OWNER'S MANUAL

cantiere del pardo

Ed. 04/2012
GS 39 m.y. 2012

Designed and compiled by Studio di Ingegneria Ing. Paolo SCIFONI for **Cantiere del Pardo Holdings Srl**.

Viale Bengasi, 21
47900 Rimini - ITALY

Tel. +39-0541/393862
Fax +39-0541/396280
paoloscifoni@alice.it

CONTENTS

FIRST PART – USING THE BOAT IN SAFETY

SECOND PART – ABOUT THE BOAT

FIRST PART

cantiere del pardo

Ed. 04/2012
GS 39 m.y. 2012

1. SAFETY WARNINGS

NB: THIS MANUAL CONTAINS SEVERAL WARNING PANELS HIGHLIGHTED AS BELOW, PROVIDING IMPORTANT INSTRUCTIONS ON BOAT SAFETY AND RESPECT OF THE ENVIRONMENT. READ THESE PANELS CAREFULLY AND NEVER FAIL TO FOLLOW THE INSTRUCTIONS GIVEN.

DANGER

DENOTES THAT AN EXTREME INSTRINSIC HAZARD EXISTS WHICH WOULD RESULT IN HIGH PROBABILITY OF DEATH OR IRREPARABLE INJURY IF PROPER PRECAUTIONS ARE NOT TAKEN.

WARNING

DENOTES THAT A HAZARD EXISTS WHICH CAN RESULT IN INJURY OR DEATH IF PROPER PRECAUTIONS ARE NOT TAKEN.

CAUTION

DENOTES A REMINDER OF SAFETY PRACTICES OR DIRECTS ATTENTION TO UNSAFE PRACTICES WHICH COULD RESULT IN PERSONAL INJURY OR DAMAGE TO THE CRAFT OR COMPONENTS OR TO THE ENVIRONMENT.

2. INTRODUCTION TO THE MANUAL

This manual has been compiled to help you use your boat in safety and with the greatest possible satisfaction.
It is important for you to dedicate sufficient time to carefully reading this manual, in calm and without distractions, so as to acquire the information needed to use your boat safely. We advise you therefore to read this manual carefully and to familiarize yourself with the boat before sailing.
This manual gives explanations about your boat and the systems and equipment installed or supplied, together with practical instructions for its use and brief descriptions of basic maintenance procedures.
Clearly, this manual is neither intended to or is able to replace the specific instructions compiled by the manufacturers of the equipment and components installed on board.
To acquire the required expertise in the use of your boat and its systems you must read not only this manual but also the rest of the documentation supplied separately (and in particular the instruction booklet provided by the manufacturers of equipment and systems).
This owner's manual is not a course on boating safety or seamanship, and neither is it a detailed maintenance or trouble-shooting guide, although it contains several indications of this type to give suggestions that in our experience are most frequently necessary.
Although everything has been planned and designed for the safety of the boat and the persons on board, the use of a leisure craft is highly dependant on weather conditions, sea conditions, the experience and fitness of the crew and similar factors. It is therefore impossible to guarantee total safety.
Your boat has been designed to comply with "Design Category A" specifications, and therefore conforms to the most rigorous standards, but you must also be aware that the wind and sea conditions envisaged by these specifications correspond to a strong gale, with the risk of freak waves and heavy gusts, and therefore constitute truly dangerous conditions, in which only a skilled, fit and trained crew manning a well-maintained boat prepared for these conditions can sail satisfactorily.
Always consult an updated weather forecast prior to sailing, and ensure that wind and sea conditions will be compatible with the design category of your boat, and that you and your crew will be able to handle it in these conditions.
If this is your first boat, or if it is a type of boat with which you are not familiar, for your own comfort and safety you should be sure that you gain sufficient experience in handling and using it before you take command.
Any boat, no matter how strong it may be, can be severely damaged if used improperly. This is not compatible with safe boating. Always adjust the course and sail surface of the craft to wind and sea conditions, so as to avoid excessive strain on the boat and difficult and tiring conditions for all persons on board. Reduce sail surface promptly with increases in wind. Always attempt to foresee changes in weather conditions, preparing the boat and the crew for the imminent situation.
Ensure that maintenance, any necessary repairs and any minor modifications are carried out solely by qualified and suitably trained persons. If more extensive work is done on the boat, ensure that the persons carrying this out do not compromise the essential safety requisites of the boat, and if major structural work is done, that any such work that may affect safety characteristics has been assessed, carried out and documented by competent persons. The builder cannot be held responsible for modifications that it has not approved.

Any change in weight distribution on board can significantly impair the stability of the boat. Do not carry out these modifications without the written authorization of the builder.
Remember that major modifications made to the boat may require official renewal and/or approval of government permits for the use of the boat (depending on the applicable laws of the boat's country of registration).
Regularly carry out all necessary checks and maintenance. However, even if you take scrupulous care of your boat, remember its age and possible deterioration when deciding how to use it.
In many countries a permit, licence or other specific document is required to be able to sail a boat of this type. Check that you possess all such necessary documents before sailing.
The IMO COLREG international regulations define rights of way, navigation lights and other aspects of sailing throughout the world. Ensure that you are familiar with these rules and that you carry a copy of a manual illustrating them on board.
Carefully read the operating instructions for the use of the self-inflating liferaft.
The boat should have appropriate safety equipment on board (lifejackets, harness, etc.) according to the type of craft, weather conditions, course to be sailed and the number and age of the persons on board. Check the mandatory regulations for this safety equipment applicable for the country of registration of the boat.
Crew should be familiar with the use of all safety equipment and emergency manoeuvring (man overboard recovery, towing, etc.). Sailing schools and clubs regularly organize suitable drill sessions.
When the boat is sailing, all persons on deck must wear a suitable buoyancy aid (lifejacket/personal floatation device, etc), and in particular in adverse weather conditions and if important manoeuvres are to be made (mooring, anchoring, hoisting the tender, rearranging cables on deck, etc). Note that in some countries it is a legal requirement to wear a buoyancy aid that complies with national regulations at all times.

⚠ CAUTION ⚠

PLEASE KEEP THIS MANUAL IN A SECURE PLACE, AND HAND IT OVER TO THE NEW OWNER WHEN YOU SELL THE CRAFT.

NB: In case of loss or deterioration of this manual, another copy can be requested from your dealer or directly from the builder.

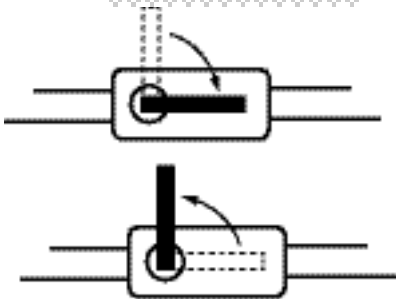
NB: This manual is consigned together with the boat to the first owner. The first owner must sign a receipt when the manual is consigned, so as to provide documentary evidence that the necessary information and instructions for the correct and safe use of the boat have been provided.

NB: This manual makes reference to the side of the boat in the following way:

a. "PORT" and "STARBOARD" are indications that refer respectively to left-hand and right-hand sides of the boat looking from the stern toward the bows.
b. the words "left" and "right" are used instead to describe the local position of an object with respect to another, regardless of position relative to the bows (e.g. "on the right-hand side of the Main Switchboard").

This manual contains instructions, descriptions, diagrams and illustrations that present both standard and optional fittings on the boat, so as to make it as complete as possible. Changes made in design or the production process for this particular model during each production season may mean that some of the equipment described in this manual is different on board a specific boat. The contents of this manual may not be used to establish what equipment is considered to be standard or optional on each version of this boat model, or how its systems should be installed. In case of doubts or differences found between the descriptions given in this manual and the equipment effectively present on board, we invite you to contact the builder's Assistance Service, which will provide all necessary information and explanations.

The pipes used for fluids on board are fitted almost exclusively with ball valves with an operating handle that can rotate only through 90°. When the handle is parallel to the valve body, the valve is OPEN (take care when considering the valve body: the presence of a rigid pipe bend immediately before or after a valve may be misleading). When the handle is perpendicular to the valve body, the valve is CLOSED.



Open

Closed

3. GENERAL INFORMATION AND CRAFT DATA

WARNING

THE BOAT IN YOUR POSSESSION COULD DIFFER IN SOME WAYS FROM THE BOAT PRESENTED IN THIS MANUAL AS A RESULT OF SPECIAL INSTALLATIONS REQUESTED, EQUIPMENT INSTALLED AFTER THE COMPILATION OF THE MANUAL, OR CUSTOMIZATION WORK CARRIED OUT AFTER THE BOAT LEFT OUR YARD. IF YOU HAVE ANY DOUBTS OR IF YOUR BOAT DIFFERS SIGNIFICANTLY FROM THE DESCRIPTIONS GIVEN IN THIS MANUAL, WE ADVISE YOU TO IMMEDIATELY CONTACT YOUR BOAT DEALER OR THE BUILDER'S ASSISTANCE CENTRE, SO AS TO RECEIVE THE NECESSARY INSTRUCTIONS.

CAUTION

DO NOT MAKE MODIFICATIONS OF ANY KIND WHATSOEVER TO YOUR BOAT OR ITS SYSTEMS. IF YOU NEVERTHELESS INTEND TO DO THIS, CONTACT YOUR BOAT DEALER OR THE BUILDER'S ASSISTANCE CENTRE. THESE ARE FULLY AT YOUR DISPOSAL FOR ALL ADVICE, WORK AND ASSISTANCE.

For assistance with any work required, please contact the dealer for full advice and any original spare parts and/or materials needed for minor repairs.
Major repairs to the boat or onboard systems must be carried out by the builder or its assistance centres, which possess the necessary equipment, tools and skills.
The dealer will also be able to refer you to experts external to its organization for specialized repairs and maintenance (e.g. electronic instruments, pumps, deck fittings, etc).

CAUTION

THE GUARANTEE WILL BE INVALIDATED IF ORIGINAL SPARE PARTS ARE NOT USED.

3.1 BOAT DATA

Name of the builder of the boat:
Cantiere del Pardo Holdings Srl
Via F.lli Lumière, 34 – 47100 Forlì (FC)
tel: +39 – 0543 782404
fax: +39 – 0543 782405

http: www.grandsoleil.net
e-mail: info@grandsoleil.net

Boat model: **Grand Soleil 39**

3.2 CRAFT IDENTIFICATION NUMBER (CIN)

The Craft Identification Number (CIN) is shown on the starboard side of the stern (starboard = right, looking towards the bows).
The CIN of your boat is: _____ (to be compiled by the person consigning the boat).

3.3 CRAFT DESIGN CATEGORY

CATEGORY A: This craft is designed to operate in winds that may exceed wind force 8 (Beaufort scale) and in significant wave heights of 4 m and above (see below), and is largely self-sufficient. Abnormal conditions such as hurricanes are excluded. Such conditions may be encountered on extended voyages, for example across oceans, or inshore when unsheltered from the wind and waves, with a fetch of several hundred nautical miles.

(NB: fetch = area of sea surface without shelter or protection subject to the action of a constant wind, such as to generate waves of increasing size).

Note: The significant wave height is a statistical parameter obtained by measuring the height of all waves in a given period of time, then taking into consideration only the one-third of the waves of greatest height, then calculating the mean height of this one-third of the waves, which approximately corresponds to the wave height estimated by an experienced observer. In the presence of significant wave heights of 4 metres, for example, it may be possible to observe some waves that are double this height (8 metres from trough to crest).

WARNING

THE DESIGN CATEGORY ASSIGNED TO THE BOAT INDICATES ITS CAPACITY TO SAIL SAFELY FOR LONG DISTANCES IN ADVERSE BUT NOT EXTREME WIND AND SEA CONDITIONS. IT IS THE RESPONSIBILITY OF THE BOAT'S COMMANDER TO CHECK, BEFORE SAILING, THAT THE CRAFT HAS SUFFICIENT RESOURCES TO SAFELY SAIL THE INTENDED ROUTE, TO CONSULT WEATHER FORECASTS, AND TO CHECK AT ALL TIMES THAT THE BOAT AND ITS CREW ARE IN A CONDITION TO BE ABLE TO SAFELY SAIL THE INTENDED ROUTE AT THE CHOSEN SPEED, AND TO TAKE PROMPT ACTION WHENEVER NECESSARY TO CHANGE SCHEDULES AND TO TAKE ALL OTHER NECESSARY MEASURES TO MAINTAIN AMPLE SAFETY MARGINS.

WARNING

THE CAPACITY TO FACE ADVERSE WEATHER AND SEA CONDITIONS IN SAFETY DEPENDS NOT ONLY ON THE BOAT'S DESIGN AND CONSTRUCTION CHARACTERISTICS, AND THE MATERIALS AND COMPONENTS USED, BUT ALSO ON ITS STATE OF MAINTENANCE AND EFFICIENCY, ON THE RELATIVE AGE AND DETERIORATION OF ITS SYSTEMS AND EQUIPMENT, ON THE SKILLS AND FITNESS OF THE CREW AND ON THEIR KNOWLEDGE OF THE BOAT AND THE WATERS IN WHICH THEY ARE SAILING.

⚠ WARNING ⚠

THE BOAT'S CE MARK SPECIFIES COMPLIANCE WITH UNIFORM SAFETY STANDARDS THROUGHOUT EUROPE. IT IS IN YOUR OWN INTEREST TO REFRAIN FROM MAKING MODIFICATIONS OF ANY KIND WHATSOEVER TO THE BOAT'S SYSTEMS, EQUIPMENT AND CHARACTERISTICS. THIS COULD HAVE SEVERE REPERCUSSIONS ON SAFETY. IF YOU NEVERTHELESS INTEND TO DO THIS, CONTACT YOUR BOAT DEALER OR THE BUILDER'S ASSISTANCE CENTRE FOR ALL NECESSARY HELP AND ADVICE.

3.4 MAIN CRAFT DATA

mLCC - Mass of the boat in light craft condition 7,700 kg
(displacement of the unloaded and dry boat) (see below)
mMTL - Maximum recommended load, according to ISO 14946 1,830 kg
(this value also includes the weight of liquids in fixed onboard tanks filled to their maximum capacity) (see also the "Notes on loading" section)
DC - Fully loaded displacement 9,530 kg

(Note: Mass = Displacement = Weight; the mass of the boat may vary depending on its configuration and the optional equipment installed; this value is given with a tolerance of 5%)

Equipment and other items not included in mLCC (light craft condition)
These are as follows:
- internal accessories that are not fixed, such as cutlery, crockery, kitchen utensils, linen;
- non-fixed electronic and navigation equipment (e.g. maps, harbour charts);
- tools, spare parts;
- personal safety aids and lifesaving equipment;
- provisions;
- bilge water;
- discharge water;
- freshwater;
- fuel;
- personal effects;
- liferafts (self-inflating);
- tender;
- persons.

This value includes instead the mast, boom, standing and running rigging and the standard sails supplied.

In practical terms, the **mLCC** is equivalent to the mass of the boat ready for use, but before any kind of fuel, freshwater or other supplied and mobile accessories have been loaded.

Main dimensions of the craft in accordance with ISO 8666:

Lmax Maximum length (overall)	11.82 m
Lwl Waterline length	10.40 m
Bmax Maximum beam	3.70 m
Bw Waterline beam	2.95 m
Ha Vertical height above waterline	19.10 m
Tmax Maximum draught when fully loaded	2.40 m
Tmax option 1	2.00 m
Tmax option 2	2.15 m

Main propulsion system: sails

Tank capacities in litres (the positions of loading inlets and any drainage points, if provided, are given in the second part of this manual):

Fuel tank	150 l (126 kg)
Freshwater tanks (2)	240 l
Blackwater tanks	34 l

CAUTION

THE CAPACITY OF THE TANKS ON BOARD DOES NOT CORRESPOND TO THE QUANTITY OF LIQUID THAT IT IS EFFECTIVELY POSSIBLE TO DRAW FROM THESE TANKS, DUE TO LIQUID THAT CANNOT BE SUCKED UP. THIS DEPENDS ON THE POSITION AND SHAPE OF THE SUCTION PIPE, THE SHAPE OF THE TANK AND ALSO ON BOAT MOVEMENTS AND TRIM. IT IS ADVISABLE TO CONSIDER THAT AT LEAST 10% OF TANK CONTENTS ARE UNAVAILABLE IN THIS WAY.

CAUTION

FOR FUEL AND FRESHWATER TANKS, THE LAST 20% OF TANK CONTENTS SHOULD BE CONSIDERED AS A “RESERVE”.

3.5 SAIL DATA

	Cruiser	Race
	45.00 m² (mainsail)	50.00 m² (mainsail)
	37.00 m² (genoa)	39.00 m² (genoa)
	82.00 m² (total)	89.00 m² (total)
I	15.30 m	15.80 m
J	4.40 m	4.40 m
P	14.80 m	15.50 m
E	5.20 m	5.35 m
designer	Claudio Maletto	
exterior designer	Attivo Design	
interior designer	GS Design Team	

3.6 CONDITIONS OF GUARANTEE

The Cantiere del Pardo guarantee is valid only for the first buyer, and is applicable only for products of the company's own production. For products by other manufacturers, any guarantees provided by the supplier are transferred to the buyer, with the total exoneration of Cantiere del Pardo from all and any liability. Furthermore, the guarantee for hulls in blue gelcoat is limited to their structural resistance only, and is not applicable to any deterioration of their colour in appearance or shade. The guarantee takes effect from the date of delivery, and is valid for 24 (twenty-four) months.
The guarantee is be valid only if any defects encountered are notified in detail and in writing to Cantiere del Pardo within 2 (two) months of their discovery.
If Cantiere del Pardo ascertains the effective presence of the defect notified by the buyer in the way indicated above, the buyer will be entitled solely to the free replacement or repair of the materials acknowledged to be defective, to be carried out in the technical times normally necessary and excluding labour costs and any expenses for the travel of specialized personnel, which will be charged to the buyer at cost price. The buyer must also arrange to deliver the boat at its own expense to the place indicated by Cantiere del Pardo where the work covered by the guarantee is to be carried out. If such delivery is impossible for objective reasons, such as safety while sailing, Cantiere del Pardo will send its technicians to the place where the boat is located, with expenses to be borne by the buyer.
If it is necessary to transfer the boat to the builder's yard, the respective expenses will be charged at cost price to the buyer.
The guarantee will be invalidated if the defect in question is found by the technicians of Cantiere del Pardo to be attributable to any of the following:

- use of the boat in ways other than as described in the "Owner's Manual" supplied together with the boat at the moment of delivery;
- use of the boat in ways that fail to conform to correct nautical practice and normal criteria of prudence and proficiency;
- use of the boat in regattas, charter hire services, events or any other circumstances that are not for purely private and personal use;
- replacement or modification of components or structures of the boat that are not expressly approved and authorized in writing by Cantiere del Pardo, or any tampering with components or structures of the boat;
- fitting of components not approved in writing by Cantiere del Pardo and any other type of tampering with the materials covered by the guarantee;
- natural wear and tear, negligent use or excessive and uncontrolled strains and stresses;
- total or partial non-fulfilment by the buyer of the payment obligations;
- causes extraneous to the production process applied directly by Cantiere del Pardo.

The buyer must also take all necessary steps to limit the consequences of the defects encountered and notified.
The work to be carried out as covered by the guarantee can be requested by the buyer only at authorized assistance points, which will be notified by Cantiere del Pardo, unless otherwise indicated by the same. Work covered by the guarantee will be carried out in normal working hours, and authorization for this work must always be sent directly by Cantiere del Pardo.
Any work carried out under cover of the guarantee will be guaranteed by Cantiere del Pardo for 12 (twelve) months, but for no longer than the natural expiry of the

original guarantee on the boat as described above, following the release of a written report by the assistance point authorized to carry out the work.
Work covered by the guarantee will be carried out according to the instructions and technical decisions of Cantiere del Pardo, and no delays in its completion will give any right to compensation for damages or any other indemnities. This guarantee is the sole guarantee offered by Cantiere del Pardo. No other guarantee, compensation or indemnity of either a legal or contractual nature may be claimed by the buyer.

4. MAXIMUM NUMBER OF PERSONS ON BOARD

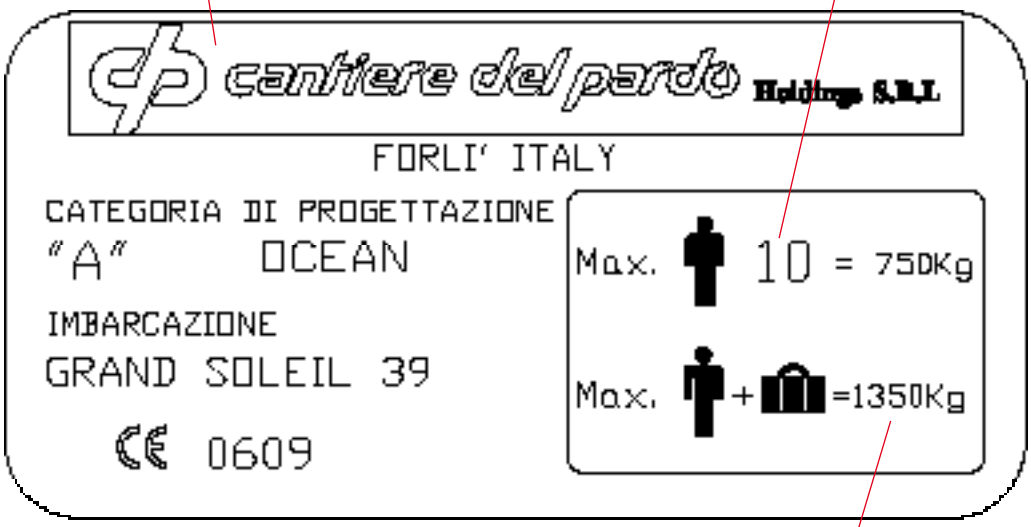
Maximum number of persons on board when sailing: 10

⚠ WARNING ⚠

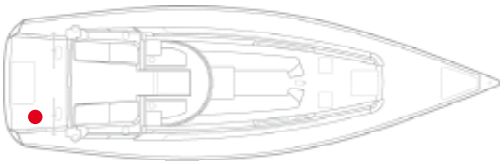
DO NOT EXCEED THE MAXIMUM RECOMMENDED NUMBER OF PERSONS. REGARDLESS OF THE NUMBER OF PERSONS ON BOARD, THE TOTAL WEIGHT OF PERSONS AND EQUIPMENT MUST NEVER EXCEED THE MAXIMUM RECOMMENDED LOAD. WHEN SAILING, ALWAYS USE THE SEATS AND SEATING AREAS PROVIDED.

BUILDER'S PLATE

MAXIMUM NUMBER OF PERSONS ON BOARD (WHEN SAILING)



MAXIMUM LOAD (EXCLUDING LIQUIDS CONTAINED IN ONBOARD TANKS)



BUILDER'S PLATE

5. NOTES ON LOADING

NB – BUILDER'S PLATE: The complete explanation of the information given on this plate is presented in this section.

10 indicates the maximum number of persons (adults) allowed on board while sailing.
1,350 kg indicates the maximum weight of persons plus other loads (excluding liquids in fixed onboard tanks) allowed on board while sailing.

Information about displacement and maximum load:
The maximum load includes:

- A weight of 750 kg corresponding to the maximum number of persons permitted on board when the boat is sailing (10 persons calculated with a standard weight of 75 kg per person).
  If there are children on board, the total number of persons can increase (two children each weighing 37.5 kg are equivalent to one adult, but the boat must also carry a sufficient number of life jackets of a suitable size), but the maximum load must remain within the envisaged limits.
- The maximum weight of safety equipment, equivalent to 87 kg.
- Other equipment and items, including personal effects, spare parts and tools, portable tanks or other containers with reserves of liquids, for a total weight up to 513 kg (the indicated weight can be divided as preferred).

The total weight of 1,350 kg must not be exceeded.
However, if the total weight of equipment, provisions and personal effects exceeds 1,350 kg, the weight and therefore the number of persons permitted on board must be reduced as appropriate, or other items loaded on board must be reduced. It may be necessary to limit fuel and freshwater reserves to ensure that the maximum load indicated by the builder is not exceeded, and in this way cruising range is reduced.
The maximum load excludes the anchor and chain at the bows, mattresses and awnings, mooring cables and fenders, as this equipment is considered to be always present on board.
If for example the items to be loaded on board include another large inflatable dinghy with heavy motor, a spare anchor with a very long and heavy chain, fishing tackle, tools, spare parts, a large supply of bottled water and other accessories, thereby exceeding the quantities envisaged for these items in the design of the boat, it will no longer be possible to permit the maximum number of persons on board, or it will not be possible to fully fill tanks.
It is the responsibility of the boat's commander to ensure that the maximum load defined by the builder is never exceeded.
The builder's plate located on the starboard side of the helm stations in the cockpit shows the maximum load permitted on board, and this load refers therefore to the weight of all items the owner may decide to bring on board, but excluding the weight of liquids with which the fixed tanks of the boat can be filled.

⚠ WARNING ⚠

WHEN LOADING THE CRAFT, NEVER EXCEED THE MAXIMUM RECOMMENDED LOAD. ALWAYS LOAD THE CRAFT CAREFULLY AND DISTRIBUTE LOADS APPROPRIATELY TO MAINTAIN DESIGN TRIM (APPROXIMATELY LEVEL). AVOID PLACING HEAVY WEIGHTS HIGH UP.

6. ENGINE INFORMATION

The maximum power of the engine indicated on the CE inspection certificate is 29.4 kW (40 MHP) (MHP = Metric Horse Power).
Your boat could be fitted with a less powerful engine, rated at 20.9 kW (28.4 MHP).

NOTE: The European Directive also establishes new requirements for noise emission, and this boat has been designed and built to comply with the envisaged limits. The owner must ensure that modifications or malfunctions of onboard systems or equipment do not cause increased noise emission. We therefore advise you to request an inspection at least once a year from the builder's assistance service, from the assistance service of the engine manufacturers or from specialized technicians, so as to ensure that noise emission does not increase. Every month, check that exhaust ducts are free from visible damage and deterioration.

7. INFORMATION CONNECTED WITH THE RISK OF FLOODING AND STABILITY

7.1 OPENINGS IN THE HULL

WARNING

KEEP SEAWATER INTAKES AND UNDERWATER THROUGH-HULL DISCHARGES OPEN ONLY FOR THE SYSTEMS OPERATING AND ONLY FOR THE NECESSARY TIME REQUIRED. CONSTANT CHECKS ON SEAWATER INTAKES AND THROUGH-HULL VALVES ARE AN ESSENTIAL PRECAUTION AGAINST FLOODING.

WARNING

VALVES THAT ARE MOVED ONLY OCCASIONALLY WILL TEND TO SEIZE UP. THROUGH-HULL VALVES MUST BE MOVED FREQUENTLY TO ENSURE THAT THEY CAN BE EASILY OPERATED. ALWAYS IMMEDIATELY SERVICE A VALVE THAT IS DIFFICULT TO MOVE.

WARNING

DO NOT OBSTRUCT ACCESS TO THROUGH-HULL VALVES BY STOWING OBJECTS IN FRONT OF THEM. A RAPID CLOSURE OPERATION MAY BE NECESSARY TO PREVENT THE RISK OF FLOODING.

WARNING

WHEN SAILING, ALWAYS KEEP PORTHOLES, HATCHES, WINDOWS AND WATERTIGHT DOORS AND HATCHES CLOSED. WHEN SAILING, ESPECIALLY IN ADVERSE CONDITIONS, FREQUENTLY CHECK THAT THESE ITEMS ARE CLOSED.

7.2 BILGE PUMPS AND BAILING

⚠ WARNING ⚠

THE BILGE PUMPING SYSTEM IS NOT DESIGNED FOR DAMAGE CONTROL.

The boat is fitted with two electric bilge pumps that normally operate automatically, with manual operation commands for backup. These pumps drain water respectively from the following bilge compartments:
- main saloon bilge;
- afterpeak bilge.

NB: Two electric pumps are also provided, operating both automatically and manually. These pumps suck up greywater from the shower collection tanks in the bathrooms, and are described in the section dedicated to greywater waste discharges (soapy water).
A manual bilge pump is also installed on the port side of the cockpit to drain water from the main saloon bilge.
(The bilge drainage layout is shown in the second part of this manual, see Chap. F.)

The electric bilge pumps are powered and protected from breakers on the Main Switchboard (MS) in the chart table area. These pumps normally operate automatically, commanded by a level sensor in each bilge compartment, or if necessary can be commanded by two backup manual switches located on the Main Switchboard (MS). When the battery disconnector switches are turned off, the bilge pumps nevertheless remain powered.
A detailed description of these systems is given in the second part of this manual.

A high water level alarm system is provided for the bilges (and the shower collection sumps), which gives a warning when the pumps are unable to drain away the water present.

NB:

a. Bilge pumps should normally need to be used only very rarely, as a result of faults or leaks caused by other malfunctions. This sporadic use of the pumps at long intervals may make the systems less reliable, and above all it may become more difficult to observe possible problems in their operation. The only guarantee for regular and reliable operation comes from maintenance and checks at regular intervals (weekly operating checks, checks on electrical circuits at the start of every season or every three month, checks on water circuits at the start of every season or every three months).
b. Inspect bilge compartments every day when the boat is in use to check for the possible presence of leaks, even if small. If water is found in a bilge compartment, always check if it is freshwater or seawater.
c. Keep the bilges scrupulously clean. Do not leave the boat cluttered with rags, paper, cardboard, dirt or work residues left after maintenance, because boat movements will cause these wastes to accumulate in the bilges, blocking drainage suction inlets.

⚠ WARNING ⚠

SAFETY PRECAUTION: CHECK THE OPERATION OF ALL BILGE PUMPS AT REGULAR INTERVALS. CLEAR DEBRIS FROM PUMP INLETS.

7.3 STABILITY AND BUOYANCY

NB:

a. Any change in the position of heavy objects on board may significantly affect the stability, trim and performance of the craft.
b. Bilge water levels must always be kept to a minimum.
c. Stability is reduced by any weight added high up.
d. In rough weather, hatches, lockers, doorways and portholes must be kept closed to reduce to a minimum the risk of flooding.
e. Stability may be reduced in the case of towing or when lifting heavy weights using the boom to lift them.
f. Breaking waves are a serious stability hazard.
g. Sail area must be promptly reduced when wind conditions worsen.
h. The course must be suitable for weather and sea conditions.
i. Use lifelines and personal safety harnesses when sailing in rough seas and with strong wind, above all at night when fewer persons are assigned to vigilance.

8. INFORMATION CONNECTED WITH THE RISK OF FIRE OR EXPLOSION

8.1 PROPULSION ENGINE

a. After starting the main engine, check for the correct circulation of seawater for cooling by observing the discharge at the stern.
b. Check that the engine compartment ventilation ducts are open and unobstructed. The boat is fitted with a blower (extractor) that extracts hot air from the engine compartment. New air is drawn into the compartment through a specific duct. The blower operates when the engine is running, and continues to operate for several minutes after the engine has been stopped, to disperse the heat accumulated in the compartment.
c. When loading fuel do not smoke, and check for the absence of leaks from fuel lines.
d. Do not allow inflammable materials to come into contact with hot engine surfaces.
e. Items containing petrol (outboard motors, tanks, portable generators) must be stowed in specific spaces, if possible in the open air or in ventilated lockers without electrical components and not communicating with the interior of the boat.
f. Frequently check that cooling water flows correctly from the discharge outlet when the engine is running.
g. With the engine at a standstill, make periodic checks on the tightness of the starter motor and alternator electrical connections. Electrical contacts carrying high currents can be subject to overheating and become hazardous if connections are loosened by vibrations.

⚠ WARNING ⚠

DO NOT STORE TANKS, OUTBOARD MOTORS OR OTHER ITEMS CONTAINING PETROL IN INTERNAL COMPARTMENTS.

8.2 GAS SYSTEM

The gas stove in the galley is supplied with gas by a specific copper piping system that starts from the gas canister located in the locker provided at the bows and then reaches the galley. The gas supply system is opened by opening the two cut-off valves located before and after the copper piping system.
The gas canister is fitted with a pressure regulator with pressure gauge.

⚠ CAUTION ⚠

IT IS ADVISABLE TO CLOSE BOTH VALVES ON THE GAS SUPPLY SYSTEM WHEN THE GAS STOVE IS NOT IN USE.

(The gas system layout is shown in the second part of this manual, see Chap. K.)

Instructions for safe use and control of the gas system.

a. Always follow the instructions for use for the gas stove provided separately by the manufacturer.
b. Close the valves on the gas supply line and the canister valve when the gas stove is not in use.
c. Close valves before loading fuel and immediately in case of emergency.
d. Check that the gas taps on the cooking stove are closed before opening the gas canister valve.
e. Check the gas system as follows before every use:
   - close the gas taps on the cooking stove and open the valve on the gas canister and the two ball valves after the flexible hose from the canister and before the cooking stove;
   - allow the pressure gauge to stabilize and then close the valve on the gas canister, checking the pressure gauge for three minutes; the pressure must remain constant if it there are no leaks in the system;
   - if the pressure falls, there is a leak in the system: **IN THIS CASE DO NOT USE THE GAS SYSTEM**.
f. The location of leaks can be traced using a detergent solution or soapy water that form bubbles at any points of leakage when applied to the pipes and joints of the system (with the gas stove taps closed and the valves on the gas canister and the gas system open). Soapy water solutions for tracing leaks in gas systems conformant to the EN ISO 14291 standard satisfy these requirements.
   If leaks are present, close the gas canister valve and have the system repaired before using it again. Repairs to the gas system must be carried out by a specialized technician.
g. Do not obstruct access to components of the gas system in any way.
h. Keep the valves of empty canisters closed and disconnected.
i. Store spare canisters in ventilated lockers on the open deck.
j. Do not use gas canister lockers or cabinets for storing other objects.
k. The flexible hoses of the gas system must be checked monthly and replaced if any signs whatsoever of deterioration are observed. They must always be replaced at least every three years.
l. Before replacing the gas canister, close all system valves. Check the condition of the gasket on the canister joint and replace it if it seems deteriorated or old. Correctly tighten the canister joint.
m. Do not use gas-fired heating stoves or lamps on board.
n. When using the gas stove the protective stainless steel surround screens supplied separately must be installed on the cooking top. Take care with the shape and diameter of the pans used, because if they are large they may deflect flames and heat, damaging the cabinet containing the gas stove, and even causing fires to break out. Use only pans that do not project beyond the protective stainless steel surround screens supplied separately with the gas stove.
o. If the gas stove is used while sailing (which however is not recommended, due to the risks caused by movements of the boat), the use of pan holders is compulsory.

WARNING

NEVER LEAVE THE BOAT UNATTENDED WHEN GAS-FIRED EQUIPMENT IS IN USE.

WARNING

DO NOT SMOKE OR USE NAKED FLAMES WHEN THE GAS CANISTERS ARE BEING REPLACED.

WARNING

GAS CANISTERS MUST BE STORED ONLY IN THE LOCKER PROVIDED SPECIFICALLY FOR THIS PURPOSE.

WARNING

DO NOT USE SOLUTIONS CONTAINING AMMONIA ON COMPONENTS OF THE GAS CIRCUIT.

WARNING

NEVER USE NAKED FLAMES TO SEARCH FOR GAS LEAKS.

WARNING

APPLIANCES WITH GAS FLAMES CONSUME OXYGEN IN THE CABIN AND RELEASE COMBUSTION PRODUCTS INTO THE ATMOSPHERE. VENTILATION IS NECESSARY WHEN THESE APPLIANCES ARE BEING USED. DO NOT USE GAS RINGS OR THE GAS OVEN FOR AMBIENT HEATING.

WARNING

THE GAS-FIRED STOVE HAS BEEN DESIGNED FOR USE BY ADULTS.

DANGER

GAS IS INFLAMMABLE AND POISONOUS IF INHALED. IN CASE OF GAS LEAKS, IMMEDIATELY CLOSE THE VALVES AT BOTH ENDS OF THE GAS SUPPLY LINE. VENTILATE CABINS AND OTHER COMPARTMENTS BELOW DECK IMMEDIATELY.

DANGER

ALWAYS SUPERVISE THE GAS STOVE WHILE IT IS BEING USED, BOTH WHEN THE BOAT IS MOORED AND WHEN SAILING.

8.3 FIRE PREVENTION AND FIRE-FIGHTING EQUIPMENT

a. This boat is equipped with a remote-controlled fuel valve cut-off system for the supply from the fuel tank, to be used to prevent the risk of fuel losses, and a number of handheld fire extinguishers distributed around the boat. The detailed description of these systems is given in the second part of this manual.
b. The owner is responsible for periodic checks on the firefighting systems and on expiry dates indicated by equipment manufacturers, and in case of use or and exceeded expiry dates, must have fire extinguishers recharged as necessary.
c. A bucket secured by a rope must be kept in a rapidly accessible position, for use in case of fire on deck.
d. It is the owner's responsibility to ensure that firefighting systems are rapidly accessible when the boat is in use, and to inform all persons on board on the position and use of firefighting equipment, on escape routes from internal cabins and on openings provided towards the exterior.

Precautions that must be adopted by the owner.

a. Keep bilges clean and frequently check for the possible presence of fuel vapours or gas, or for fuel leaks.
b. When components of fire prevention systems are replaced, it is compulsory to use only original spare parts, or parts with equivalent technical qualities and characteristics of fire resistance.
c. Curtains and other fabrics must be kept away from cooking stoves and naked flames.
d. Do not stow inflammable materials in the engine compartment. If non-inflammable items are stowed in the engine compartment, they must be secured so as to prevent the risk of falling on moving parts or of obstructing free passage or access.
e. Never:
   - obstruct access to exits, skylights or hatches;
   - obstruct access to safety controls, such as fuel valves, gas valves or electrical system switches;
   - obstruct access to hand-held fire extinguishers located in lockers;
   - leave the boat unattended when cooking stoves or heaters are being used;
   - use gas-fired lamps on board;
   - modify any onboard systems (particularly electrical, fuel or gas systems) or allow unqualified persons to make such modifications;
   - fill fuel tanks or replace gas canisters when the engine is running or with cooking stoves or heating in use;
   - smoke while handling fuel or gas.

8.4 MEANS OF FIRE ESCAPE

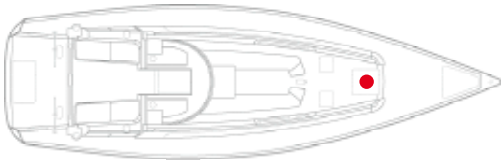
NB: the following doors and hatches are escape routes from internal cabins and compartments towards the exterior in case of fire or flooding, and must therefore never be blocked or obstructed when there are persons on board:

- hatch on master cabin ceiling;
- hatches (2) on dinette/saloon ceiling;
- skylight leading to cockpit from internal dinette.

⚠ WARNING ⚠

REGULARLY CHECK THAT EMERGENCY ESCAPE ROUTES ARE NOT OBSTRUCTED.

EMERGENCY ESCAPE ROUTE
FROM FORWARD CABIN TO DECK



FORWARD CABIN

9. ELECTRICAL SYSTEMS — RISKS OF FIRE, EXPLOSION OR ELECTRIC SHOCKS

A detailed description of the electrical system is given in the second part of this manual.

⚠ WARNING ⚠

THE BOAT HAS AN ALTERNATING CURRENT ELECTRICAL SYSTEM THAT HAS THE SAME RISKS OF USE AS A NORMAL DOMESTIC ELECTRICAL SYSTEM. USE THE SAME PRECAUTIONS THAT MUST NORMALLY BE ADOPTED IN THE HOME.

⚠ WARNING ⚠

A SHORT CIRCUIT CAN GENERATE DANGEROUS SPARKS AND OVERHEATING THAT CAN CAUSE FIRES OR EXPLOSIONS.

⚠ WARNING ⚠

THE PRESENCE OF A LARGE BATTERY BANK POWERING THE DIRECT CURRENT ELECTRICAL SYSTEM MEANS THAT IN THE CASE OF A SHORT CIRCUIT, EXTREME OVERHEATING MAY OCCUR, SUFFICIENT TO MELT METALS AND TO CAUSE THE EXPLOSION OF THE BATTERIES.

⚠ WARNING ⚠

DO NOT MAKE TEMPORARY REPAIRS WITH MAKESHIFT CONNECTIONS OR BARE ELECTRICAL CABLES. USE ONLY SUITABLE SOCKETS AND PLUGS. IN CASE OF DOUBTS, DO NOT MAKE CONNECTIONS OF ANY KIND, AND CONSULT A MARINE ELECTRICIAN.

DANGER

DO NOT WORK ON ENERGIZED ELECTRICAL CIRCUITS.

Electrical systems must be checked at least once every two years, giving particular attention to the presence of corrosion on contacts and on the loosening of connections.
The shore power supply connection must be disconnected if the system is not in use.
Connect metal housings or protection boxes of electrical equipment installed on board to the boat protection conductor (green or green/yellow conductor; connect to ground the metallic structures of all components).
Use electrical equipment with double insulation or ground connection (ground).

DANGER

DO NOT ALLOW THE SHORE POWER CABLE TO TRAIL IN THE WATER. THIS MAY GENERATE AN ELECTRICAL FIELD THAT CAN CAUSE INJURY OR DEATH TO PERSONS SWIMMING NEARBY.

DANGER

TO REDUCE TO A MINIMUM THE RISK OF ELECTRIC SHOCK AND FIRE:
- SET THE CONNECTION SWITCH OF THE SHORE POWER SUPPLY ON THE BOAT TO THE "OFF" POSITION BEFORE CONNECTING OR DISCONNECTING THE SHORE POWER SUPPLY CABLE;
- CONNECT THE SHORE POWER SUPPLY CABLE TO THE ONBOARD CONNECTOR BEFORE CONNECTING THE OTHER END TO A SHORE POWER SUPPLY POINT;
- DISCONNECT THE SHORE POWER SUPPLY CABLE FIRST FROM THE SHORE POWER SUPPLY POINT AND THEN FROM THE ONBOARD CONNECTOR;
- FULLY TIGHTEN THE SCREW RINGS ON CABLE CONNECTORS, AND CORRECTLY CLOSE THE SCREW CAP WHEN CONNECTORS ARE NOT IS USE;
- DO NOT MODIFY CONNECTIONS OF THE CABLE TO CONNECTORS; USE ONLY COMPATIBLE CONNECTORS.

Never:
- modify onboard electrical systems or the respective electrical diagrams; modifications, installations and maintenance must be carried out by qualified electricians;
- alter or modify the nominal current intensity of overload protection devices;
- install or replace electrical equipment or devices with components that exceed the nominal current intensity of the circuit.

10. HANDLING CHARACTERISTICS

⚠ CAUTION ⚠

SET THE SAILS AND COURSE OF THE BOAT APPROPRIATELY FOR SEA AND WIND CONDITIONS.

Notes on field of vision when sailing.
The view of the steersman may be obstructed by a high heel angle of the boat or by other factors, such as:

- load and load distribution;
- position and type of sails set;
- sea conditions;
- rain or spray;
- onboard lights;
- position of roofs or awnings;
- persons obstructing field of vision.

The COLREG navigation rules require that adequate surveillance be maintained at all times, that rights of way be respected, and that the steersman should always be ready to perform correct manoeuvres to prevent collisions.

⚠ WARNING ⚠

THE VIEW FROM THE HELM STATIONS (COCKPIT) MAY BE PARTIALLY OBSTRUCTED DUE TO THE BOAT'S TRIM ANGLE OR THE PRESENCE OF OBSTACLES. ALWAYS KEEP THE WATERS YOU ARE SAILING IN UNDER CONSTANT OBSERVATION SO THAT ALL OBSTACLES CAN BE AVOIDED.

11. PROPER OPERATION — OTHER RECOMMENDATIONS AND INFORMATION

11.1 CHECKLISTS

This section provides a list of recommended checks and operations that should be carried out on board your boat both when moored and under way. Experience will help you to become increasingly capable of ensuring the safe handling and use of your boat. Do not hesitate to seek the advice of your dealer or the builder's technical staff if you have any doubts whatsoever on the use of your boat.

BEFORE SAILING

If you have stopped only briefly before sailing again, some of the checks may be omitted. The **highlighted** checks must never be omitted.

1. Safety equipment in working order and not overdated.
2. Documents for boat, passengers and crew on board.
3. Remove sunshades and awnings. Check on secure fixing of external cushions, mattresses, etc.
4. **Check windlass and anchor fixing.**
5. **Check that the handrail is securely and completely installed.**
6. Check these levels:
   - freshwater
   - **fuel**
   - **engine oil**
   - **transmission oil**
   - **sealed engine cooling circuit.**
7. Check fire protection systems and equipment.
8. Battery disconnector switches turned on.

⚠ WARNING ⚠

ALWAYS SHUT OFF POWER TO ELECTRICAL CIRCUITS THAT ARE NOT NEEDED.

9. Check engine alternator drive belt.
10. Check fuel separator filters for possible presence of water or dirt.
11. **Check status of Main Switchboard (instruments operating correctly, only necessary switches turned on).**
12. Check the correct open or closed position of the valves on the fuel, seawater and freshwater systems. Close greywater and blackwater discharge valves and seawater intake valves. Leave the scupper discharge valves open.
13. Check bilges and correct operation of bilge pumps.
14. **Close portholes and hatches. Inspect cabins and other compartments.**

WARNING

FIRMLY SECURE ALL OBJECTS THAT COULD MOVE, FALL OR OBSTRUCT MOVEMENT WHEN SAILING.

15. Disconnect and haul in shore cord.
16. Swimming ladder dismounted. Gangway in. Close the stays on the sides and stern of the boat.
17. Check your own mooring space and that of nearby boats (room to manoeuvre).

DANGER

THE ENGINE MUST NEVER BE STARTED IF THERE ARE PERSONS IN THE WATER NEAR YOUR BOAT.

18. **Check that propulsion system control lever is operating correctly. Put the engine into neutral gear.**
19. **Start the engine. Check that the engine compartment air extractor is operating. Accelerate slightly to allow the alternator to operate.**

CAUTION

AVOID WARMING THE ENGINE UP AT TICKOVER SPEED FOR MORE THAN 5 MINUTES. THIS CAN DAMAGE THE ENGINE AND BE A RISK FOR THE ENVIRONMENT.

20. Check circulation of engine cooling seawater. Check for absence of oil, fuel and water leaks.
21. Send power to navigation instruments. Test radio.
22. **Before leaving your mooring, check that you are firmly moored and then test the engagement of the marine gear (one small movement ahead – stop – one small movement astern – stop).**
23. **If the anchor has been used, secure it firmly.**

WHEN SAILING

WARNING

SET THE SAILS AND COURSE OF THE BOAT APPROPRIATELY FOR SEA AND WIND CONDITIONS TO ENSURE THE SAFETY AND COMFORT OF ALL PERSONS ON BOARD AND TO AVOID DAMAGE TO THE BOAT AND ITS FITTINGS AND SYSTEMS.

WARNING

THE STABILITY OF YOUR BOAT CAN BE AFFECTED SUDDENLY BY UNEXPECTED WAVES. REMIND YOUR PASSENGERS AND CREW TO ALWAYS MOVE AROUND THE BOAT CAREFULLY, TAKING A FIRM GRIP ON HANDHOLDS.

WARNING

WHEN SAILING WITH THE ENGINE RUNNING, ENTER THE ENGINE COMPARTMENT ONLY IF ABSOLUTELY NECESSARY. IF YOU HAVE TO ENTER THE ENGINE COMPARTMENT, SET THE COURSE OF THE BOAT APPROPRIATELY TO GIVE IT THE MAXIMUM STABILITY.

NB: The engine cannot be used with the boat heeling sideways at an angle greater than 20°. Make frequent checks on the low oil pressure alarm. If the engine oil level is low, there is a greater likelihood of low oil pressure.

Always Keep a constant check on instruments and alarms. Check the engine exhaust for smoke. Frequently check the operation of the compass and the autopilot.

Every hour Inspect the engine compartment, check the bilges, listen for unusual noises and check for the possible presence of smoke or fumes. Check switchboards.

Every two hours Check all cabins and compartments. Ensure that portholes and hatches are shut. Check that anchor is firmly secured, particularly if the sea is rough.

ON REACHING YOUR DESTINATION

1. Before reaching your destination, check the bilges and the level of the blackwater tanks.
2. Send power to the windlass and any other services that will be required.
3. Prepare cables, ropes, fenders and any other equipment to be used.
4. Before entering a harbour, check that the marine gear is working properly.

WARNING

CARRY OUT ALL MANOEUVRES WITH THE BOAT AT THE LOWEST POSSIBLE SPEED. THIS WILL GIVE YOU MORE TIME TO REACT, WILL ALLOW YOU TO KEEP A BETTER CONTROL OF THE SITUATION, AND IN CASE OF COLLISION, WILL REDUCE ANY DAMAGE CAUSED.

WARNING

WHEN OPENING THE ENGINE COMPARTMENT, TAKE CARE NOT TO TOUCH HOT SURFACES.

WARNING

CHECKS ON SEAWATER INTAKES AND BILGES ARE AN ESSENTIAL PRECAUTION AGAINST FLOODING.

DANGER

CHECKS ON THE STATUS AND CONNECTED POWER SUPPLIES OF THE ONBOARD ELECTRICAL SYSTEM ARE AN ESSENTIAL PRECAUTION AGAINST FIRES.

5. After mooring or anchoring, switch off electrical circuits that are not required.
6. If you intend to connect the shore power line, check its condition and ensure that connectors are perfectly dry. Check that the switches of the shore power supply are turned off before connecting the shore line.
7. When adjusting the length of mooring cables and the height of the gangway, take high and low tide levels into account.

WHEN MOORED

1. Make frequent checks on switchboard and on shore line if connected.
2. Regularly check moorings and any wear on cables.
3. Regularly check bilges.
4. Regularly check battery charge.
5. When leaving the boat unattended, switch off electrical circuits and close all through-hull valves.

11.2 MAN-OVERBOARD PREVENTION AND RECOVERY

When sailing it is not permitted to lean out beyond the forestay.
The stays on the aft handrail and the openings in the side handrails must be correctly closed while sailing.

⚠ WARNING ⚠

YOU ARE DIRECTLY RESPONSIBLE FOR YOUR BOAT'S SAFETY EQUIPMENT, AND IT IS YOUR DUTY TO COMPLETE IT WITH ANY FURTHER EQUIPMENT REQUIRED BY THE REGULATIONS OF ITS COUNTRY OF REGISTRATION. MAKE FREQUENT CHECKS ON THIS EQUIPMENT'S CONDITION, AND ENSURE THAT IT IS NEVER OVERDATED.

⚠ WARNING ⚠

CONSULT THE SPECIFIC INSTRUCTIONS PROVIDED FOR THE SELF-INFLATABLE LIFERAFT. FAMILIARIZE YOURSELF WITH THEIR USE BEFORE SAILING. CHECK THE DATES FOR PERIODIC INSPECTION OF THE LIFERAFTS.

⚠ WARNING ⚠

ALL PERSONS ON BOARD MUST KNOW WHERE LIFEJACKETS ARE LOCATED AND HOW THEY SHOULD BE WORN. BEFORE SAILING, GIVE YOUR PASSENGERS THE NECESSARY INSTRUCTIONS. THE PLACES WHERE THEY ARE LOCATED ARE MARKED WITH SPECIFIC LABELS.

11.3 LIFERAFT STOWAGE

The emergency self-inflating liferaft is stowed beneath the port cockpit seat.

Your boat documentation includes a series of stickers showing lifejackets and fire extinguishers. Use these to mark the places where these items of safety equipment are kept.

11.4 DANGER FROM MOVING PARTS OF MACHINERY

WARNING

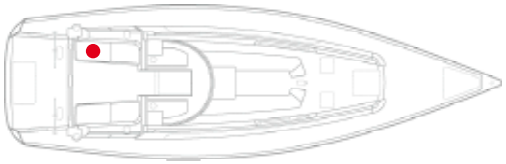
NEVER APPROACH PARTS OF THE ENGINE, MARINE GEAR, OR OTHER COMPONENTS WHEN THEY ARE MOVING. TAKE CARE WITH CLOTHING AND AVOID THE RISK THAT BELTS, HEMS, SLEEVES, LACES OR SIMILAR COULD BE CAUGHT UP IN MOVING PARTS.

Never remove the protection devices fitted by the builder without first stopping the engine, and do this only for the time necessary for checks and maintenance.

WARNING

LEAVING A MECHANICAL PROTECTION DISMANTLED CREATES A SERIOUS RISK OF INJURY. TO PROTECT OTHER PERSONS WHO MIGHT WORK IN THE SAME AREA AND YOURSELF, ALWAYS REASSEMBLE THE PROTECTION AFTER WORK HAS BEEN COMPLETED.

SELF-INFLATING LIFERAFT
LOCKER



COCKPIT

⚠ WARNING ⚠

WHEN CARRYING OUT CHECKS OR MAINTENANCE ON COMPONENTS WITH DANGEROUS MOVING PARTS, CHECK THAT THEY CANNOT BE ACCIDENTALLY STARTED EITHER BY YOURSELF OR OTHER PERSONS. CUT OFF THE POWER SUPPLY OR LOCK CONTROLS IN THE OFF POSITION.

11.5 SECURING OF LOOSE EQUIPMENT

Remember that the boat is intrinsically unstable. It can vibrate, sway, shake, roll and yaw. The items stowed on board without being firmly secured can therefore move, fall and obstruct movement, and may even prevent the opening of a door or hatch. This can be a serious hazard, and may prevent you from reaching a vital object or component in case of an emergency.

11.6 RESPECT FOR ENVIRONMENT

Before sailing, check on local anti-pollution regulations.
Always respect the environment with regard to pollution of waters, noise pollution and excessive wash.
Blackwater tanks and toilets must never be discharged near the coast or in harbours. They must never be discharged in protected areas where this is prohibited. Use the onshore disposal systems provided by harbours, and empty tanks before sailing.
Familiarize yourself with the MARPOL regulations on marine pollution, and always respect them.

11.7 USE OF HOLDING TANKS

a. Water wastes from washbasins, showers, etc (soapy water) are called greywater. Washbasins and showers discharge directly overboard. The greywater discharge system is described in detail in the second part of this manual.
b. Toilet wastes are called blackwater. The onboard blackwater system normally discharges blackwater wastes directly overboard.The boat is fitted with a collection tank for blackwater from the aft toilet. The forward toilet discharges directly overboard.

These systems are described in detail in the second part of this manual.

11.8 ANCHORING, MOORING AND TOWING

Equipment for mooring and in particular for towing, at both the stern and bows, is identified and described in the second part of this manual.

WARNING

TOWING IS A VERY DIFFICULT AND COMPLEX OPERATION THAT MUST ALWAYS BE CARRIED OUT AT LOW SPEED, BECAUSE IT GENERATES EXTREMELY HIGH STRAINS, WITH THE RISK OF DAMAGE TO ONBOARD STRUCTURES AND OF THE SUDDEN BREAKAGE OF THE TOWING CABLES, WITH EXTREMELY SERIOUS RESULTS (WHIPLASH EFFECT).

WARNING

TIE THE TOWING CABLE SO THAT IT CAN BE RAPIDLY RELEASED EVEN IF UNDER STRAIN.

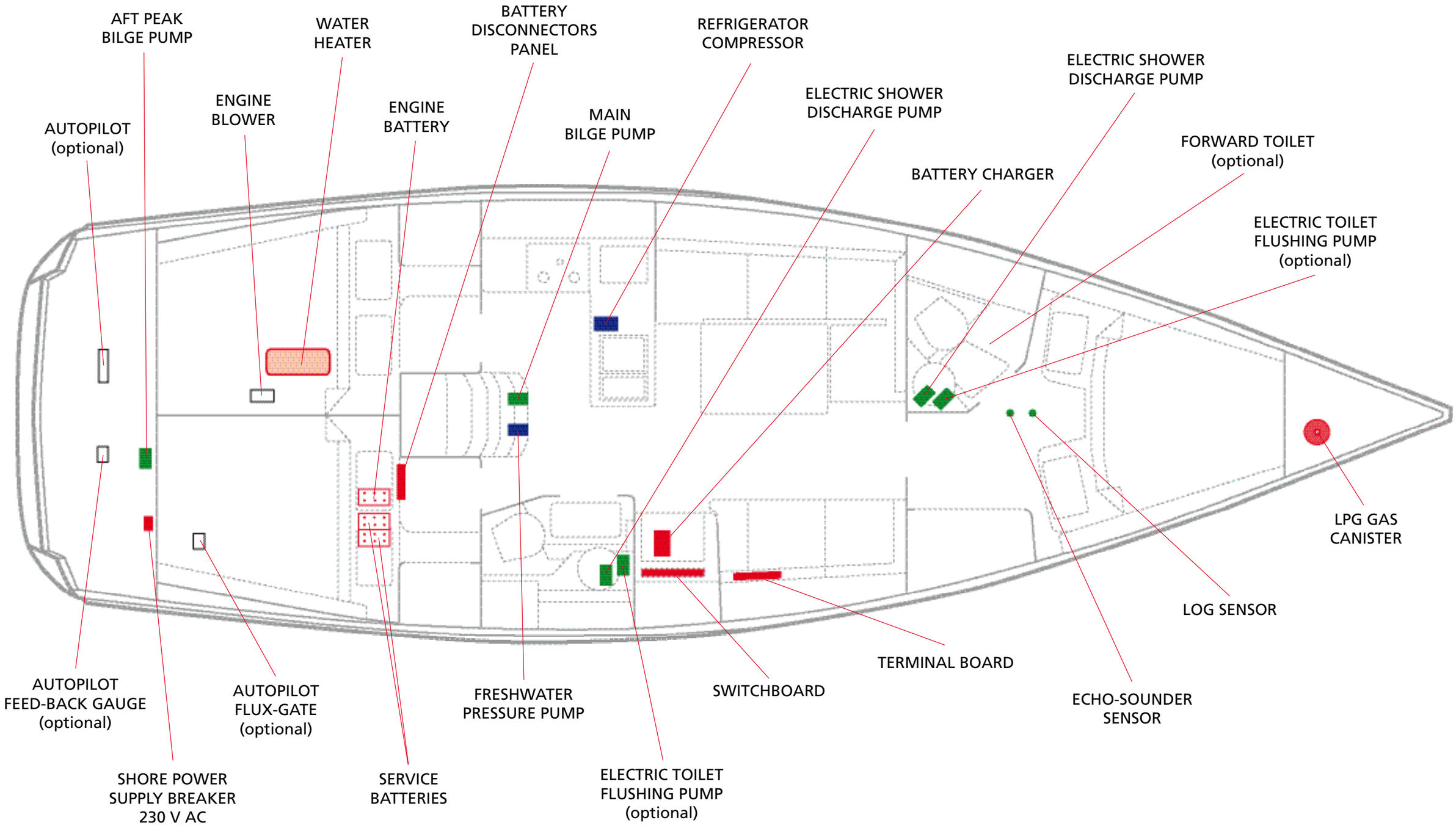
It is the responsibility of the boat owner to ensure that mooring and towing cables, the anchor chain and the anchor are adequate for the foreseeable use of the boat.

WARNING

GIVEN THE FORCE THAT CAN BE EXERTED BY MOORING CABLES AND FIXTURES, PARTICULARLY WHEN WARPING WINCHES OR THE WINDLASS ARE USED, MOORING OPERATIONS MUST BE CARRIED OUT ONLY BY EXPERIENCED PERSONS.

11.9 STEERING SYSTEMS

The boat is steered with a mechanical steering system with two helmwheels with steel cables connected to pulleys on the helmwheels and to the quadrant of the rudder stock. The rudder stock can also be connected to a servo-assistance piston commanded by the autopilot (if installed) and a feedback sensor that sends information on rudder angle to the electronic system that controls the autopilot.
Check that no materials stowed in the afterpeak can interfere with the free movement of the autopilot piston or the feedback sensor.
In case of total malfunctioning of the steering system, the boat can be steered with a spare manual tiller that can be fitted to the rudder stock.



LOCATION OF COMPONENTS

SECOND PART

cantiere del pardo

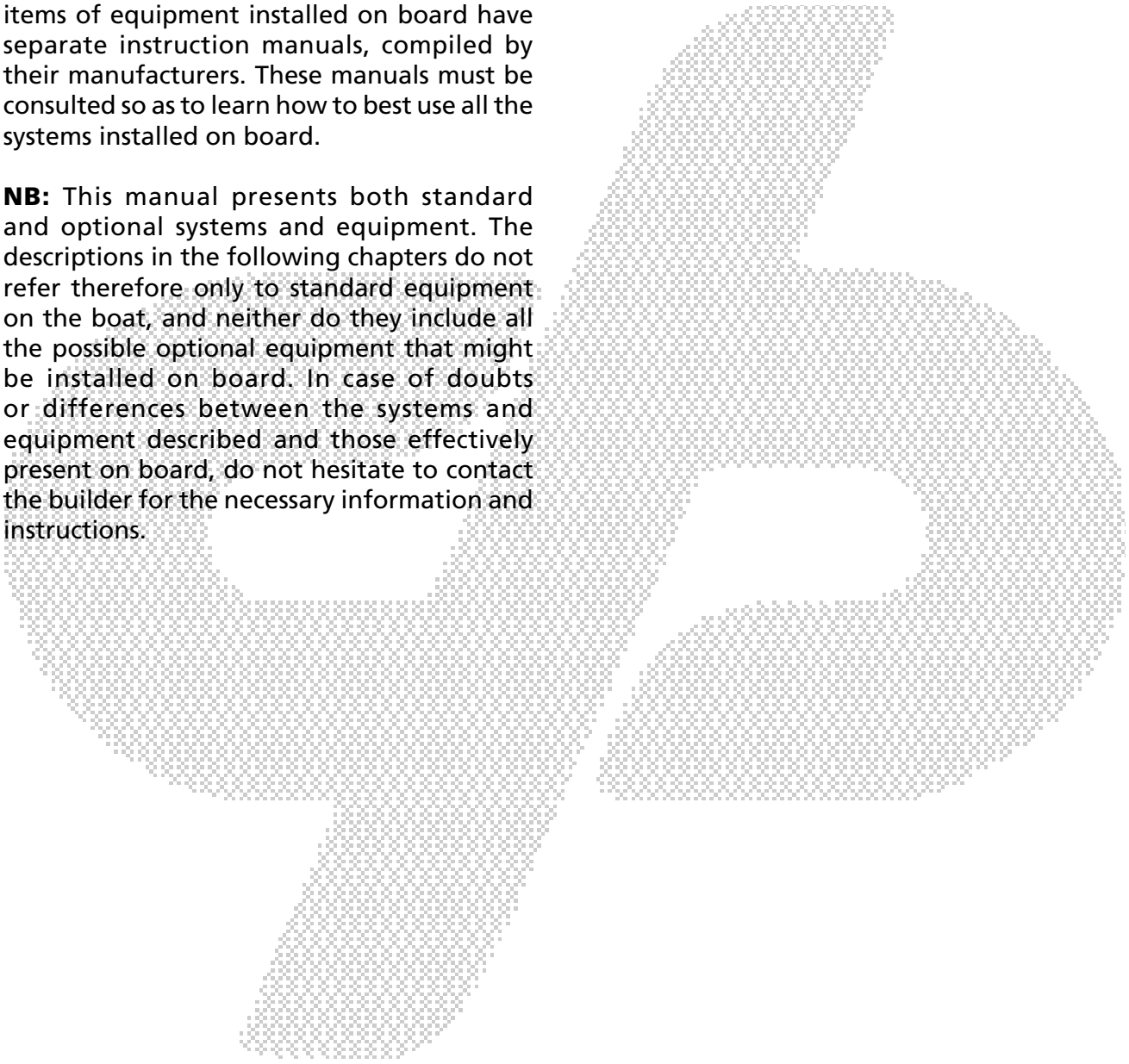
Ed. 04/2012
GS 39 m.y. 2012

SECOND PART – ABOUT THE BOAT

A. GENERAL NOTES

This part of the manual is dedicated to a more detailed description of the boat. The following chapters illustrate the systems and equipment installed. Remember that all items of equipment installed on board have separate instruction manuals, compiled by their manufacturers. These manuals must be consulted so as to learn how to best use all the systems installed on board.

NB: This manual presents both standard and optional systems and equipment. The descriptions in the following chapters do not refer therefore only to standard equipment on the boat, and neither do they include all the possible optional equipment that might be installed on board. In case of doubts or differences between the systems and equipment described and those effectively present on board, do not hesitate to contact the builder for the necessary information and instructions.



B. HELM STATIONS

This chapter describes the helm stations of the boat, illustrating the controls and instruments provided and giving a brief overview of the functions of the various components.

NB: The description given regards the controls and instruments normally fitted. Your boat may be fitted with different components or equipment fitted after delivery to the first owner, and may therefore differ partially from the description given in this chapter. In case of doubt, do not hesitate to contact your boat dealer or the builder's assistance service for full explanations.

⚠ CAUTION ⚠

THE HELM STATIONS MAY GIVE ONLY A LIMITED FIELD OF VISION, DUE TO THE BOAT'S POSITION OR THE PRESENCE OF SAILS OR PERSONS. ALWAYS ENSURE THAT THE WATERS AROUND YOU ARE KEPT UNDER CONSTANT OBSERVATION, SO AS TO AVOID ALL POSSIBLE OBSTACLES.

The descriptions given may refer to both standard and optional systems and equipment.

B.1 STEERING SYSTEM

The two main helm stations of the boat, with two helmwheels, are located at the stern. The steering system comprises a mechanical device with two columns and a circuit with a steel cable that moves a rotating flange fixed rigidly to the shaft of the single rudder.
The classic steering system with cables is fitted with turnbuckles to allow their tension to be adjusted. It is advisable to have this adjustment made only by qualified technicians. Checks on the condition of the cable and the possible presence of wear or other damage must be made every year.
If an autopilot is installed (optional), the rudder is also connected to the autopilot actuator arm (located in the afterpeak).
On the starboard side of the starboard helm station there are various controls and panels:
- a panel containing a 12 V DC power socket (optional) and controls for the foredeck lights, compass light and light beneath the boom (optional);
- VHF loudspeaker, with mute switch;
- propulsion engine controls;
- engine/marine gear remote-control lever;
- shore power connector (230 V AC);

On the opposite side, on the port side of the cockpit, there are the following:
- GPS-Plotter for navigation (optional);
- handle for remote fuel supply cut-off;
- shower with extractable hose and mixer tap;
- manual bilge pumps (drains water from the central bilge beneath the dinette).

Here are a series of indications and warnings on the use of the instruments that may be installed.

GPS - Plotter (optional)
This instrument has an electronic chart system and is interfaced with a GPS satellite receiver that gives the position of the boat with great accuracy.
For details on its use consult the specific instructions provided separately by the manufacturer.

⚠ CAUTION ⚠

REMEMBER THAT ELECTRONIC CHART SYSTEMS CAN NEVER BE A COMPLETE SUBSTITUTE FOR CONVENTIONAL OFFICIAL CHARTS, PARTICULARLY FOR GIVING WARNING OF UNDERWATER OBSTACLES OR NAVIGATION HAZARDS.

Autopilot (optional)
We remind you that the autopilot is interfaced with the GPS–Plotter. For details on its use consult the separate manual provided by the manufacturer.
The flux-gate sensor (solid-state compass) of the autopilot is installed beneath the starboard aft guest cabin.
Remind your guests that objects capable of affecting the magnetic field (mobile phones, metallic objects, radios, computers, etc) must not be left in the vicinity. Otherwise the autopilot may not operate correctly, creating a hazard for safe navigation.

⚠ WARNING ⚠

TAKE CARE NOT TO PLACE METAL OBJECTS OR EQUIPMENT THAT COULD INTERFERE WITH THE FLUX GATE IN ITS VICINITY.

⚠ WARNING ⚠

WHEN RUNNING ON AUTOPILOT, ALWAYS KEEP A CAREFUL WATCH FOR OTHER VESSELS OR POSSIBLE HAZARDS.

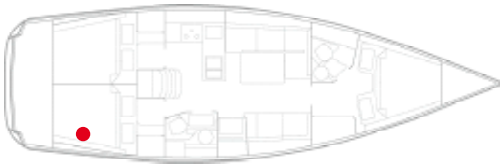
The piston that moves the rudder when the autopilot is operating is located in the afterpeak, together with a rudder angle sensor that provides the autopilot with essential operating data.
Check frequently that there are no obstacles to the free movement of the piston, the arm linked to the rudder stock and the feedback device. Any heavy or bulky objects stowed in the afterpeak that move and prevent correct movement of the rudder could create an extremely dangerous situation.

⚠ WARNING ⚠

WHEN STOWING ITEMS IN THE AFTERPEAK, ENSURE THAT THEY CANNOT MOVE AND PREVENT THE FREE MOVEMENT OF THE RUDDER AND THE AUTOPILOT CONTROL AND FEEDBACK SYSTEM.

Engine monitoring and control panel
All operating parameters for the main engine and marine gear are displayed and monitored on this panel. These parameters are checked and correctly adjusted in our yard before the boat is delivered. However, it is advisable to have them checked every time that maintenance work is carried out on the engine, and at least once a year, making checks in particular on the correct operation of alarm lights and the alarm buzzer.
The manuals supplied separately by the manufacturers give the normal ranges of variability for correct engine and marine gear operating parameters.

AUTOPILOT
FLUX-GATE SENSOR
(SOLID-STATE COMPASS)
(optional)

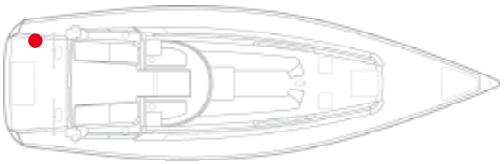


STARBOARD AFT CABIN - BENEATH BED

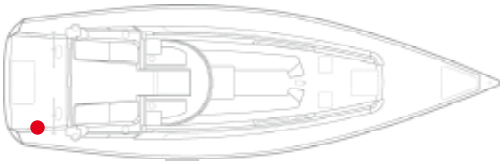
HANDLE FOR REMOTE
FUEL SUPPLY CUT-OFF

COCKPIT SHOWER

MANUAL CENTRAL
BILGE PUMP



COCKPIT – PORT



COCKPIT – STARBOARD

Remember that the normal values of these parameters when the propulsion system is running can also depend on external factors such as temperature, clogging of filters and the viscosity of lubricants.

Compass

Remember to have the compass compensation correctly set, and to have it checked periodically afterwards. Compass readings can be influenced by the presence of magnetic fields generated by metallic masses or electrical circuits in the vicinity.
Avoid causing further interference by placing other objects near the compass that could disturb the magnetic field.

Engine controls

CAUTION

THE ENGINE MUST BE STARTED WITH THE MARINE GEAR SECURELY IN NEUTRAL AND THE THROTTLE SET TO MINIMUM OR ONLY SLIGHTLY HIGHER.

CAUTION

THE STARTER MOTOR MUST NOT BE OPERATED FOR MORE THAN 10 SECONDS AT A TIME. WAIT 2 MINUTES BEFORE ATTEMPTING TO USE IT AGAIN, TO ALLOW IT TO COOL DOWN.

CAUTION

AVOID WARMING UP THE ENGINE AT MINIMUM SPEED FOR MORE THAN 3 TO 5 MINUTES. THIS IS A RISK BOTH FOR THE ENGINE AND FOR THE MARINE ENVIRONMENT.

CAUTION

IF NO OIL PRESSURE IS INDICATED WITHIN 15 SECONDS OF STARTING THE ENGINE, STOP IT AND TRACE THE CAUSE.

The mechanical remote-control lever has a system of metal cables, allowing both the engine and marine gear to be controlled.
When the lever is moved, for the first part of its travel it commands marine gear engagement, and after this the engine throttle.
It is advisable to find the location of the command cable terminals on the motor and marine gear, and to check that they are correctly secured every time that the oil level is checked.

CAUTION

DO NOT LEAVE YOUR MOORINGS IF THE ENGINE CONTROL SYSTEM IS NOT FUNCTIONING PROPERLY.

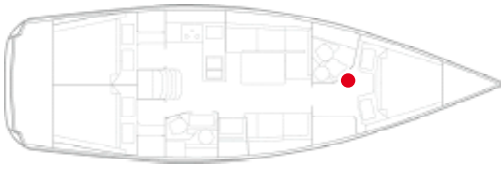
CAUTION

REVERSALS OF DIRECTION SHOULD BE MADE SLOWLY AND WITH THE ENGINE AT MINIMUM SPEED. OTHERWISE THE ENGINE, MARINE GEAR AND PROPELLER COULD BE DAMAGED.

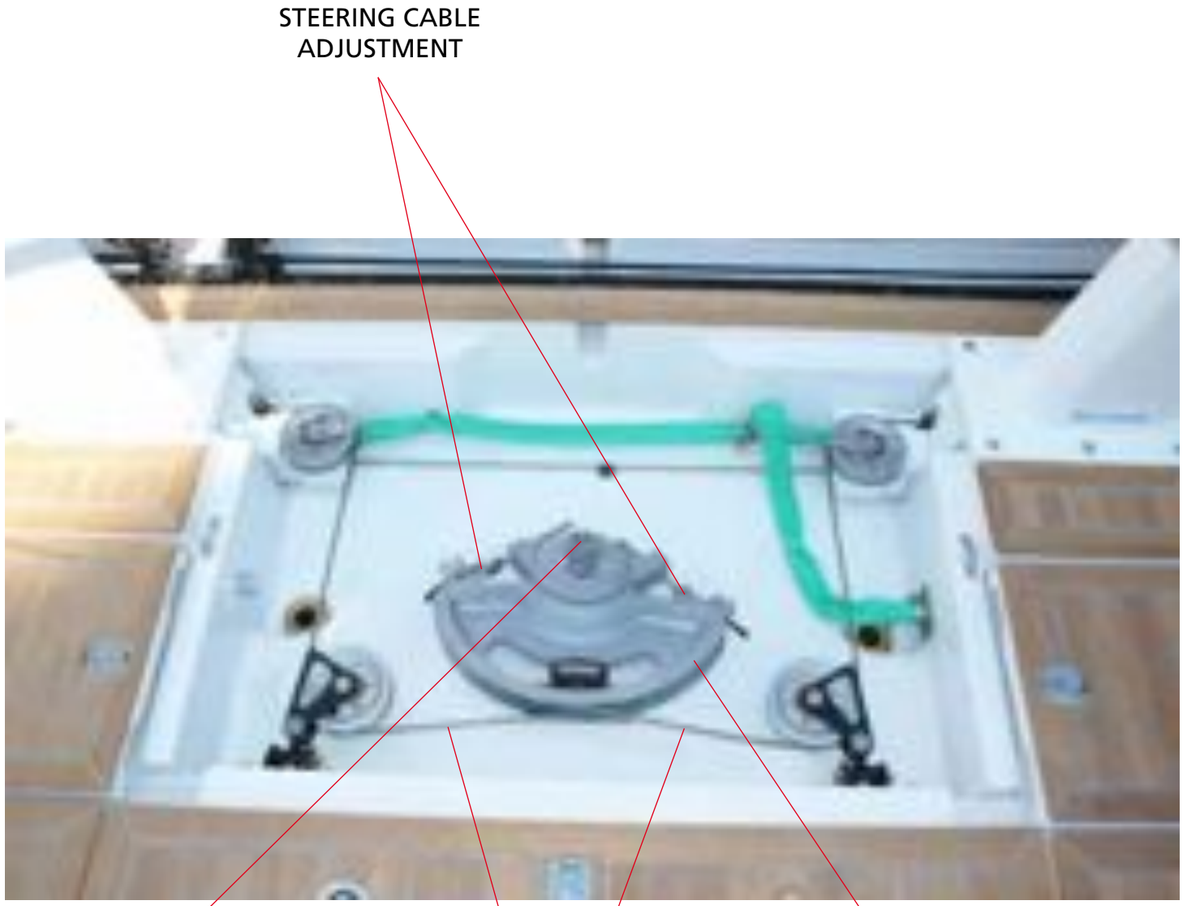
THROUGH-HULL
CLOSURE PLUGS

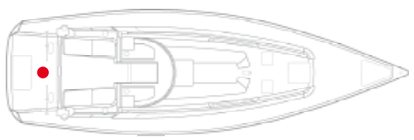
LOG SENSOR

ECHO-SOUNDER
SENSOR



FORWARD CABIN - BILGE


STEERING CABLE
ADJUSTMENT
EMERGENCY
TILLER SOCKET
STEERING
CABLES
HELM
QUADRANT



COCKPIT

C. PROPULSION SYSTEM

This chapter describes the propulsion system of your Grand Soleil 39, and in particular the engine and the marine gear.
The propulsion system is installed in "saildrive" configuration.
We advise you to acquire at least a basic working knowledge of the basic operating features of the propulsion system before sailing, and to seek the help and advice of an expert if necessary.
In particular, you should become familiar with the use of this type of propulsion system for manoeuvring the boat. When movement ahead or astern is selected, in addition to generating a longitudinal thrust (from the stern to the bows or vice versa), the propeller also tends to move the stern sideways, in one direction when moving astern and in the other when moving astern, and also facilitating or contrasting the effect of the rudder. This feature, if understood and applied practically, facilitates manoeuvres for mooring or in tight spaces, and can counteract a wind blowing from abeam when the boat is at a standstill or moving only very slowly.

C.1 ENGINE

The standard engine installed on your boat is a VOLVO D1-30 3-cylinder model rated at 20.9 kW (28.4 MHP = Metric Horse Power) at 3,200 RPM. Cruising speed must be kept beneath 2,600 RPM, and in these conditions the hourly fuel consumption will remain below 4 litres / hour, which may however vary according to displacement, the condition of the hull and the cleanliness of the engine filters.
As an alternative, a VOLVO D2-40 4-cylinder engine can be installed, rated at 29.1 kW (39.6 MHP) at 3,200 RPM. The hourly fuel consumption of this engine beneath 2,600 RPM (cruising speed) is below 5 litres/hour.
The engine has a 115 A alternator to charge the batteries. The engine monitoring panel is located to the starboard side of the starboard helm station in the cockpit.
Instruction manuals compiled by the engine manufacturer are provided separately. We advise you to read them carefully and to follow the indications given.
The engine is covered by the manufacturer's guarantee. Only technicians authorized by the manufacturer should be allowed to work on them. Failure to comply with this requirement will lead to the invalidation of the guarantee.
We strongly advise you to learn to recognize the main engine components by consulting the explanatory diagrams in the instruction manual (various types of filter, fuel injectors, manual pump for priming fuel injection circuit, drive belt, manual stopping, throttle control) and to become familiar with some of the most frequent operations (checks on oil and freshwater levels, manual stopping, oil and filter changes, correct tension of drive belt, etc).
The engine is cooled by a sealed freshwater circuit, which is in turn cooled by seawater.
The seawater system has a filter that can be opened for cleaning.
The cooling seawater is discharged together with the exhaust gases. When sailing under engine power, constant checks should be made on the correct flow of cooling seawater from the discharge outlet at the stern.
The freshwater level in the sealed cooling circuit (tank in the engine compartment) must be checked before starting the engine.

⚠ WARNING ⚠

THE ENGINE COOLING FRESHWATER IN THE TANK CAN REACH VERY HIGH TEMPERATURES AND CAN CAUSE SCALDING. OPEN THE CAP WITH GREAT CARE.

For winter use, the sealed cooling circuit must contain an antifreeze product like that normally used in motor vehicles. When your boat is delivered, the cooling circuit already contains an antifreeze additive.

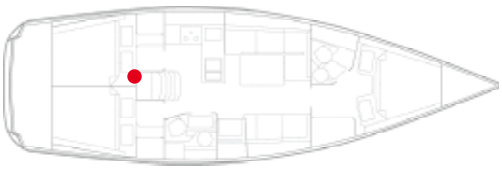
DRIVE BELT TENSION ADJUSTMENT BRACKET

SEALED CIRCUIT RETURN VALVE FROM WATER HEATER

ALTERNATOR

ENGINE COOLING SEAWATER FILTER

COOLING SEAWATER CUT-OFF VALVE



PORT AFT CABIN - ENGINE COMPARTMENT

MANUAL ENGINE
STOP LEVER

ENGINE THROTTLE
CONTROL CABLE

THROTTLE CABLE SHEATH
BLOCKING DEVICE

MARINE GEAR
CONTROL CABLE

THROTTLE CABLE SHEATH
BLOCKING DEVICE

TRANSMISSION OIL
LEVEL DIPSTICK

STARBOARD AFT CABIN - ENGINE COMPARTMENT

WARNING

IT IS ESSENTIAL TO KEEP A CLOSE CHECK ON SEAWATER INTAKES AND CIRCUITS, TO AVOID POSSIBLE FLOODING.

CAUTION

BEFORE OPENING SEAWATER FILTERS FOR CLEANING, CLOSE THE SEAWATER INTAKES.

CAUTION

WHEN CLOSING SEAWATER FILTERS AFTER CLEANING, CARE MUST BE TAKEN TO AVOID DAMAGING THE SEAL ON THE COVER.

WARNING

MAKE FREQUENT CHECKS ON THE CONDITION OF COOLING SEAWATER PIPES AND PIPE CLAMPS. LEAKS FROM ONE OF THESE LARGE DIAMETER PIPES CAN CAUSE SERIOUS FLOODING.

DANGER

ONE OF THE COMBUSTION PRODUCTS OF ANY DIESEL ENGINE IS CARBON MONOXIDE GAS. THIS IS POISONOUS, COLOURLESS AND ODOURLESS. CHECK WIND DIRECTION TO AVOID THE RETURN OF EXHAUST GASES ON BOARD. REGULARLY CHECK EXHAUST PIPES AND DISCHARGES.

The engine draws air for combustion directly from the engine compartment, ensuring a strong flow of air in this compartment while it is running.
The boat is however also fitted with an electric ventilator that can be used to disperse heat from the engine compartment while the engine is running and after stopping the engine, with a delay relay that keeps it running for a preset time after the engine has been stopped (variable, but normally for 10 minutes).
The ventilator (blower) is installed beneath the port aft guest cabin bed, and the air extraction discharge opens onto the port aft side of the boat.
The fuel system is described in Chap. D.
Make frequent checks on the pipes, joints clamps and electrical connections of the engine. These can be loosened by vibration, causing serious malfunctions.
Always promptly clean away any leaks of oil and fuel.
Always keep the engine, marine gear and engine compartment bilge clean so as to be able to easily detect even the slightest loss of fuel, oil or cooling water.
The bilge section beneath the engine is isolated from the other bilge compartments, to prevent small losses of fuel or oil from being discharged overboard by automatic bilge drainage systems. To drain the engine bilge section, a small hand pump can be used (not supplied).

A well-maintained diesel engine does not pollute to a significant degree. To protect the **delicate ecological balance of the marine environment**, only a few simple precautions are necessary:

- do not warm up the engine by running it with the boat at a standstill for more than five minutes, even in very cold weather;
- high power must not be requested from the engine until its temperature starts to rise;
- always accelerate slowly to avoid emitting excess unburnt fuel, which is a serious pollutant;
- always keep watch for any abnormal smoke in exhaust fumes, which can be a sign of incorrect adjustment, dirty filters or malfunctions;
- clean away small leaks or overflows of oil or fuel.

⚠ WARNING ⚠

SMALL LOSSES OF OIL OR FUEL THAT ARE NOT CLEANED AWAY FROM THE ENGINE WILL EVAPORATE WITH THE HEAT, THEN BEING DEPOSITED ON SURFACES IN THE ENGINE COMPARTMENT AND BECOMING A SERIOUS RISK IN THE CASE OF FIRE.

Remember that there are specific regulations for the disposal of waste oil. If you have any doubts, return all your waste oil to the nearest fuel supplier or engine repair workshop.

⚠ CAUTION ⚠

HOT OIL CAN CAUSE SCALDS. ALWAYS WASH HANDS AFTER CONTACT WITH LUBRICANTS.

⚠ CAUTION ⚠

WASTE OIL IS HIGHLY POLLUTANT AND REPRESENTS A SERIOUS RISK FOR THE DELICATE MARINE ENVIRONMENT. TAKE GREAT CARE THAT NO OIL SEEPS INTO BILGES.

⚠ CAUTION ⚠

IN CASE OF LOSSES, OIL MUST BE TOTALLY COLLECTED AND DISPOSED OF ON SHORE IN THE SPECIFIC TANKS PROVIDED. IT IS NOT PERMITTED TO PUMP BILGE WATER POLLUTED WITH OIL INTO THE SEA.

For instructions on using the engine, always consult the specific manual provided separately, and also follow the checklists given in the first part of this manual.

⚠ CAUTION ⚠

THE STARTER MOTOR MUST NOT BE USED FOR MORE THAN 10 SECONDS AT A TIME. WAIT 2 MINUTES FOR IT TO COOL DOWN BEFORE MAKING ANOTHER ATTEMPT TO START THE ENGINE.

⚠ CAUTION ⚠

AVOID WARMING THE ENGINE UP AT MINIMUM SPEED FOR MORE THAN 3 TO 5 MINUTES. THIS CAN DAMAGE THE ENGINE AND BE A RISK FOR THE ENVIRONMENT.

Frequently check the colour of exhaust fumes:
- clear or light grey: correct combustion;
- dark grey or black: incomplete combustion (dirty air filters, turbo malfunction, inefficient injectors, valve or head gasket problems);
- light blue: oil in exhaust fumes (excessive level, piston ring or valve guide malfunctions);
- whitish: incorrect combustion (low engine temperature, water in fuel, head gasket leak, malfunction with injectors, malfunction with water jacket or supercharger air radiator).

C.2 TRANSMISSION

Specific instruction manuals compiled by the manufacturers are supplied separately.
The saildrive propulsion system is an extremely robust and relatively simple mechanism, requiring only a minimum of attention to ensure that it gives an extended period of service. In particular, its reliability depends on a few regular checks and the avoidance of sudden strains while it is being used.

⚠ CAUTION ⚠

CHANGES OF DIRECTION FROM AHEAD TO ASTERN AND VICE VERSA SHOULD ALWAYS BE MADE SLOWLY AND WITH THE ENGINE AT MINIMUM SPEED. THIS WILL AVOID CAUSING DAMAGE TO ENGINE AND MARINE GEAR.

The saildrive has a dipstick for oil level. Periodic checks (every 200 hours or at least once every season) must be made on the tightness of nuts and bolts on the various transmission components of the propulsion system. Particular attention must be given to regular and periodic checks on the surrounding seal of the of the saildrive transmission. Follow the instructions provided by the manufacturer, and carry out all recommended maintenance and component replacement operations at the intervals indicated.

C.3 PROPELLER

The propeller can be eroded by cavitation or galvanic corrosion, or damaged by contact with submerged objects, and should therefore be inspected regularly.
The propeller can be changed by an expert technician even with the boat in the water.
All submerged metallic components of the boat can be subject to galvanic corrosion.
The rapidity of galvanic corrosion is difficult to predict, as it depends on the overall mass of metal in the surrounding water, including chains, jetties and other boats with steel or aluminium hulls.
The boat is fitted with a Pro Save-C protection system that operates when the shore power supply (230 V AC) is connected and powered, avoiding the excessive erosion of the protective zinc fittings of the boat.
Check the remaining weight of the protective zinc fittings regularly, and replace them when they reach half of their original weight.

⚠ CAUTION ⚠

THE ZINC ANODES MUST NOT BE PAINTED OVER, AS THIS PREVENTS THEM FROM FUNCTIONING CORRECTLY. THE ANODES MUST BE REPLACED WHEN HALF THEIR ORIGINAL WEIGHT HAS BEEN LOST.

In case of impacts with a submerged object and damage to the saildrive or propeller, make immediately for a harbour with the engine at minimum speed, to prevent vibration from causing more serious damage to the propulsion system or other parts of the boat.
With the passage of time, the flexible engine supports will inevitably settle and lose some of their elasticity and capacity to absorb vibrations.
The hull will also settle, and can be subject to slight deformations, above all when the boat is laid up for the winter and is not correctly supported.
All these factors can lead to an increase in vibrations from season to season.

C.4 PROPULSION SYSTEM REMOTE-CONTROL LEVER

The Grand Soleil 39 is fitted with a mechanical remote-control lever. This system is very reliable, and does not require particular maintenance, apart from periodic checks on the fixings of cables to the engine and marine gear, which could be loosened by vibrations while the boat is sailing.
Consult the specific instructions provided by the manufacturer. This mechanical control system also makes it possible to warm up the engine or to test it by the quayside, without engaging the marine gear. To do this, press the black button on the lever pivot while moving the lever forwards or backwards. This excludes control of the marine gear, maintaining only control over the engine throttle.

⚠ CAUTION ⚠

WHEN USING THE BOAT, CHECK THE CONNECTIONS OF CONTROL CABLES WITH THE ENGINE AND MARINE GEAR ONCE WEEKLY.

In particular, also check the secure fixing of the ends of the cable sheaths on both the engine and the marine gear. Otherwise the cable system cannot operate correctly.

VOLVO PENTA INBOARD DIESEL

D1-30

28.9 kW (28.4 hp) crankshaft power acc. to ISO 8665

New generation D1 for enhanced yacht comfort

The new generation Volvo Penta D1 series is designed to meet the most stringent environmental legislation – US EPA Tier 3. Further reduced sound level and low cruising rpm gives quiet running and low vibrations. The 115A alternator with a built-in charging sensor provides rapid charging for onboard electrical needs.

D1-30 with MS-DP

The base engine is developed for industrial applications and matrixed for the highest marine demands. This guarantees a reliable engine with a long service life.

Comfort

Smooth running with very low vibration levels is achieved through a dynamically balanced design incorporating a flywheel of high rotating mass and high efficiency rubber isolation.

The new engine with re-designed combustion chambers and lower engine speed – 2800–3200 rpm – together with the new inlet air silencer gives the highest comfort on board. The noise is further reduced by up to 3 dBA from an already low level.

The engine's high torque provides excellent operating characteristics to aid maneuvering, particularly in confined spaces.

The engine has EVC instrumentation and NMEA interface for presenting engine data on chart plotters.

Environment

The new generation D1 meets the world's most stringent emission legislation – US EPA Tier 3. The particulate emissions are now reduced by 50%.

The D1-30 is certified according to RSO, EU RCD and US EPA Tier 3.

Service Life

The D1-30 is fitted with freshwater cooling as standard. This reduces internal corrosion and enables the engine to maintain a consistent and optimal working temperature under all conditions.

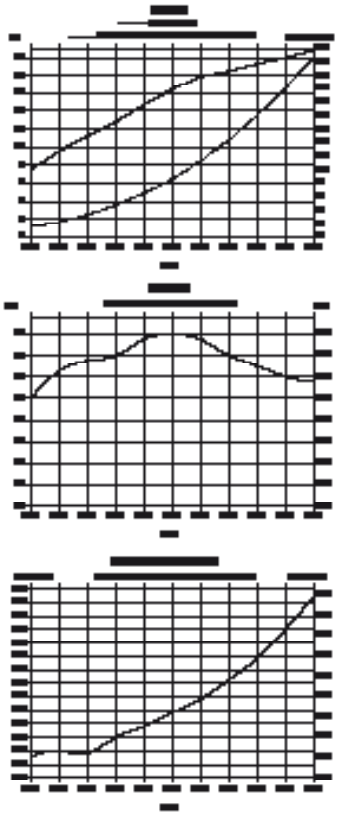
To avoid galvanic corrosion the engine is equipped with a unique electrical isolation between engine and S-drive.

Charging capacity

The 115A alternator with an electronic sensor makes it possible to use a higher battery capacity and have fully charged batteries on board. Even at idle speed, the alternator gives more than 35A, and at cruising speed it delivers approx. 100A.

Transmissions

Six matched transmission options are available, each built for durability and smooth running.



VOLVO PENTA

cantiere del pardo

Ed. 04/2012
GS 39 m.y. 2012

D1-30

Technical description:

Engine block and head
- Cylinder block and cylinder head manufactured from high grade cast iron. Crankcase features a rigid tunnel block design.
- Chrome molybdenum forged crankshaft, statically and dynamically balanced with integral counterweights. Pistons are cast from high silicon aluminium, are heat treated and fitted with two cast iron, chrome/iron faced compression rings and a single oil ring.
- Replaceable, hardened valve seats
- Basic coupling on flywheel

Engine mounting
- Tuned front and rear cushion type rubber mounts. Adjustable.

Lubrication system
- Spin-on fulflow oil filter
- Separate oil scavenger pipe
- Closed circuit crankcase ventilation
- One top and one side oil filling position

Fuel system
- Flange mounted, cam driven in-line injection pump
- Feed pump with hand primer
- Spin-on type fine fuel filter
- Auxiliary stop button on engine

Exhaust system
- Freshwater cooled exhaust manifold and seawater cooled exhaust elbow

Cooling system
- Freshwater cooling system governed by thermostat
- Tubular heat exchanger with integral expansion tank
- Easily accessible sea water pump and impeller

Electrical system
- 12V corrosion-protected electrical system
- 14V/115A marine alternator
- Charging regulator with electronic sensor for voltage drop compensation
- Glow plugs for excellent cold starting
- Electric starter motor
- Electrical stop function
- Extensive cable harness with plug-in connection available in various lengths

EVC Instruments
- Start/stop panel
- Tachometer with alarms and engine hour counter

Options
- Separate instruments for:
  - Fuel level
  - Temperature
  - Voltage
- LCD display with multisensor
- NMEA interface presenting engine data on chart plotters

Choice of transmissions:
- Housing of gravity die-cast aluminium alloy
- Mechanical multiple-disc clutch shift
- Safety coupling with built-in overload protection

MS10A – reverse gear with 8° down angle output.
- Ratio 2.35:1/2.70:1 (RH/LH)

MS10L – reverse gear with straight output.
- Ratio 2.35:1/2.26:1 (RH/LH)

MS15A – reverse gear with 8° down angle output.
- Ratio 2.63:1/1.96:1 (RH/LH)

MS15L – reverse gear with straight output.
- Ratio 2.63:1/1.96:1 (RH/LH)

S-drive 130S and **130SL** for reverse installation of engine. Ratio 2.19:1.

Accessories
- Electronic shift and throttle
- Engine controls and steering systems
- Battery and battery switches
- Hot water systems
- Separate expansion tanks
- Cooling water seacocks, strainers and hoses
- Exhaust systems and hull fittings
- Fuel systems including filters, pipes etc.
- Propeller shaft systems and propellers
- Chemical products – paints, oils, cleaners etc.

Technical Data

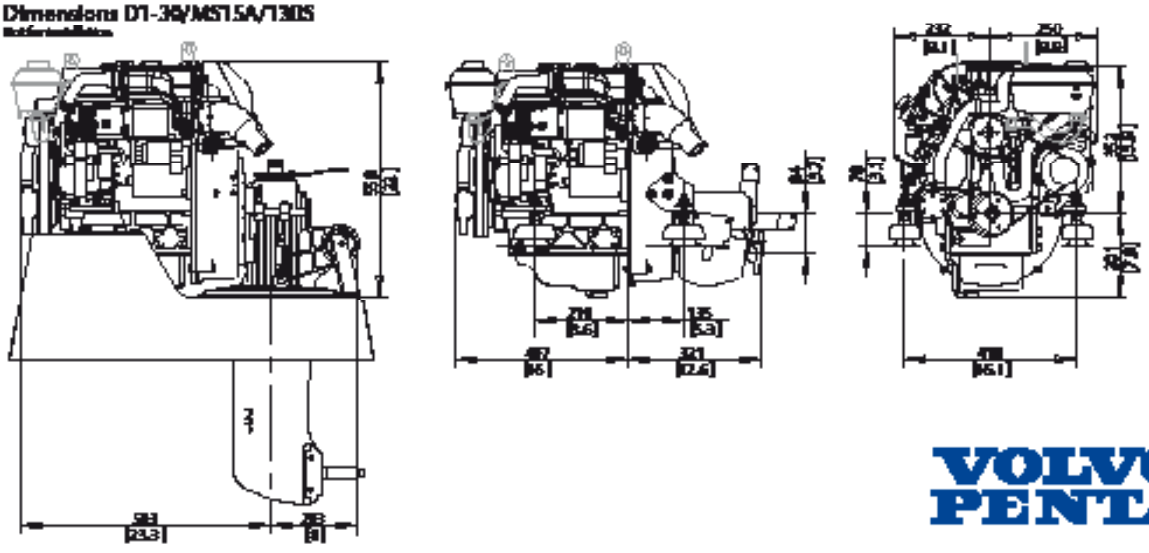
Engine designation	D1-30
Crankshaft power, kW (hp)	21.0 (28.4)
Propeller shaft power, kW (hp)	20.1 (27.3)
Engine speed, rpm	2800–3200
Displacement, l (in³)	1.13 (69)
Number of cylinders	3
Bore/stroke, mm (in.)	77/81 (3.03/3.19)
Compression ratio	23.5:1
Dry weight with reverse gear MS10A/MS10L, kg (lb)	145/144 (321/317)
reverse gear MS15A/MS15L, kg (lb)	157/156 (346/344)
Dry weight with saildrive 130S, kg (lb)	158 (348)

Duty rating: ISO
Technical data according to ISO 8665. Withstand bearing on 10W oil SG/CD/kg and density of 0.9 kg/dm³ at 15°C (59°F). Standard fuel may differ from the specification which will influence engine power output and fuel consumption.
The engine is certified according to RCD, EU ECE and EU/EPA Tier 3.

Contact your local Volvo Penta dealer for further information.
Retail models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.
The engine illustrated may not be entirely identical to production standard engines.

Dimensions D1-30/MS15A/130S

Not for installation



VOLVO PENTA

AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA INBOARD DIESEL (optional)

D2-40

29.1 kW (39.6 hp) crankshaft power acc. to ISO 8665

New generation D2 for enhanced yacht comfort

The new generation Volvo Penta D2 series is designed to meet the most stringent environmental legislation – US EPA Tier 3. Further reduced sound level and low cruising rpm gives quiet running and low vibrations. The 115A alternator with a built-in charging sensor provides rapid charging for onboard electrical needs.

The base engine is developed for industrial applications and marinized for the highest marine demands. This guarantees a reliable engine with a long service life.

Comfort

Smooth running with very low vibration levels is achieved through a dynamically balanced design incorporating a flywheel of high rotating mass and high efficiency rubber isolation.

The new engine with re-designed combustion chambers and lower engine speed – 2800–3200 rpm – together with the new inlet air silencer gives the highest comfort on board. The noise is further reduced by up to 3 dBA from an already low level.

The engine's high torque provides excellent operating characteristics to aid maneuvering, particularly in confined spaces.

The engine has EVC instrumentation and NMEA interface for presenting engine data on chart plotters.

Environment

The new generation D2 meets the world's most stringent emission legislation – US EPA Tier 3. The particulate emissions are now reduced by 50%.

The D2-40 is certified according to RSO, EU RCD and US EPA Tier 3.

Service Life

The D2-40 is fitted with freshwater cooling as standard. This reduces internal corrosion and enables the engine to maintain a constant and optimal working temperature under all conditions.

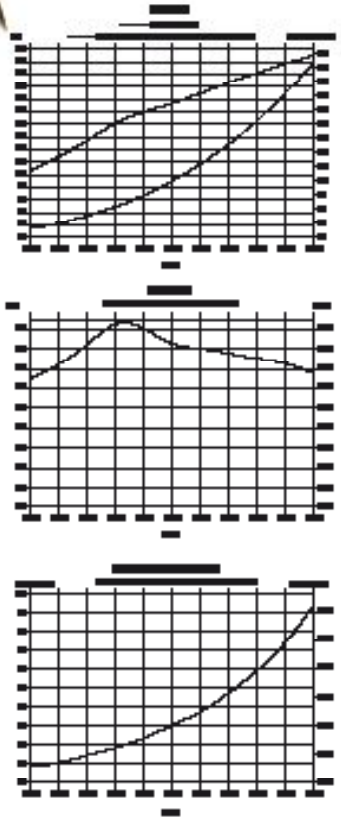
To avoid galvanic corrosion the engine is equipped with a unique electrical isolation between engine and S-drive.

Charging capacity

The 115A alternator with an electronic sensor makes it possible to use a higher battery capacity and have fully charged batteries on board. Even at idle speed, the alternator gives more than 35A, and at cruising speed it delivers approx. 110A.

Transmissions

Six matched transmission options are available, each built for durability and smooth running.



VOLVO PENTA

D2-40

Technical description:

Engine block and head
- Cylinder block and cylinder head manufactured from high grade cast iron. Crankcase features a rigid tunnel block design.
- Chrome molybdenum forged crankshaft, statically and dynamically balanced with integral counterweights. Pistons are cast from high silicon aluminium, are heat treated and fitted with two cast iron, chromium faced compression rings and a single oil ring.
- Replaceable, hardened valve seats
- Elastic coupling on flywheel

Engine mounting
- Tunnel front and rear cushion-type rubber mounts. Adjustable.

Lubrication system
- Spin-on fullflow oil filter
- Separate oil scavenger pipe
- Closed circuit crankcase ventilation
- One top and one side oil filling position

Fuel system
- Flange mounted, cam driven in-line injection pump
- Feed pump with hand primer
- Spin-on type fine fuel filter
- Auxiliary stop button on engine

Exhaust system
- Freshwater cooled exhaust manifold and seawater cooled exhaust elbow

Cooling system
- Freshwater cooling system governed by thermostat
- Tubular heat exchanger with integral expansion tank
- Easily accessible sea water pump and impeller

Electrical system
- 12V corrosion-protected electrical system
- 14V/115A marine alternator
- Charging regulator with electronic sensor for voltage drop compensation
- Glow plugs for excellent cold starting
- Electric starter motor
- Electrical stop function
- Extensive cable harness with plug-in connection available in various lengths

EVC Instruments
- Start/stop panel
- Tachometer with alarms and engine hour counter

Options
- Separate instruments for
  - Fuel level
  - Temperature
  - Voltage
- LCD display with multisensor
- NMEA interface presenting engine data on chart plotters

Choice of transmissions:
- Housing of gravity die-cast aluminium alloy
- Mechanical multiple-disc clutch shift
- Safety coupling with built-in overload protection

MS15A – reverse gear with 8° down angle output.
- Ratio 2.14:1/1.96:1 (RH/LH) and 2.63:1/1.96:1 (RH/LH).

MS15L – reverse gear with straight output.
- Ratio 2.14:1/1.96:1 (RH/LH) and 2.63:1/1.96:1 (RH/LH).

S-drive 130S and 130SL for reverse installation of engine. Ratio 2.19:1.

Accessories
- Electronic shift and throttle
- Engine controls and steering systems
- Battery and battery switches
- Hot water systems
- Separate expansion tanks
- Cooling water sea-cocks, strainers and hoses
- Exhaust systems and hull fittings
- Fuel systems including filters, pipes etc.
- Propeller shaft systems and propellers
- Chemical products – paints, oils, cleaners etc.

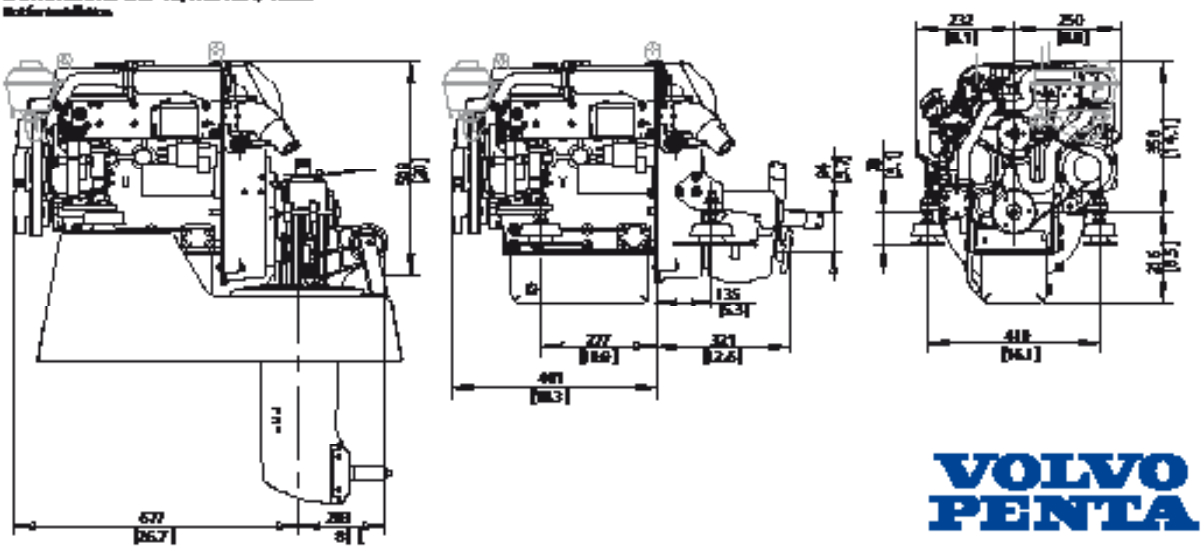
Contact your local Volvo Penta dealer for further information.
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.
The engine illustrated may not be entirely identical to production standard engines.

Technical Data

Engine designation	D2-40
Crankshaft power, kW (hp)	29.1 (39.6)
Propeller shaft power, kW (hp)	27.9 (38.0)
Engine speed, rpm	2800–3200
Displacement, l (in³)	1.51 (92.1)
Number of cylinders	4
Bore/stroke, mm (in.)	77/81 (3.03/3.19)
Compression ratio	23.5:1
Dry weight with reverse gear MS15A/MS15L, kg (lb)	176/177 (392/398)
Dry weight with saildrive 130S, kg (lb)	189 (417)

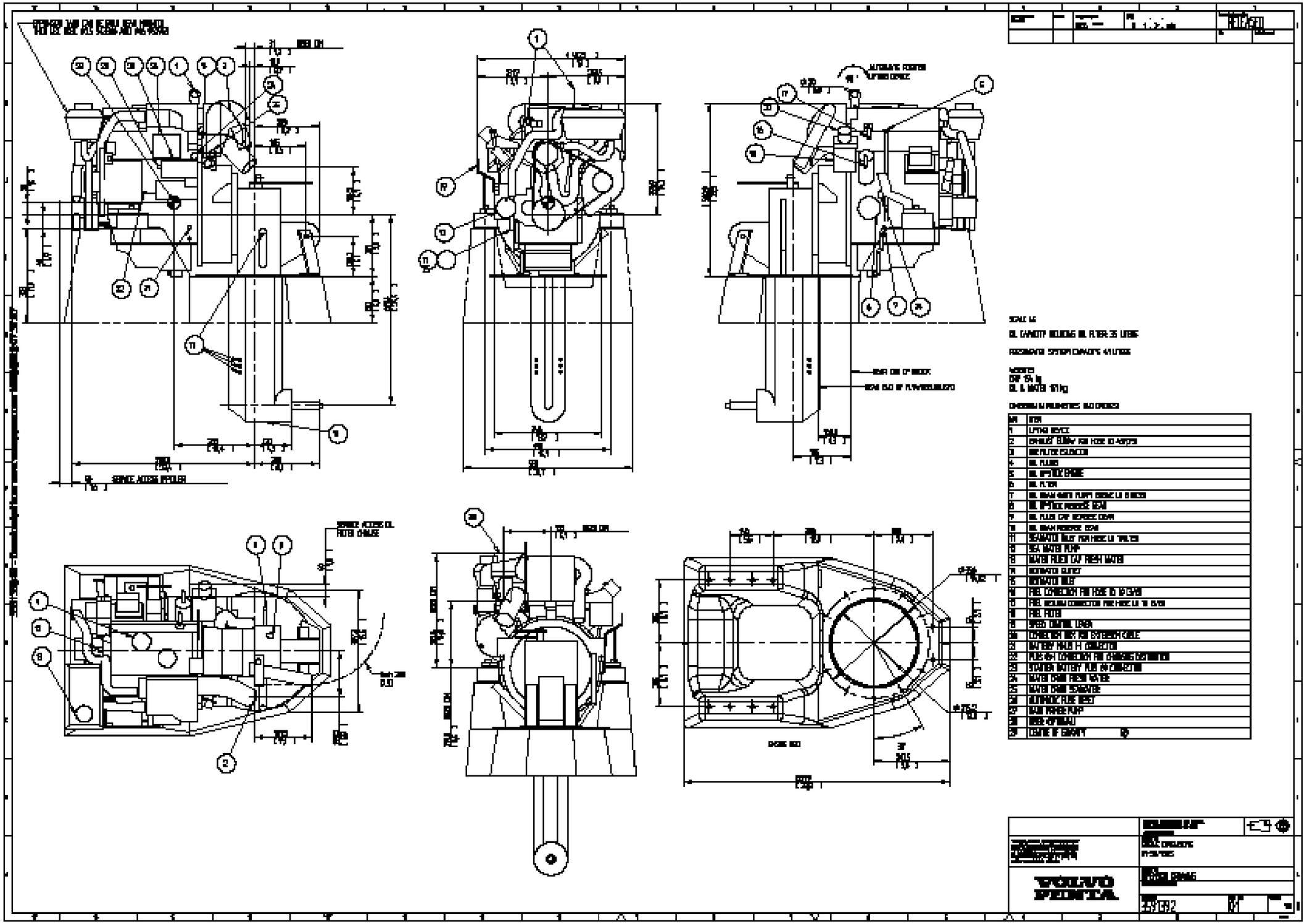
Duty rating: H
Technical data according to ISO 8665. With fuel having an LHV of 42,700 kJ/kg and density of 840 g/liter at 15°C (59°F). Standard fuel may differ from the specification which will influence engine power output and fuel consumption.
The engine is certified according to RCD, EU ECE and EU/EPA Tier 2.

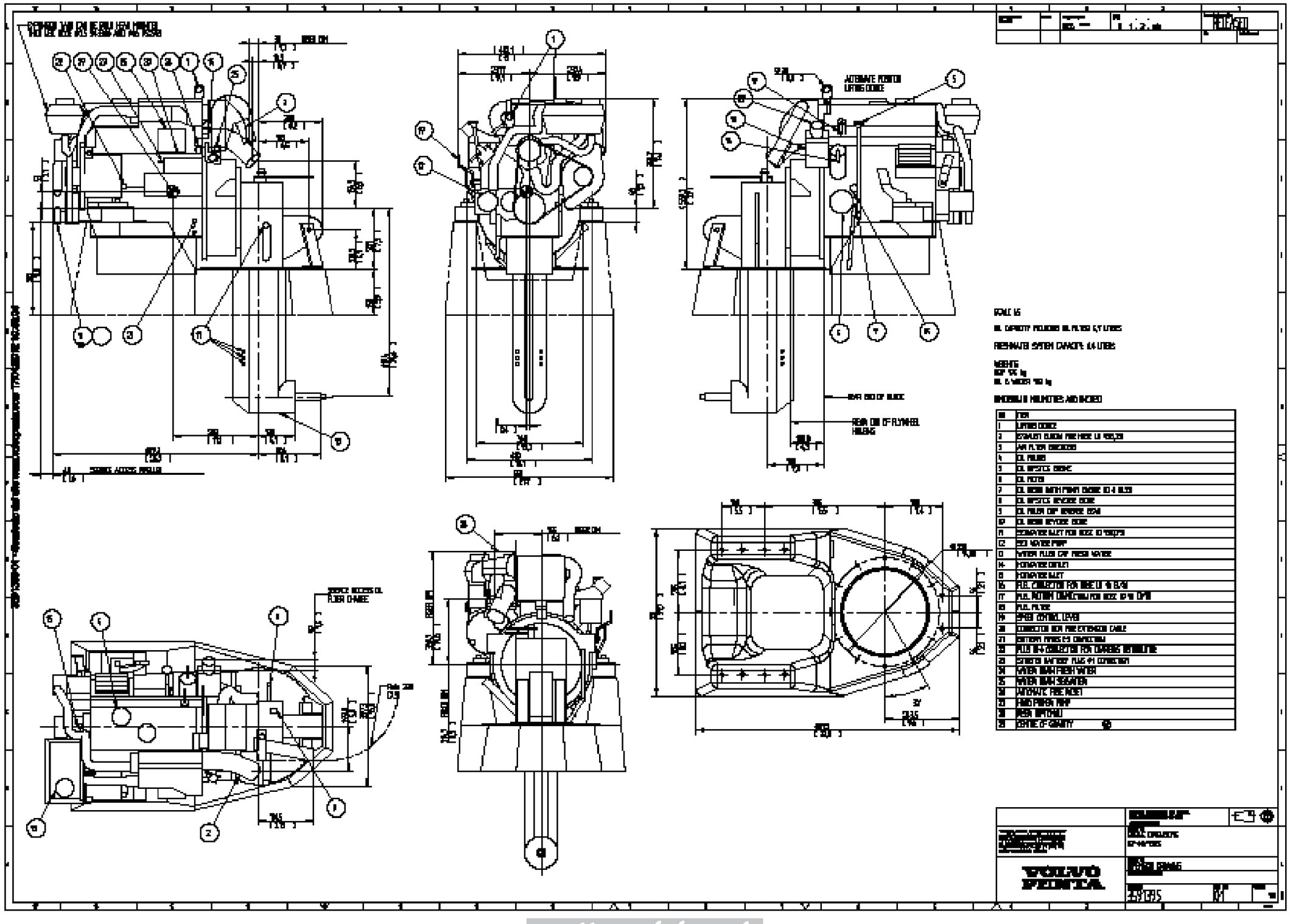
Dimensions D2-40/MS15A/130S
Not for installation.



VOLVO PENTA

AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com




ALTERNATE POSITION LIFTING EYEBOLT
REAR END OF FLYWHEEL HOUSING
REAR END OF BLOCK
SCALE 1:5
OIL CAPACITY INCLUDING OIL FILTERS 6,7 LITERS
FRESHWATER SYSTEM CAPACITY 6,4 LITERS
WEIGHTS
DRY 705 kg
OIL & WATER 760 kg
DIMENSIONS IN MILLIMETERS AND INCHES
ITEM
1 LIFTING EYEBOLT
2 EXHAUST ELBOW WITH HOSE CLAMP
3 AIR FILTER BRACKET
4 OIL FILLER
5 OIL DIPSTICK ENGINE
6 OIL FILTER
7 OIL HOSE WITH FRONT ENGINE 10,4 BLUE
8 OIL DIPSTICK REVERSE GEAR
9 OIL FILLER CAP REVERSE GEAR
10 OIL HOSE REVERSE GEAR
11 SEAWATER INLET FOR HOSE 63 mm
12 SEA WATER PUMP
13 WATER FILLER CAP FRESH WATER
14 SEAWATER OUTLET
15 SEAWATER INLET
16 FUEL CONNECTION FOR HOSE 12 mm BLACK
17 FUEL ROTATION CONNECTION FOR HOSE 10 mm CLEAR
18 FUEL FILTER
19 SPEED CONTROL LEVER
20 CONNECTOR FOR FREE EXTENSION CABLE
21 CONTINUITY WIRES 6+1 CONNECTION
22 FUEL IN-CONNECTION FOR CHASSIS INSTALLATION
23 CONNECTOR BATTERY PLUS +V1 CONNECTION
24 WATER DRAIN FRESH WATER
25 WATER DRAIN SEA WATER
26 AUTOMATIC FIRE NOZZLE
27 MANUAL PRIMING PUMP
28 ENGINE SUPPORTS
29 CENTRE OF GRAVITY
VOLVO PENTA

D. FUEL SYSTEM

This chapter describes the fuel system of your boat and provides important information on the safe use of your fuel supplies.
The fuel loading inlet is located on deck in the cockpit, beneath a floor panel that can be raised, and is closed by a screw cap with the wording "FUEL".
To avoid the risk of spilling fuel into the sea, a rag should be wrapped round the pump nozzle when loading fuel. You should also load fuel slowly unless you are sure that the fuel level is still very low and that the onboard fuel pipes are capable of receiving the fuel delivered by the nozzle.
To avoid staining the teak deck, it should be abundantly dampened with seawater a few minutes before loading fuel.
The fuel level must be monitored with the level gauge located on the Main Switchboard (MS) near the chart table.
Fuel flows from the filler cap to a tank with a capacity of 150 litres, located beneath the port aft guest cabin bed.
The fuel tank breather vent opens into the cockpit, near the rudder quadrant, beneath the floor.

⚠ CAUTION ⚠

WHEN LOADING FUEL, CHECK THAT THE QUANTITY DELIVERED IS NOT EXCESSIVE. THIS COULD CAUSE DAMAGE TO PIPES, VENTS OR THE FUEL TANK.

⚠ CAUTION ⚠

KEEP A CONSTANT CHECK ON FUEL LOADING OPERATIONS, ENSURING THAT FUEL DOES NOT ESCAPE FROM THE FILLER CAP OR VENT. OTHERWISE IT COULD FLOW INTO THE SEA, PRODUCING SERIOUS POLLUTION.

⚠ CAUTION ⚠

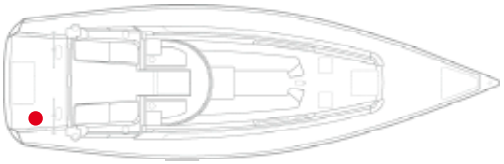
FUEL SHOULD NEVER BE ALLOWED TO REACH THE SEA. EVEN SMALL QUANTITIES CAN BE HIGHLY POLLUTANT, EXPANDING TO COVER A LARGE SURFACE AREA.

It is advisable to plug the two drainage scuppers inside the rudder quadrant compartment in the cockpit with rags while loading fuel, so that any fuel overflows remain inside the recess and can be collected and cleaned away, without polluting the sea.
Total fuel reserves amount to 150 litres, but only about 85-90% of this quantity should be considered as being effectively available, as the movement of the boat in rough seas can significantly reduce the capacity to suck up fuel from the tank.

⚠ WARNING ⚠

CAREFULLY CALCULATE HOW MUCH FUEL YOU ARE LIKELY TO NEED, AND ADD AN EXTRA QUANTITY AS A SAFETY RESERVE FOR USE IN CASE OF ADVERSE WEATHER CONDITIONS OR ANY OTHER SITUATION THAT MIGHT INCREASE FUEL CONSUMPTION.

FUEL
LOADING CAP



COCKPIT

WARNING

FUEL LOSSES CAN BE A FIRE RISK. MAKE REGULAR CHECKS ON THE FUEL SYSTEM.

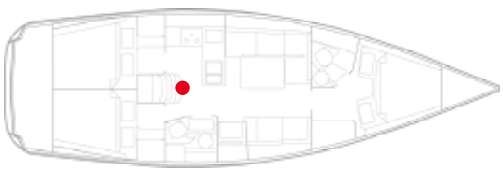
WARNING

GIVEN THE HIGH TEMPERATURES PRESENT IN THE ENGINE COMPARTMENT, FUEL AND OIL LEAKS CAN EVAPORATE AND ARE DEPOSITED ON EXPOSED SURFACES, CONSTITUTING A VERY SERIOUS RISK IN THE CASE OF FIRE.

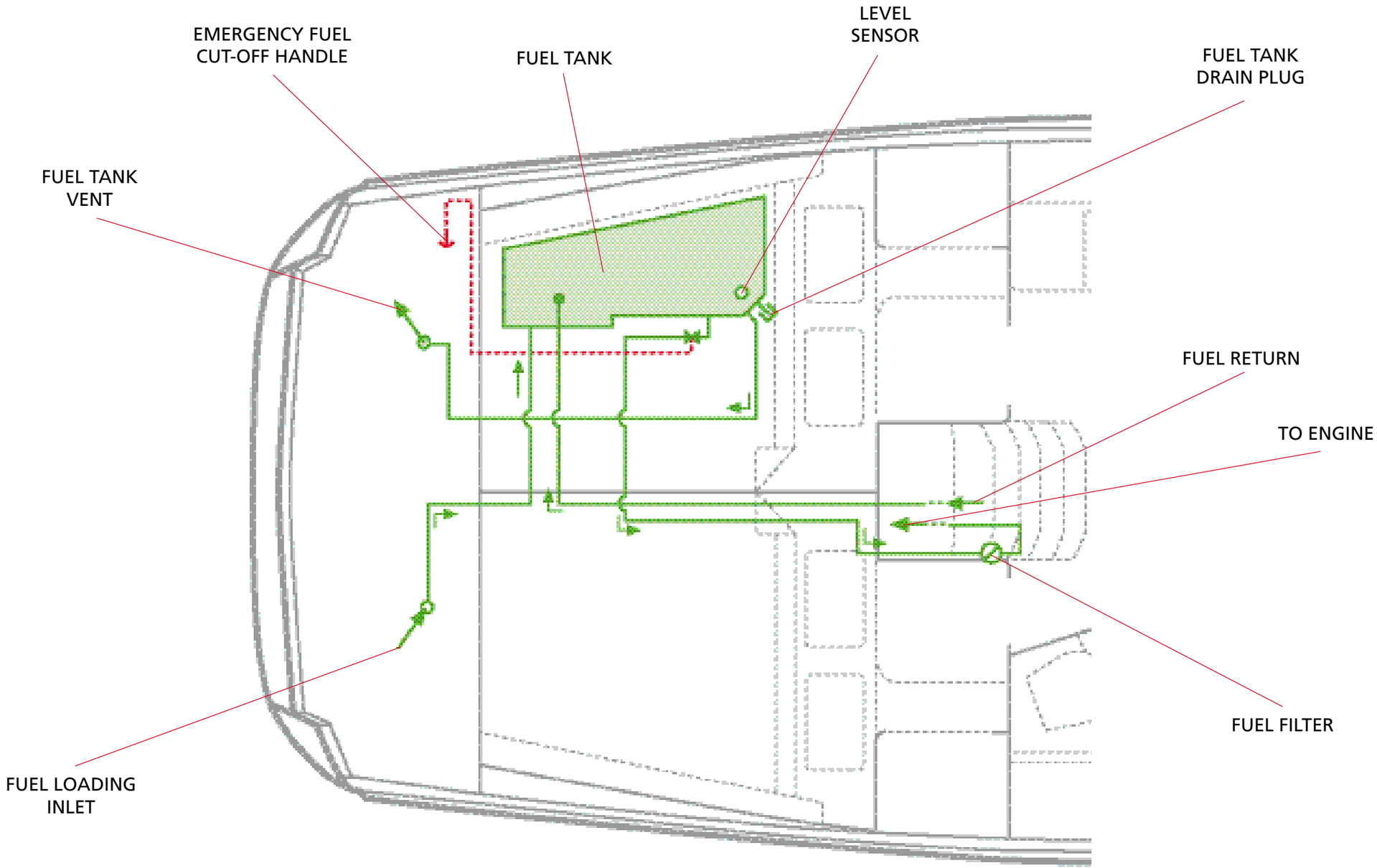
It is advisable to periodically clean the internal surfaces of the engine compartment with a degreasing product.

Fuel is supplied from the fuel tank by means of valves fitted with remote-controlled cut-off devices to be used to close them in an emergency (in case of fire on board), so that all hazardous fuel losses can be prevented.
The fuel valve cut-off handle is located on the port side of the cockpit. If these handle are pulled, the valve must be reopened locally (from the port guest cabin).
The fuel line to the engine is fitted with a separator filter located on the starboard side of the engine compartment. This separator filter removes any impurities and water that may be present in fuel.
Only part of the fuel that reaches a diesel engine is burnt in the cylinders. A significant quantity returns from the pump to the tank after lubricating and cooling the fuel injection system (fuel returns). The temperature of the tank will therefore increase while the engine is running. This is normal, and is not the result of a malfunction.

The fuel supply to the boiler for winter heating (optional) has a small pump located inside the tank compartment.
The fuel tank has a drainage point closed by a plug, located in the lower forward corner, which can be used to completely empty the tank in case of accidental loading of dirty fuel.



ENGINE COMPARTMENT



= VALVE

FUEL SYSTEM

E. WATER SYSTEMS

This chapter describes the hot and cold freshwater systems of your boat, and gives some indications on seawater systems.

E.1 FRESHWATER CIRCUIT

The freshwater system of your Grand Soleil 39 has seven tanks with a total capacity of 240 litres, located beneath the dinette seats (two valves in the dinette bilge allow the tank from which water is to be drawn to be selected).
The freshwater loading inlet is located on the port side of the deck, along the stringer.

CAUTION

WHEN TAKING ON WATER, CHECK THAT THE SUPPLY HOSE DOES NOT DELIVER TOO MUCH WATER. THIS COULD BE EXCESSIVE FOR THE VENT AND BE A POSSIBLE CAUSE OF DAMAGE TO TANKS AND PIPES.

Beneath the first floor panel in front of the steps leading down to the dinette there are the valves used for suction from the tanks, and the delivery valves to the freshwater pressure pump and the galley pedal pump.
Leaks from the freshwater system can at worst drain the freshwater tanks, allowing the water to run into the bilges. The high bilge level is not a hazard for the boat, as the total displacement remains unchanged and it will continue to float as normal.

CAUTION

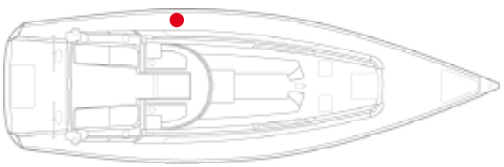
ALWAYS CHECK THE CORRECT OPERATION OF THE PRESSURE PUMP. A TAP LEFT OPEN OR A LOSS FROM A PRESSURIZED CIRCUIT CAN CAUSE FLOODING.

CAUTION

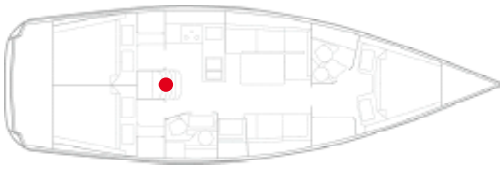
WHEN LEAVING THE BOAT UNATTENDED, THE PRESSURE PUMP MUST BE DISCONNECTED FROM ITS POWER SUPPLY.

Water level in the starboard tank is monitored by a gauge on the Main Switchboard (MS) above the chart table.
It must be remembered that when the boat is heeled over, given the shape of the tanks, the quantity of water that can be sucked up from the tanks is significantly lower than the total capacity of tanks.
The freshwater pressure pump that supplies the cold water distribution system is located in the engine compartment
When power is supplied to the pump it will start and stop automatically, controlled by a system that detects pressure in the system. Incorrect setting of the pressure switch can lead to a rapid succession of repeated starting and stopping of the pump.
If the pressure pump is still powered when the tank is empty, the pressure switch will obviously be unable to restore pressure in the freshwater system, and the pump will continue to run (with the risk of damage caused by running without water for a long time). Pump operation must therefore be constantly monitored.
A 25-litre water heater (powered with 230 V AC) is installed beneath the port aft guest cabin bed, powered and protected by a specific breaker located in a panel on the starboard side of the afterpeak.

FRESHWATER
FILLING CAP



DECK - PORT



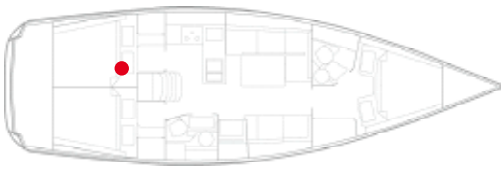
ENGINE COMPARTMENT

HOT WATER SYSTEM
EXPANSION TANK

HOT WATER
THERMOSTAT VALVE

INSIDE BED

WATER HEATER



PORT AFT CABIN

The water heater can operate electrically only if the shore power line is connected, but it also has a plumbing connection with the sealed engine cooling circuit. With this connection, the water heater can heat freshwater when the engine is running, and therefore very cheaply, recycling heat energy that would otherwise be dispersed into the sea by the propulsion engine cooling system.
A thermostat valve fitted near the water heater allows the temperature in the hot water distribution system to be regulated, preventing it from causing scalds and making hot water reserves last longer. The valve automatically mixes hot water supplied by the water heater (which can reach temperatures over 90°C) with cold water.

It is a recommended hygiene precaution to pour disinfectant solution into the water loading system with every two complete refills made. Consult a pharmacy for a suitable product.
When the boat is put into winter storage, it is advisable to pour a large quantity of concentrated disinfectant into the water tanks, and to then empty it by opening all taps and other outlets. This will prevent the growth of bacterial colonies in the freshwater system.

E.2 SEAWATER CIRCUITS

⚠ WARNING ⚠

IT IS ESSENTIAL TO CONSTANTLY MONITOR SEAWATER INTAKES AND CIRCUITS, TO AVOID THE RISK OF FLOODING.

There are several seawater intakes located in the bilges. These are fitted with cut-off valves, and supply water to the following systems:
- engine cooling (the seawater intake is incorporated in the saildrive),
- toilet flushing pumps,
- suction for galley pedal pump.

The pedal pump draws in water from a three-way valve that allows it to be supplied with either seawater or freshwater.
After using seawater, to avoid salt deposits it is advisable to set this valve back to the freshwater position, and to pump 3 or 4 times to eliminate residual seawater remaining in the system.

⚠ CAUTION ⚠

AFTER USING THE GALLEY SINKS PEDAL PUMP WITH SEAWATER, IT IS ADVISABLE TO WASH IT SEVERAL TIMES WITH FRESHWATER, SETTING THE THREE-WAY VALVE TO THE FRESHWATER POSITION.

Naturally, the dirtiness of seawater filters will depend on the condition of the water in which you are sailing. It is therefore impossible to give a fixed schedule for checking and cleaning these filters. However, the experience acquired with your boat will help you to make these checks at correct intervals.
It should always be remembered that, unfortunately, residues from plastic bags can be sucked up through seawater intakes. You should therefore acquire the habit of making frequent checks on thermometers, on

through-hull seawater discharges (to ensure that water is flowing out of them correctly) and on the noise made by seawater pumps. Even partial obstructions can cause these pumps to increase or change the noise that they make.

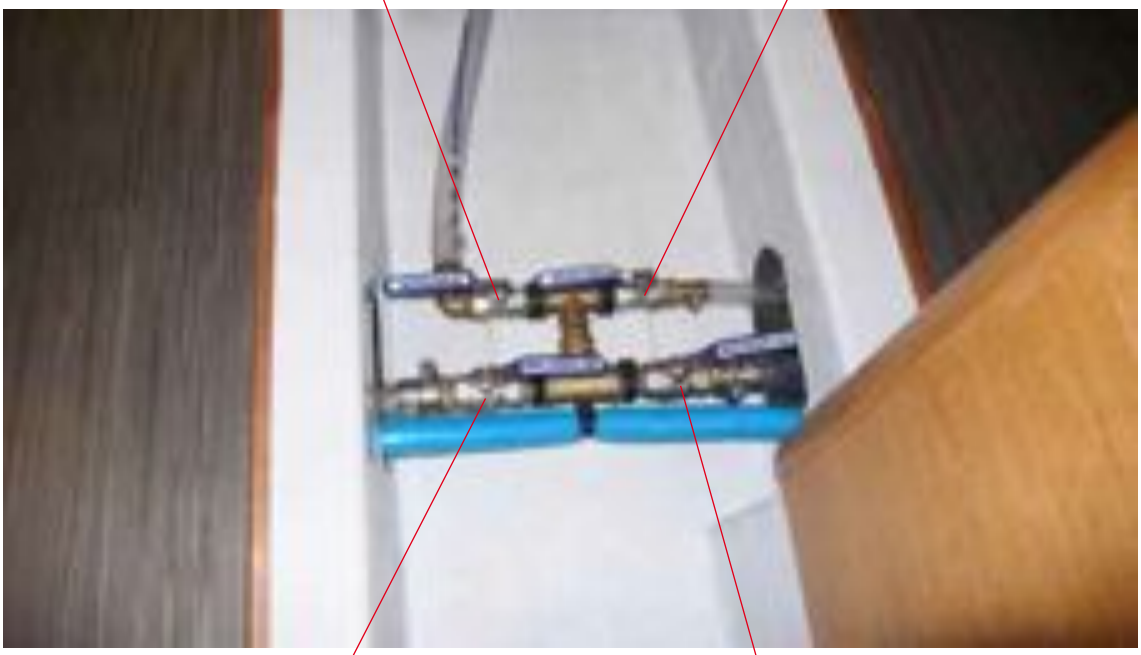
When cleaning a seawater filter, these simple rules must be observed:

a. fully shut down the seawater intake before opening the filter;
b. when the filter is opened for maintenance or cleaning, do the job as quickly as possible, and do not leave the filter dismantled without keeping it under observation;
c. take care not to damage the filter seal during reassembly;
d. remember to open the seawater intake again after reassembling the filter.

In addition to the seawater intakes, the hull is also fitted with through-hull discharge valves and discharge without valves (above the waterline). The position of all these valves and other openings on the hull must be learnt, so that they can be rapidly located and checked in case of suspected leaks.
Normally, when the boat is left unattended for more than a short period, it is advisable to close all seawater intakes and all through-hull discharges fitted with valves, except for the cockpit discharges.
Make frequent checks on the easy operation of valves and on their connections with pipes. Also remember to check the condition of seawater intakes and overboard discharges every time that the boat is hauled up, checking that they are firmly secured to the hull and free from corrosion.

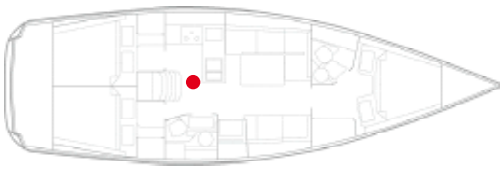
DELIVERY TO FRESHWATER PRESSURE PUMP

DELIVERY TO THE GALLEY PEDAL PUMP



SUCTION FROM STARBOARD TANK

SUCTION FROM PORT TANK



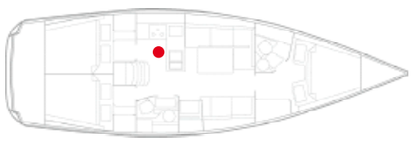
DINETTE - BILGE

REFRIGERATOR
CONDENSATION DRAIN

SEAWATER INTAKE
FOR GALLEY SINKS
PEDAL PUMP

GALLEY SINKS
DISCHARGE

GALLEY SINKS
PEDAL PUMP



GALLEY SINKS
PEDAL PUMP

THREE-WAY PEDAL PUMP VALVE
(SEAWATER - FRESHWATER)

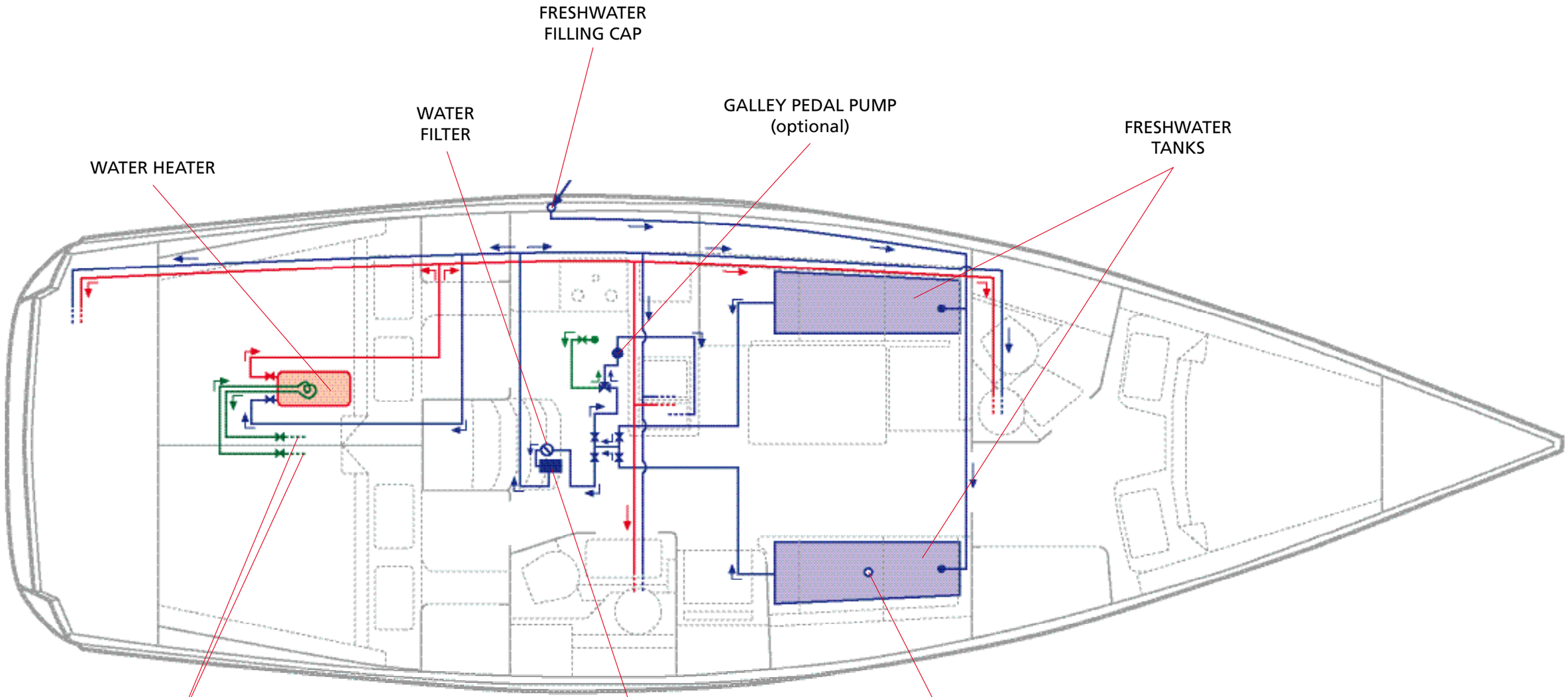
GALLEY SINKS
DISCHARGE

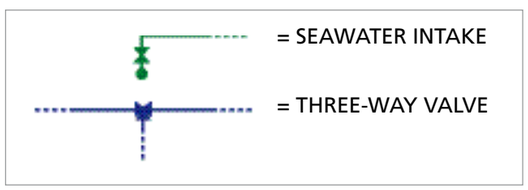
PEDAL PUMP
SEAWATER INTAKE

⚠ CAUTION ⚠

AFTER USING THE GALLEY SINKS PEDAL PUMP WITH SEAWATER, IT IS ADVISABLE TO WASH IT SEVERAL TIMES WITH FRESHWATER, SETTING THE THREE-WAY VALVE TO THE FRESHWATER POSITION.

GALLEY - BILGE





FRESHWATER SYSTEM

F. THROUGH-HULL DISCHARGES

This chapter describes the following systems:
- bilge drainage;
- discharge of greywater (soapy water wastes from showers and washbasins);
- discharge of blackwater and toilet flushing system;
- scuppers and discharge of water deposits (rainwater and washing).

Water wastes from showers are collected in moulded tanks in the bilges beneath the bathrooms, but these water wastes are separated from the bilges. In normal conditions the bilges must always remain dry. In normal use, however, the shower water collection tanks are filled every time the respective shower is used.

F.1 BILGE PUMPS

Two electric bilge pumps are installed on board (plus two electric shower discharge pumps).
The electric bilge pumps drain the following bilge compartments:
- main bilge beneath the saloon;
- afterpeak bilge.

A manual pump is also provided, located on the port aft side of the cockpit, to drain water from the main bilge, in the saloon.
The electric bilge pumps are powered from two breakers on the Main Switchboard (MS) located above the chart table.
These breakers are powered from a breaker ("DIRECT BATTERY") located on the battery disconnector panel in the starboard aft cabin.
The power supply comes directly from the service batteries without passing through the battery disconnector switches, and the pumps can therefore operate even with these switches opened. The breaker trips in case of excessive power absorption by the pumps or by the bilge alarm system, and it can be reset by pushing the black button back in.
These electric pumps normally operate automatically, commended by a level sensor located in each bilge, near the suction terminal for each pump.
Both pumps can however be operated manually by means of switches located on the Main Switchboard (MS).

CAUTION

BILGES MUST ALWAYS BE KEPT CLEAN AND FREE FROM OILY RESIDUES. THESE MUST NOT BE PUMPED INTO THE SEA, BUT MUST BE COLLECTED AND DISCARDED AT SUITABLE ONSHORE DISPOSAL FACILITIES.

WARNING

ALWAYS KEEP THE BILGES CLEAN. RAGS OR OTHER REFUSE CAN BLOCK SUCTION INLETS OF BILGE PUMPING SYSTEMS.

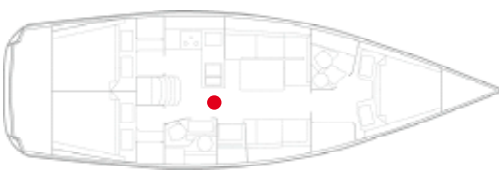
It is advisable to keep a constant check on bilge conditions, checking that pump suction inlets are free and that there are no leaks or losses.
The bilge beneath the engine is isolated from the other bilge compartments, so as to prevent any leaks of pollutant oily residues that might accidentally be discharged overboard.
The bilge beneath the engine must always be dry and clean. If oily liquids are present, these must be collected with rags or a manual pump, and then disposed of on shore using the specific separate waste collection systems provided (waste oil containers).

CAUTION

IF OIL IS SPILT, IT MUST BE COMPLETELY COLLECTED AND DISPOSED OF AT A SUITABLE ONSHORE FACILITY. IT IS PROHIBITED TO PUMP BILGE WATER POLLUTED WITH OIL INTO THE SEA.

MANUAL BILGE
SUCTION PUMP

LEVEL SENSOR FOR AUTOMATIC
BILGE PUMP OPERATION



ELECTRIC CENTRAL
BILGE PUMP SUCTION

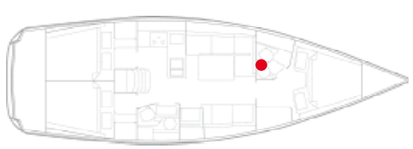
DINETTE - BILGE

SHOWER SUMP LEVEL SENSOR
FOR PUMP OPERATION

AFT BATHROOM

SHOWER SUMP
DISCHARGE PUMP
COMMAND

SHOWER SUMP LEVEL SENSOR
FOR PUMP OPERATION



FORWARD BATHROOM (optional)

SHOWER SUMP
DISCHARGE PUMP
COMMAND

ELECTRIC SHOWER SUMP
DISCHARGE PUMP

SHOWER
DISCHARGE

TOILET FLUSHING
SEAWATER INTAKE

SINK
DISCHARGE

BLACKWATER TANK
DISCHARGE

AFT BATHROOM

CAUTION

WASTE OIL IS A SERIOUS POLLUTANT AND IS THEREFORE EXTREMELY DANGEROUS FOR THE DELICATE MARINE ENVIRONMENT. TAKE GREAT CARE TO AVOID ANY SPILLAGE INTO THE BILGES.

The crew must regularly check the bilges to ensure that there are no leaks or flooding.
Nevertheless, an alarm system is also provided for the presence of water inside the shower sumps and bilges. The alarm system is also powered from the "DIRECT BATTERY" breaker on the battery disconnector panel.
The alarm system is controlled by a timer (mounted on the terminal panel) that triggers a buzzer after the level sensor detects the presence of water, for a period of time that can be regulated (initial setting: a few minutes).

F.2 GREYWATER

Soapy water wastes (washbasins, showers, washing machine, etc) are called "greywater". All washbasins discharge directly overboard through valves in the hull located nearby.
When sailing under sail power, these valves must be kept closed to prevent the washbasins from filling up and overflowing when the boat heels over.
The showers are drained (forward = optional) by two pumps that normally operate automatically, commanded by a level sensor located in each shower tray. The pumps can also be commanded manually by means of a switch located near the power socket in the bathroom.
These electric pumps are powered and protected from a breaker on the MS.
Encourage your guests to use the onboard freshwater supplies with moderation, so as to make them last longer and to limit the need to discharge greywater into the sea.

CAUTION

TAKE CARE NOT TO DISCHARGE GREYWATER INTO THE SEA WHERE THIS IS NOT PERMITTED OR IS INAPPROPRIATE.

ELECTRIC SHOWER SUMP DISCHARGE PUMP

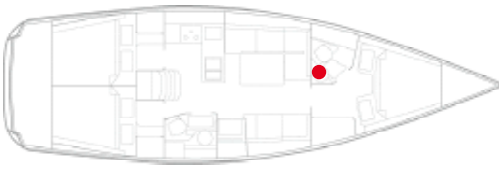
SINK DISCHARGE

INSIDE WASHBASIN CABINET

TOILET FLUSHING SEAWATER INTAKE

TOILET DISCHARGE

SHOWER DISCHARGE



FORWARD BATHROOM (optional)

F.3 BLACKWATER – TOILETS

Wastes from toilets are called “blackwater”. Toilets are flushed with seawater supplied by seawater intake valves for each toilet.
If electric toilets are installed on board, they each need a specific electric pump for seawater flushing. This pump is located inside the adjacent washbasin cabinet.
Wastes from the forward toilet (optional) are discharged directly overboard. Wastes from the aft toilet are sent to a specific holding tank. This tank can then be emptied by gravity, by opening the through-hull discharge inside the cabinet under the washbasin.

⚠ CAUTION ⚠

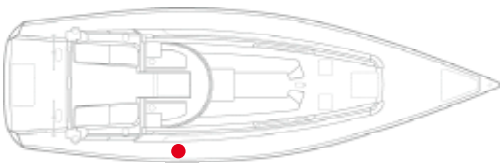
WHEN SETTING THE POSITION OF THE VALVE CONTROLLING THE DISCHARGE OF BLACKWATER, REMEMBER TO COMPLY WITH THE WASTE DISCHARGE REGULATIONS OF THE COUNTRY IN WHOSE WATERS YOU ARE SAILING.

The aft toilet blackwater tank can also be emptied by the suction disposal systems available in many marinas, using a specific hose connected to the discharge connector on the starboard side of the deck.
You should check that the blackwater tanks have been emptied before you reach your mooring.
Do not leave wastes in the tanks for several days without emptying them. This will prevent the accumulation of heavier wastes on the bottom of the tanks. To avoid encrustation and blockages, all pipes and tanks of the blackwater discharge system should be regularly flushed with abundant water.
The capacity of the tanks will give you an appreciable cruising range without having to empty them, as long as excessive amounts of water are not used for flushing.
In this case, it is essential to limit the use of toilet paper, and if possible, this should be disposed of separately in a paper bag. This will reduce the risk of blockages.

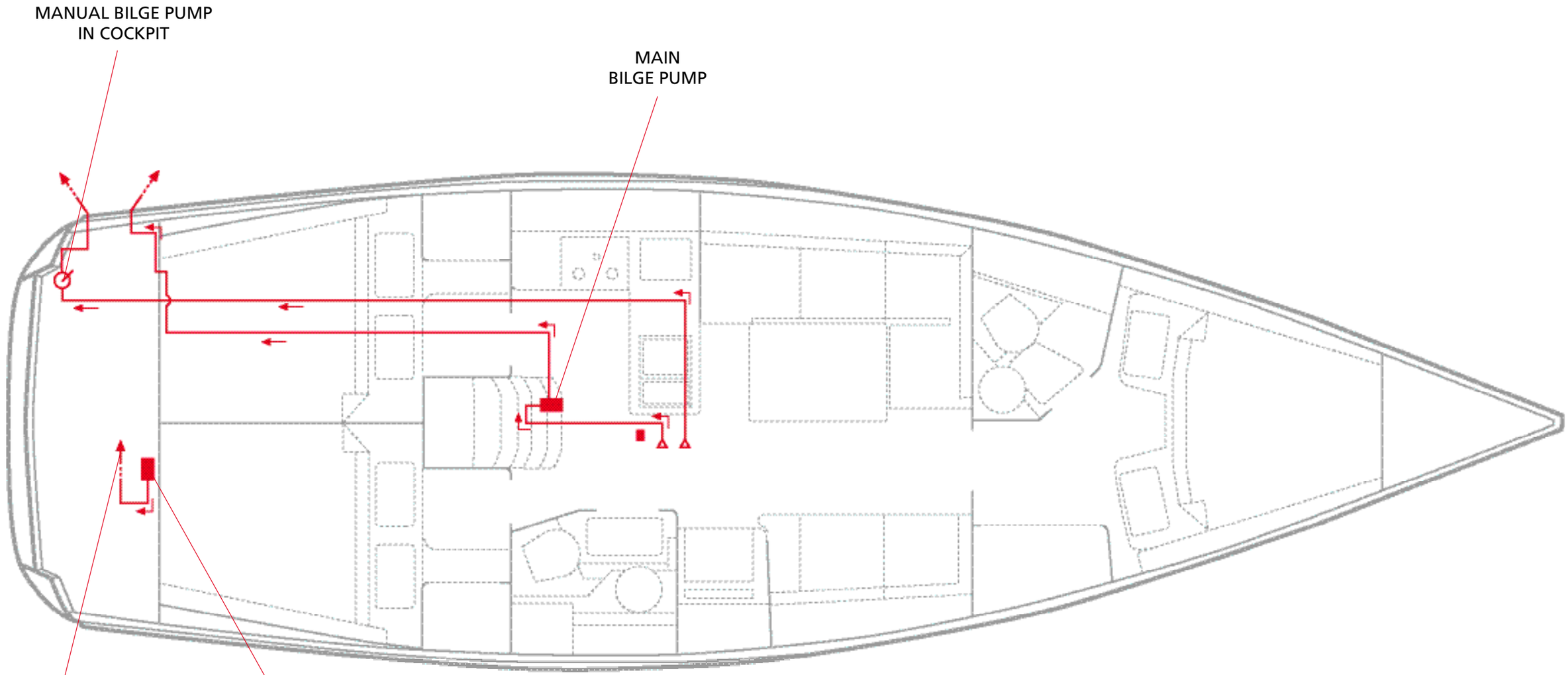
F.4 SCUPPERS

Your boat has a series of scuppers to drain away water from rain or from deck-washing operations.
The only important precaution to be taken with these scuppers is to ensure that they are not obstructed with solid wastes, rags, paper or anything else that might block them. In particular, you should check periodically that the drainage holes of the chain locker at the bows are free from mud and weed.
The cockpit drainage discharge valves must normally be left open.

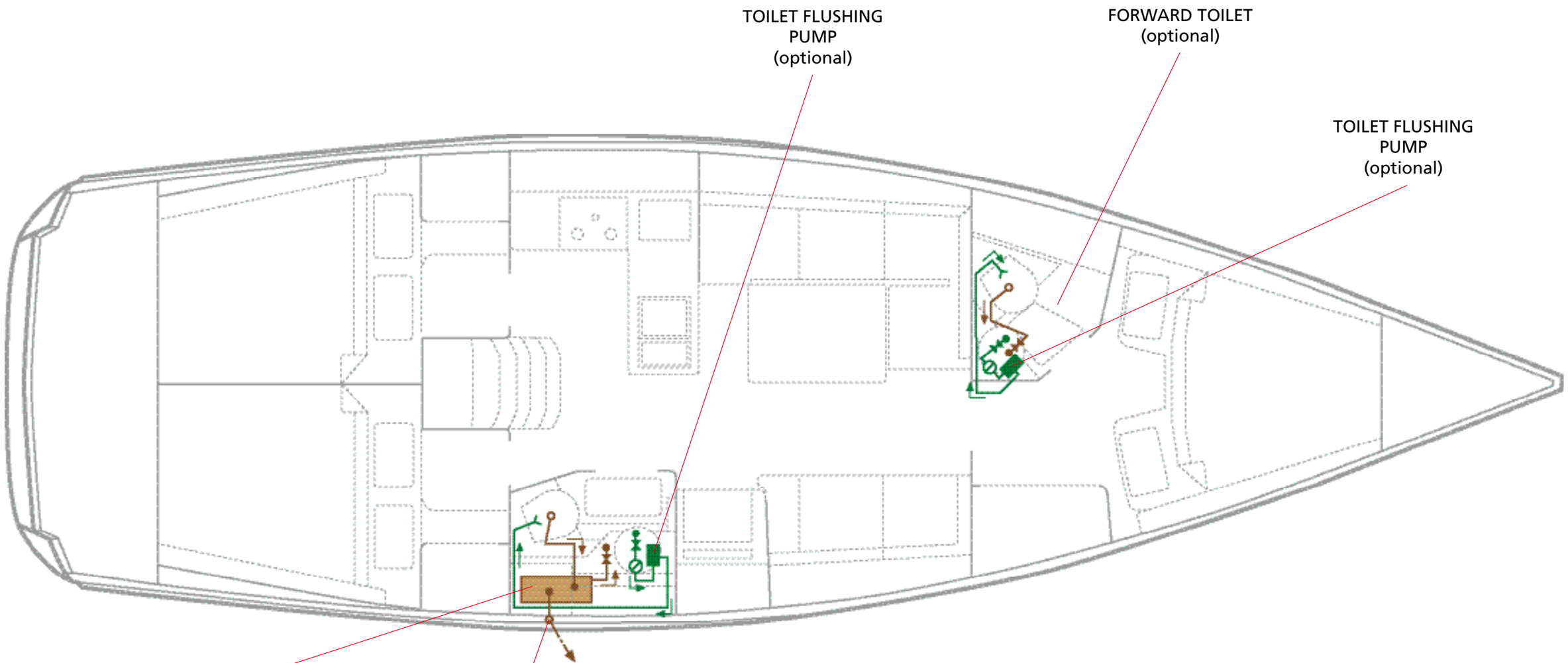
BLACKWATER TANK
DRAINAGE CONNECTOR
(USING ONSHORE SUCTION
DISPOSAL SYSTEMS)



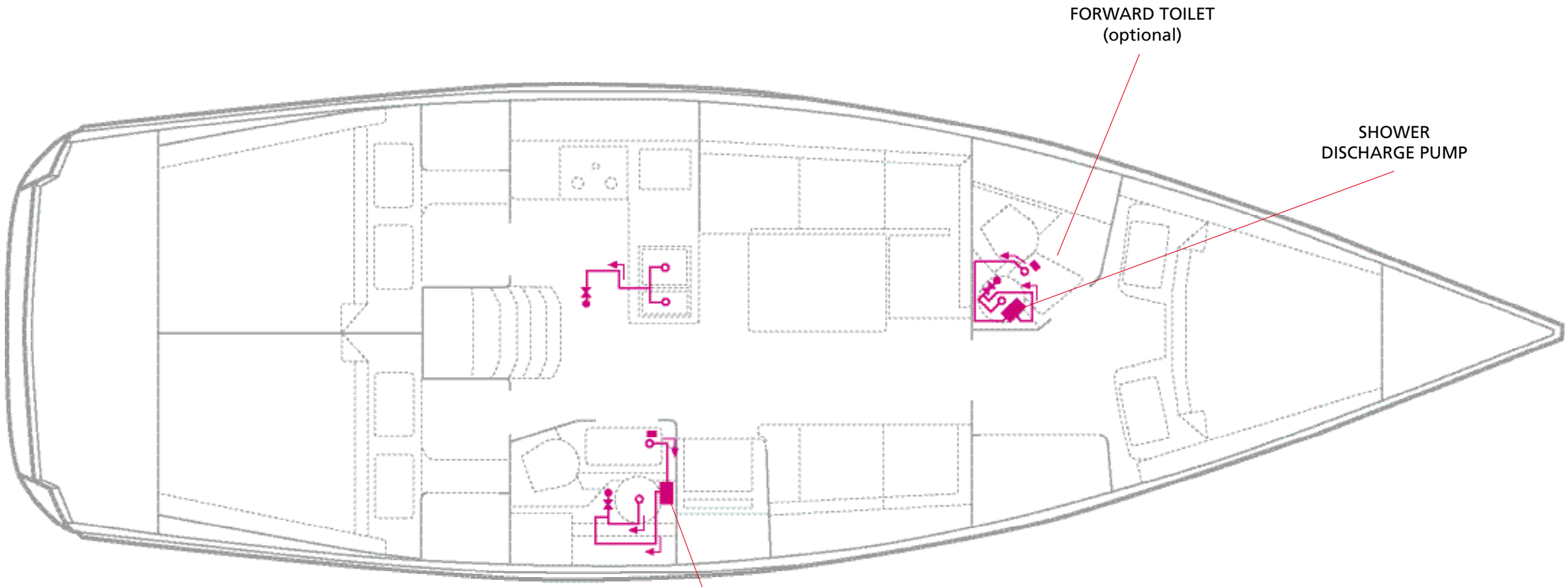
DECK - STARBOARD



BILGE DRAINAGE SYSTEM



TOILET FLUSHING AND BLACKWATER SYSTEM



GREYWATER SYSTEM

G. SERVOSYSTEMS

This chapter describes the servosystems installed on board your Grand Soleil 39.

G.2 AUTOPILOT MODULE (optional)

If an autopilot is installed, the steering system is operated by a hydraulic module that controls a piston connected to the rudder stock.
This hydraulic module requires a specific electrical power supply (12 VDC). It is controlled by an electronic unit on the autopilot, which sends signals to the module, allowing the steering system to be controlled. The piston is installed in the afterpeak, together with the rudder angle feedback sensor, which sends electronic signals to the autopilot. Make frequent checks on the correct connection of the feedback mechanism to the rudder stock and the hydraulic actuator.
Check that no objects or materials stowed in the afterpeak are able to move and interfere with correct operation of the piston or the feedback system.

AUTOPILOT
FEEDBACK SENSOR
(optional)

RUDDER STOCK

AUTOPILOT PISTON
(optional)

COCKPIT SCUPPER
DRAINAGES

AFTERPEAK

Ed. 04/2012
GS 39 m.y. 2012

H. ELECTRICAL SYSTEM

This chapter gives a brief description of the electrical system of your Grand Soleil 39.
Electrical diagrams that will allow a specialized electrician to trace and repair any faults are provided separately.

⚠ WARNING ⚠

FREQUENTLY CHECK ELECTRICAL PANELS, INSTRUMENT READINGS AND ALARM LIGHTS. ACQUIRE THE HABIT OF MAKING THESE CHECKS REGULARLY AND SYSTEMATICALLY, BOTH WHEN MOORED AND WHEN SAILING. THIS WILL MAKE A SIGNIFICANT CONTRIBUTION TO SAFETY ON BOARD.

H.1 CONFIGURATION OF SYSTEM

The electrical system is divided into two separate sections, one with 230 V AC – 50 Hz alternating current (AC), installed in conformity with European standards, and the other with 12 V direct current (DC).
The AC section can be powered by a shore cord with connector (on starboard aft side of the cockpit) and cable for connecting to a shore power point.
It is also possible to power minor services with 230 V AC by means of an inverter (optional), which in turn is powered by the service batteries.

⚠ DANGER ⚠

BEFORE CARRYING OUT ANY WORK WHATSOEVER ON THE ELECTRICAL SYSTEM, SHUT OFF POWER FROM ALL CIRCUITS AND DISCONNECT THE SHORE CORD TO AVOID THE RISK OF ELECTRIC SHOCK.

⚠ DANGER ⚠

BEFORE CONNECTING THE SHORE CORD, ENSURE THAT PLUG PINS ARE FREE FROM CORROSION AND THAT ALL CONNECTORS ARE PERFECTLY DRY. ALSO CHECK THAT THE MAIN SWITCH ON THE SHORE POWER SUPPLY POINT IS SET TO THE OFF POSITION.

⚠ DANGER ⚠

DO NOT ALLOW THE SHORE CORD TO TRAIL IN THE WATER. THIS COULD GENERATE ELECTRICAL FIELDS THAT MAY CAUSE ELECTRIC SHOCK TO PERSONS SWIMMING NEARBY.

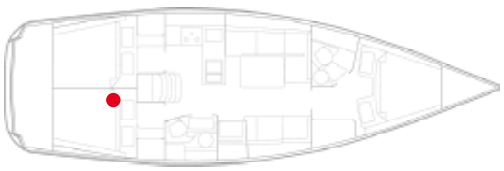
On the starboard side of the afterpeak there is a box that contains the main breaker for the shore power supply.

⚠ WARNING ⚠

ALLE PRESE 230 DI BORDO NON DEVONO ESSERE COLLEGATE UTENZE DI POTENZA COMPLESSIVA SUPERIORE AGLI 800 W (ES.: STUFETTE O ASCIUGACAPELLI).

The following batteries are provided on board:
- engine starter battery;
- 12 V DC service batteries.

These batteries are installed beneath the starboard aft guest cabin bed.



STARBOARD AFT CABIN - BENEATH BED

ENGINE STARTER BATTERY DISCONNECTOR SWITCH

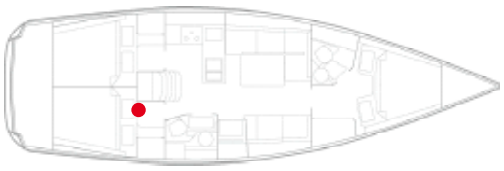
BATTERY DISCONNECTOR PANEL

SERVICE BATTERY DISCONNECTOR SWITCH

BATTERY PARALLEL CONNECTION (EMERGENCY)

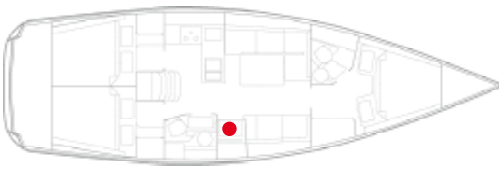
WINDLASS BREAKER

BREAKER FOR DIRECT POWER SUPPLY FROM SERVICE BATTERIES



STARBOARD AFT CABIN

BATTERY CHARGER



BENEATH CHART TABLE

The battery disconnector switches for the engine starter battery, the service batteries and the parallel connection are located forward of the bed, on the vertical panel that also contains the bilge pump power supply breakers (powered directly from the service batteries without passing through the battery disconnector switches), the windlass protection breaker and the optional breakers protecting the electric winches.

It is advisable to make monthly checks on the tightness of battery connection terminals.
This is a particularly important check, essential for the efficiency and safety of the electrical system.
All clamps and contacts through which high current flows must be checked regularly, because they can be loosened by vibrations.
The electrical diagrams are an integral part of the documentation supplied together with this manual.

DANGER

DEFECTIVE ELECTRICAL CONTACTS CAN CAUSE OVERHEATING AND FIRES.

The batteries are charged by the 115 A alternator driven by the main engine when this is running.
The engine starter battery and service batteries can also be charged by a battery charger located inside the cabinet beneath the chart table, when the shore power supply is connected and powered from the onshore mains supply (230 V AC).

CAUTION

READINGS ON DC VOLTMETERS ARE RELIABLE ONLY WITH THE BATTERY CHARGERS DISCONNECTED AND THE MAIN ENGINE AT A STANDSTILL. OTHERWISE THEY ARE AFFECTED BY CHARGING CIRCUITS AND THE ALTERNATORS DRIVEN BY THE ENGINE.

H.2 MAIN SWITCHBOARD (MS)

The main switchboard is located beneath the chart table, and contains monitoring instruments and breakers to protect the power supply lines to both 12 V DC and 230 V AC services (and the main safety breaker switch). If the onboard 230 V AC system fails to operate or if there are malfunctions with any of the associated services (water heater, battery charger or 230 V AC sockets), check the following:
- that the shore power connector is correctly connected;
- that the shore power connector is correctly powered by the onshore power system ;
- that the indicator light for voltage presence on the switchboard is lit;
- finally, that protection switches inside the box in the afterpeak and on the MS are turned on.

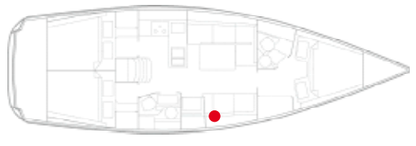
On the switchboard in the dinette there are the following:
- 12 V DC and 230 V AC power sockets;
- fuel and freshwater tank level gauges;
- voltmeter for monitoring battery voltage (with selector for the two battery banks);
- indicator lights for shower pump operation;
- manual control switches for bilge pumps and mute switch the high bilge level alarm, with operation indicator lights;
- indicator lights for shore power supply operating;
- indicator light for inverter operating (optional);
- protection breakers for instruments and 12 V DC lights;
- protection breakers for miscellaneous 12 V DC services;
- protection breakers for 12 V DC bilge pumps;
- protection breakers for 230 V AC services.

⚠ WARNING ⚠

NEVER FOR ANY REASON WHATSOEVER REPLACE A PROTECTION FUSE WITH ANOTHER OF HIGHER CAPACITY. THIS COULD CAUSE FIRE TO BREAK OUT. IF A FUSES BLOWS REPEATEDLY, THERE IS A FAULT THAT MUST BE TRACED AND RECTIFIED.

⚠ WARNING ⚠

IF A BREAKER TRIPS, DO NOT MAKE REPEATED ATTEMPTS TO RESET IT, BUT TRACE AND RECTIFY THE CAUSE OF THE MALFUNCTION.



DINETTE

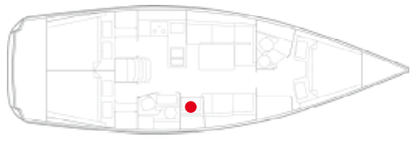


CHART TABLE

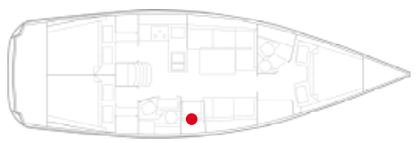


CHART TABLE

Ed. 04/2012
GS 39 m.y. 2012

I. FIRE PROTECTION

This chapter describes the firefighting systems installed on your Grand Soleil 39, and also gives information on fire prevention and the correct way to deal with fires if these ever break out.

I.1 ESCAPE ROUTES

The following hatches are considered to be emergency escape routes:
- hatch on master cabin ceiling;
- hatches (2) on dinette/saloon ceiling;
- skylight leading to cockpit from internal dinette.

⚠ WARNING ⚠

ESCAPE ROUTES MUST NEVER BE OBSTRUCTED OR BLOCKED BY STORED ITEMS. SHOW PASSENGERS ALL ESCAPE ROUTES.

I.2 FIREFIGHTING SYSTEMS

Your boat is equipped with a series of handheld 1-kg dry-powder fire extinguishers. Support brackets for handheld extinguishers are marked with specific labels.
You must have handheld extinguishers checked at least once a year. Dry-powder extinguishers should also be shaken up occasionally to prevent powder deposits from forming.
If the extinguishers have to be used, take care not to breathe in the powder released. After use, carefully wash or clean all surfaces covered by powder.
In the cockpit, to port behind the helmwheels, there is the handle for emergency closure of the fuel supply to the engine. When operated, this handle closes the supply valve leaving the fuel tank, preventing all possible losses of inflammable fuel
If this handle is pulled, the fuel valve must be reopened locally, otherwise the engine cannot be started again. The fuel valve can be accessed from beneath the port guest cabin bed panel.
However, you must remember that the engine will not stop immediately when the fuel valve is closed, as the small quantity of fuel remaining in the supply pipes must first be used. If you want to stop the engine, you should therefore not rely solely on this mechanism.
It must be noted that in the same compartment there is an electric air extractor with a timer. The extractor operates automatically, commanded by a relay with timer. In case of an engine fire or any other fire in the engine room, the air discharge outlet on the port side of the cockpit must be blocked with rags, to prevent the extractor from providing a flow of air that would feed the fire. Otherwise power from the batteries must be cut off by opening the battery disconnector switches.

I.3 IN CASE OF FIRE

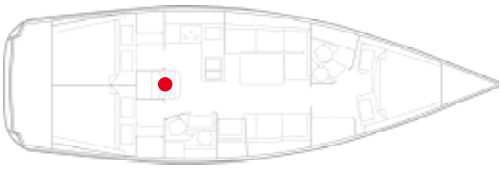
While fire is undoubtedly the most dangerous hazard that can threaten a boat, the risks are increased when efforts to extinguish the fire are made too late and are carried out in a confused and ineffective manner. It has been shown that virtually all fires on boats can be controlled and extinguished if they are discovered as soon as they break out and are handled correctly.
However, it is even more important to eliminate the conditions that can cause a fire to break out.
There is little risk of fire on a boat that is adequately checked, regularly serviced and kept clean.
Generally, fires can break out only in the following situations.

a. Defective electrical systems or improper use.
b. Contact between inflammable liquids (oil, fuel) and hot surfaces.
c. Improper use of cooking equipment.
d. Incautious use of cigarettes, cigars, lighters, etc.
e. Naked flames used without adequate precautions.

STEPS LEADING DOWN
TO DINETTE

ENGINE
COMPARTMENT

EXTINGUISHER
FIRE-PORT
DISCHARGE HOLE



STEPS LEADING DOWN TO DINETTE

As can be seen, only a few simple precautions are needed to drastically reduce the risk of fire.

If a fire breaks out, a series of simple but important procedures must be followed as quickly as possible:

- evacuate all persons on board to the deck and have them assemble in a safe position where they do not obstruct operations; one or at most two persons will be sufficient to fight the fire;
- switch off all electrical circuits, stop the engine and heating boiler (if operating), close the fuel cut-off valves using the handles in the cockpit, and close all gas supply valves to the galley;
- in the meantime, the other persons on board must put on lifejackets and gather together emergency equipment in preparation for the possible need to abandon the boat;
- gather together all fire extinguishers on board so that spare extinguishers are available rapidly as soon as one extinguisher has been used;
- be ready to return the power supply only to the VHF radio electrical circuit in case an emergency call needs to be sent if the situation cannot be controlled, if in any other way you require help and assistance, and above all if you need to abandon the boat;
- fight fires only after abundantly dampening your clothes with water, from head to foot.

The engine compartment is fitted with a "Fire-Port", which is an access hole covered by a rubber membrane that can be detached along the edges by pressing with force against the outer surface. This Fire-Port is located beneath one of the steps in the hatchway leading down from the cockpit to the saloon. If there is a fire in the engine compartment, discharge one or more fire extinguishers through the Fire-Port.
Do not open the engine compartment hatch until you are absolutely certain that the fire has been extinguished, to prevent the entry of air that would rekindle the blaze.

Keep the other fire extinguishers available on board within convenient reach to be able to extinguish any rekindling of the flames.
Even after the fire appears to have been extinguished, monitor the area where the flames broke out for a considerable time, as the fire could break out again if the reasons that caused it have not been eliminated. It is therefore extremely important to trace the cause of the fire (loss of inflammable liquids, original ignition of the fire, short circuits, overheating, contact between hot surfaces and inflammable materials or liquids, sparks, wear on protections or sheaths, etc).

Here is some more essential advice:

1. **Carry out all recommended maintenance routines.**
2. **Follow checklists and other checks indicated in instruction manuals.**
3. **Always keep firefighting systems in full working order and ready for use.**
4. **Faults in electrical and fuel systems should be repaired as soon as possible. Keep the bilges clean and eliminate any small losses of fuel or oil at once.**
5. **Do not ignore even the smallest warning signal. If something is not working correctly, trace the fault.**
6. **If a fire is caused by the electrical system, de-energize the system at once, disconnect the shore power supply and turn off the battery disconnector switches.**
7. **if the fire involves the fuel system, stop the engine immediately.**
8. **If fire breaks out, collect all the extinguishers at a single point so that you always have another one to use when the first is empty.**
9. **If dry-powder extinguishers have been used, have them recharged as soon as possible, and do not sail until this has been done. Otherwise you will be unable to fight any fires that might break out.**
10. **At least twice a year thoroughly clean all surfaces in the engine compartment, to eliminate any oily deposits that might be present.**

11. If a fire involves mattresses, fabrics or coverings, remember that it can spread beneath the external surface to areas that appear to be unaffected. If possible, the most effective and quickest solution is to throw solid materials that are starting to burn into the sea.

Also remember that water can be used to extinguish fires only if solid materials are burning (fabrics, paper, mattresses, wood, plastic, etc). Water must not be used if the fire involves live electrical systems (risk of electric shock or short circuits) or inflammable liquids (oil and fuel float on water and continue to burn).

DANGER

DO NOT USE WATER TO EXTINGUISH ELECTRICAL FIRES. YOU COULD WORSEN THE SITUATION AND RUN THE RISK OF ELECTROCUTION. IN CASE OF FIRE, FIRST DE-ENERGIZE ALL ELECTRICAL SYSTEMS AND THEN USE THE FIRE EXTINGUISHERS PROVIDED.

WARNING

KEEP A CONSTANT CHECK ON THE ELECTRICAL SYSTEMS OF YOUR BOAT. THIS IS AN ESSENTIAL PRECAUTION AGAINST FIRES.

WARNING

TAKE CARE WHEN USING THE COOKING STOVE AND OVEN. IF USED IMPROPERLY THESE CAN CAUSE FIRE TO BREAK OUT.

WARNING

USE THE PROTECTIVE SCREENS ON THE COOKING STOVE WHILE USING IT, TO PREVENT FLAMES FROM COMING NEAR THE ADJACENT FURNITURE WHEN COOKING WITH VERY WIDE PANS.

DANGER

MANY UPHOLSTERY FABRICS, MATTRESSES AND CUSHIONS ARE INFLAMMABLE. IF THEY CATCH FIRE THEY BURN RAPIDLY, CONSUMING OXYGEN AND GIVING OFF TOXIC VAPOURS.

DANGER

FUEL LOSSES ARE A POTENTIAL FIRE HAZARD. CHECK THE FUEL SYSTEM REGULARLY.

WARNING

SMALL LOSSES OF OIL OR FUEL WILL DIRTY THE ENGINE. WHEN THEY EVAPORATE WITH THE HEAT, THEY CAN BE DEPOSITED ON ENGINE COMPARTMENT SURFACES, WHERE THEY ARE A SERIOUS HAZARD IF FIRE BREAKS OUT.

J. EQUIPMENT AND HANDLING

This chapter describes the anchoring and mooring systems of your Grand Soleil 39, and gives information on their safe use.

J.1 ANCHORING

Anchoring is an extremely important operation for the safety of your boat, and requires both experience and great caution.
When anchoring, you must always assume that your boat will shortly be subject to sudden and drastic changes in wind and sea conditions, even though the weather forecast may be excellent.
The Grand Soleil 39 is fitted with an optional Delta anchor weighing 16 kg and 50 metres of 10 mm chain, and a QUICK RIDER 1,000 W 12 V DC windlass.
The windlass can be controlled locally with a handheld control unit with cable connection, but a second optional control unit with radio connection can also be provided.
Naturally, the method of letting out the anchor chain that will be described here, which involves freeing the clutch of the sprocket (a wheel with recesses into which the anchor chain fits), can be carried out only by a person at the bows.
The windlass is powered from a breaker on the Main Switchboard (MS).
The windlass has a handle that can be fitted into the opening provided on top of the windlass. This handle frees the chain sprocket clutch if turned in an anticlockwise direction, or tightens it when turned in a clockwise direction.
It is advisable to operate the windlass at least once every two weeks, releasing the chain to its full extent with the engine running or the battery charger operating, so as to keep the batteries charged, sluicing out the inside of the chain locker with abundant freshwater (also taking the opportunity to inspect the inside of the locker, the drainage holes and the shackle securing the end of the chain) and then hauling up the anchor chain again, continuing to wash it with abundant water.

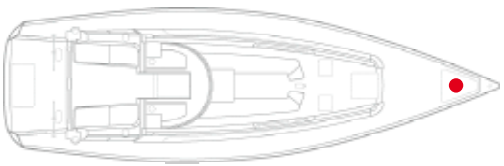
⚠ WARNING ⚠

GIVEN THE POWER OF THE WINDLASS AND THE WEIGHT OF THE CHAIN AND THE ANCHOR, OPERATIONS WITH THE WINDLASS SHOULD BE CARRIED OUT ONLY BY AN EXPERIENCED PERSON.

Always wear protective gloves when handling the anchor and chain.
To correctly drop anchor, these procedures should be followed:

- check that power supply to the windlass is on, and that it is ready to operate;
- check that the sprocket clutch is tightened;
- remove the safety fixing of the anchor;
- let out the anchor and about one metre of chain using the electric controls;
- reach the point where you want to anchor and start to move the boat slowly astern;
- as soon as the boat starts to move astern, slacken the sprocket clutch to free the chain;
- as the boat moves slowly astern, let the chain run out, slowing it occasionally by tightening the brake, so that it is laid correctly on the seabed, allowing the anchor to bite;
- when this manoeuvre has been completed, fully tighten the sprocket clutch, free the brake and check that the windlass moves in both directions in response to electrical commands; from this moment, if an increase in wind makes it necessary to let out more chain, this can be done with the electric control.

When hauling up the anchor, assist the windlass by moving slowly forward under engine power in the direction of the chain, but without overrunning. Always avoid having the boat being "towed" by the windlass when the anchor chain is being recovered, particularly if there is a strong wind. The windlass is not designed to withstand such a strain, and the result might be a windlass breakdown with the chain not entirely recovered.
If you have anchored in mud or weed, the chain should be washed down before it reaches the sprocket.



DECK – FORWARD

J.2 MOORING

On each side of the stern there is a self-tailing winch that can be used for warping operations. The use of these winches requires a certain experience in the handling of mooring cables, but considerably facilitates the correct tensioning of cables at the stern.

When towing another boat with a calm sea, it is advisable to pass the cable around the bottom of the mast. In this way the cable will be secured to the most solidly fixed structure of the boat.
If you are towing another boat, you should pass a sufficiently long cable in a U-shape between the two warping winches at the stern. The towing cable should then be tied to this U-shaped cable with a bowline or a loop that returns to the boat being towed, dividing the strain between the two warping winches and centralizing the towing cable. Take care not to allow the towing cable to fall into the water and become tangled in the propeller when the cable slackens and is no longer taut.
In a rough sea, sudden jerks on the towing cable can be absorbed by a weight (such as an anchor) fixed halfway along it.
Another possible method in difficult sea conditions is to use the anchor chain as part of the towing line. Attach the cable to the end of the anchor chain and let out a few dozen metres of chain until a sufficient length to absorb sudden jerks is reached.

⚠ WARNING ⚠

GIVEN THE CONSIDERABLE STRAINS THAT MIGHT BE INVOLVED, MOORING CABLES AND FIXTURES SHOULD BE HANDLED ONLY BY EXPERIENCED PERSONS.

K. DOMESTIC APPLIANCES

K.1 GALLEY

The cooking stove is fuelled with LPG gas. The gas canister is located in the starboard locker. The pipe that supplies gas to the galley has two safety valves, one near the gas canister and the other beneath the cooking stove.
The flexible hoses must be checked every time that the cooking stove is used, and replaced at least once every two years.

⚠ WARNING ⚠

TAKE GREAT CARE WHEN USING THE COOKING STOVE AND OVEN. THEY CAN BE A FIRE RISK IF USED INCORRECTLY.

Great care must be taken to avoid exposing the furniture around the cooking top to excessive heat, particularly when the pans being used are very wide, as this could make the flames spread beneath the bottom of the pan and overheat the edges of the adjacent furnishings.

The cooking stove is fitted on a gimballed support, for use when the boat is heeling over, and this system is designed for use with heeling angles up to 20°. When sailing however, it is advisable to use the cooking stove only if absolutely necessary, and always under constant supervision, because it is impossible to predict whether the boat will heel over at a greater angle, when changing course or due to unexpected waves or gusts of wind. The boat may also move in other unexpected ways. If possible, use of the cooking stove when sailing must be limited as far as possible, and also using only pans with a small dimension, secured in place with pan holders and constantly supervised.

Always close the valves on the gas supply line and the gas canister valve when the cooking stove is not being used.
Close the valves before loading fuel and immediately in case of emergencies.
Ensure that the gas taps on the cooking stove are closed before opening the gas canister valve.
Check the LPG gas supply line for the absence of leaks as follows before every use:

- close the gas taps on the cooking stove;
- open the valve on the gas canister and wait for the pressure shown by the pressure gauge provided close to the pressure reducer on the gas canister to stabilize;
- close the valve on the gas canister and check the pressure shown by the pressure gauge for three minutes;
- the pressure must remain constant (showing that the supply line has no leaks);
- if the reading on the pressure gauge falls, there must be a leak in the gas supply line: in this case do not use the LPG gas system.

If leaks are present, close the valves of the system and have it repaired before using it again. Repairs to the gas system must be carried out by a specialized technician.

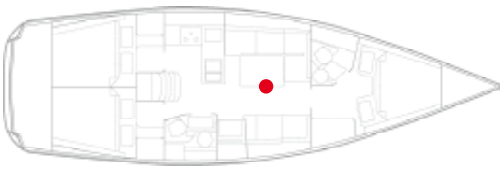
⚠ CAUTION ⚠

DO NOT USE SOLUTIONS CONTAINING AMMONIA ON COMPONENTS OF THE LPG GAS SYSTEM.

⚠ WARNING ⚠

NEVER USE NAKED FLAMES TO SEARCH FOR GAS LEAKS.

FOLDING TABLE SUPPORT



CAUTION

TO AVOID DAMAGE TO THE FOLDING TABLE OR THE HINGES, ALWAYS FULLY OPEN THE SUPPORT BEFORE USING THE TABLE.

DINETTE

PROTECTIVE SCREENS INSTALLED

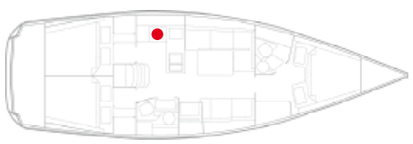
STOVE WITH GIMBALLED SUPPORT

GIMBAL LOCK

GAS CUT-OFF VALVE TO GALLEY

GIMBAL LOCK LEVER

GAS CUT-OFF VALVE TO GALLEY



⚠ WARNING ⚠

DO NOT USE THE COOKING STOVE WITHOUT FITTING THE PROTECTIVE SCREENS. RISK OF FIRE OR DAMAGE TO SURROUNDING FURNISHINGS.

GALLEY

WARNING

APPLIANCES FIRED BY GAS FLAMES CONSUME OXYGEN IN THE CABIN AND RELEASE COMBUSTION PRODUCTS INTO THE ATMOSPHERE. VENTILATION IS NECESSARY WHEN THESE APPLIANCES ARE BEING USED. DO NOT USE GAS RINGS OR THE GAS OVEN FOR AMBIENT HEATING.

Do not obstruct access to components of the gas system in any way.

Keep the valves of empty canisters closed and disconnected. Store spare canisters in ventilated lockers on the open deck or in gastight lockers fitted with vents discharging overboard or lockers provided for this specific purpose.

Do not use LPG gas canister lockers or cabinets for storing other objects.

WARNING

NEVER LEAVE THE BOAT UNATTENDED WHEN GAS-FIRED EQUIPMENT IS IN USE.

WARNING

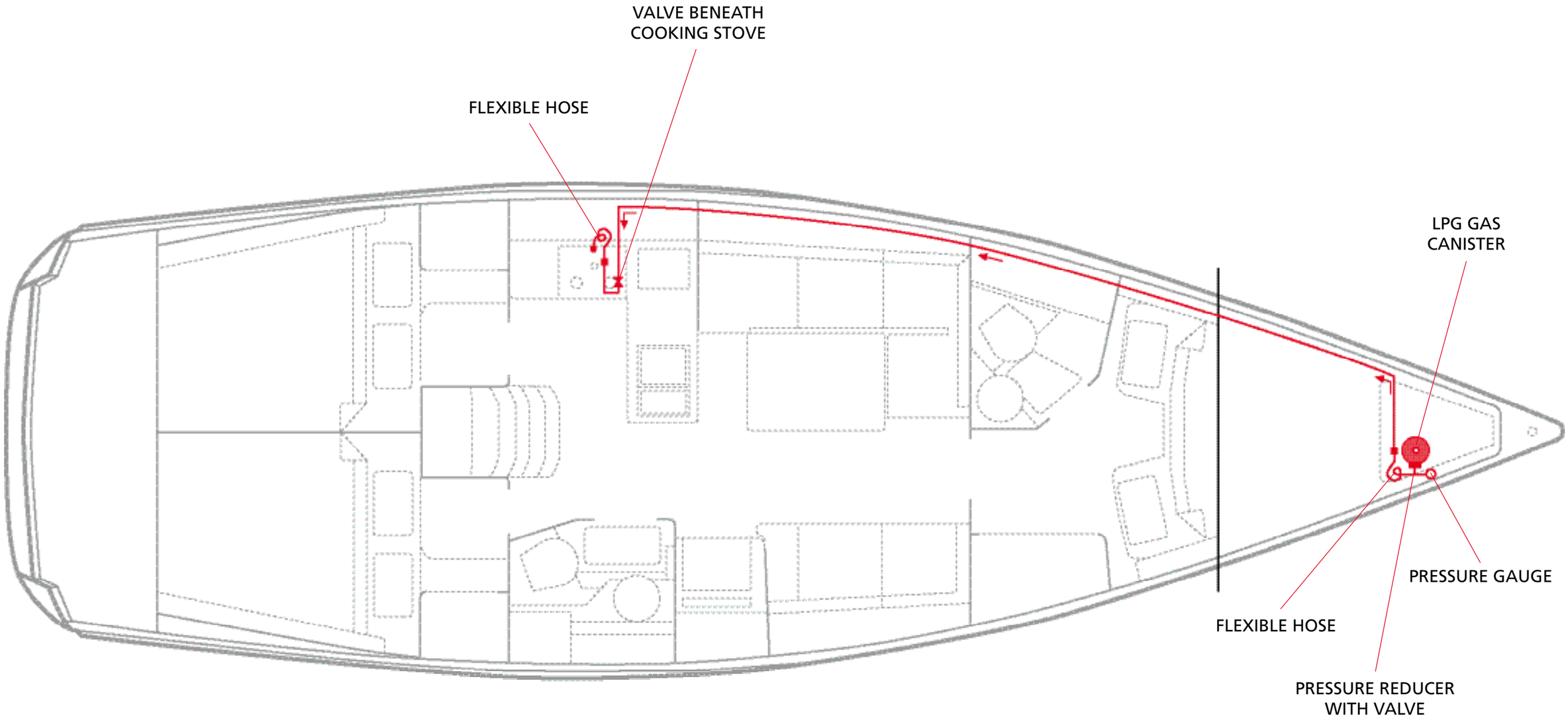
DO NOT SMOKE OR USE NAKED FLAMES WHEN THE LPG GAS CANISTERS ARE BEING REPLACED.

K.2 REFRIGERATORS

A refrigerator is provided on board, with a compressor located in the galley area cabinet. The refrigerator operates with 12 V DC, and the breaker is located on the Main Switchboard above the chart table.
For the best and most economical use of a refrigerator, it should be kept as full as possible, so that when normal running temperature is reached it can be maintained with the consumption of less energy, even if the door is opened frequently.

K.3 HEATING (optional)

The heating system can operate even if the generator is not running or if the shore cord is not connected. Air is heated in a heat exchanger, supplied by fuel drawn from the onboard fuel tank, with a cut-off valve to be used in emergencies (in case of fire). The cut-off valve is closed from the cockpit.
The heater (boiler) is located on the port side of the afterpeak. It is fitted with a solenoid valve and a small fuel supply pump. The control panel is located in the saloon. For further details consult the specific instructions provided separately.



LPG GAS SYSTEM