at the mainsails' split from the low to the top, when the mast is under heavy loading, the mainsails' split should be as straight as possible to the transversal plane.
Check periodically the rigging tension and when necessary adjust the cable's relaxation with one or more turn of the bottle screw.

- If, for any reason, you need a fine tuning of the mast or a check of the conditions of the standing rigging to ensure maximum safety and obtain the best sailing performance, we recommend you to consult the Cantiere del Pardo technicians or other experts of the field.

Advise on rigging adjustment

These recommendations for standing and running rigging's adjustment are destined only to technicians which will carry out the operations described below:

- Please find a brief memorandum on rigging adjustment:

  - With the boat at the dock and lower sail, check that the backstay is not in tension.

- Set up all the shrouds with a sufficient tension to eliminate their slack.

- At this point looking at the mainsails' split, from the low to the top, it must be as soon as straight.

- Tighten the high shrouds with two or more turnbuckle's turns.

- Before adjusting the lower and intermediate shrouds, it is needed to place the mast gradually under sail at heavy load preferably at bowline and the forestay adjuster under tension;

- adjust the shrouds on the leeward side on both tacks so that the attachment of the boom of the spreaders and the tightened mast are all on the same transversal line.

Periodical mast checks and warning

- check frequently the halyards' wear and tear, if you notice some wear sign replace them immediately ;
- when hoisting the sails, always be careful when tighting the last few centimetres, as, the splice to which the shackle or that hack are attached may enter in the pulley and consequently get caught or may damage it ;

- for this reason we recommend to fit at the halyards' ends the nylon stop-balls, they prevent to the splice from entering into the pulley ;
- however we recommend you also to mark a point of security with a permanent marker in each halyards.

- Check frequently the wear and tear condition of the rigging and the adjuster in particular near the splices;
- Pay attention to the possible broken yarns of the rope. When it happens replace immediately the shroud.
- Check periodically that there are no cracks in the point of attachment of the spreaders. If so call immediately a technician of the manufacturer.
- Check the bottle screw's thread, the male must be screwed into the female from right to left for the same numbers of turns, and for a sufficient length to ensure the hold, for at least a distance equal to the diameter, verify also the mounting of the security splint pin to avoid snatch to the sail ;
- Verify that the padding of the spreader is always in a good condition to avoid sails' snatches;
- Check periodically that there are no water infiltrations in the rubber of the partner mast.

Mast maintenance

- Clean frequently with fresh water the bottle screw and the halyards lead-blocks .
- Never cover the bottle screw with plastic pipes or plastic adhesive tape since these may prevent ventilation.

Caution on mast stepping and unstepping

These recommendations are destined only to technicians who will act as in the following operation:

Stepping and ustepping the mast are delicate operation which should be carried out carefully to avoid injures to persons and damages to the boat and things.

The mast is below the deck positionned in a particular lodging in the bilge facing the table. .

Before stepping or unstepping the mast, follow these suggestions:

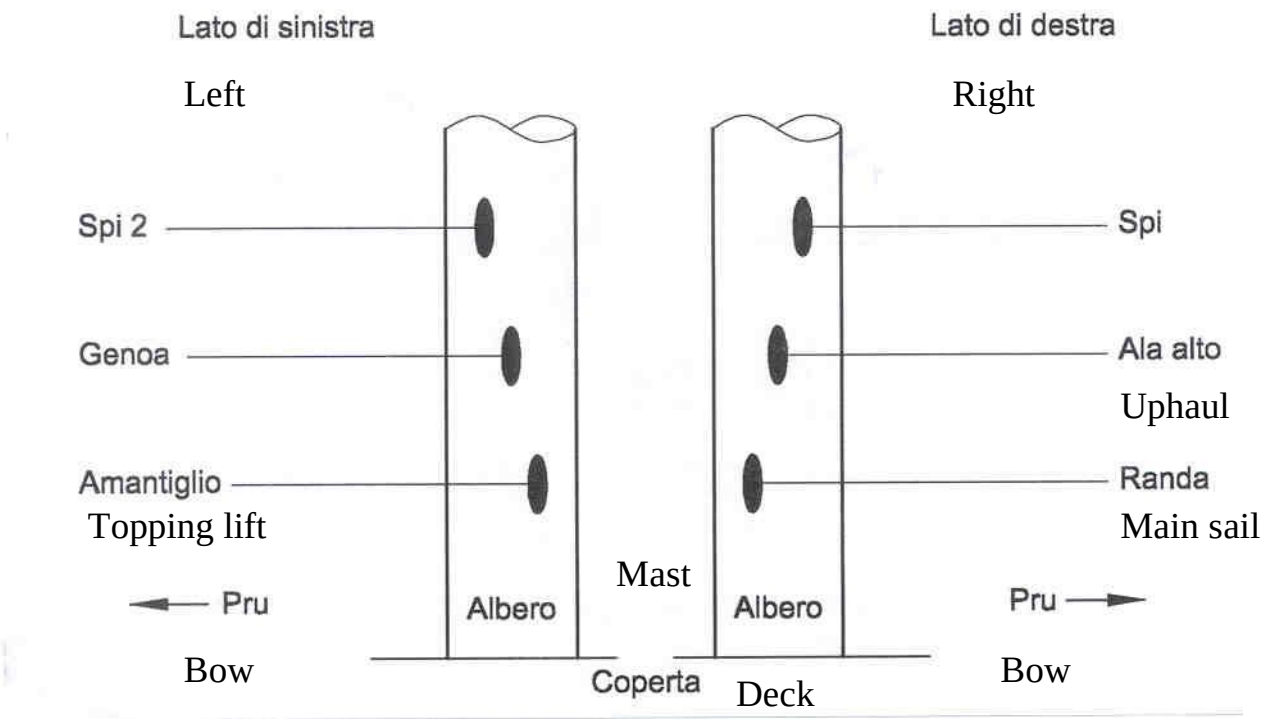
- Remove the wooden collar around the mast on the saloon ceiling and floor.
- Be sure that the lifting slings is in good condition and solidly attached.
  - It sholud be placed towards the mast head over the mast centre of gravity, so that when lifted it hangs in a vertical position.
  - Normally this position coincide with the upper spreaders attachment..
- Tie two long ropes at the extremity of the lower spreaders, during this working, the two ropes will serve as “bridles” for the mast adjustment and to fit together the step and the mast lodging.
- When the mast in hanging, please don’t stop under the action range..
- Operate preferably when the boat is on a cradling .
- When the boat is mooring make all the operation in a quiet moment with calm sea.
- Check that the mast head instruments like VHF, wind instrument, windex and lights are installed.
- Check that the electrical cables coming out near the mast partner are fixed because they might be crashed during the operation .
- Check that all the pivots, the cotter pins and the shrouds’ attachment are solidly fixed..
- Check the padding spreaders, if in bad condition, replace them. They are important to avoid probable sails’ snatch.

- Make particular attention to the mast's descent and ascent in his lodging in order to pass the exact instruction to the crane operator.

- Don't forget to mount the ties and the bottle screws that have to be well installed on the mast below the deck. Don't forget to remove them before starting with the unstepping operation. .

Scheme of the halyards' exit from the mast

The following drawing illustrates the correct exit of the shrouds from the mast. Use it as a reference when fitting out the mast or for the shrouds replacement.



Anti-corrosion anodes

On the Grand Soleil 40 are installed the following anti-corrosion anodes which protect the metallic parts exposed to the galvanic currents. They are mounted on:

◊ **S-Drive step**
◊ **engine**
◊ **water heater**
◊ **grounding plates in the bottom of the hull**

These anodes have to be controlled as follow:

S-Drive step

The S-Drive anodes is the most exposed to the galvanic currents. It is mounted on the step itself just before the propeller.

- It must be inspected every time the boat is hauled, or at least two or three times per season. If case the corrosion is over 50%, it must be replaced. To judge the corrosion, compare it with a new one.

Engine

- You will find any reference in the attached manufacturer manual of use and maintenance.
- Inspect the anode and replace it according to the manufacturer's suggestions.

Water heater

- You will find any reference in the attached manufacturer's manual of use and maintenance.
- For positioning, inspecting and replacing see the attached booklet.

Grounding plates

If installed you will find them on the bottom hull, next to the keel.

- For inspection and replacement, refer to the indication given for anodes' S-Drive step.

General Cautions

Whether you realise that the deterioration of one or more anodes is very quick, this could indicate a leakage of the electrical plant or the very near existence of conducting masses in salty waters. .

- In the first case all the electrical plants should be controlled by a naval electrician.
- If on the contrary at the end of the season any sign of deterioration are present, it is advisable to check the contacts between the anodes and the wires.

Yacht's trim

In normal load condition the Grand Soleil 40 perfectly floats and sails .
However, as for any other boat, if the weight load and above all the loads distribution on board are not respected, the boat should get out of the ideal trim. .
These inconvenient do not create very serious problems but may compromise the sailing performance of the boat and in general compromise the sailing comfort.
Consequently when loading on board any sort of materials please respect the following rules:

1. Limit the load of weights. Carry on board only the necessary items;

2. Distribute uniformly the load through the boat trying to concentrate the heaviest items in the central and lower part of the boat.

3. Do not overload excessively the extremities of the boat, in particular the bow side, in fact if the bow is too plunged the navigation will be worst and the pitching will increase.

4. Distribute the weights also on the transversal side. Whether you realise that the boat slightly list don't worry, the transversal trim is not as important as the longitudinal one.

Hardware equipment and deck fittings

The deck equipment of the Grand Soleil 40 are the best in quality available in the market.

The hardware and the carpenter's works are made in AISI 316 stainless steel, the best for marine application.

The hardware and the carpenter's parts are mirror polished and protected with a special packing for the entire production cycle.

Identification of the deck fittings

If detailed identification of the deck fittings is required, refer to their identification number printed on the parts, and contact the manufacturer.

General caution

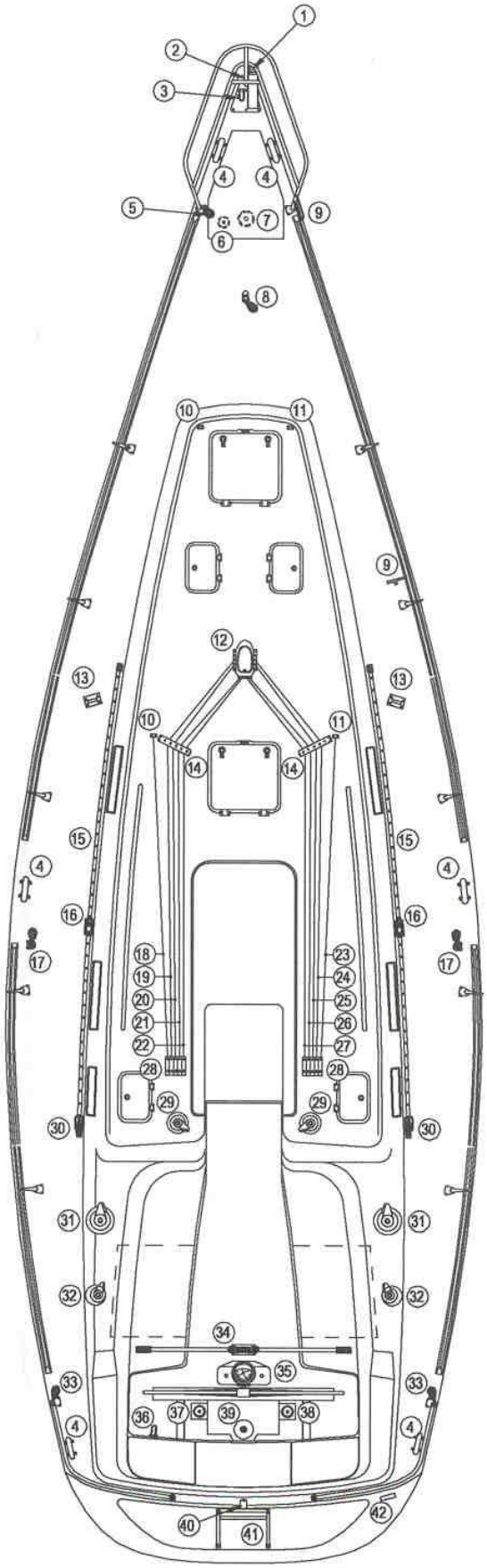
- Under no circumstances should a line, such as sheets or others, be attached to a toerail or to stanchions, lines should be fastened using only the fittings provided for this purpose.

Maintenance

Despite its name, the stainless steel is subjected to oxidation and corrosion: the marine and mooring environment can damage the material without adequate maintenance.
This applies to all the deck metallic parts, including all the anodised aluminium alloy fittings such as tracks, hatch's and porthole's frames, toerail, etc.

Deck fittings and hardware disposition

1. bow plate
2. chain plate forestay
3. MPS eyebolt
4. mooring cleats
5. return block for furling system
6. water fill tap (inside forepeak)
7. windlass (inside forepeak)
8. eyebolt return for spinnaker pole foreguy
9. Spinnaker pole support
10. furling system fairlead
11. fairlead for spinnaker pole downhaul
12. base for halyards return etc.
13. deck chain-plate
14. halyards return blocks on deck
15. Genoa tracks
16. Main sheet genoa car
17. eyebolt with after-guy spi block
18. furling system rope
19. spi halyard
20. genoa halyard
21. 1° reef line
22. 2° reef line
23. foreguy kicker spinnaker pole
24. uphaul spinnaker pole
25. mainsail halyard
26. mainsail sheet
27. mainsail outhaul
28. sheet stopper etc
29. sheet's winch etc
30. genoa sheet return
31. lead-sheet winch
32. spi sheet winch
33. spi sheet block (pulpit base)
34. mainsail sheet track car
35. steering wheel with compass
36. security belt fastening
37. fuel deck fill cap
38. stern water fill cap
39. emergency tiller
40. backstay chain-plate
41. bathing ladder
42. HIN (identifying hull number)



Running rigging (sheets, halyards, etc.)

On the Grand Soleil 40 there are only textile running rigging.

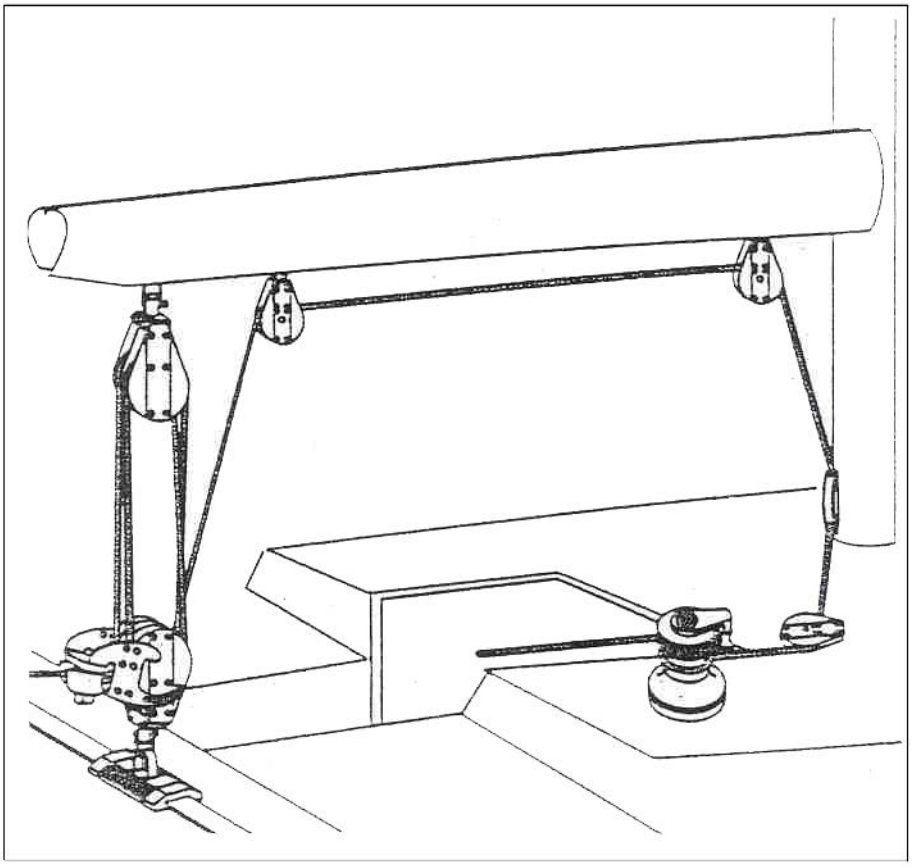
Warning and precaution

- Check frequently the wears and tear of all running rigging, if you notice a broken or used yarn, replace it immediately.

- When the sail is hoisted, haul up with care the last few halyards centimetres since the end part of the halyard, where the shackle or the snap shackle is fitted, should enter into the mast pulley damaging it. .

    - To this purpose, we advise you the application of nylon balls to the end of the halyards, to prevent the halyard's end to enter into the pulley .

    - However we recommend to mark the halyards with a permanent marker in order to signal a security point. The halyards never have to be tightened beyond this mark.



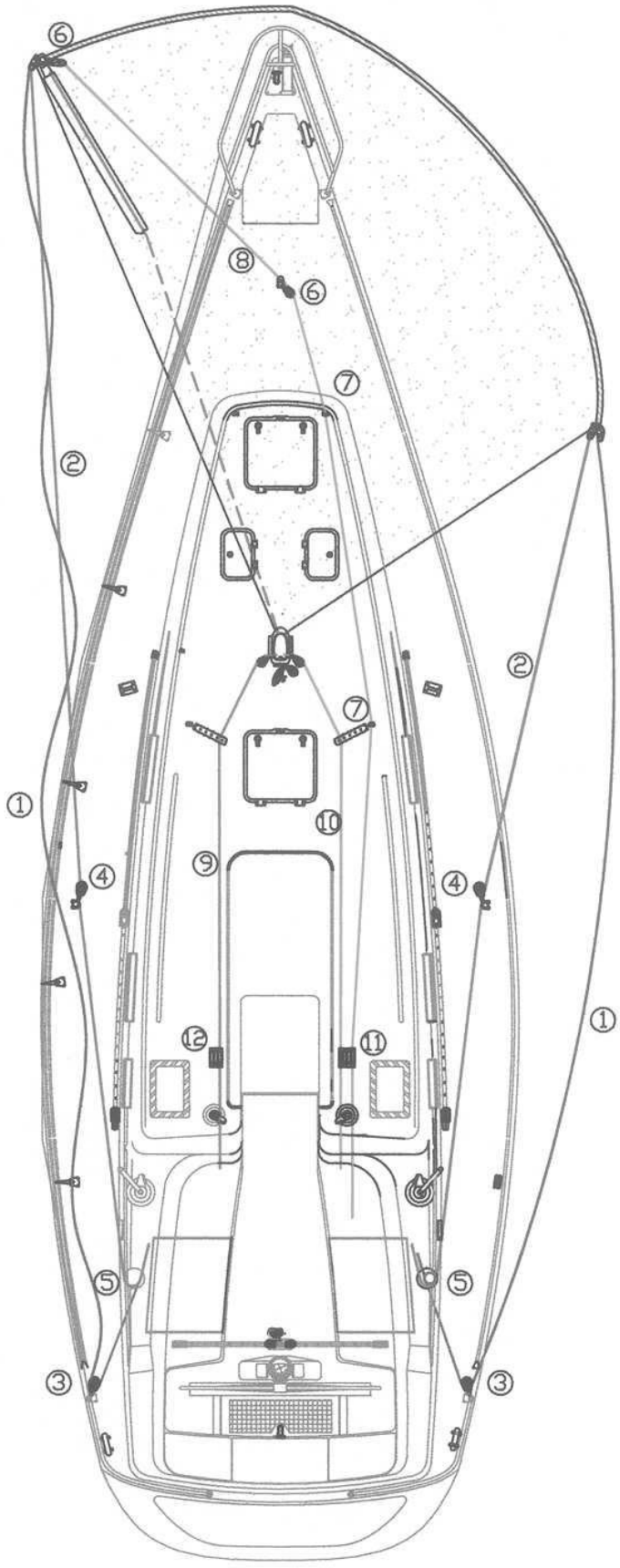
Running rigging tables

In the following tables are indicating all the building data of the running rigging.

Running rigging Standard mast kit	**Type**	**Mast size (ml)**		**Ø** (mm)
		Taller Rigg	**Racing**	
Mainsail halyard	Textile	35	39	12
Topping lift boom	Textile	30	34	8
Outhaul	Textile	12	13	12
Reef I°	Textile	18	18	12
Reef II°	Textile	22	22	12
Reef III°				
Genoa halyard n°1	Textile	34	36	12
Genoa halyard n°2				
Spi halyardn°1	Textile	39	39	12
Spi halyard n°2				
Spinnaker pole uphaul		26	26	10

Running rigging	Length	**Ø**
Sheets and tackles	(mm)	(mm)
Mainsail sheets	35,00	14
Tackle's vang	13,00	14
Main traveller (x2)	10,00	10
Genoa sheets (x2)	18,00	14
Spi sheets n°1 (x2)	28,00	12
Spi sheets n°2	22,00	12
Spinnaker pole downhaul	20,00	12

Spinnaker running rigging scheme



1. Spinnaker sheets
2. Spinnaker guys
3. Sheets blocks
4. Guys blocks
5. Sheets winch/Spinnaker guys
6. Downhaul blocks
7. Fairleads
8. Spinnaker pole downhaul
9. Spinnaker pole uphaul
10. Spi halyards
11. Downhaul clutch
12. Uphaul clutch

Useful tools on-board

The Grand Soleil 40 is not supplied with standard tools.

We recommend you to carry on-board the following tools:

- Screwdriver's set;
- 1 Hammer and 1mallet;
- a portable and rechargeable drill with bits;
- some pairs of pliers and a grip pliers;
- open end spanners' set ;
- a set of wrenches;
- a file and a rasp;
- wires cutters;
- a punch;
- a saw and blades;
- some knives;
- a metre;
- ribbons;
- lubricants spray and anti-corrosives ;
- a tank and synthetic sponge;
- insulating tape, adhesive tape, waterproof fabrics;
- spare bulb, for riding lights;
- strong ropes for mooring or drawing;
- clips, different size of self threading and metric screws, bolts;
- working gloves, rags, plastic funnel.

Genoa furling System

The following recommendations do not replace the information provided in the furler builder's manual.

◊ The furling gear is an instrument capable to furl the genoa around the backstay quickly and easily.
With the furling gear you have the possibility to sail with a partially reduced genoa: remember that in this case the windward performance is considerably reduced if compared with the performance you should obtain with a regular genoa of the right dimensions.
Notice also that the considerable weight of the cloth and the small surface of the furling genoa reduce the yacht' s performance also in light breezes with respect to the ones you can obtain with a standard genoa.
We suggest to mount a furling genoa purposely designed with UV protection, and particularly reinforced in the fitting points.

Instruction

In order to avoid the rope strain when hauling the sail, follow the recommendation below :

- Tighten the backstay to avoid that excessive sag of the forestay which could interfere with furling

- Ease the genoa sheet so that at least ¾ of the sail may spill the wind during the operation.

- Check that the spinnaker halyard or other halyards are securely fastened at the pulpit or at the mast foot handrail and well tightened to avoid jamming while furling up. We also suggest you to exercise a slight tension on the sheets to allow the genoa a tidy furling.

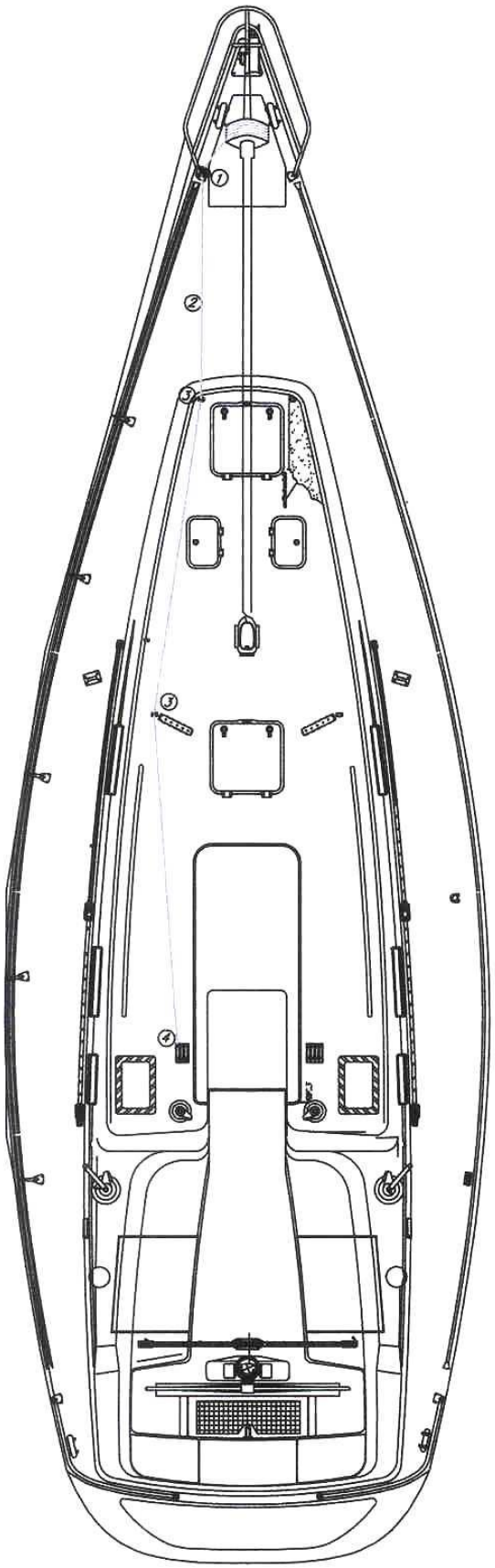
- When unfurling the genoa we recommend to pull the sheet gradually, leaving at least a turn around the winch to avoid hard hits to the equipment. .

Maintenance

- Replace the furling line as soon as it shows sign of wear.

- The bearings and the other parts of the furling gear have to be frequently rinsed with fresh water according to the manufacturer's recommendations.

Furling system scheme



1. furling line return block
2. furling line
3. furling line fairleads
4. furling line clutch

Always refer to the enclosed manual supplied by the manufacturer.

Hatches and opening portholes

The layout of the hatches and portholes from stem to stern is the following:

- fore cabin hatch
- afore cabin hatch
- fore toilet hatch
- Saloon hatch
- astern left cabin hatch
- aster right cabin hatch
- companionway sliding hatch
- 3 opening portholes on coachroof portside over the saloon, galley and aft cabin,
- 3 opening portholes on coachroof portside over the saloon, chart table, aft cabin.

Warnings and cautions

- Both portholes and hatches can cause troubles during sailing. If left open they may let water in, so:

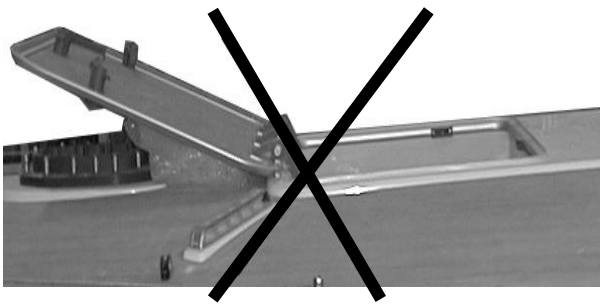
  - **IT IS ABSOLUTELY OBLIGATORY TO HAVE ALL PORTHOLES AND HATCHES CLOSED DURING SAILING, paying particularly attention to those located forward, because they may let a lot of water in, in a very short time.**
  - It is also advisible to check all levers and hand-grips to be perfectly closed

When using hatches and portholes always keep to the following safety measurements:

- when not on-board, lock all the hatches.

- Never leave a hatch top opened at an angle of more than 45° with deck line: this will allow the best ventilation without the risk of some tripping and falling below deck.

Yes



No

- If the boat is unattented to avoid hinge's damage, when opening and closing the hatches, we recommend to gradually open without an excessive force, respecting all the friction's clicks ;

- When the hatch is open, never place your fingers, hands or feet on its edges.

- Avoid walking on the hatch plexi-glass surface; it may be slippery if wet or even damp. We recommend you to apply anti-skid tape on the surface.

- **Caution:** all portholes open inwards to ensure ventilation: care must be taken not to walk into them and sustain facial injury when these are open down to head level.

Maintenance

- Before opening the portholes, take care to dry with a sponge from the outside all the water that might be resting in the portholes recess.

- Wash the hatches frequently with fresh water, and grease their gaskets with Vaseline.
  If the hatches do not remain open into position, check the hinge mechanism and adjust as necessary the special deep-set hexagonal screw on the hinge itself.

Water heater

The following recommendations do not replace the instructions provided by the manufacturer in the Manual.

- The Water Heater is installed under the floor board of the right berth astern to the fresh water tank. (see page 57). To examine it, unscrew the 6 floor board fixing screws.

- The Water Heater is made of stainless steel, heat-insulated and fitted with a safety valve and drain tap

Instructions

Respect the following procedure when starting the water heater:

- Check if the valves located on top of the engine, and which we refer to hereafter as "engine-boiler system valves" are in open position. These valves link (via by-pass) the engine's cooling system to the fresh water heating coil; unless there is some problem with the system, they must always be open.

- Turn on the FRESH WATER PUMP switch of the 12 Vdc control panel, to empower the self closing watertight to make in pressure the hot and cold freshwater system.

- To heat the fresh water you may use:
- the engine-cooling water which runs trough the heater via by-pass, or by an electrical resistance with supply from the 220 Volt.
- or by an electrical resistance with supply from the 220 Volt.

- In the first case, the heater works automatically when the engine is running (provided that the engine circuit valves are open) normally the water will reach a temperature of 50-60°C after approximately 15 minutes, with the engine running at 1500.

- In the second one, it is heated up electrically using the BOILER switch located in the 220Vdc panel (see page 48).

Warning and maintenance

The Water Heater contains hot water under pressure. For this reason we advise:

- Check periodically the operation of the drain tap located in the heater's lower part

- If you notice water or steam leakage, immediately shut off the engine-boiler system and/or the 220 Vac supply switch.

- Check for leakage traces from the connecting pipes.

- Replace the drain tap in due time, as per the manufacturer's indications**.**

- In winter, the heater should be drained of all water by means of the drain tap into a bucket. This will prevent any serious damage from freezing.

We advise owners to refer to the manual of use and maintenance provided by the manufacturer.

Battery charger

The following instructions do not replace the information provided in the enclosed Manual supplied by the Manufacturer.

- The battery charger is an electrical appliance that works under tension..
- It is fitted in a provided location under the chart table settee (see page 49).

- It is ventilated by a blower fitted on the battery charger itself and by a grid that lies behind the settee bow side of the bulkhead.
- The battery charger has an automatic battery monitoring device, that distributes the necessary power avoiding an excessive voltage load.

Instruction

- Make sure that all the magneto thermal switches of the 220 Vac pane control are disconnected (see page 48)

- Connect 220Vac cable to shore supply, insert and turn halfway the other plug in the socket on cockpit edge near the stern. **Never operate with wet hands and barefooted.**
- Start the ”Main Breaker” switch (220 Vac) of the 220 Vac plant located on the 220 Vac control panel (see page 48)
- Connect the “battery charger” switch located in the 220Vca panel control (see page 48)
- The 12 Vdc voltmeter located in the 12 Vdc control panel, indicates the presence of tension in the 12 Vdc plant (see page 45).

Warning and caution

- The normal electrical 220 Vac supply may have considerable sudden change of tension.

Caution: The 220Vac installation has not been geared to bear voltage discrepancies of over 5%. If this should occur cut off immediately 220Vac supply with its Main Breaker in 220Vac panel, located in the 220 Vac control panel under the chart table settee (see page 48)

Warning: in case of anomalous functioning, the battery charger should be the source of electric shock, in particular cases it should foster combustion.

Therefore it is careful:

- Not to leave the boat with the battery charger on;

- Never reach in the metallic shield which covers the battery charger without prior disconnection of 220Vac supply with the above mentioned 220Vac Main Breaker;
- Avoid placing any object in contact with the battery charger: ventilation would get reduced and it could cause also electric shortcuts.

Always refer to the enclosed Manual supplied by the Manufacturer.

Propeller

- The Grand Soleil 40 is supplied with a standard 3 fixed blades propeller:

  Diameter: 16 inches (406 mm) Pitch: 13 ° LH (anti-clockwise)

- An optional 2 folding-blades propeller could be provided:

  Diameter: 16 inches (406 mm) Pitch: 12 ° LH (anti-clockwise)

Instruction for the folding blades propeller

The following indications do not replace the information of the manufacturer's manual.

- When sail navigation is wanted after engine navigation, just cut off engine in forward gear at an inertial speed over 1.5 knot.

Caution

- If while sailing the propeller can be heard spinning, it means that the forward gear has not been get in.
- If after trying several times the propeller won't close, it means that something is obstructing the gear such as a plastic bag, barnacles, etc.
- Never leave spinning the propeller when sailing .
- In normal engine use, always await a few seconds to allow engine to slow down at a minimum revolution rate before reversing gear. As a matter of fact changing gears too abruptly may damage engine and propeller mechanisms or inverter's ones.
- Do not alter propeller pitch whether it be a fixed or folding blade propeller without having sought advice from the Builder's technicians: a wrong pitch can force and damage the engine.

Maintenance

- Concerning the 2 folding blades propeller, we recommend to keep it clean according to the enclosed manufacturer's manual directions.

Always refer to the attached maintenance manufacturer's manual.

Refrigerating system

Astern of the cocking top in the galley is positioned the refrigerator, it has a capacity of 160 litres, more or less, lifting the lid you can have access to it. For a rational settlement of its contents, the refrigerator is supplied with two racks.

For the layout of the components described under this heading, please refer to diagram on page 40.

Electrical refrigerating system

We advise you to read the owner's directions and maintenance manual given by the manufacturer.

◊ The equipment allows for 12 Vdc electrical refrigerator.

◊ The installation consists of:

- A 12 V dc self-driven electrical compressor, located under the hiding-place in the basin furniture of the stern toilet;
- A thermostat: to access to it, located inside the ice-box, lift the lid;
- An evaporator, which follows the 2 vertical sides inside the refrigerator;
- A grid for the compressor air-cooling installed in the lower part of the astern washbasin toilet, next to the compressor;
- The refrigerator's compressor is started through the REFRIGERATOR switch in the 12 Vdc control panel (see page 45);
- It's activated by the thermostat. Once adjusted to suitable temperature, do not use the thermostat as fridge switch; this function is carried out by the switch on Functions' Panel.

The installation has been designed in view of optimising the system's operation. It's obvious that slightly superior consumption will occur at the beginning of the operation, before reaching wanted temperature.

Warning

- Don’t deposit any object in the peak near the compressor: the boat movements could damage it and would cause a ventilation drop, preventing regular cooling.

- When putting bottles and foodstuff into the fridge, take particular care not to damage the metal pipes connected to the cooling plate (evaporator).

- A drain hole on the icebox bottom allows moisture condensation and to be caught in bottles or other containers and to be thrown out. For this operation, under the oven space it is available a pipe with a tap collect to the bottom of the refrigerator.

Maintenance

- Do not clog condensation water draining hole of refrigerator compartment**.**

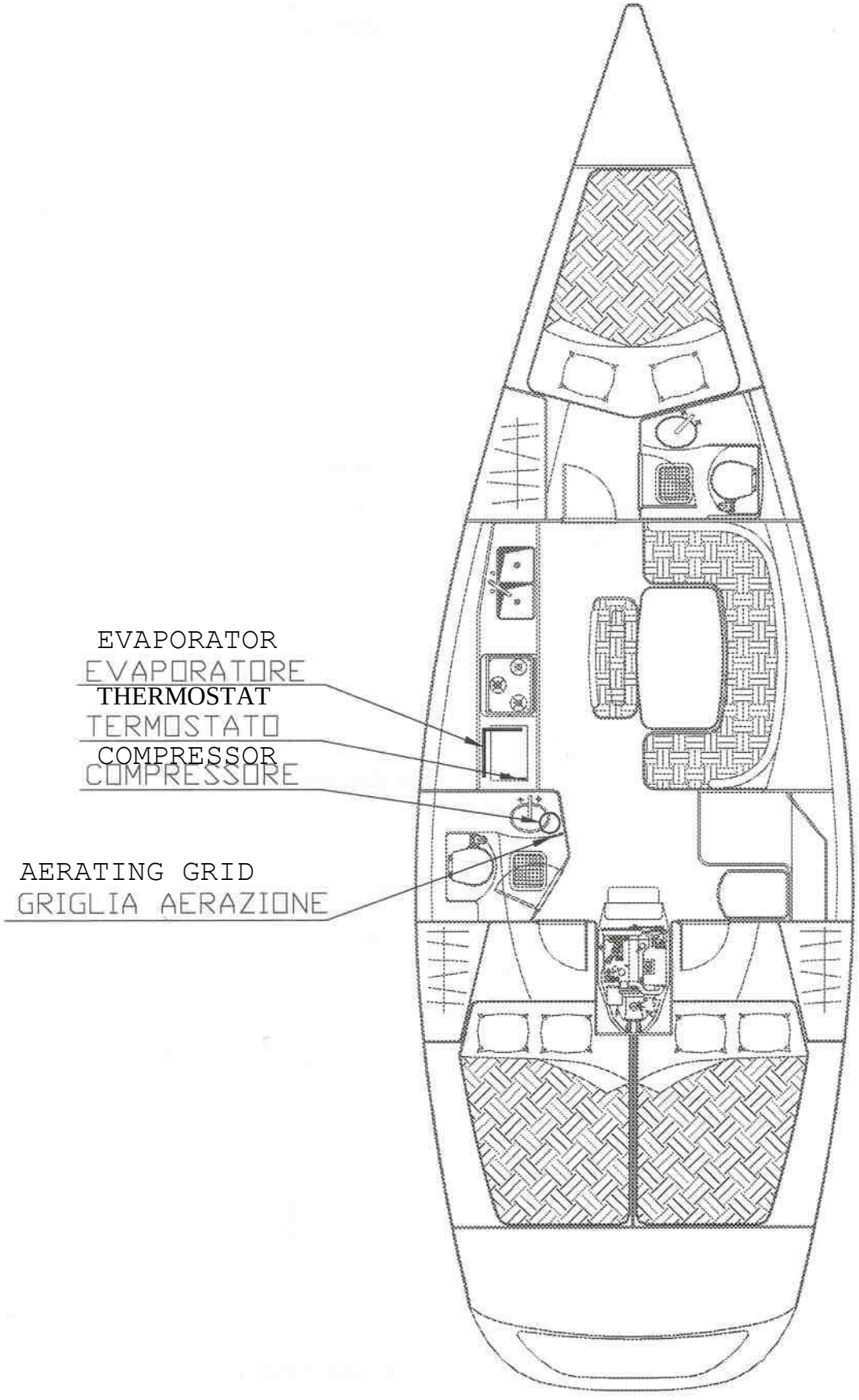
- To avoid foul smells, the inside of the fridge must always be very clean.

- When the boat is not used for a long time, leave unit lid open.

- The passing of time can cause little gas leakage of the refrigerating system with he consequently partial or total reduction of its working order. In such a case it is important to check or recharge the cooling gas, referring to specialised technicians.

We suggest you to always refer to the attached manufacturer’s manual.

Components position scheme



Electrical plant

The Grand Soleil 40 electrical plant consists of 2 distinct networks supplied by:

◊ **12 V dc** electrical current (direct current) (12 V DC)

◊ **220 V ac** electrical current (alternate current)

◊ The main and individual controls at 12Vdc are gathered on the functions panel, on the right of the chart table e (see page. 45).

◊ The 220Vac control panel is located inside the navigator seat (see page. 48)

◊ For the positioning of the other main components please refer to the scheme on page 49.

12 Vac network

◊ 12 Vdc network is the main one, and it monitors:
- engine starter,
- all services except those supplied by the 220 Vac.

◊ The all energy is supplied by two batteries located in a place obtained under the astern cushion of the saloon.

◊ The 100Ah battery supplies the services equipment and can be coupled with another one bringing the capacity up to 200Ah. The other battery of 55 Ah activates the engine starter. It must always be hold to the maximum charge.

◊ With a 4 ways battery switch (1-BOTH-2-OFF), located under the chart table, in the bulkhead side, you can select manually the only battery services choosing position 1, the parallel with the other battery on BOTH, just the engine battery 2, and the disconnection of all batteries with OFF.

12 Vdc network's warning

- Some board services are directly activated by the control panel switches; other services are powered by turning on the switch located near the needed function.

- To each 12Vdc control panel switch corresponds a led which lights on when switch is powered.

- The 12Vdc voltmeter located abow side of the 12Vdc control panel, above the switches (see page 45), is activated by the heavy duty battery switch and shows the existing tension in the network and consequently in the battery connected in that moment.

- The 12 Vdc Ammeter , located astern of the 12 Vdc control panel (see page 45), shows the Ah absorbed by the services in that moment.

- The batteries are recharged by the 12Vdc alternator driven by the engine, or by the battery charger connected to 220Vac shore supply or by the electrical generator if installed.

- Check regularly in the 12 Vdc control panel the data provided by the voltmeter and by the ammeter, in order to quickly intervene in case of malfunction.

- Keep the battery terminals always greased and well tightened. The batteries should also be well fixed in their boxes, with the help of anti-tipping straps.

- A third 100 Ah battery may be added, increasing the available capacity, and when the parallel is connected to engine battery it will bring the total capacity of the 12 Vdc plant to 260 Ah.

220 Vac network

◊ The 220Vac supply is provided by the shore network, through the watertight socket located abaft, on the outer side of the cockpit edge (see page 49).

Caution: Remember to half turn the provided plug into the watertight socket to activate 220 Vac on-board current.

◊ This network usually supplies the boat when moored to a duly equipped marina.

The usual maximum power on board cannot exceed 2.000 Watts since the mooring wharf terminals, which normally supply the voltage, feature an automatic cut-out switch, insulating the system when it exceeds that value.

◊ The power comes in through the watertight plug/socket to the control panel where you find the 220Vac Main Breaker (see page 48) with a high-sensitivity automatic safety switch and an earth switch monitoring the entire 220Vac network.

◊ The power goes from the socket to the 220 Vac Main Breaker, and then to the magneto thermal side switches which monitor the 220Vac functions (see page 48).

220 Vac network's warning

- In spite of all builder's careful measures (high-sensitivity protector with earth disconnecting switch) the alternate current network remains dangerous.

- It is opportune to adopt any type of precautions for a correct and safe use of the 220 Vac network.

- These precautions have to be higher then in any other domestic situation where everything is relied on prudence.

It is particularly dangerous the use of the 220 Vac when wet or with the inside of the boat damp.

- When leaving the boat, switch off the 220Vac Main Breaker and unplug the shore power.

- Make sure that for the connection of the 220Vac the quay plug/socket is still water-tight and not oxidized.

- The 220Vac network is fitted with a protection system connected to the Main Breaker and with a magneto thermal switch for each function.

- Between the boat protection system and the watertight inlet plug the circuit is protected only by the shore power terminals safety switch.

- Beware: the safety system is not always available on every mooring wharf network

Caution: The 220Vac system is not geared to bear voltage jumps of over 5%. If this should occur, immediately cut off the 220Vac supply with main breaker.

Magneto-thermal switches

◊ The magneto thermal breakers located on the control panel have a twofold use:

- Activate the various functions,
- Protect the function and its equipment from excessive overload.

Magneto-thermal switches' caution

Cables' sections have been calculated in relation to the power demanded by each function. Do not plug in supplementary by-pass charges on a magneto thermal switch or replace it with one of bigger amperage.

- If a magneto thermal switches off, do not switch it back before locating the possible defect or short-circuit in the mains.

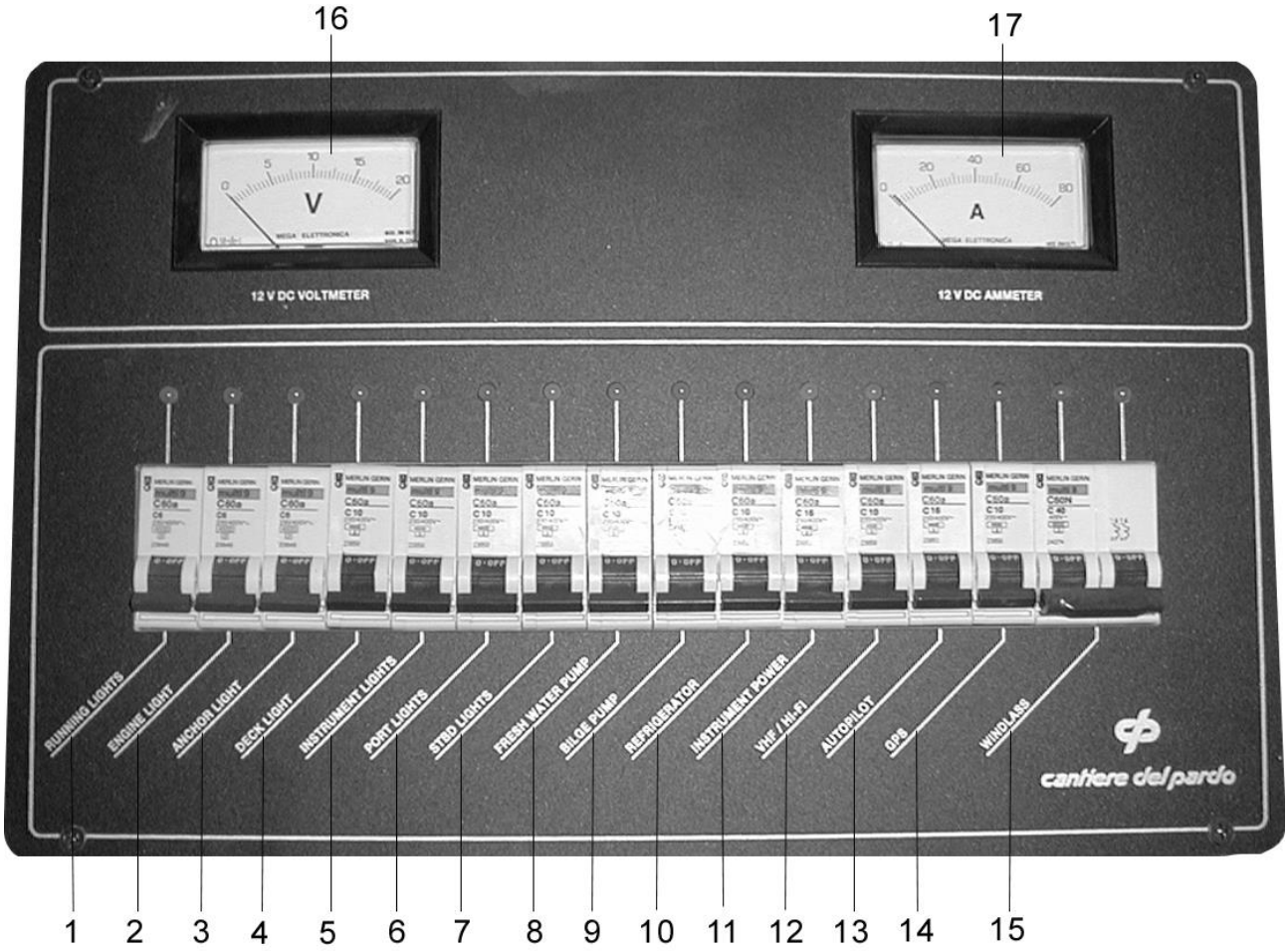
Instruction

- The magneto thermal switches described here can directly activate the various functions or just monitor them: in the first case by turning on the switch, the function will come on too; in the second case it will just let the power to reach another switch located near the functions.

- An illuminated led will come on when the corresponding function is alive and is using or can use some current un led.

12 Vdc control panel

It is located near the chart table and divided into sections, to each corresponds its functions. These are indicated in English . It includes all the 12Vdc functions, the voltmeter and ammeter.



1) Luci di Via – Running Lights
2) Luce di navigazione a motore – Engine Light
3) Luce di Fonda – Anchor Light
4) Luce Ponte – Deck light
5) Luce Strumenti – Instruments Lights
6) Luci interne di sinistra – Port Lights
7) Luci interne di destra – Starboard Lights
8) Autoclave – Fresh Water Pump
9) Pompa di sentina – Bilge pump
10) Frigorifero – Refrigerator
11) Interruttore Strumenti – Instrument power
12) VHF e Radio – VHF and HI-FI
13) Autopilota – Autopilot
14) GPS
15) Salpa ancora – Windlass
16) Voltmetro – Voltmeter
17) Amperometro – Ammeter

1. **RUNNING LIGHTS switch**
   Turns on all the navigational lights, located in the mast head, for navigation under sail only: the red, green and white.
   Just for security, inside the control panel have been placed some fuses, one for each light, to avoid in case of trouble to remain without lights.

2. **ENGINE LIGHT switch**
   Turns on the mid-mast white light, compulsory when navigating under engine.

3. **ANCHOR LIGHT switch**
   Turns on the 360° mast-head light, when the boat is at anchor.

4. **DECK LIGHT switch**
   Turns on the mid-mast light to lighten the foredeck.

5. **INSTRUMENT LIGHTS switch**
   Turns on the red night light of the compass.

6. **PORT LIGHTS switch**
   It monitors the lighting of all portside internal lights.

7. **STARBOARD LIGHTS switch**
   It monitors all the interior lights on starboard side.

8. **FRESH WATER PUMP switch**
   It monitors and put under pressure the fresh water pump.

9. **BILGE PUMP switch**
   It monitors the pump that drains the main bilge or the shower It is important to remind that the actual activation switch is located in the toilet area next to the wash-basin. For better information check the chapter “bilge pump” at page 77.

10. **REFRIGERETOR**
    It turns on directly the electrical compressor.

11. **VHF HI-FI switch**
    It monitors the VHF and stereo set.

12. **INSTRUMENT POWER switch**
    It activates the cockpit instruments and any other optional.

13. **AUTO PILOT switch**
    It monitors the automatic pilot (opt) for more details check Chapter 3 “Auto pilot” at page 76.

14. **GPS switch**
    Activates the GPS/plotter instruments.

15. **WINDLASS switch**
    Magneto thermal switch to power the windlass.

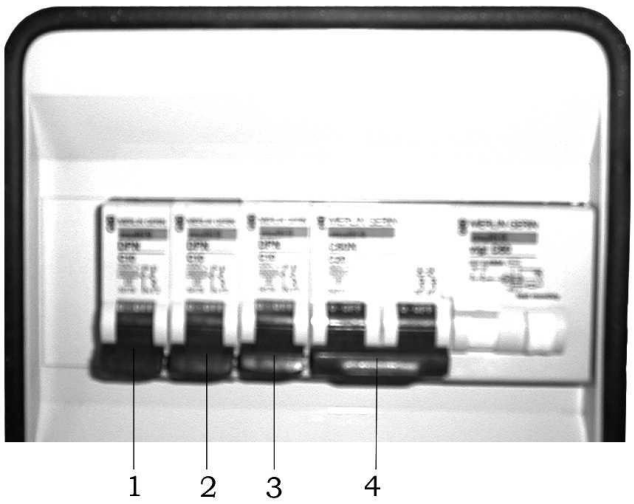
16. **12 Vdc VOLTMETER**
Indicates the voltage of each group of battery when the “battery test” selector is activated: “1” for services “2” for the engine.

- With engine or the battery charger off, the voltmeter must show at least 12V, otherwise it means that the batteries need to be charged. In any case never use 12Vdc appliances when the voltage is less than 10Volts.

17. **12 Vdc AMMETER**
It shows the quantity of current (ampère) drawn by the 12Vdc appliances currently in use.

- If none, it should indicate “0”. Otherwise, it shows the absorbed current.

220 Vac control panel



1 **Battery charter switch**
It monitors the battery charter switch. For further information see page 35

2 **Water heater switch**
It monitors directly the 220 Vac resistance of the water heater, for further instructions see the page 33

3 **220 Vac sockets**
it monitors the 220 Vac sockets. For the positioning please look at the page 49.

4 **220 Vac Main Breaker**
Monitors the shore power in all the 220Vac network

Removal of the control panel

The indication regarding the removal of the control panel are meant foe technicians who will proceed as follows:

- **Caution:** before intervening on the 220 Vac control panel, make sure that the 220 Vac shore supply is disconnected; the shore network plug should not be inserted into the external watertight socket .

- Any manipulation implying 220 Vac control panel removal must be carried out by a skilled technician.

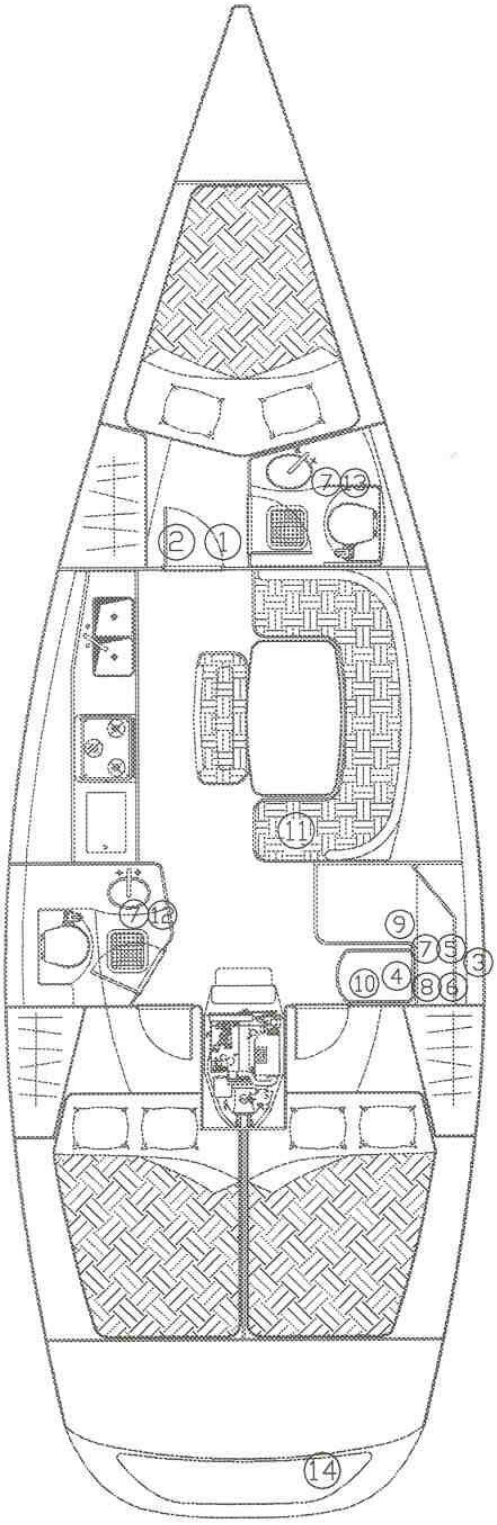
12 Vdc e 220 Vac sockets

- Under the 12Vdc Control Panel are located a 12Vdc socket automatically activated connecting any battery (either the service or the engine) with the heavy duty battery switch, and a 220Vca socket activated by the 220 Vac switch in the control panel under the chart table.
- Other 12 Vdc socket are placed in the toilets, next to the starting switch of the shower pump.

Fuel level indicator

- It is located under the 12 Vdc control panel. It can be activated by turning on the starting key.

Sockets and other components' location



1. Log transducer
2. Depth sounder transducer
3. 12 Vdc control panel
4. 220 Vac control panel
5. Fuel level indicator
6. Fresh water indicator
7. 12 Vdc socket
8. 220 Vac socket
9. Heavy duty battery switch
10. Battery charger
11. Batteries
12. Main switch bilge pump drainage and stern toilet shower
13. Main switch bilge pump drainage bow shower toilet
14. 220 Vac water tight shore power socket

Gas propane system

See on page 52

◊ For the gas bottle, of 3 Kg. of weight but not supplied, it has been arranged a place, obtained in the deck in a central position, abaft the cockpit. It is accessible lifting the helmsman's settee. This particular place is supplied with a scupper through which the possible water and bottle gas leakage can flow.

◊ A mixer is mounted on top of the bottle gas which is the one used with the valve and it is completed of a tap with opening at 90°, of a regulating handle to be positioned to the kind of pressure desired and of a gas bottle connection of ¼".

◊ The bottle is linked by a flexible special rubber pipe, clamped onto copper piping connecting the bottle to stove unit. This copper piping runs along the inner portside hull, and stops in the stove compartment with a propane stop-valve.

◊ In the last section, in order to allow the swinging movement of the stove, a flexible homologated rubber pipe has been fitted and clamped on.

Instruction

To light one of the burners:

- Open the mixer cock on the gas bottle.
- Open the tap located abaft under the galley-stove unit.
- Push the selected burner button. Being fitted with a safety thermocouple, after lighting, maintain the button pushed in for a few seconds until thermocouple is hot.

Caution: over the years the thermocouple becomes less efficient. It is therefore advisable to check it regularly while operating and in case of defect, have a new one installed by a skilled technician.

Warning

- We remember you that the gas system is an under pressure system and therefore leaks may occur.

- Use on-board with extremely caution the gas flame.

- Any flame on board should be a risk if considering the possibility of combustion.

- Before leaving the boat always:

- Turn off the stop cock under the stove unit;
- Turn off the mixer stop cock on the propane bottle.

Maintenance and checks

- Always make sure to stop the tilting movement of the stove unit by locking the provided catch when used in still water.

- Check periodically hose pipe linking the bottle to the copper piping and the stove unit to the stop cock: if cracks appear, replace them with homologated pipes of similar features.
  These pipes must be replaced, whether in good condition, when expired as indicated in the pipes.

- Regularly check that the clamps holding the flexible pipes are properly strapped.

- Have the copper piping and the other gas system components periodically inspected and checked by technicians.

Gas leaks

- If you smell gas, it is advisable to turn off both stop cocks. Air the place and avoid any source of combustion such as sparks, flames, lit cigarettes, etc.

- If it is not possible to get a skilled technician to spot and fix the gas leak, you can do the following: Spread soap lather over all system connections starting from the bottle with particular attention to:
  - Pipe fitting mixer cock – hose pipe;
  - Pipe fitting of the hose pipe - copper pipe;
  - Copper pipe connection – stop cock;
  - Copper pipe connection of the stop cock – hose pipe;
  - Flexible pipe connection – stove unit;

Caution: the presence of soap bubbles will show possible leaks.

Avoid the use of flames while searching for leaks.

- Always remember that, gas is heavier than air; in case of a leak, it will probably flow down to the lowest parts of the boat (bilge).

- In case of located leaks, ventilate well in particular the bilge. Avoid possible combustions such as sparks, flames, lit cigarettes etc.

Replacement of the gas bottle

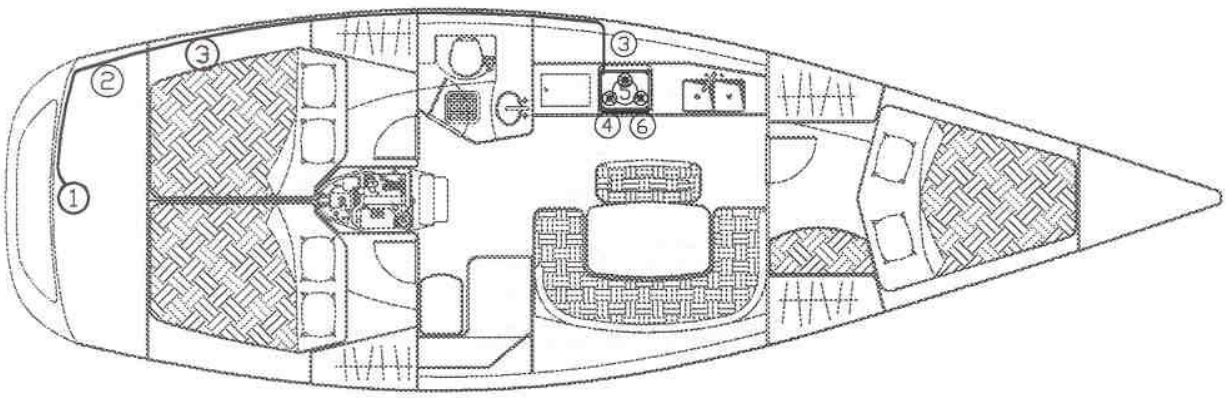
Warning! Replacing the gas-bottle should be carried out with great care: make sure that no flame or any other source of combustion is around.

- Turn off mixer cock
- Lift and unscrew bottle while holding mixer.
- Screw new bottle on paying attention that the thread is properly fitted onto junction.
- Turn on mixer cock again**.**

We recommend you to carefully read the use and maintenance manual of the stove unit (oven and burners) supplied by the manufacturer.

Gas system scheme

1. gas bottle lodging
2. gas bottle vent
3. copper piping
4. stop cock (under the oven)
5. cooking unity
6. oven's catch



Water system

For the placement of the components described here below, please refer to the scheme at page 57.

Water distribution system consists of the following networks:

- ◊ Sea water system in the galley if installed;
- ◊ Pressurized hot and cold fresh water system;
- ◊ Pressurized emergency fresh water system in the galley, if installed.

Fresh water tanks

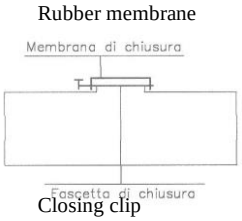
- ◊ The two fresh water tanks are installed, one under the right berth in the aft cabin, the other under the bed of the front cabin. Both are made are in alimentary polyethylene and supplied by an inspecting cap.

- ◊ The inspecting cap and the vent scupper are:
  - Aft tank: under the helmsman's grating; starboard in the bottom of the cockpit. The vent is in the left side.
  - Bow tank: the loading and the vent are at the left side of the mounting fibreglass cover of the windlass and therefore are accessible lifting up the peak anchor cover.

- ◊ The aft tank has a capacity of about 160 litres, and about 210 litres the bow tank the total capacity of the two tanks is of about 370 litres.

- ◊ The quantity of water contained in the tanks is signalled by an electric level indicator applied to the aft tank. This indicator is under the12 Vdc control panel, near the fuel level indicator. It automatically empowers switching on the heavy duty battery switch.

Tank inspection



- ◊ The inspection cap are two, one for each tank, the inspection can be done through upper part of the tank.

- ◊ Each cap consist of a clipped-on rubber membrane around the opening.

- ♦ The tank has been designed following the most modern hygiene standards. However, we advise to wash and disinfect the tank once a year following the used product instructions .

Warning for the filling operation

- Avoid the excessive pressures of the water flow.
- After having filled the tanks, it is advisable to open a tap and discharge a little quantity of water to reduce the pressure in the tanks.

Pressurized fresh hot and cold water system

- From the tanks, through connecting alimentary polyethylene pipes, the water supplies the self-closing watertight located astern of the engine and accessible through the ladder.
- From the self-closing watertight the water passes through the accumulator tank and enters in the 5 ways system to serve separately the following:
  - The sink/basin of the bow toilet,
  - The shower tap in the cockpit,
  - The water heater,
  - The sink/basin of the aft toilet,
  - The galley basin.
- From the water heater the hot fresh water in pressure supplies the 5 ways system:
  - The shower tap of the cockpit,
  - The hot water in-pipe
  - The shower/sink of the aft toilet.
  - The galley basin.
  - The shower/basin of the bow toilet

Instruction

- Keep the tank filled; if there is no water in the tank, the pressure pump will suck in air and may be damaged by running load less. If pressure pump running noise continues after turning off the taps, turn off the switch located on 12Vdc Control Panel.
- After having verified the presence of water, to start the self-closing watertight turn on the FRESH WATER PUMP switch on the 12 Vdc control panel (see page 45)

- If you want to use the hot water follow the following:
  - Start the engine (the water heater is automatically activated; water will be hot within 15 minutes)
  - If connected to shore 220Vac network, switch on “Water Heater” located in the 220Vac control panel (see page 48)
  - Read carefully the water heater charter at the page 33
  - Read also the paragraph dedicated to the 220 Vac network at the page 42

- Open the desired tap as for domestic use.

Fresh water emergency system in the galley

◊ The foot pump is located at the sink base furniture and is directly connected to the tanks fresh water system; in this way the it functions also when the self-closing watertight is off or damaged.
◊ In the sink area is also installed a supplementary valve for the water outlet.

Sea water system in the galley

◊ This system is supplied by the water suck through the seacock installed in the furniture under the galley sink (see page 57), it goes out through a supplementary valve on the galley sink and is pumped by the foot-pump located at the sink furniture base.
◊ Check that the inlet valve in the furniture under the galley sink is open.
◊ After that use the foot-pump.

Warning and general caution.

- We would like to point out that if all on-board system run properly, no water should appear in the bilge. If there is some, check if it is fresh or sea water: in the first case check fresh water distribution system; in the second case check sea water distribution system as well as all other possible sea water leaking (engine, S-drive, rubber gasket, rudder shaft, etc.)

- We would like to remind you that sea water system is located below the waterline; if this system leaks or breaks up, turn off stop valves and sea water inlets right away.

- Before starting on the self-closing watertight we recommend to check the level of water in the lower aft tank, (of the two installed). If not the self-closing watertight should aspiring air and therefore should damage. Thus, after the interruption of the taps' flow we recommend to turn off the 12 Vdc switch in the control panel. If the self-closing watertight noise should be intermittent, check that all the taps are well closed and that no leaks are present in the system.

- As said, before starting the water heater both mechanically and electrically, see carefully the water heater paragraph at page 33 and the 220 Vac network par. at 42.

- In case of maintenance or repair operations, or of water leak in distribution system, turn off tank's cock to stop the water flow (see drawing at the page 56).

- Before winter time empty as possible:
  - Fresh water tank
  - Water distribution system
  - Water heater

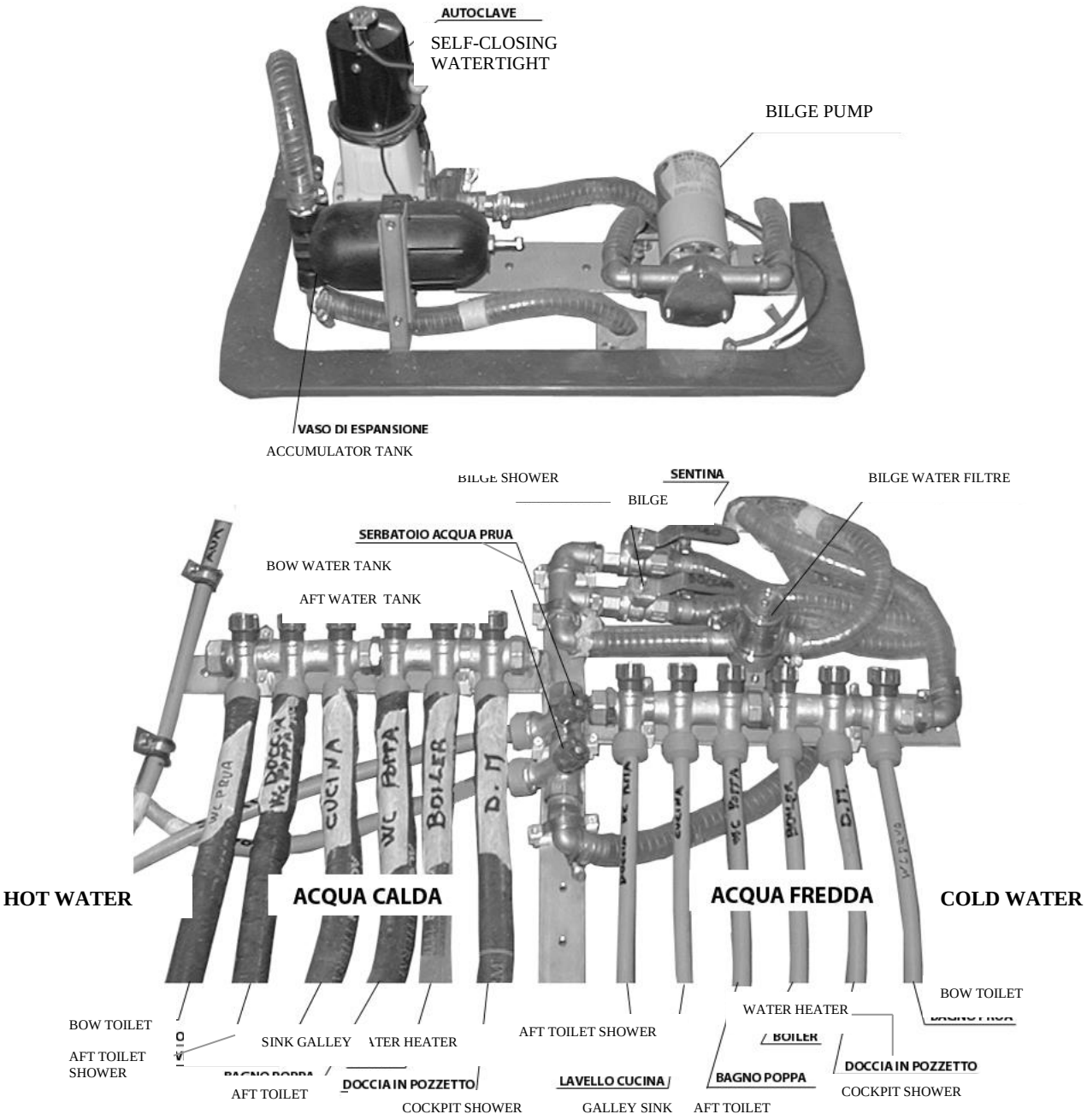
- Before using the sea water distribution system, verify that mooring waters are clean.

Maintenance

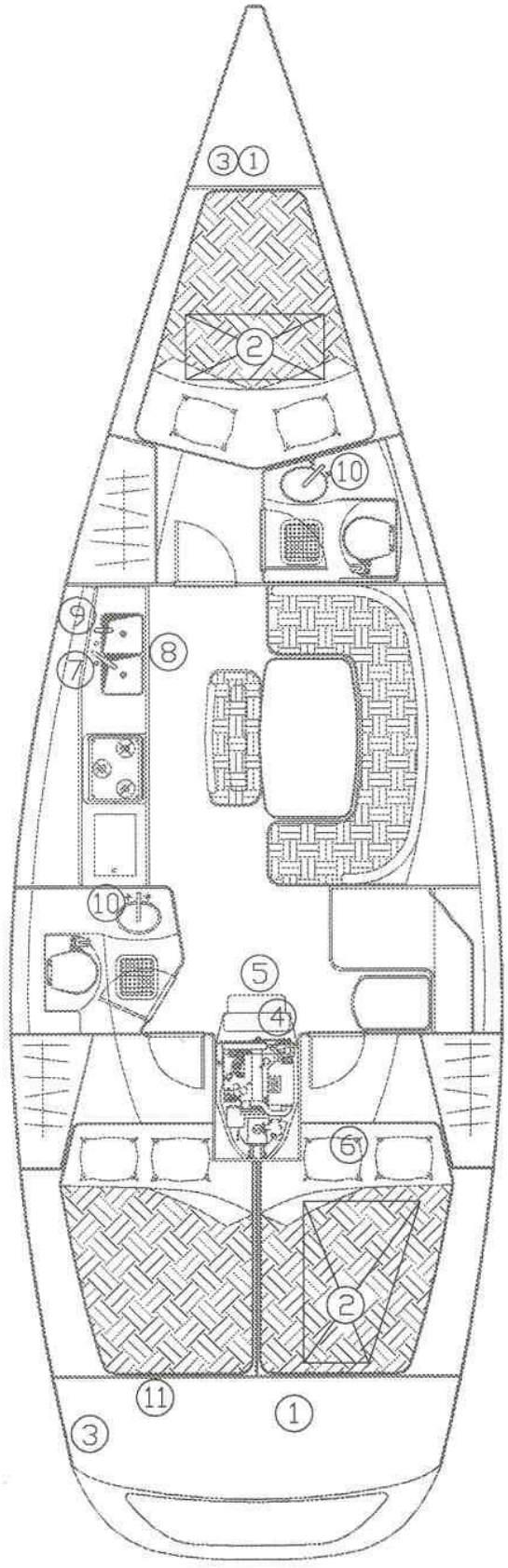
- Regularly check there is no leak along the system, paying particular attention to fittings junctions, clamping and gaskets condition.

- Regularly check valves and sea cocks, e.g. when careening, and control the wear and tear, particularly the bronze parts: replace them if necessary.

Water system control panel



Water system components location



1) Fresh water inlet
2) Aft and bow fresh water tanks
3) Fresh water tanks vent
4) Self-closing watertight and accumulator tank
5) Hot and cold water distribution system
6) Water heater
7) Galley mixer
8) Fresh and sea water foot-pump
9) Fresh and sea water valve
10) Toilet shower
11) Cockpit shower and tap (on the deck)

Drain system for shower and sinks

Drain system in the shower

◊ The water collected in a reservoir is drained by the same electrical pump of the main bilge, for the aft toilet, and by a supplementary electrical pump for the bow toilet.

◊ The pump control switch is for both pumps the BILGE PUMP switch located in the 12 Vdc control panel (see page 45), while the pump starting switch is for both the toilets on the right side of the sink. (see page 49).

◊ The electrical pump for the bilge drainage of the aft toilet is mounted abow the engine, at the left side, it is accessible by lifting up the saloon ladder; the bilge pump for the bow toilet is installed inside the toilet furniture.

- When having a shower or immediately after, it is necessary to drain the water's reservoir using the appropriate electrical pump.
- The aft toilet pump outlet flows into drainage collector located in aft portside peak while the bow toilet pump outlet drains directly in the right bulwarks .

how to drain:

- Start the 12Vdc control panel switch which monitors the electrical outlet pumps. As the aft toilet pump can empty the shower bilge or the main bilge according to their position above the pump, it is necessary to arrange these valves in the desired position. We suggest to maintain the valves in outlet main bilge position, and to proceed at the emptying of the bilge shower only when necessary. These valves are reachable only lifting up the floor board abow of the ladder entrance, near them it is also located a little filter to protect the pump, to be cleaned jerkily. (see page 56).

- At the end of the shower, put on the switch of the used toilet located at one side of the sink furniture:

  - Let the switch inserted as soon as the water in the reservoir has been completely discharged, then disconnect it.

  - Once the operation has finished, don't forget to disable the 12 Vdc control panel switch.

Maintenance

- Check once a season the pipes' condition.
- Regularly clean the filters on the shower drain intake and on the bilge pump

Sink's and basin's drainage

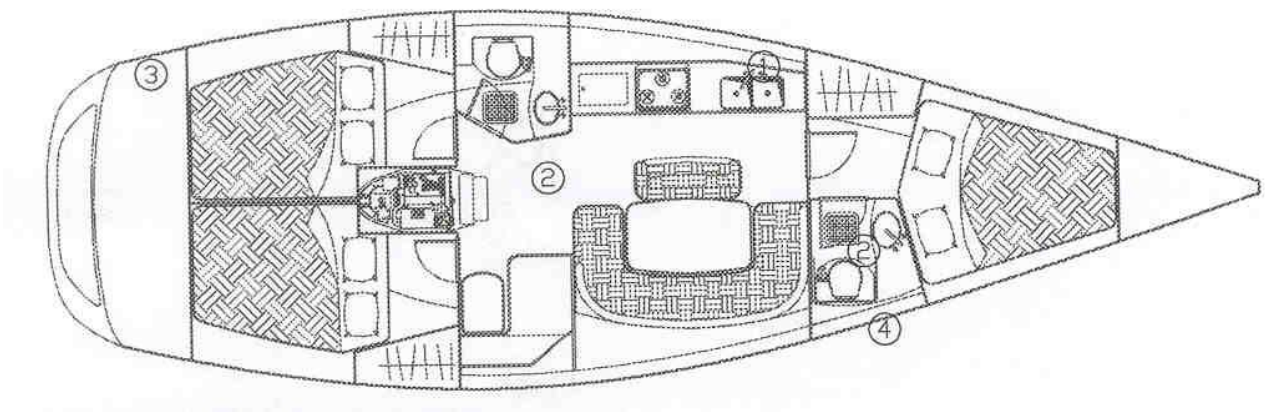
- **Galley sink**
  - The outlet valve is located inside the sink furniture.
- **Aft toilet basin**
  - The outlet valve is accessible lifting up the floor board near the saloon bulkhead toilet. You will find the main valve and the three way valve.
- **Bow toilet basin**
  - The outlet valve is accessible by lifting up the wood top inside the furniture under the basin. You will find the main valve and the three way valve.

Warning

Turn always off the basin's outlet valves before every sail navigation.

Outlet's sinks-basins-showers

1) Sink's galley outlet valve
2) Toilet basin outlet valve
3) Outlet collector of the main bilge and of the aft toilet
4) Outlet basin of the bow toilet



External drainage system

On the deck there are two self draining cockpit , in particular:

- ◊ **Astern cockpit**
- ◊ **Anchor's peak**

Cockpit

- In the cockpit the water flows throughout two pipes located at the bottom of the niche containing the steering wheel. These pipes, visible and accessible through the forepeak, are stuck with fibreglass at the hull, and the water flows directly in the sea water under the waterline.

Anchor's peak

- If some water should enter in this peak, it flows directly throughout two holes made in the peak's side.

Warning and caution

- It is important to maintain the cockpit's drains always clean and clear. Make particular attention to sheets and ropes in general, sheet of paper, leaves, etc.

- Periodically inspect, e.g. when careening, the good state of the external drain cockpit system.

Winter season

Steel and brass equipment

For a better protection, these equipments should be coated with a protective film, use one of the spray product available in the market, but suitable to the marine environment or make use of Vaseline.

- In fact there is a form of corrosion, generally originated by air pollution, that is called "pitting corrosion" producing little rust spots even on AISI 316 stainless steel. To remove it simply use alcohol or petrol.

Aeration

- Aerating regularly the interior parts of the boat prevent mouldy and corrosion phenomena.
  - If you are not able to do that, try to leave half-closed some hatches, protecting them with a tarpaulin avoiding the entrance of rain and water in general.

Batteries

The "life" of the batteries depends basically in the way they are used: the best thing would be to keep them always "working" by discharging and recharging them frequently.

- If the boat is stored on a dry-dock, the best thing to do will be to take them to an electrical workshop that will do the periodical maintenance said above.

- Same thing must be done if the boat stays afloat, without nobody's cares, who should periodically turn on some electrical component and then start the engine or battery charger.

- In both cases the battery terminals should be coated with Vaseline.

Sheets, halyards and ropes in general

It is advisable to take down the halyards and replace with messengers.

- Wash them with fresh water without soap or detergents, the risk is to diminish their resistance.

- Do the same for sheets and other ropes, do not forget to store them only when completely dry.

Fire extinguishers

If they are still fully charged and in good conditions, better leave them on board: they may be used in case of fire. If expired or to be controlled, recharge them and then replace.

Gas

Do not leave gas bottles on board.

- Take away the bottle safety valve which it should oxidize or block.

Water system

This system is the most affected by cold temperatures. The water should be completely drained not only from the tank but also from:

- The pipes
- The self closing watertight
- The water heater.

If the water is not drained out it can freeze and crack the pipes or get rotten.
Clean thoroughly the tanks through the inspection caps.

Electrical system

It is advisable to open the Control Panel, and spray with CRC the inner connections.
Same treatment should be done on lamps, sockets, switches, connections etc.

Interiors

First thing to be done is a deep clean up with a vacuum cleaner and then detergent to remove the dust and specially the salt crystals (they are the worst enemies as they absorb humidity and consequently creates mould and oxidation). All the foodstuff (including cans) should be taken away.
Very efficient are the hygroscopic salts dehumidifiers that are cheaply available in any hardware store and can be placed in any locker and also in the engine compartment.
The mattresses should be taken away as the foam absorbs humidity. Also linen, curtains, clothes and other fabrics should be taken away and washed.
To improve ventilation as much as possible, leave doors, cabinets and lockers open and blocked as well as the refrigerator, that must be previously washed with a solution of water and vinegar.
We suggest you to allow to all the rooms to aerate properly for this reason it is necessary to maintain inside a ventilation even carrying out some devices permitting air entering but not water.

Engine

The marine engine is the mechanism that the lower works the more deteriorates; the engine should run periodically at least once a week. In this case no special wintering procedures are required but controlling the cooling liquid density adding the anti-freeze liquid if necessary. Take care of oil checks and changes and the filters' maintenance, etc. We are making the hypothesis of a perfect good condition of the engine and that it doesn't need any periodical check up.
Pay particular attention to the expire date indicated in the use and maintenance booklet.
Otherwise if you should follow the wintering procedure, follow the operations below:

- First, change the oil (always when the engine is hot) then its filter and the fuel one.
- Then after having cleaned the sea water filter, start the engine and let it run with fresh water at least for an hour this will wash away the salt from system. To well proceed take a bucket in which putting the fresh water's hose and the engine aspiration.
- Add in the bucket extra anti-freeze liquid and stop the engine before this liquid is completely ejected.
- Take off the impeller of the water pump: clean it, coat it with Vaseline and then replace it.
- Slacken the alternator transmission belt and any other belt connected to the engine (frigoboat, water-maker, etc.).
- For the water maker it will be better to take off the injectors and take them to a skilled workshop to be calibrated.
- Finally, check the fresh water engine cooling density and add anti-freezing liquid whether necessary.

Hatches and portholes

Before closing them permanently, better grease the rubber gaskets with Vaseline or silicone grease. It will be easier open them.
It is also advisable to shade the light that, shining through them, can damage the varnish of the wood frame and furniture.

Bottom

After hauling the boat is necessary to clean the bottom of the hull from sea shells, barnacles and weeds with a water pressure gun.

The anodes should be taken out before they get oxidized and stuck to the bolts.

- The ground plates, the sea cocks and the propeller can be cleaned with an iron brush.

Bilge pumps

- If the boat stays afloat, it is a risk to disable them:

  - Grease the outside to prevent oxide;
  - Let them run periodically with fresh warm water to dissolve salt crystals**;**
  - Check and grease the impellers and the membranes.

- If the boat is lifted out of the water:

  - Protect the external parts;
  - Let them run periodically with fresh warm water;
  - leave the impeller outside after greasing.

In case of membrane pumps, suck up an emulsion of warm water and Vaseline oil.

Hull

Both leaving the boat afloat or out, to preserve the brightness of the gel coat it's advisable to apply on the topsides some polish.
Among the different marine types available, for a long winter stop especially in industrial areas, rather than a cleaner is preferable to use a silicon based product that can protect better against air pollution.

- If the hull is of dark colour coloured, remember that the darker the colour, the faster they tend to loose the brightness and partially their pigment. In this case protect the gel coat hull' sides from the ultra-violet rays with a tarpaulin.

Bilge

It is the area that needs more cares.

- First of all dry out completely sea water;
- Then wash, possibly with a specific detergent that will also dissolve the grease;
- Leave the floor boards open for ventilation.

Fuel tank

It is advisable to fill up completely the tank to avoid condense and oxide risks of the engine supply system.(injection pump, injectors etc.)
If the boat is mooring in a very cold area, add in the fuel an anti-freeze preservatives or a drop of petrol.

Electronic instruments

The main problem is one of stealing.
You can prevent that by taking away the instruments as much as possible, don't forget to take notes of the connections to facilitate the opposite operation in springtime.

- Otherwise leave them covered and protected as much as possible with the help of a dehumidifier. Where possible, remove internal batteries.

Hood

It is the best protection against the sun the dust and allows you to leave the hatches ajar.

- A good solution could be to tighten a rope from the forestay to the mast and from this to the backstay to create a sort of a "tent" fastened to the toerails so to keep an efficient ventilation channel.

Valves, clips, seacocks

If the boat stays afloat it is advisable to check them one by one.
Just a leak is sufficient to let the boat dipping too much.
The seacocks, that is all the valves located under the water line:

- Have to be left closed, spray abundantly (internal and external) on the body of valve and on other components (clips, valves and other pipe-fittings) some CRC or some silicone grease.

If you lift out the boat, it is better to close all the seacocks and all the other external holes with cork plug as they could become wasps and other insects' nest.
For other components, do the same procedure as when the boat is afloat.

Sails

Take away the sails including the furling main sail.

- Wash them with fresh water, let them dry gently in a day of little wind.
- Then fold them up according to the seams.

W.C.

Flush with fresh water and neutral detergent.
For a better preservation do that properly:

- Close the intake seacock, release the hose clamp and put the aspiration pipe on a bucket full of water and soap (10 litres more or less);
- Start the pump, let it such from the bucket all its contents and discharge it;
- Rinse out with fresh water;
- Fill the bucket with a mixture of water and ½ litre of Vaseline oil and start the pump;
- Close the outlet and intake seacocks allowing the oil to stay into the W.C. pump.

In this way the rubber membrane remains soft and clean, working perfectly for years.

Suggestions for a good winter mooring

- Add an extra couple of mooring dock-lines astern supplied with springs, to resist to the backwash, it should be better to fix them to two solid places, it would be better not to use the cleats and the winches as they can get damaged.
- Cover the ropes with a rubber pipe or strong leather to prevent chafing damages.
- Double up the front lines making sure that they are tighten equally and not criss-crossed.
- Leave an abundant slack on the dock line bearing in mind the local tidal excursion.
- Place at least four fenders on each side, better if hanged in horizontal position to cover a larger area and to have a double binding.
  - Do not fasten them on the railings but at the toerails or at the handrail.

- Leave or lift the gangway to avoid impact with the quay or to the panel of the electric current when moving aside.

- Always unplug the 220 vac shore power.

- Leave the boat keys and your telephone number to the staff remembering that a good tip is always welcome! If a guard is not available, try to reach an agreement with your neighbour to help each other and keep an eye on the boat, and possibly to open it periodically for ventilation.

- It is a good rule to leave on board, better if on the chart table a list with the main instruction use: position of fire-extinguishers, bilge pumps, sea cocks, etc.

Engine: system and mechanics

The following instructions do not replace the information provided in the enclosed Manufacturer's Manual.

- ◊ For details regarding the warrantee, repair, operation and maintenance of the engine, refer to the warrantee booklet and the owner's manual supplied by the Manufacturer.
- ◊ Always quote the engine serial number and part number when ordering spare parts or requesting information from the Manufacturer.

Fuel system, fuel tank

The fuel system consists of the following items:

- ◊ The fuel tank cap is located on the left, just behind the steering wheel under the helmsman's grating, at the opposite side of the water tank cap.

- ◊ From the tank cap, the fuel flows through an approbated pipe inside the tank it has a capacity of about 80 litres, is made out of stainless steel AISI 304 and it is located in the left astern berth under the floor board.

- ◊ The fuel level gauge is located under the 12Vdc Control Panel, near the water level gauge.

- ◊ Together with fuel pipe are provided for the tank: a two-way pipe for engine supply, the vent-hole pipe whose outlet is on the deck aft side and the location for an extra two-way pipe.

- ◊ At the abow side of the tank you will find the stop valve of the engine, it is accessible lifting a part of the floor board. Through it you have also access to the electrical device of the level.

- ◊ From the stop valve, the supplying fuel pipe goes directly to the engine and connects to a supplementary filter and finally to the engine filter.

Warning and caution for the fuel system

In case the Control Panel should be out of order, or in case of emergency, such as engine fire or leakage in the fuel system, immediately stop the flow of the fuel. Pull the appropriate handle under the astern peak's cover, or closing the stop valve in the fuel tank and reachable only through the floor board at the abow side of the tank itself, in the astern left cabin.

- If you use the valve said above, it could be necessary before starting the engine to clean out the system. For this operation read carefully the instructions included in the manufacturer's manual.

- If not necessary, do not turn off the engine with the said valve.

Fuel system maintenance

- Replace the engine fuel system filter following the information contained in the maintenance's booklet. Same indications for the supplementary filter.

- When filling the fuel tank it is advisable the use of a funnel with a mash filter.

Engine cooling system

◊ The engine cooling system is of fresh water indirect type, with an accumulator tank, in the right bulkhead of the engine room, supplied also with a sea-water cooled heat exchanger.

◊ The sea water comes in through holes located in the S-Drive and the tap is on the starboard side of the inverter. It is accessible by opening the port over the engine in the aft right cabin**.**

◊ The sea water flows through the filter located in the aft portside of engine room, reachable through the same port described above.

◊ From the filter the sea water enters in the engine pump, it then comes through the engine heat exchanger and it is finally discharged with the gas fumes.

◊ A siphon located in the left bulkhead of the engine compartment prevents sea water from flowing back into engine cooling system. This siphon is made with a stainless steel goose-neck pipe-fitting at 180°, connected to the sea water outlet, it is supplied with a little pipe ending in the left bulwarks of the hull, "opening" in this way the system and preventing water return into the engine.

- We recommend to always check the "inlet sea water" before starting the engine (see drawing at the page 75).

Maintenance

- Clean often the sea-water filters, according to the engine use and how clean the navigation waters are.

- Regularly check the proper functioning of the siphon located in the engine sea water cooling system. If clogged or badly working replace it.

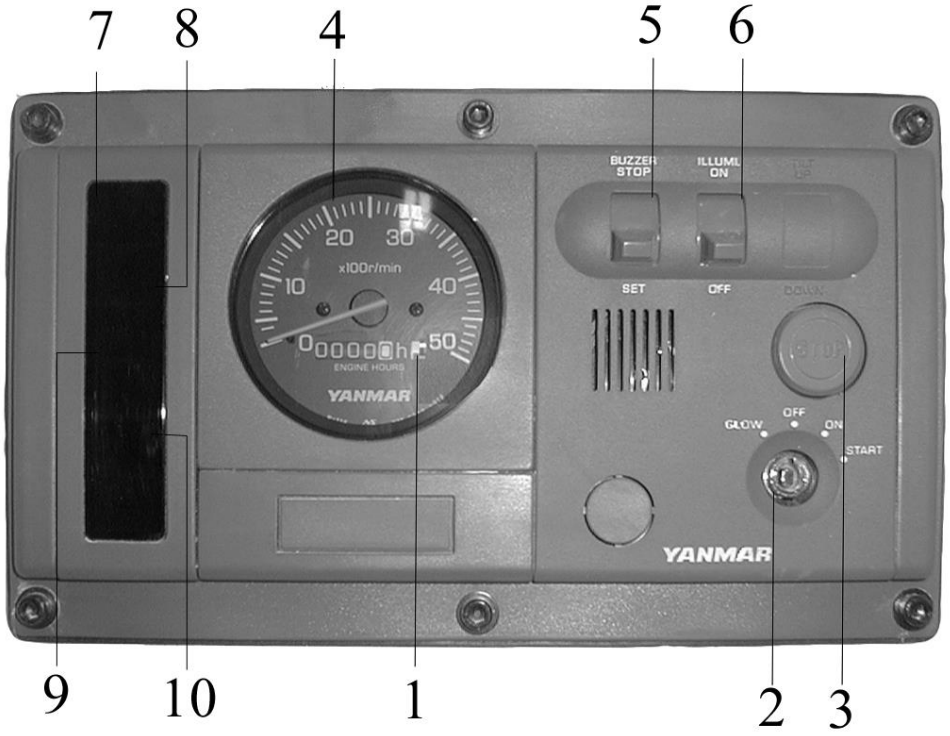
- Concerning the engine apparatus, please refer to what has been provided by the builder in the attached manual.

Engine panel, control lever, engine cut off push button

The engine panel is in the cockpit, at the right it contains the instrumentation, the controls the warning lights and other functions

◊ Under the engine panel you will find the lever control for the inverter and for the speed.

◊ The red switch, the engine STOP, is always in the engine panel, above the power key.



1) Running hours
2) Power key
3) Engine stop switch
4) Rev meter
5) Buzzer
6) Panel light switch
7) Battery pilot lamp
8) Water pilot lamp
9) Oil pilot lamp
10) S-Drive pilot lamp

Instruction

- **Single lever control**:

- This hand lever may be used as accelerator as well as inverter, depending if you push it ahead (ahead motion) or backward (reverse motion).

The functioning of the lever is the following:

- With lever upright and the top-handle pulled up, the lever is out of gears. If the handle is in normal position it is possible to get the gears.

- With the lever pulled down, moving it ahead or backward, you will insert the inverter and accelerate the engine speed, ahead or backward depending on the lever position.

If the lever is upright these movements accelerate only the engine speed when out of gear, both in abow or in astern position.

- **Engine stop:**
  - Turning the red switch in the engine panel.

- **Fuel level gauge:**
  - It is under the 12 Vdc panel control it shows the quantity of fuel available in the tank. It switches on automatically turning on the power key.

- **Windlass' switch:**
  - It controls the windlass' movements. It's a convenient additional control, added to the top side of the engine panel support besides the bow command board.

  - For further information see page 79.

For description and instructions regarding the engine panel, refer to instructions booklet.

Engine starting

The following indications do not replace the engine manufacturer's instructions contained in the Manual.

The engine is started through a starter motor supplied by the engine battery, or if necessary together with the heavy battery switch in BOTH position.

Engine starting instructions

Before starting engine, especially after a mothballing period, check cooling fluid and both engine and gear box oil levels. Proceed as follows:

- Open sea water inlet of engine cooling system, located on the starboard side of the engine inverter (see drawing at the page 75).
- With the lever in upright, pull up the top handle. (see page 71)
- Then push it forward or backward in maximum acceleration position.
- Insert the key and turn it in clockwise position; when in ON position all the lights of the engine panel will be switch on, turning again the key you will start the starter motor which consequently starts the engine.
- When the engine is gearing, reduce progressively the power just until the lever is in upright position; now the handle can be pushed down to get into gear, or if you want to get backward push the lever towards stern.
- Before getting into gear, keep engine running in neutral for several minutes.
- Once started, check if cooling seawater flows out through discharge outlet.

Running-in

- Refer to the information appearing in use and maintenance manual given by the builder.

- Do not push engine to a maximum rate for long time especially for the first 25 hours.

- Do not subject the engine to stress when cold.

- After the engine has run a few hours as indicated in use and maintenance manual contact the builder's assistance for the first overhaul.

Engine stop

- Throttle down to the minimum by pushing the lever to the upright position.
- Let engine idle at minimum for few minutes to decrease temperature.
- Turn off the engine by pushing the **STOP** red button.
- Only when the engine is stopped, turn the key in upright position **OFF.**
- Switch off parallel between services battery and engine battery if predispose by positioning the heavy duty battery switch, under the chart table, on **0** or on **1** (service battery).

- If you leave the boat, turn off sea-water inlet of engine cooling system, "engine water inlet", located on rear base.

General warning and caution on engine use

- Read engine use and maintenance manual, and in case of doubt, please contact the builder's assistance service.
- Do not keep the engine running with boat side-tilted over 20°.
- Never turn the engine battery switch in **0** position when the engine is running.
- Never turn the key in **OFF** position when the engine is running.
- Check all the level before starting the engine, in particular after long inactivate periods.
- Check regularly that no leakage are present in the various system: water cooling, fuel and oil.
- Often inspect engine cooling water pump, if it leaks even slightly, immediately intervene.
- Check frequently the engine cooling water filter. If necessary clean it only after having closet the "water engine inlet".
- Periodically check the fuel filter condition (see attached manual).
- Periodically check the oil filter condition (see attached manual).

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Reversing gear

For the maintenance, please refer to the use and maintenance builder manual.

S-Drive rubber basket

Please refer to attached manual.

Silencer and exhaust

◊ On the engine outlet pipe, are mounted a plastic silencer and exhaust. The pipe is in strengthen and ratified rubber. To control that they do not present any sign of leakage in the outlet pipe's connection, the exhaust is accessible by lifting the floor board under the berth of the left stern cabin near the fuel tank, the other silencer is lower in the right stern peak, near the bulkhead.

◊ The exhaust pipe ends in a connection in the lower part of the starboard transom and it is accessible through the stern peak.

Access to engine

◊ The engine of the Grand Soleil 40 is reachable from all the sides (we refer to the reachable parts of the standard engine):

- By lifting up the ladder, you can reach the keel, alternator, water valve systems for the water heater use, oil cap, fuel filter fixed at the right side of the engine and supplementary filter in the left bulkhead;
- From the right cabin through the lateral port and two upper floor boards, you can reach the engine fuel filter, engine supplying pump, oil level indicator, power levels and reversing gear, air filter, injectors, accumulator tank, engine cooling system, seacock tap for engine cooling and filter;
- From the left cabin by opening the lateral port and two upper floor boards, you can reach the sea water pump, motor starter, air filter, engine outlet and siphon.

- Never reach the engine room or the transmission parts when the engine is running.

Engine room ventilation

On the Grand Soleil 40 the engine ventilation system is a natural one.

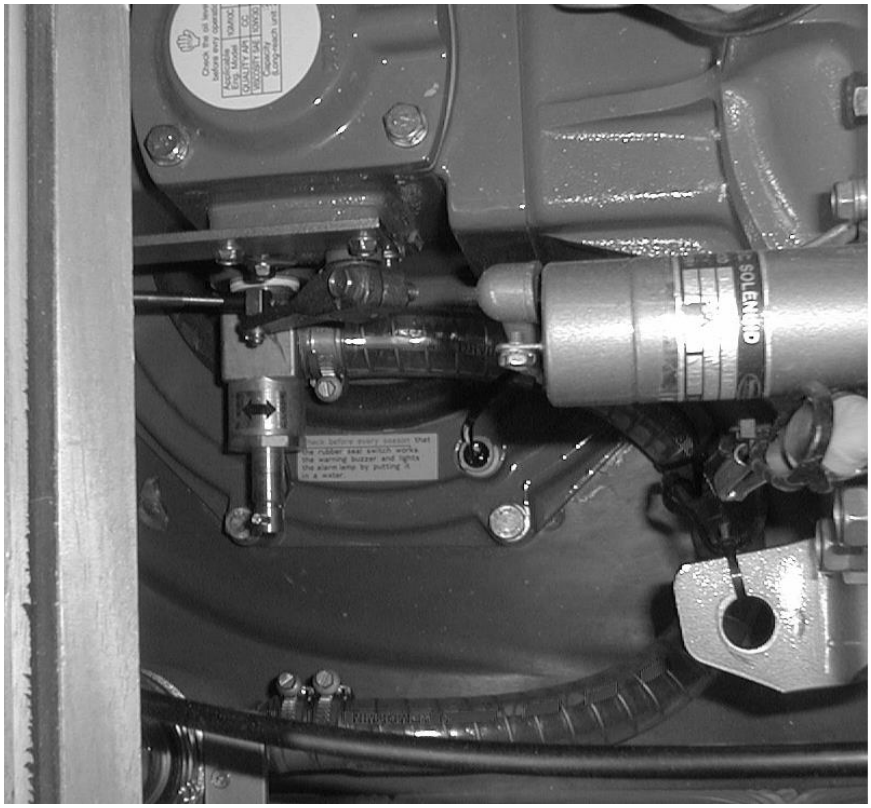
◊ The two air intakes for the ventilation of the engine room are at the top side, protected by two plastic grids, one at the right and one at the left of the transom's recess.

◊ Two pipes of the right dimensions connect the two intakes to the engine room, allowing the entering of the necessary air for the engine functioning and a suitable ventilation. This is forced when the engine is running, cause by the engine aspiration, while it is natural when the engine is stopped.

Warning on the engine room ventilation

Warning:
- do not prevent the air circulation by closing the air inlet with objects or towels.
- Do not crush or cut the pipes in the stern peaks with heavy loads or sharp objects.

- In case of fire inside the engine room, promptly stop ventilation of the compartment by clogging with towels, clothes or cushions the air intake vent.



Auto pilot

The following instructions do not replace the information provided in the enclosed Manufacturer Manual.

◊ This is an equipment which once fixed the course, enables automatic steering of the boat.

◊ The Grand Soleil 40 has been designed to install a mechanical auto pilot with a connecting rod directly linked to the stainless steel pole of the tiller .

- The switch activating the auto pilot electrical supply is featured under AUTOPILOT heading in the 12Vdc (see page 45).

- The control buttons that operate the auto pilot are on autopilot control panel.

Warning and caution

- Remember that when the auto pilot is working, the steering wheel is also concerned in its movements.

- Be very careful not to get your hands, arms or feet accidentally caught in the steering wheel action areas.

- Same attention must be taken for objects which could hamper the steering wheel movements like halyards, sheet etc.

- Do not force the steering wheel when the auto pilot is functioning.

- The auto pilot arm, which operates directly on the tiller pole, can be easily removed by taking out the appropriate pivot from the connecting rod's .

- The auto pilot helps out the crew but does not replace them: it is advisable for at least one member of the crew, to stay always on the lookout, on the deck to step in swiftly any time and especially to avoid running afoul of other crafts.

Instructions and maintenance

Please refer to the attached manual.

We recommend to consult the manufacturer's manual of use and maintenance.

Bilge pumps

The Grand Soleil 40 is equipped with two systems of bilge draining :

- ◊ Manual
- ◊ Electrical

Refer to the scheme at the page 78 to see the components' position.

Manual bilge pump

- The manual bilge pump, the lever model, is mounted astern the cockpit, towards the left side, it sucks form the main bilge through a strainer.
- The action lever is fixed at the cover internal side of the astern peaks through two thole pins.

Electrical bilge pump

- The electrical bilge pump is located immediately abow of the engine, at the left, and it is accessible by lifting up the ladder in the saloon. This pump has the same possibility to suck not only in the main bilge, but also in the astern bilge shower thanks to the two valves applied in the aspiration pipe. Lifting the floor board abow of the ladder you can reach the valves and the protection filter of the pump (see at the page 58 and drawing at the page 56). We recommend to always position the two valves as the pump will always be ready to drain the main bilge and do the drainage of the bilge shower only when necessary.
- This pump is activated by the **BILGE PUMP** switch located in the 12 Vdc Control panel (see page 45). To come the bilge into operation it is necessary to start the drainage switch in the stern toilet.
- The pump drainage flows into the drainage collector in the stern peak at the left side.

Caution

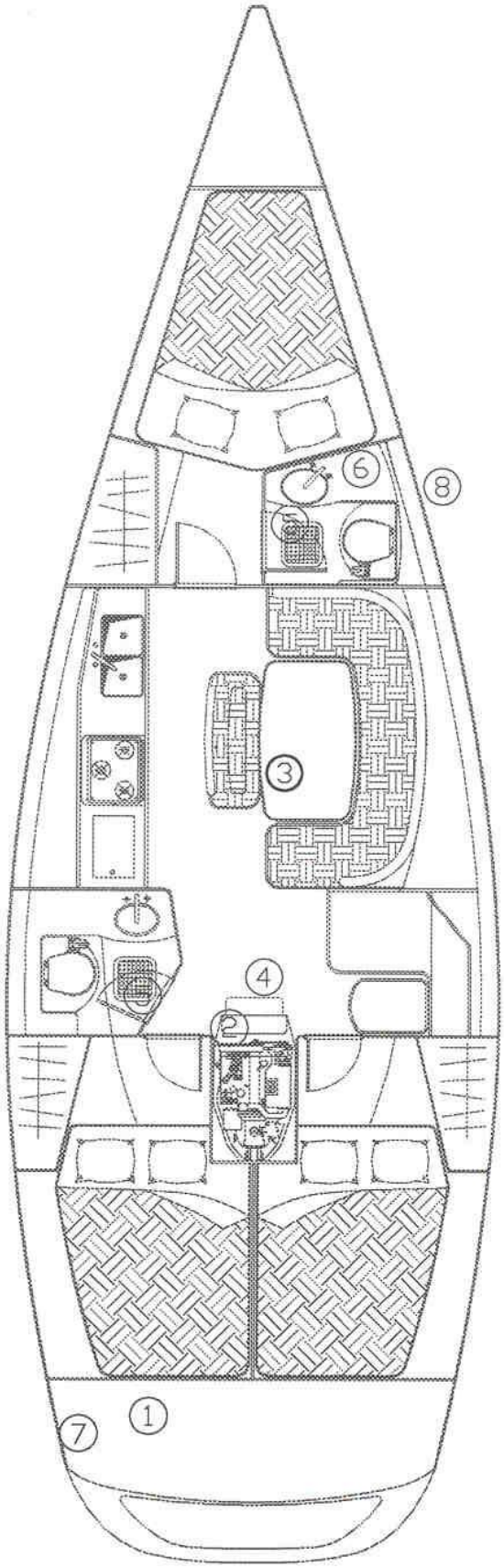
- Check periodically that the filter above the electrical pump and the strainers of both the pumps are not obstructed.
- To avoid the foul smell, we recommend to clean frequently both main bilge and the shower bilge.

Maintenance

- The bilge pumps have to be checked at least once a year with particular care to:

- Cleanness of the filter located in the aspiration of the electrical bilge pump
- Condition of the pump gaskets: if water leaks occur, replace them.
- The rotor of the electrical pump.

Bilge pump: scheme of components



1) Manual pump in the cockpit

2) Main bilge electrical pump and shower in the stern toilet

3) Draining pipe of the electrical and manual main bilge

4) Valves for the sucking of the main bilge or shower in the right toilet

5) Electrical bilge pump in the shower bow toilet

6) Draining pipe bilge shower

7) Manual and electric pumps outlet scupper

8) Electrical pump outlet scupper bilge shower bow toilet

Windlass

The following instructions do not replace the information provided in the enclosed Owner's Manual supplied by the Manufacturer.

◊ The Grand Soleil 40 is predisposed to mount a 1000watt electrical windlass.

◊ It can be used also manually through a winch handle.

◊ The windlass's chain lifter is located in an appropriate place in the anchor peak, while its motor is in separate waterproof place.

◊ The room containing the windlass' motor is reachable through the bow cabin taking off the port obtained in the abow bulkhead. In the same room there are also the electrical connection's box of the windlass system.

Attention: The upward and downward motion is controlled by a remote-control push-button panel, plugged into a watertight socket in the anchor forepeak.

◊ An additional control switch can be mounted above the engine panel in cockpit.

Instruction

- Check if the chain is positioned in the sliding guide in front of anchor winch.
- Insert the magneto-thermal to the item WINDLASS to the 12 Vdc control panel. This switch supplies the windlass motor and all the equipment (described in the following paragraph) through an appropriate fusible behind the 12 Vdc control
- To start the windlass activate the front remote control or the control switch in the cockpit.

Caution

- Do not forget that, in case of bad working, first of all verify that the magneto thermal on the 12 Vdc control panel is not disconnected.
  If so, and to avoid that it will happen again before reconnecting it, verify the reason of the trouble and find a solution.

- In case the push-button panel should be disconnected, after having verified the magneto thermal, check the condition of the fusible of the teleruptors, behind the control panel.

- If the battery is not completely efficient and has difficulties in weigh the anchor, it is advisable to do the operation while the engine is slightly working.
  This operation reduces the current absorption provoked by the use of the windlass.

- While using the windlass, always keep your body and especially your feet on the deck, never lean on the support plane of the windlass or inside the peak.
  Avoid to approach with your hands as not to be damaged in case the chain should accidentally come off of the pulley.

- The windlass is not a mooring cleats and it has not the same function, thus never strain the chain but distribute it on the mooring cleats as follows:
  - Once mooring operations are completed, fix to a link of the chain a block connected to the mooring cleats through two pieces of cable purposely predisposed.
  - Then release the tension on the windlass leaving it slacking.
  - In this way the mooring on the cleats will automatically force itself in.
  - If on the contrary the chain has been entirely uncoiled in the water and the windlass is working already on the rope, remove the upper part from the winch and fix it directly on a mooring cleat.

Maintenance

Always refer to the manual supplied by the manufacturer.

Anchor and chain

To complete the anchorage equipment the following parts are at your disposal:

- 16 kg Delta Anchor ;
- Galvanised chain of 8 mm whose length is of 50 Mt.

Security and safety means

Security

Experiences and statistics teach that the respects of the rules are no more sufficient to obtain the maximum contribution to security, all the precautions and attentions in the use of a ship must be taken, especially in the use of the systems and in their maintenance.

◊ **It is consequently a owner's due to make all the checks before starting on sailing, to verify all the circumstances, in order to have a safe and comfortable navigation for all the crew.**

We in particular recommend to:

- Certify that the boat is complete of all its rescue means and of all the security equipment ordered by the laws in force in the country in which you are sailing or stopping.
- Check their efficiency or validity.
- Check that the first aid box is approbated and that the medicines are not expired;
- Certify the VHF efficiency;
- Always be informed on the whether forecast in the area you want to sail;
- Always consult the nautical charts, the pilot and the notices to the mariners planning the most suitable course;
- Control the general condition of the boat, particularly the trim, the stow of materials, the stock and the equipments loaded on board;
- Make the checks and the inspections indicated in this booklet.

◊ **The better way to avoid injures and accidents to people, fire and damages to things, is the capacity to prevent them is taking the most opportune steps.**

Safety means

Pay particular attention to the security and safety of people on board and in the open sea, therefore we recommend not to take anything for granted, thus verify always the suitability and efficiency of the single and collective rescue means.

All the knowledge, seamanship and personal experience must be invested to obtain the maximum people security. Cantiere del Pardo advises to inform and train all the crew of the following:

- where to find and how to wear the life-jackets;
- where to find the raft and how to pull it out and use it;
- where to find and how to throw a lifebuoy and its ropes;

- where to find and how to use the flares;
- where to find the fire extinguishers and in case of necessity how to use them.

The life raft is compulsory for the navigation over the 12 miles, must be capable of containing at least the people on board. Cantiere del Pardo advises to locate it inside one of the two peaks in the cockpit or in a place easily reachable. To avoid the theft place the life raft inside the boat each time you leave it.

To come on board after the bathe, it is installed a four rungs stainless steel removable and folding ladder, easily accessible from the transom.

◊ **We recommend to arrange the ladder before plunging.**

- please check that all the safety means are of the approbated type.
- Do not forget to overhaul the life raft before the expire date.

Navigational on board instruments

In general the navigational instrumentations are optional, except for the compass. Here below you will find some observations regarding the more common installed instrumentations. **For each device it is advisable to read the use and maintenance manufacturer's booklet.**

Compass

◊ On board is installed a standard compass with binnacle, 5° degree, situated on the steering wheel board.

- **When delivered the compass is not compensated.**

- It is advisable to have it compensated by a skilled technician after all installations have been fixed into their final housing.

- Move away from the compass all instruments and devices which may interfere with the magnetic field such as radio sets, torch lights, portable tape recorders, cameras with built-in exposure meter and all metallic objects.

Electronic instrument supply

- Electrical supply of various devices is activated by pre-set magneto-thermal switches on 12Vdc Functions Panel: for more information please refer to page 45.

Echo sounder transducer

- Its position is in the bilge, in the bow fore-cabin, towards left (see page 49).

Log transducer

- Its position is in the bilge, in the bow fore-cabin, towards the centre of the boat (see page 49),near the echo-sounder.

- When the speed log is not used and especially when leaving the boat for long periods, it is advisable to lift draw back the label in the rest position in order to avoid damages caused by semi-floating objects.

- Remove the speed log transducer before hauling the boat.

Mast head unit aerials

- The masthead connection of the VHF aerial or the wind instrumentation cables must be inspected once or twice a year, or when any mast head repairs are needed.

- **Indeed, if electrical contacts are corroded, oxidized or loose, the instrumentation will not be fully efficient.**

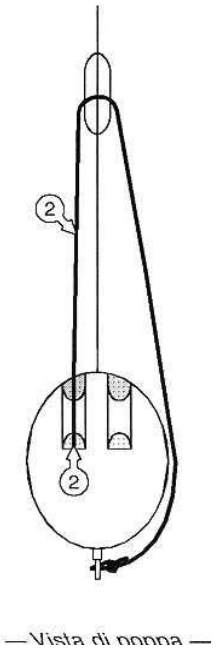
- The corroded or oxidized surfaces must be well cleaned and scattered with a suitable spray to preserve the electrical contacts efficient. (CRC).

Reefs

The boom of the Grand Soleil 40 is fitted to house two reefing lines to take in 2 reefs, and it is arranged for an outhaul for the mainsail base adjustment.

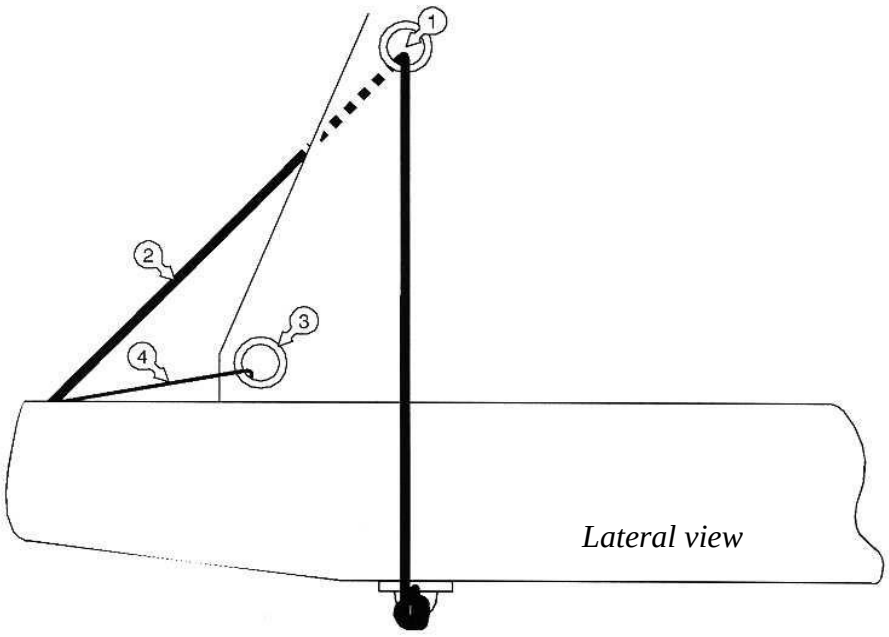
Instruction

- From the pulley located at the end of the boom, the end of the reefing line runs into the cringle of the clew of the reef you want to take.
- From the cringle of the clew it then runs aside the boom and is fastened to the corresponding eye-bolt under the boom.



—Vista di poppa—

Stern view



Lateral view

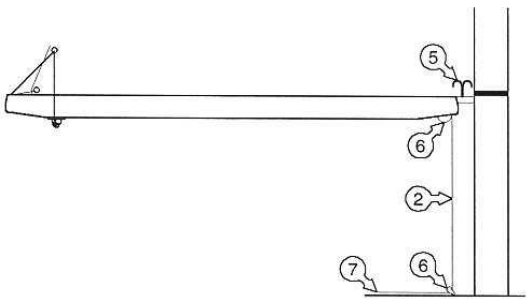
- After this operation, the reefing life is sent back to the cockpit on one of the coachroof sides (to determine which side, see the deck fittings equipment at page 24), and then to the winch on the coachroof.
- The reef tack point has to be hooked to one of the appropriate hooks located on the boom junction.

Reefing line

1. reef clew
2. reefing line
3. mainsail clew
4. outhaul
5. mainsail tack hook
6. reef line block
7. reef line to winch

Terzaroli

na del terzarolo
osa
na della randa
a base
anci per il punto
ura dei terzaroli
ggia di rinvio
vio al winch



Taking in a reef

Once the reef line has been installed, do as follows to take in reefs:

- Whether the boat is fitted with a rigid vang or with a tackle one, always slacken a little the main sail sheet before the operation as in any other boat.

With the rigid vang

- The boom is propped by the vang itself.

With the tackle vang

- The operation is the one done as usual, pull the boom topping lift taught, to sustain it.
- After having unwound main halyard and released the sliding blocks' catch-pin on the mast, hang reef tack point to one of the hooks located on boom claw.
- Re-tension the main sail halyard again.

Then:

- Haul in the reef line with the winch located on the coachroof. When the operation is completed, release the winch by shutting the reef clutch (see page 24).

- Release boom topping lift, and adjust the tackle or rigid vang and haul in main sail sheet for normal navigation.

- If you sail with reefs for a long time, tie up the extra main sail section with reef points onto the boom, to avoid too much extra cloth hanging from the boom.

Taking off a reef

- Release a little the main sail sheet so that the boom will not be held back while operating.

- If the boat is fitted with a tackle vang, pull the boom topping lift taught in order to hold it up while releasing the vang tackle.

- Release the reefing line carefully; if fixed to the stopper, first haul in the line with the winch then open the stopper.

- Slightly release the main sail halyard to free the reef tack cringle. Run the free slide blocks on the mast groove.

- Recover the mainsail halyard releasing the reefing line until the operation is over.

- Adjust the mainsail sheet, the vang and the boom topping lift for a normal navigation.

Warning and advices

- Taking in a reef is very important as far as safe sailing is concerned. This calls for an important coordination among the crew members and before starting it is advisable to determine each crew member's role.

- Before sailing, it is advisable for the crew to practice taking in a reefs.

  - This is even more important especially if some members are not familiar with this kind of handling.

- Taking in a reef should be done in bad weather conditions. It has to be done swiftly especially out in the Mediterranean, where weather conditions can change suddenly above all to avoid damages which may occur for a prolonged mainsail's flap.

- When you start sailing, it's advisable to have at least one reef line already run into its cringle.

- If you are sailing by night, it's recommended to keep at least one reef ready before sunset.

- To avoid for some crew members to climb dangerously on the boom far aft end, before hoisting the main sail run small messenger lines into reef clews as follows:

  - A messenger between the mainsail's clew and the cringle's clew of the first reef.
  - A messenger between the cringle's clew of the first reef and the second one.

When you want to take in a reef, just tie up the end of the reefing line to a messenger: by pulling it the reefing line will automatically run through next cringle.
This will spare to the crew members very hazardous acrobatic feats.

Rudder, bearings and self-aligning bearings

The rudder of elliptical shade, is suspended; the shaft is of stainless steel; the blade is of glass fibre, and it is reinforced inside by a stainless steel structure welded to the shaft..

The rudder shaft is sustained and guided into the two followings points:

◊ **In the lower part:** by a self-aligning bearing anchored to the hull over the waterline by a glass fibre stratification..

◊ **In the upper part:** : by a thrust bearing fixed to this shaft and located into an hollow in the bottom of the cockpit.

Steering wheel instruments

For the rudder's command, the following equipments are installed (see page 89):

- The glass fibre steering pedestal located in the cockpit, supplied with a steering wheel of 1600 mm of diameter, a compass with binnacle, a stainless steel pipe for protection and a pinion with relative chain;
- Two pulley in the stern middle part of the cabin to give the two connecting cables the right direction;
- Radial drive of 500 mm of diameter, tied to the rudder shaft, where end and are fixed the two stainless steel cables of the steering system through an adjustable bottle screw. The section is accessible through the stern peak.
- An handle for blocking the wheel is located at the top of the steering wheel's hub.
- An inspecting opening of the cables-chain connection, is obtained in the lower part of the steering pedestal towards stern.
- A terminal for the rotation of the wheel run, is astern of the radial drive, in the stern peak.

Warning on steering cables

- After few days of use of the boat, it is necessary to ad just for the first time the steering' s cable as at the beginning they tend to stretch.

- For the adjustment use the screw bottles arranged in the radial drive, one for each cable, which have to be adjust so that the tension is not excessive, the danger should be a lost of sensibility in the rudder's command, but do not leave them too slack because they should provoke a slowness of the command and the waste of equipments.

- Replace the cables immediately when you notice the minimum wear and tear or the presence of a sole yarn broken.

Steering wheel maintenance

We recommend to:

- Check periodically the bearings, the thrust bearings and the rudder shaft, if necessary grease them with a silicon grease of the same type of that used for the winches.
- Check frequently and adjust if necessary the steering cables tension.
- Lubricate the cables and the chain with SAE 30/40 oil.
- Lubricate the steering wheel bearings with a Teflon grease.

We always suggest to refer to the manufacturer's manual.

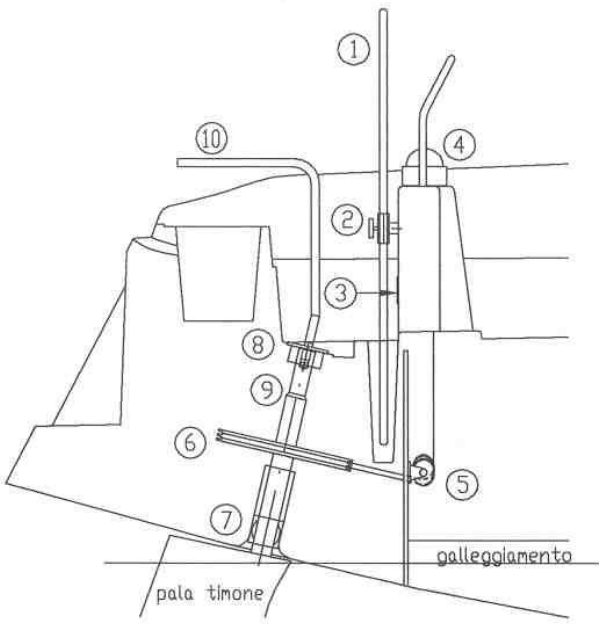
Emergency tiller

- The ship is also supplied with an emergency tiller, always keep it in the stern peak in case of necessary in particular of a bad working of the wheel.
- This tiller has to be inserted on the top of the rubber shaft in an appropriate space. In this way you can directly steer the rubber. This tiller has to be inserted and oriented towards stern because of the encumbrance of the wheel.
- We recommend you to train also when on the wet dock as not to fall in trouble in case of emergency.

If the boat is supplied with an auto pilot, this could be a good alternative system.

Steering wheel instrument's scheme

1) Steering wheel
2) Blocking handle
3) Inspecting cable-chain connection
4) Compass
5) Cables pulley
6) Radial steering dive
7) Auto-aligning bearing
8) Bearing with thrust bearing
9) Rudder shaft
10) Emergency tiller



Rudder shaft *Water line*

Sails

The grand Soleil 40 is supplied with a standard:

◊ **Mainsail**

◊ **Furling Genoa**

For further necessary measurement, please refer to the Technical Data at the page 13.

Warnings

- Ultraviolet rays and prolonged shivering are the main factors causing sails aging, therefore:

  - Protect main sail with a cover when folded away and left on the boom;

  - If the boat is supplied with a genoa furling system, order a genoa designed and reinforced in this view. Two ultraviolet-resistant fabric strips must be sewn along the base and the leach sides of the sail to protect the genoa when entirely furled up.

  - Avoid to flap too long and above all avoid sailing upwind under engine.

- The genoa base is particularly subjected to wearing and ripping: it is therefore advisable to check that split pins and the connection pivots of the shrouds are directed towards the opposite part of genoa rubbing. Protect them with grey tape or leather.

- Genoa rubbing against spreaders is also one of the main causes of ruptures and ripping of the sail

It is therefore advisable to:

  - To protect the spreaders' ends with tape or leather, do not forget to check them regularly;

  - Apply on the genoa some self-adhesive fabrics reinforcement in coincidence with the spreader's rubbing; better if you ask the sailmaker to do that.

Maintenance

- Check frequently the conditions of the following parts:

  - Seams and panel reinforcements;
  - Clews' link, heads and tacks;
  - Leech-line's cleats and line;
  - Bolt rope and headboat mainsail;
  - Transparent windows for wind-flow yarns (if present).

- Regularly wash the sails with fresh water, particularly after rough navigations.

- Before the winter laving up or a long period of inactivity, fold them carefully and store them in a dry place.

Painting – Surfaces maintenance

The parts treated in this chapter are:

◊ **Topsides**

◊ **Teak deck**

◊ **Bottom** (hull)

◊ **Interiors**

◊ **Stainless steel**

All the products and treatment applied by Cantiere del Pardo on the internal and external surfaces are among the best in the market.
Therefore, we recommend to respect all the suggestions and the indications below to have the best output.

Topsides

◊ To be brilliant and always cleaned the gelcoat needs cares and maintenance.

- For the everyday cleaning and to remove the most part of dirty we advise you to use warm water and neutral soap.
- Use petrol or kerosene to remove grease and oil.
- Do not use acetone or other chemical or abrasive detergents.
- In case of a persistent stain, the last remedy is the water abrasive paper (600), use it with great care, pay attention not to remove the gelcoat. Then use some Polish to give brilliantness.
- We also suggest to use a special polish for boat at least once a year. This Polish protect the gelcoat from scratches and resistant to dirty.
- Only use polish for nautical use.

Little bottom repairs

- Please ask to Cantiere del Pardo information on gelcoat, catalyst, percentage, time, and temperature for the catalysing, taking into consideration that if the temperature is lower the 16° C, it is better not to operate.

- Before starting working dry perfectly the intervention area and remove with acetone the presence of grease or dirty.

- Sand the intervention area, then remove the dust.

- Add the right percentage of catalyst, then apply the gelcoat on the intervention area, do not forget to abound in the application of the gelcoat because it shrinks.

- To obtain a plane surface, the repair could be coverd with some cellophane and then crushed.

- When the gelcoat is completely catalysed (alwys follow the instructions given in the container) and hardened can be treated with the water abrasive paper (600).

- Then use the Polish.

Teak deck

- We recommend to clean and rinse the deck with fresh water and a brush of medium bristles at least once a year.

Important: using the brush follow the wood grained.

Bottom

◊ Cantiere del Pardo normally arranges for the application of an antifouling.

- To avoid the coming off of the antifouling, owing to the presence of silicone Polish on the hull when it has been removed from its stamp, it is necessary to well clean the bottom of the hull before the application of the antifouling.
  - To clean the hull it is advisable not to sand the hull but to use only the mechanical action of a pressurized water jet.

- To obtain good performance, frequently clean the bottom with a pressurized water jet.

- We want to remember you that the antifouling in general contain toxic agent, pay attention to your eyes, skin and mucus membrane. So while intervening be always well equipped to avoid any kind of contacts.

Interiors

- If the painting will damage, get in touch with Cantiere del Pardo for the repairing.
- Frequently ventilate the interiors of the boat, keep it always dry.

Stainless steel

- The stainless steel used for the Grand Soleil 40 hardware is the AISI 316, a steel alloy containing a percentage of molybdenum between the 2% and the 3%, particularly resistant to corrosion and oxidation in the marine environment.
- This does not mean that this steel is not subject to chemical aggression in presence of chlorides, sulphates and ferrous contamination frequent in harbour areas than in the sea, common in polluted environments.
- The marine environment and waters with a high concentration of chlorine ions tend to form the so-called pitting in stainless steel; this is the pitting corrosion which occurs initially with rust points on the surfaces and then penetrates the internal structure.

Maintenance

To prevent or reduce pitting, never use detergent containing chlorine (e.g. chlorohydrins and its solutions) or abrasives (iron pads, abrasive paper etc.) when cleaning stainless steel surfaces, because this products change their property consequently reduce their protection.

- For the correct way of cleaning the stainless steel use rags, sponges or soft brush with fresh water and neutral soap, if you notice a dirt persistence, use one of the product available ion the market.
- After sailing, if possible rinse the stainless steel surface with fresh water.
- If the boat is laid up for a long period, clean the stainless steel surfaces and apply a coating of Vaseline oil.

Winches

◊ The scheme at page 24 shows the function of each winch.

Maintenance

- Wash them regularly with fresh water especially after tough sailing.
- Have a skilled technician grease bearings and cogs at least once a season.

Read and refer to the use and maintenance manual given by the manufacturer.

W.C.

The following indications do not replace the information given by the manufacturer.

Toilette

◊ Stern toilet:
- Both W.C. valves, at the end of the convey pipes (white colours), are accessible by lifting up the floor board in the centre of the saloon, aligned to the bulkhead: the valve towards bow is the inlet for the washing water; those towards stern is the outlet (the central one is for the sink's outlet).

◊ Bow toilet:
- Both W.C. valves, at the end of the convey pipes (white colours), are accessible by lifting up the wood plane in the bottom part of the sink's furniture: the one at the external side of the hull is for the washing water inlet, those towards the centre of the hull is for the outlet (the central valve is for the sink's outlet).

Instructions for W.C. use

- After checking that the intake and outlet valves are open, position the little lever on top of the WC pump on "full basin".
- Activate WC pump at least 20 times.
- Position the lever on "empty basin" and keep on pumping until the basin is completely drained off.

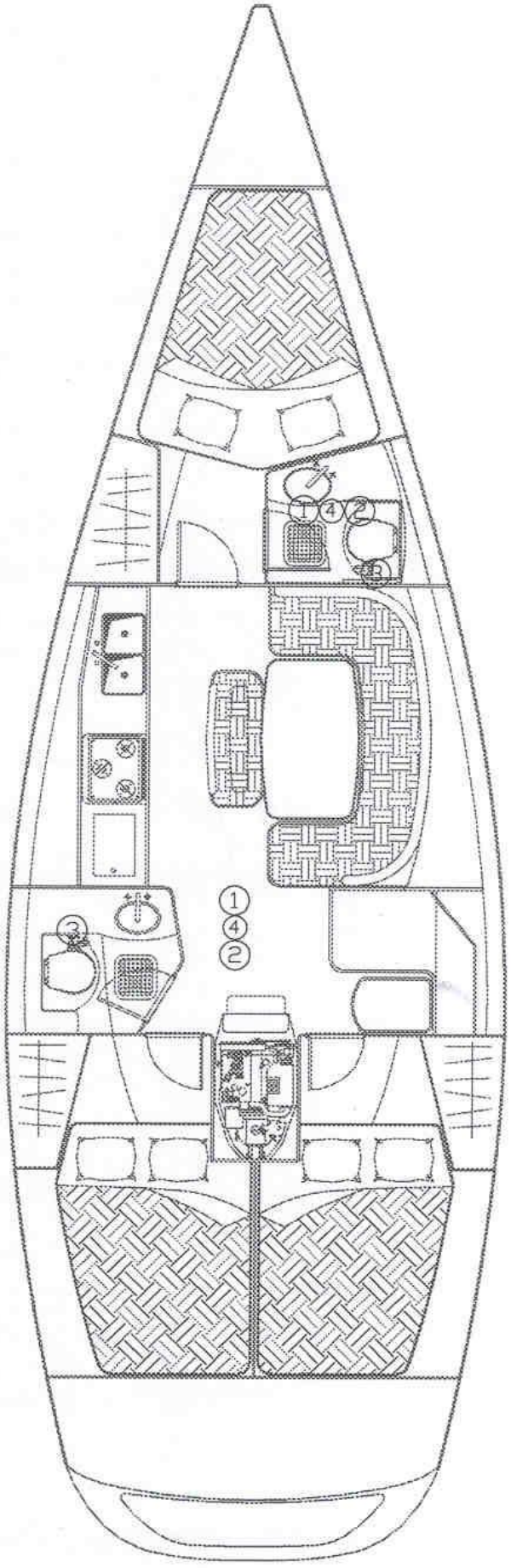
Warning and caution

We recommend to always close the sucking and outlet valves when starting sailing.

- Also turn off intake valve and drain cock when you leave the boat for a long time.
- Do not throw sanitary towels, cigarette butts, matches, paper (if not toilet paper) or other non water-soluble objects into the basin.
- Do not use acid or corrosive products to cleanse basin.
- If you should you need to dismantle the WC system or other connected components, turn off inlet and outlet cocks before doing so.

Refer to use and maintenance manual provided by manufacturer.

Grand Soleil 40



W.C. valves

1) Inlet valve
2) Outlet valve
3) W.C. pump
4) Sink’s outlet valve