



OWNERS MANUAL

CRUISER 2180

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DISCLAIMER

This manual has been compiled to help you to operate your craft with safety and pleasure. It contains details of the craft; the equipment supplied and fitted, its systems and information on their operation. Please read it carefully, and familiarize yourself with the craft before using it. This owner's manual is not a course on boating safety or seamanship. If this is your first craft, or if you are changing to a type of craft you are not familiar with, then for your own safety and comfort, please ensure that you obtain handling and operating experience before "assuming command" of the craft. Your dealer or national sailing federation or yacht club will be pleased to advise you about sea schools or competent instructors in your area.

Before going onto the water, ensure that the anticipated wind and sea conditions will correspond to the design category of your craft which is Design Category C – winds up to Beaufort force 6. These conditions are likely to be encountered in exposed inland waters, in estuaries and coastal waters in moderate conditions. Even so, sea and wind conditions can vary considerably and you may encounter dangerous conditions, where only a competent, fit and trained crew using a well maintained craft can satisfactorily operate.

This owner's manual is not a detailed maintenance or trouble-shooting guide. In the case of difficulty, refer to the boat builder or his representative. If a maintenance manual is provided, use it for the craft's maintenance. Always use trained and competent people for maintenance, fixing or modifications. Modifications that may affect the safety characteristics of the craft must be assessed, executed and documented by competent people. The manufacturer is not responsible for modifications that it has not approved. In some countries, a driving licence or authorisation is required to operate the boat and specific regulations may be in force. Always maintain your craft properly and make allowance for the deterioration that will occur in time and as a result of heavy use or misuse of the craft.

Any craft, no matter how strong it may be, can be severely damaged if not used properly. Using a damaged craft is not compatible with safe boating. Always adjust the speed and direction of the craft to sea conditions. If your craft is fitted with a life raft, carefully read its operating manual. The appropriate safety equipment (lifejackets, harness, etc) according to the type of craft, weather conditions, etc should be on board the boat. This equipment is mandatory in most countries. The crew should be familiar with the use of all safety equipment and emergency maneuvering (man overboard recovery, towing, etc.). Sailing schools and clubs regularly organize drill sessions.

All persons should wear a suitable buoyancy aid (life jacket/personal floatation device) when on deck. Note that, in some countries, it is a legal requirement to wear a buoyancy aid that complies with their national regulations at all times.

Well done.

You have purchased a Whittley boat; a luxury craft, manufactured to an extremely high standard with great attention given to detail. It is a prestige boat, with the best quality appointments, fitted out to a very high standard. It is a trailerable boat with many added luxury appointments to make overnight cruising a pleasure.

The Whittley family company has been manufacturing boats for more than fifty years; and the commitment to superb design, high quality fitting and first class engineering has been without compromise. Others may attempt to copy but they never reach the standard. Your boat has not been built on a standard production line. At Whittley our constant drive to improve production standards keeps our boats at the leading edge of technological innovation. We check each boat thoroughly before it leaves the factory. You will find the final stage check sheets enclosed with the documentation accompanying this manual; testimony to the personal care and attention given to each unit.

When you purchased your boat, you also acquired a relationship with the Whittley network of boat owners and dealers. Through the Whittley dealer network, with factory trained service personnel, you will enjoy ongoing support, providing a commitment from us; and support in the use and maintenance of your boat. We at Whittley hope the relationship will remain strong and continue for many years into the future. Around the country, there are many Whittley boat owner clubs, formed by enthusiastic owners who share the Whittley dream and the Whittley experience. Details of the clubs in each state can be found in Appendix B at the end of this manual. If there is not one in your area, why not consider forming one. We at Whittley would be happy to assist so contact your dealer.

We wish you a long and enjoyable boating experience and look forward to a continued association with you. Thank you for joining us.

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

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INTRODUCTION

This manual has been designed to assist you in the care and management of your new boat as well as to provide you with basic safety information. **Please do not operate your boat until you have read this manual. It contains vital information for the economic and safe operation of your boat. Refer to your dealer if you have any questions.**

Safety and Seamanship - You should ensure that you read this section and heed its recommendations, especially those relating to load limitations, boat handling and safety, before venturing on to the water. If an emergency occurs, there will be no time available to look up these details, so you should get instruction by taking a course in boat handling and safety.

General Layout - A general description of the workings and operation of the mechanical features, electrical and fuel system, accessories and fittings on your boat, their purpose, and how to use and maintain them.

Trailer and Launching - Here you will find a discussion of trailer operation, how to place your boat in the water and how to recover it again.

Operating on the Water - Pre start procedures, how to start the motor, engaging the forward and reverse gears, operation of the trim tabs and recommended speeds.

Care and Maintenance - Essential information on the care and maintenance of the hull, engine, trailer, and major accessories.

You will also find warning labels in your boat and this warning symbol throughout the manual. You should take particular note of the advice given, as they highlight important safety or operational information as follows.



DANGER The hazards marked "Danger" will result in death or severe injury if ignored.



WARNING The hazards marked "Warning" indicates unsafe practices that could result in death or severe injury to persons if ignored.



CAUTION The hazards marked "Caution" indicate unsafe practices that could result in minor injury to persons or damage to property if ignored.

SAFETY AND SEAMANSHIP

This section refers you to some particular aspects of your boat that require care in order to conform to normal safety standards. It also directs your attention to the need to observe **basic** safety principles when operating your boat. **It is completely beyond the scope of this manual to give you instruction in most aspects of boat operation and safety. This is the province of specialist publications on the subject.** Such publications are often larger than this manual. It is imperative, particularly if you are new to boating, that you **undertake a course of instruction in boat handling and boat safety**. Your dealer will be able to recommend one in your area.

Safety Equipment

Each state or country will have its own legislative requirements detailing the minimum safety equipment that must be carried on board a boat and they differ according to the size of the boat and where it is being operated (e.g. sheltered waters or open waters). Your local regulatory authority or your dealer can provide you with information on the legal requirements for the operation of your boat in your location. In general you will be required to carry many of the following items, but there may be others so **please check with your local regulatory authority**:

- one PFD type 1 for each person on board;
- anchor with chain or rope of specified minimum size for the particular craft;
- one or two fire extinguishers of a specified type;
- two each of orange smoke flares, red hand flares and parachute flares;
- Whistle, horn or other means of making a loud signal;
- V sheet;
- marine compass;
- maps and/or charts appropriate for the area;
- effective bilge pump and/or one or two buckets with lanyards attached for bailing;
- waterproof torch in operating condition;
- Electronic Positioning Indicator Beacon (EPIRB);
- marine two way radio;
- minimum quantities of fresh drinking water for each person on board;

Safety Practices

Safety means making sure your boat is maintained in proper working order, having knowledge about the limitations of your boat in various conditions, keeping a proper lookout at all times and following the rules of the road. These, in turn, involve a large number of things that you should do or be aware of including:

- Always ensuring that the boat is equipped with proper safety equipment and obtaining weather reports before venturing out.
- Do not operate a boat after consuming alcohol or other performance impairing substances.
- Travel at a safe speed when in limited visibility or when close to other objects or persons.

- Leave details of your sailing plan and an estimate of your return time with responsible persons on shore.
- Ensure that your boat is maintained in good seaworthy condition and make sure that mechanical items are properly serviced.
- Heed the advice given in the safety labels on the boat.
- Take a boat safety course at your local boating club or other organisation.

Loading

It is imperative that you do not overload your boat. This applies to on water operation and towing on land. Appendix A at the end of this manual gives you details of the various weights of your boat, motor and trailer combination. The meanings of the various terms used are as follows: -

The **Boat Weight** (see Appendix A) is the weight of the finished boat (standard configuration – no optional extras) **without** the motor, fuel, water, non-standard accessories or carry-on items. Your dealer will have filled in the specification sheet located inside the back cover of this manual. This gives you the weight of the particular motor and trailer you ordered and the **total weight for trailering purposes. You must add the weight of any fuel or water in the tanks and items you have stored in boat.**

The **Weight of Boat and Motor** (Light Craft Condition) referred to in Appendix A is the Boat Weight referred to above plus the weight of the **heaviest** motor (sterndrive and outboard) recommended for the boat (not necessarily the one you ordered). **It does not include the weight any fuel, water, carry-on items or trailer.**

The **Operational Weight** (Appendix A) is the weight of the boat with the heaviest recommended motor plus full fuel and water in the tanks. It **does not include items you add to the boat** such as persons, portable fuel and water, food, liquid refreshment, crockery, tools, portable equipment etc or any bilge water that may have been left in the hull.

The **Maximum Load** referred to in Appendix A is the **Maximum Recommended Load that can be carried** above the Operational Weight when the boat is in the water. This is the **weight of the maximum number of persons** allowed (at 75 Kg (each) **and any baggage** or other items brought on to the boat.

The **Weight of boat in fully loaded condition** (Appendix A) is weight of the boat and heaviest motor, with full fuel and water, plus the maximum allowable weight of persons, baggage and carry on items. **It is the absolute maximum weight that the boat should present to the water.** This weight gives the maximum boat displacement.

Stability

A maximum total load has been used for assessing the stability and buoyancy comprising:

	S/Drive	O/Board
Manufacturers Maximum Recommended Load (6 persons + carry-on items)	510 Kg	510 Kg
fuel, fresh water and other tank water to maximum capacity of fixed tanks	134 Kg	191 Kg
<hr/>		
Maximum Total load	644 Kg	701 Kg

The stability of the boat has been assessed assuming that in the light craft condition it has a mass of:

1301 Kg	1121 Kg
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and the maximum recommended engine mass is:

381 Kg	201 Kg
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and all standard equipment is aboard.

Builders Plate

A "Builders Plate" is located on the boat within viewing distance of the helm position. **The plate contains important information on the safe loading of your boat as follows:**

The **Maximum Engine** symbol (outboards only) gives the maximum allowable weight of any engine installed in the boat. In the unlikely event that your engine is replaced, you must make sure that the weight of the replacement engine does not exceed the weight shown on the Builders Plate.

The **Maximum Persons** symbol is exactly what it says it is -- the **maximum** number of persons that the boat has been designed to carry regardless of other weight considerations. Do not think that because you might have less fuel and water in the tanks, that you can carry extra persons. This is not the case. **You cannot carry more persons than the maximum number allowed** unless they each weigh no more than 35 Kg in which case two persons each weighing less than 35 Kg can count as one **BUT** you must carry additional approved PFDs for them.

For outboard boats the **Maximum Load plus engine** symbol indicates the maximum weight of persons; baggage and engine (added together) that is allowable.

The **Maximum Recommended Load** (the weight of the maximum number of persons plus carry-on items) that can be added to the boat apart from fuel and water in the tanks is shown on the Builders Plate affixed near the helm position. These figures must not be exceeded.



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.



WARNING: Note that the **Maximum Loads** referred to above are for ideal conditions only. Any expected deterioration in weather or other conditions must be allowed for. Also, the maximum recommended loads assume that the loads are evenly distributed. Do not operate the boat with the load concentrated in one part of the boat (for example, when the passengers are all on one side or at one end of the boat).

Weight when Trailering

The weights shown on the Builders Plate refer only to the **allowable weights that can be carried on the boat when it is in the water**. You must also consider the maximum weight that can be towed on the road including the weight of the trailer you are using. You should refer to the Trailering Weight Specifications Sheet inside the back cover of this manual.

Re-fuelling

The re-fuelling intake is located on the left hand side of the rear of the transom above the marlin board and is marked accordingly. Ensure that you do not confuse the pump-out toilet outlet (where fitted) or the water inlet when filling the boat with fuel.



WARNING: Always ensure that all electrics are off and evacuate all persons (including yourself) from the boat while re-fuelling is in progress. **NO SMOKING** is mandatory. Ensure that the boat is secured to the re-fuelling barge in such a way that it can be easily untied and pushed away in the event of a fire or major spill. In the event of a fuel spillage, ensure that it is thoroughly washed away before attempting to switch on any electrics or start the engine.

Fire



A fire extinguisher is located near the helmsman's position. In countries or states that require additional fire extinguishers, they may be located in the galley area or adjacent to the companion seat opposite the helmsman position and/or near the engine compartment. The extinguisher positions will be marked with a sticker as shown here and coloured red.

Make sure that you read the extinguisher manufacturer's instructions so that you are familiar with its operation and always ensure that your passengers are shown the position of the fire extinguisher/s and how to operate them.

Firefighting equipment

The boat owner/operator must:

- have fire-fighting equipment checked at the intervals indicated on the equipment,
- replace portable fire extinguishers, if expired or discharged, by devices of identical fire-fighting capacity, and
- have fixed systems refilled or replaced when expired or discharged.
- ensure that fire-fighting equipment is readily accessible when the boat is occupied, and inform members of the crew about
 - the location and operation of fire-fighting equipment,
 - the location of discharge openings into the engine space, and
 - the location of routes and exits.

Keep the bilges clean and check for fuel and gas vapours or fuel leaks frequently. When replacing parts of the fire-fighting installation, only matching components shall be used, bearing the same designation or having equivalent technical and fire-resistant capabilities.

Do not fit free-hanging curtains or other fabrics in the vicinity of, or above, cookers or other open-flame devices.

Do not stow combustible material in the engine space. If non-combustible materials are stowed in the engine space, they shall be secured against falling into machinery and shall cause no obstruction to access into or from the space.

Exits other than the main companionway doors or hatches with permanently fixed ladders are identified by a symbol.

Never

- obstruct passageways to exits and hatches,
- obstruct safety controls, e.g. fuel valves, gas valves, electrical system switches.
- obstruct portable fire extinguishers stowed in lockers,
- leave the craft unattended when cooking and/or heating appliances are in use,
- modify any of the craft's systems (especially electrical, fuel and gas) or allow unqualified personnel to modify any of the craft's systems,
- fill any fuel tank or replace gas bottles when machinery is running, or when cooking or heating appliances are in use,
- smoke while handling fuel or gas.

Escape

In the event of a fire or other emergency, the most suitable escape route from the boat will usually be via the rear deck area; either from the side or via the rear. However, there may be occasions where occupants might be trapped in the front cabin area and it may be appropriate to use the alternative means of escape through the front hatch (on boats fitted with front hatch).



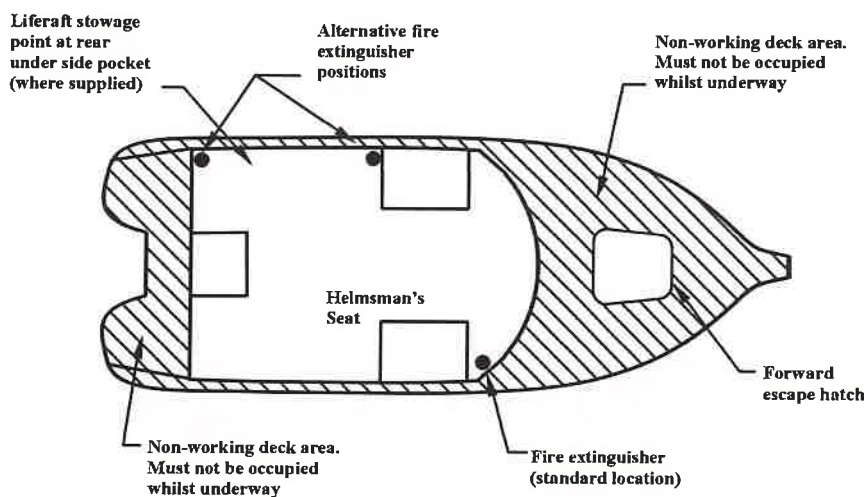
WARNING: Avoid Persons Being Trapped In Cabin.

Do not engage locking tabs on handle of hatch when underway. The hatch must be capable of being opened from the outside for rescue purposes.



DANGER: The engine must always be switched off before anyone enters the water from the boat or is in the water within 5 metres of the boat. As a matter of good practice, **DO NOT** simply place the stern drive in neutral leaving the motor running. **SWITCH THE ENGINE OFF.**

Plan view of the boat showing emergency egress and Fire Extinguisher locations



Carbon Monoxide Poisoning

You should always be aware of the health risk associated with the use of internal combustion engines on boats. The engine exhaust contains carbon monoxide which, under certain operating conditions, may vent into the cabin of the boat. This gas is odourless and colourless and is not noticeable until symptoms of the poisoning occur in the occupants. These symptoms are dizziness, headaches, nausea and eventual unconsciousness.

You should also ensure that you do not operate cooking appliances that use burning fuel (such as LPG, butane, alcohol / methylated spirits etc.) in areas within the boat that are not adequately ventilated. All hatches, canvas covers etc. must be opened and a flow of fresh air maintained throughout the area.

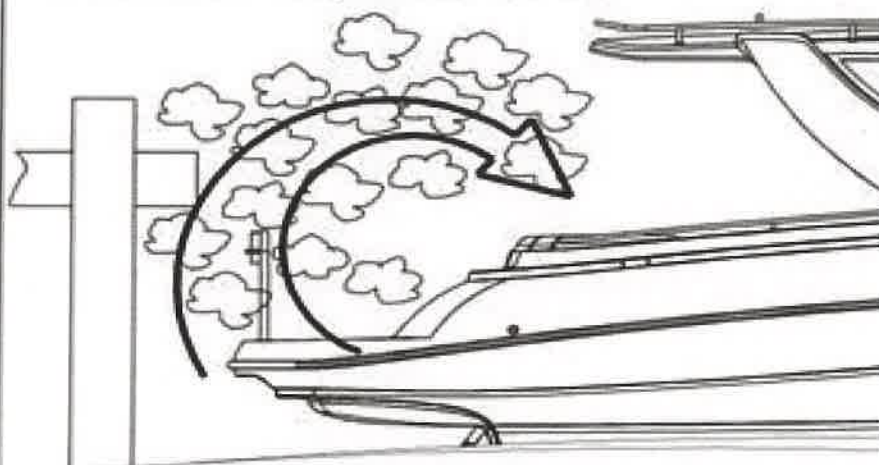


WARNING: You should always ensure that sufficient fresh air is circulating in areas containing people, especially inside the cabin of the boat.

You should always ensure that the exhaust system is regularly checked for leaks.

You should always be aware of the possibility that exhaust fumes are being drawn into the boat by wind blowing into the boat from the rear (e.g. operating at slow speeds for more than five minutes) or when operating the engine in confined spaces (e.g. moored adjacent to a dock or other boat).

Examples of how high levels of carbon monoxide may accumulate



Blocking exhausts



If symptoms of Carbon Monoxide poisoning occur you should ensure that the victim immediately breathes fresh air deeply. If the symptoms persist you should always seek medical assistance. Be aware that the symptoms can disappear and then return due to damaged organs or tissue.

Seamanship

There are many courses, conducted by powerboat and yacht clubs around the country, which will instruct you in the correct method of handling your boat. Your dealer will be able to recommend at least one in your area. You can also refer to the list of boating organizations in the appendix at the end of this manual. You should endeavour to regard your knowledge of correct handling and safety procedures as a part of the satisfaction (and fun) of boating. Experienced skippers have a healthy respect for the elements and they conduct themselves in a professional manner. They are greatly respected by others in the boating fraternity. To be one of them you must constantly strive for better standards and realise that you will always be learning something new. Any experienced and highly respected skipper will tell you that he or she still has much to learn. They will not be complacent or high handed in their attitude to other mariners. They exhibit what is referred to in maritime circles as **good seamanship**. They will, however, let you know (in not uncertain terms) of your shortcomings should you behave carelessly or selfishly while operating your boat in their vicinity. Becoming one of them, by learning and practicing good seamanship, is probably the most rewarding aspect of owning a boat. Not only does it equip you with a new skill; you also receive satisfaction from the realisation that you have become a respected member of the boating fraternity.

Please take the time to attend a boating course and obtain coaching from an experienced person before you take other (inexperienced) persons out on the water. Most new boat owners have purchased their boat in order to fulfil a lifetime dream of owning a boat. They cannot wait to take their family or friends out on the water. Unfortunately, in some cases, lack of experience has led to potentially dangerous situations developing which are quite stressful to all on board. The family or friends (and often the boater himself or herself) becomes disillusioned and decides that they never want to set foot on the boat again. They lose confidence and the dream evaporates. When this occurs it is indeed unfortunate; because a little time spent becoming competent at handling a boat safely would have prevented the incident occurring and everyone would have enjoyed many years of pleasurable boating. If you are new to boating remember to take your time and **enjoy the learning experience**.

Safety on the water

It is absolutely essential, especially if you are venturing into open waters, that you have a complete knowledge of the rules of the sea and navigation, at least to the level corresponding with your craft and the area in which you intend to operate. Most states have laws that require a boat operator to have a license. Unfortunately, some license requirements are only minimal and do not require a high standard of boating knowledge or experience. Among other things, you should have knowledge of: -

- **The International Regulations for Preventing Collisions at Sea**
 - o These regulations are the "Rules of the Road" and are adopted by various countries around the world as standard. They regulate such things as who has right of way; signalling systems and standards, speed restrictions in relation to other craft, lighting of different types of craft etc.

- They are analogous to the rules that operate on our roads to regulate motor vehicle traffic. They are very important for the safe operation of vessels; particularly (but not only) those operating in open waters.

Maritime Buoyage (IALA System A)

- This is an international standard system of buoys and markers used by Australia and most other countries in the world (**but not USA and Japan**) to indicate safe water, hazards and the correct position of channels etc (System B is used in the USA and Japan and is opposite in some respects). It incorporates various shapes and colours (and light sequences for night navigation) in a combination of lateral and cardinal markers. You must become familiar with these markers and know instantly what they mean.
- It is extremely important, especially if you intend to operate at night, that you fully understand the light colours and flashing sequences for the various types of buoys.

Navigation

In most States it is mandatory to carry maps or navigation charts when operating in open waters. They must be appropriate for the area in which you are operating.

Regardless of regulatory requirements, it is prudent to ensure that you always carry the correct, and latest, charts on board whenever you are operating in unfamiliar waters, no matter where they are. The charts themselves will not be of any use if you do not know how to read them or how to use them to plot your position and course. Navigation classes are held by many powerboat and yacht clubs around the country. Your dealer will be able to recommend at least one in your area.

Survival

There are many things you can do to ensure that you and your passengers survive in the event of a mishap. Most of these involve being prepared for an emergency before it happens. One example is the wearing of lifejackets. You should ensure that you (and your passengers) know where to find the lifejackets on board and how to put them on. There is never any time for instruction in the event of an emergency. If you find yourself in a position where the weather has deteriorated to a point where the boat is pitching heavily, you should insist on everyone donning his or her lifejacket. If you are boating alone, you should wear a lifejacket regardless of weather conditions. If anyone falls overboard in rough conditions you will be amazed (and shocked) at how difficult it is to find them in the water, and even more difficult to recover them into the boat if you do find them. If it is necessary to abandon the boat there will almost certainly be no time available to locate and put on the lifejackets. If you need practical proof of this point, try putting on a lifejacket sometime when you are swimming in deep water on a calm day. Then imagine how much more difficult it would be if the weather is rough. You will find it almost impossible.

The above is just one example of ensuring you are prepared for an emergency before it happens. Boating and safety courses conducted by many powerboat and yacht clubs

around the country will provide you with many more examples; including survival in the water itself. Other safety factors which should be adhered to in general are as follows:

- Keep portholes, windows, washboards, doors, hatches or ventilation openings closed when appropriate, e.g. in rough weather or at planing speeds;
- Keep sea cocks, cockpit drains, bugs and other opening/closing devices in the hull closed or open, as appropriate, to minimise the risk of flooding;
- All loose equipment should be safely secured before operation to prevent injury to passengers and damage to the vessel.

Safety On Land

Safety is not confined to the operation of the boat on the water. It begins on dry land and applies, to some extent, wherever your boat is stored. There are some items that require attention when your boat is not being used; particularly when it is being stored for lengthy periods. Some of these are as follows: -

- Ensure that your safety gear is stored in a well-ventilated position so there is no likelihood of corrosion or moisture. Your lifejackets (PFDs) should be stored where they are readily available and easily accessed. This will probably also ensure that they are not tucked away in a tight corner where there is no ventilation. They should never be put away while damp.
- Ensure that you know your local regulations relating to the safety equipment that you must have on board. Most states require replacement of flares after a certain period from the date of manufacture. Don't forget them just because you have never needed to use them in the past. This is another reason for ensuring that the gear is stored in an accessible position; because if you are more likely to come across them regularly you will be more likely to remember to check the expiry date. Dispose of your old flares by handing them to the marine authorities in your state. It is an offence to discharge a signal flare unless it is for reason of emergency.
- Ensure that consumable and perishable components of the safety gear are kept up to date and in good condition (e.g. batteries in torches and EPIRB's)
- Ensure that your trailer is roadworthy. Check the brakes, lights and wheel bearings regularly and once a year at the very minimum. Also check the condition of the winch strap and tie downs for signs of wear and corrosion.

Checklists before towing on trailer



CAUTION: Always ensure that the towing vehicle (and its towbar) is legally rated for the weight you are towing at any particular time. Your dealer will have filled out the trailering specification sheet located inside the back cover of this manual. If the form is not completed please contact your dealer immediately. It gives you the total weight of the combination you have purchased. However it does not include the weight of any additional items that you may have placed in the boat. Reduce the quantity of fuel, water and other items wherever possible to keep towing weight as low as possible. Check your local regulations. It is the owner's responsibility to ensure that the overall size and weight of boat, trailer, fuel, water and other contents do not exceed the maximum permissible size and towing capacity according to local regulations. Regulations vary in different locations and from country to country and you must familiarise yourself with the details in order to ensure that you are towing the boat legally.

It is imperative that you always check the trailer and boat after connecting it to the towing vehicle and just prior to driving away. Make two trips completely around the trailer. The first one should be to **check the boat** for the following:-

- The boat is fastened to the trailer at the bow using both the winch (pulled up tight and locking pawl engaged) and the security chain. Also ensure that rear security straps are securely attached.
- The anchor is securely fastened. Use a secondary attachment to secure the anchor to the boat.
- No loose ropes or tackle have been left out on the deck.
- All tie downs, hatches, canopy covers, etc are securely fastened and all loose items in the boat have been stored securely.
- The outboard/stern drive leg is tilted to its "trailering" raised position.
- All sliding windows (where applicable) are locked in the closed position.

The second walk around should be to **check the trailer** for the following: -

- The trailer hitch is locked down;
- Trailer safety chains are connected in a manner which will prevent the hitch contacting the ground if it breaks loose from the vehicle.
- The trailer brake assist is enabled and working and the breakaway device (where applicable) is operational;
- Trailer lights are connected and working (view each trailer light);

- Trailer jockey wheel is in the raised position;
- Rear tie down straps are securely connected;
- Tyres are properly inflated and no loose items are hanging from the trailer.

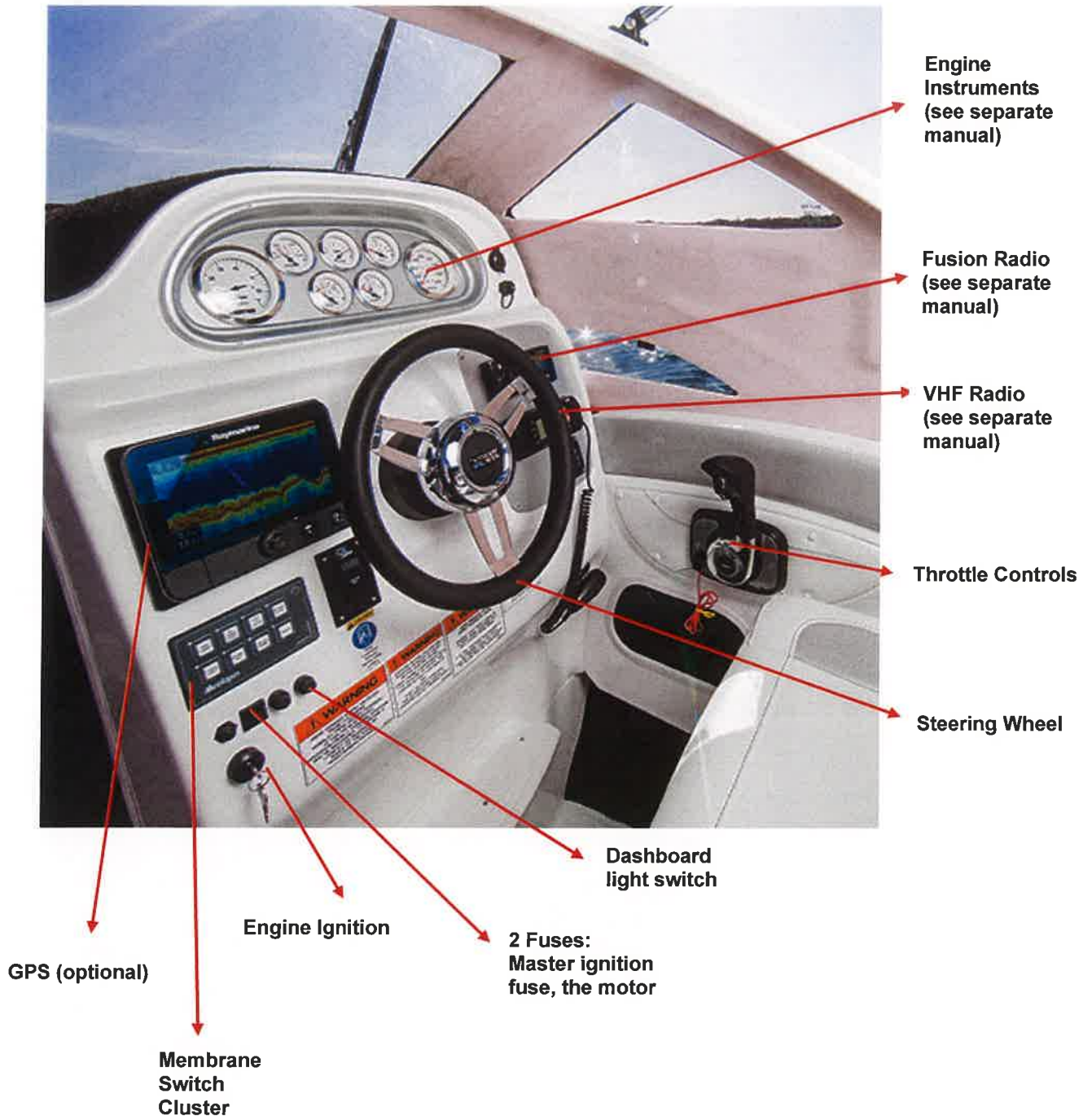
Take care when driving to ensure that you allow for the additional length of the boat trailer.

The section in this manual dealing with 'Trailer and Launching' also contains information on some safety aspects concerning your trailer.

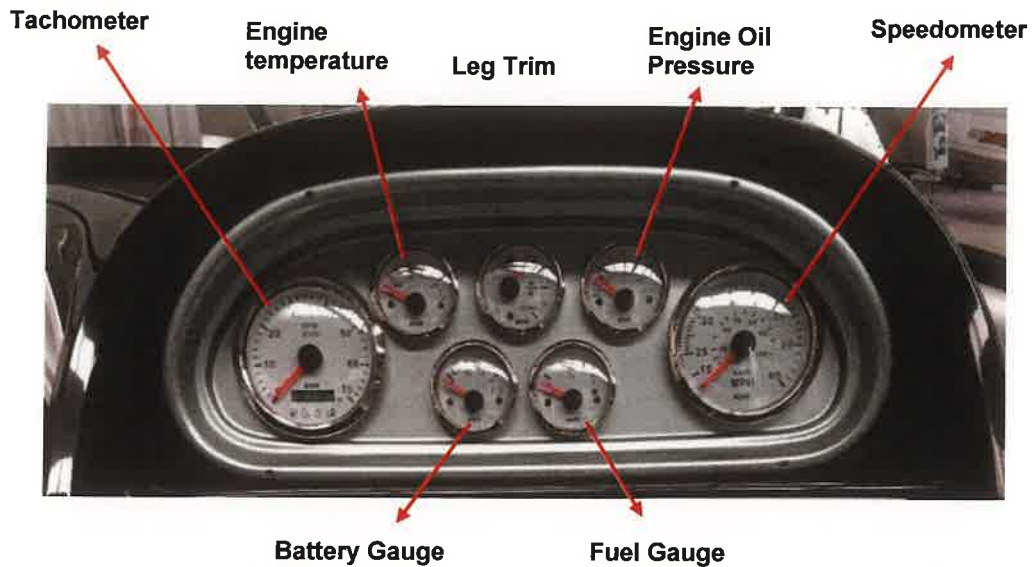
GENERAL OPERATION

Instrument panel (Typical panel shown for a Sterndrive model – this may vary)

The main controls for the operation of the boat are located on the instrument panel as shown below. The individual instruments in the instrument cluster are described on the next page.



Instrument Cluster Sterndrive Model (typical only – varies with make and model of motor)

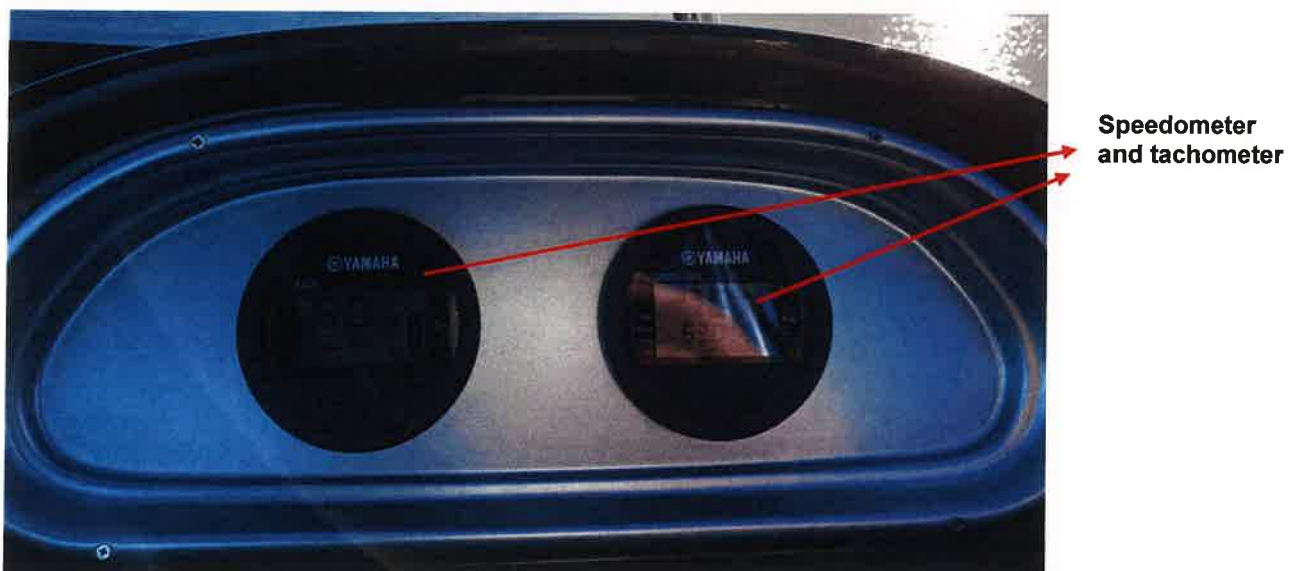


Battery Voltage	Indicates level of battery charge in Volts (Engine Start battery where dual batteries fitted)
Fuel contents	Contents of fuel tank. Refer to Appendix A for maximum quantity. Do not overfill.
Speedometer	Indicates statute miles per hour. (1.15 mph = 1 knot or 1.85 km/h)
Tachometer	Engine revolutions in hundreds per minute RPM.
Leg trim	Indicates position of stern drive/ outboard leg.

Note: Engine temperature of the engine coolant system.
Do not operate in red line area.

Engine oil pressure Pressure of oil in engine.
Do not operate in low or high red line area.

Instrument Cluster Outboard Model (typical only – varies with make and model of motor)



REFER TO THE VOLVO OR YAMAHA MANUAL PROVIDED FOR FURTHER INFORMATION

Engine Ignition

The Throttle lever must be in neutral before the engine will start. Please refer to "Throttle Control" of this manual for further details on neutral.

The boat's main battery must be switched on prior to starting the engine. Please refer to the "Electrical System" of this manual for further details on how to operate the boat's batteries.

Please familiarize yourself with the pre-start procedures specific to your motor in the Volvo manual supplied.

The **Engine Ignition / Starter** switch can be a conventional motor vehicle type keyed switch and is located on the instrument panel. It is used to apply ignition voltage to the engine by turning the key clockwise to the first position. When the ignition switch is turned on (and before starting the engine) an alarm will sound. This is normal and shows that the engine warning system is operational. Turning it to the second position will activate the starter motor and start the engine.

Once the engine is started it should be left idling to warm up (in neutral). You should check that the engine instruments continue to register normal operation and the battery meter is registering a charge.



CAUTION: In the event that the alarm does not cease after a few seconds, or the alarm sounds at any time during the operation of the engine **STOP THE ENGINE IMMEDIATELY** - unless you are in an emergency situation where to do so would create a hazardous situation.



WARNING: The engine space blower should be operated for a minimum of four minutes before starting the engine.

Throttle Controls

(Typical – please note this may vary depending on the make and model of engine. You must refer to the manufacturer's handbook for the particular engine installed in your boat in order to obtain the correct method of operation).

Throttle lever release button

Throttle lever

There are four integral functions:

- Engine throttle
- Engagement of forward and reverse gears
- Power Trim of the outboard leg (See below for further details)
- Retraction (full tilt up) of the stern drive leg.

Throttle
Lever

Power
Trim

Lanyard
Stop Switch



To engage the engine throttle into forward movement, hold the throttle lever and push the throttle lever forward. The correct position of the Throttle will depend upon the speed at which you wish to operate the boat. This in

turn will be dictated by a number of factors such as the prevailing weather and sea conditions and the fuel economy you wish to achieve. If weather conditions permit, the ideal speed will be a few knots more than the speed required to get the boat onto the plane. However this will vary with different loads placed on the boat. This speed will most likely be achieved with the throttle at a little over half way between idle and full throttle.

To engage the engine throttle into backward movement, hold the throttle lever and push the throttle lever backward.



WARNING: Manoeuvrability above 25 knots is limited. Sudden turns may cause loss of control. Reduce speed before making sharp turns in either direction.

Power Trim

The Power Trim switch adjusts the tilt of the leg to trim the boat fore and aft (i.e. nose up or down) when under way. Pressing the lower half of the switch lowers the leg and similarly pressing the upper half of the switch raises the leg.

When full power is first applied, the boat will “push water” until it accelerates to a speed at which the hull “planes” (rides on top of the water). The **Power Trim** switch should be adjusted so that the motor leg is “fully down” until the boat “planes”. The Power Trim switch is then adjusted “up” until the boat rides with the bow a few degrees above horizontal. The correct trim position is usually found when the motor is running smoothly and will usually correspond with a “peak” in engine revs as the motor passes through the correctly trimmed position.

Note that the **Power Trim** switch is used to adjust the longitudinal (fore and aft) angle of ride. If the drive leg is angled forward (down) the thrust from the propeller pushes the bow down. As the leg is raised by the application of “up” trim, the bow is pushed up. The correct position will depend upon the distribution of the weight in the boat at a particular time and the speed of the boat so **it will be necessary to alter the trim slightly with varying speeds and movement of passengers.**



CAUTION: The operation of this Power Trim should not be confused with the Trim Tabs. The operation of the trim tabs should be considered separately from the motor stern drive leg trim. They should never be used in such a way as to oppose each other.

Pressing the top half of the Power Trim switch further (to its second detent) will raise the leg to the “Trailing position.” This is used to bring the leg to its fully raised position when it is on the trailer or when it is desired to operate in shallow water so as to prevent the leg from contacting the seabed. **This position may be used for short periods (BELOW 1200 RPM)** when approaching shallow water as you come into shore.

The reason for the above caution is because the gimbals on the drive shaft of many stern drive models are not designed to transmit full power to the propeller at such an angle and they will fail, causing major damage to the stern drive unit.



CAUTION: The leg must NEVER be raised so far that the propeller OR the engine cooling system water intake is out (or partly out) of the water. Also, on many stern drive models, the engine must not be operated above 1200 rpm when the leg is raised by this switch above normal trim angles (second detent position).

Lanyard Stop Switch

The Lanyard Stop Switch is designed to stop the engine when pulled out. By attaching the end clip securely to the driver, the engine will stop if the driver moves (or falls) away to a position where the lanyard is pulled from the housing. A good place to attach the snap is to a waist belt on the operator. The lanyard is coiled to provide sufficient length to allow some freedom of movement without accidental operation, and yet trip the switch when it is necessary (for example when operator falls overboard or is knocked away from the driving position). The operator (driver) of the boat should ensure as far as possible that the lanyard switch does not operate accidentally.

If the engine fails to start, this switch should be checked to make sure it is on (up position). If the engine continues to fail to start, refer the matter to your dealer or service agent.



WARNING: Sudden and unintentional operation of the lanyard switch can be hazardous due to sudden loss of control of the boat and sudden loss of forward motion, which may cause passengers to be thrown forward and possibly overboard. This is one of the reasons why you should never allow passengers to ride on the external decks of the boat when it is in motion.

Throttle only switch

The “throttle only” button in the centre of the hub allows the throttle to be used without engaging the stern drive. This should only be used if it is necessary to advance the throttle to start the engine.



CAUTION: Do not operate a sterndrive engine above 1200 rpm when this position of the switch is used.

Switch cluster

The switch cluster on the instrument panel contains the switches that control the following components. **These items vary between boat models so it is likely that not all of them will be installed on your boat: -**

The membrane switch cluster on the instrument panel contains the switches that control the following components. These items will depend upon the accessories supplied with your boat, but in general contain the following and will be marked accordingly:-



Navigation Lights

These consist of the port (red) and starboard (green) lights located on either side of the cabin or in a combined unit on the foredeck.

Anchor Light (also referred to as the "riding light").

This light is mounted on the masthead and is used when the boat is riding at anchor at night.

Freshwater Pump

Operates the freshwater pressure pump on models containing freshwater tanks.

Interior Light/s

These are usually located on the roof of the cabin but on some models, may light the floor area near walkways.

Engine Blower

This is located in the engine compartment of sterndrive boats. The compartment is ventilated to the outside of the boat and the blower is designed to exhaust the engine compartment of dangerous vapours prior to starting the engine.



WARNING: The blower should be operated for a minimum of four minutes before starting the engine.

Bilge Pump

This is located in the bilge of the boat under the motor housing.

The manual bilge is used to override if the auto bilge is not working.



The auto bilge pump is hard wired within the boat. A float switch will rise whenever water appears in the bilge and automatically pumps this water out.

The auto bilge is wired live protected by an inline fuse on the top of the house battery. This fuse is rated at 3amp.

Test float switch periodically by pushing the small trigger on the side of the float switch. This should activate the pump and you will hear the pump start.



CAUTION: The Bilge Pump is not designed for damage control and should not be relied on to pump out water in emergency situations. It is only designed to pump out water that enters the bilges through normal use of the boat. Also the bilge pump must be switched off when not in use. It should not be left on after the bilge is pumped dry.

Windscreen Wiper

Operates the windscreen wiper.

Stern Light

These lights are located on the marlin board.

GENERAL FEATURES

CABIN ACCESSORIES

Front Cabin

The front cabin contains two upholstered single bed bunks that can be converted into a double bed by inserting four tapered upholstered cushions onto the cleats in the companionway between the two fixed bunks. The bunks on each side can be raised to gain access to the storage compartment beneath the cushion on either side.



DANGER: Care must be taken to ensure that adequate ventilation is provided to the entire cabin area (including the forward cabin area) whenever the motor is operating, as it is possible for exhaust fumes to be drawn in from the rear of the boat.

This is the case with almost all boats with an enclosed cabin area. You should always ensure that some fresh air is always entering from the front and directed towards the rear. A similar danger exists when your boat is moored alongside another boat while either of the boat's engines are running as the exhaust fumes from the engine may be drawn into the cabin of your boat.

Toilet

A portable chemical toilet is supplied as standard and is fitted under the starboard bunk in the forward cabin. An optional (pump out) toilet with holding tank is also supplied as a factory fitted option at the time of ordering. Whichever toilet is installed, you must refer to the separate manual supplied for a complete description of the operation and maintenance of the portable toilet. The following is a summary of the standard chemical toilet.

The standard toilet is a chemical unit and employs a removable tank. It is prepared for use by installing the recommended chemical agents in the freshwater (top) tank and holding (bottom) tank and then filling the freshwater tank with water.



Before using the toilet, ensure that the slide valve is shut (push front handle in) and depress the bellows pump to add fresh water to the bowl. After use, pull the slide valve out to allow waste to pass into the holding tank and depress the bellows a couple of times to rinse the bowl, then close the slide valve and lower the toilet lid.

The holding tank is emptied by separating it from the main body as described in the manufacturer's manual. When the slide valve is closed, remove the holding tank to a permanent toilet facility and empty slowly through the removable cap with the air inlet pressure valve depressed. Partly fill the holding tank with fresh water at the toilet facility and shake and empty once more to rinse the holding tank clean.

Repeat the rinse if necessary and then prepare the tanks as before, for future use.



CAUTION: Do not empty the toilet into the ocean or waterway. Always use a toilet facility that is properly connected to a sewerage system.

Helmsman and Companion Seat

These seats can be swivelled forward in order to obtain access to the sink or storage compartment below the seat. To fold the seats forward, first lift the stainless steel support at the side so that the entire back of the seat is raised slightly out of its locked position. The seat will then pivot forward around the side support so that it folds against the side of the boat.



Sink

The sink is located under the helmsman seat and is accessed by lifting and folding the seat toward the rear of the boat after swinging the rear of the seat against the side of the boat as described above.

Turning on the tap will automatically switch on the electric water pump which draws water from the inbuilt water tank located under the floor (see next section for water supply). It is also necessary to turn this tap on (slightly) in order to operate the freshwater shower.



CAUTION: If the fresh water runs out (a symptom of this is that it starts to "spit" air) then the pump must be switched off immediately in order to prevent damage to the pump.

Hot Water (stern-drive models only, optional)

The water to the tap is drawn from the freshwater tank through a heat exchange unit on the engine. The water from the tap will be hot OR cold depending upon whether the engine has been operating or not. If hot water is desired, the engine must be operating at idle for a few minutes and must remain operating while the water is being drawn from the tap. If the engine is not operating then the water will be cold.

The temperature of the water can be varied to some extent by changing the speed (revs) of the motor when in idle mode using the idle button on the throttle.



DANGER: Because the water to the sink tap and to the shower is always drawn through the heat exchange on the engine, the first half litre of water drawn will be water that has been sitting in the heat exchange unit since the last time the tap was turned on. It is very important to realise that this initial half litre of water will be **VERY HOT** if the engine is (or has recently been) running.
ALWAYS RUN THE TAP FOR APPROXIMATELY 15 SECONDS AND ENSURE THAT THE TEMPERATURE IS MODERATE BEFORE ALLOWING THE WATER TO TOUCH THE SKIN OR ANYTHING THAT COULD BE HARMED BY BOILING WATER.

Underfloor storage (outboard only)

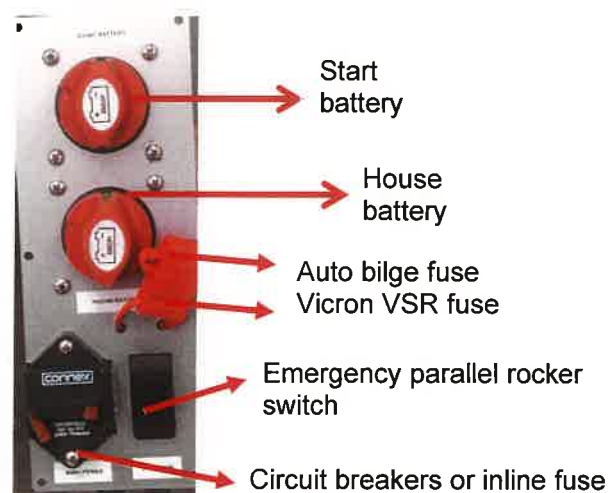
This is located under the floor of the rear cockpit area and is accessed by lifting the lid under the removable carpet. Any water that may collect in this storage area will drain to the bilge if the plug is removed from the bottom of the recess.

ELECTRICAL SYSTEM

The standard electrical installation utilises one engine/accessory battery located on the floor at the rear of the boat (see pictures below). They are connected individually but both need to be switched on to operate. In the "Off" position it cuts the electrical power to all of the systems. Make sure that the master switch is "Off" when the boat is not in use. A twin battery is optional.



Located here



The system charges and protects the start battery. Once the start battery is fully charged it then delivers charge to the house battery. In an emergency where the start battery is flat, it is possible to link all batteries together to start the motor. Press the rocker switch once, then you have 30 seconds to start the engine and it returns to its normal function of charging the start and then the house battery.

One main circuit breaker or main fuse is installed below the main switch, one for the related accessories in the boat. These low current circuits are permanently connected to the House Battery so that the 'memory' is not lost in those accessories, thus allowing them to retain their settings.

Other circuit breakers are provided for trim tabs, audio amplifier, anchor winch and other accessories where fitted.



WARNING: Under no circumstances should you continue to re-set the circuit breakers if they continue to disconnect. This may result in overloading of the electrical system and result in fire or damage to the components. The Master Switch should always be switched off when the boat is not in use.

Accessory Circuit Breaker Panel

In addition to the Master circuit breakers, additional circuit breakers for individual electrical circuits are located on the side panel at the lower right hand side of the helmsman position beneath the throttle. These circuit breakers are marked according to their function. When tripped by an overload, the appropriate circuit breaker will "pop out" and will require re-setting by pushing it in. If a circuit breaker continues to "pop out" this indicates a fault in the circuit. The fault must be investigated and cleared before continuing otherwise severe damage could occur to the equipment it services and may result in a fire.

Note that some of the low power accessories on your boat (e.g. the CD/Radio) have an additional 'in-line' fuse located in the lead that supplies power to the unit. These fuses are located

near the accessory and, in the event of failure of the accessory in circumstances where the circuit breaker has not popped out, you should check the in line fuses.

Battery Maintenance

The batteries in your boat are sealed and do not require topping up with distilled water. However they do need to be kept charged when the boat is not in regular use. Ensure that the charger you use is the one supplied with your boat. This charger plugs into a socket in the side pocket.



WARNING: Do not connect jumper leads from a standard battery charger to the battery terminals while power is applied to the charger. This will cause sparks and a possible explosion from the hydrogen gas given off by the battery. Connect the jumper leads to the battery before switching on the charger. Make sure that the engine bay is completely vented of air prior to charging.

Keep the battery terminals clean and coated with silicone grease. Make sure that the master switch is "Off" when the boat is not in use. Ensure that all boots (protective covers over electrical terminals) remain in place when the boat is in use. They are there to avoid the possibility of sparks in the engine compartment caused by metal objects touching the terminals which will ignite fuel and/or other vapours. Ensure that the air in the engine compartment is completely vented to remove vapours prior to using jumper leads as they may cause sparks.



WARNING: Never—

- Work on the electrical installation while the system is energized
- Modify the craft's electrical system or relevant drawings: installation, alterations and maintenance should be performed by a competent marine electrical technician
- Alter or modify the rated current amperage of overcurrent protective devices
- Install or replace electrical appliances or devices with components exceeding the rated current amperage of the circuit
- Leave the craft unattended with the electrical system energized, except automatic bilge-pump, fire protection and alarm circuits.

The standard electrical installation utilises a single engine battery which is located on the floor at the rear of the boat. An Electrical Master Switch is located on the panel under the standard rear seat cushion adjacent to the batteries. This switch is connected into the main electrical cable running from the batteries to the Instrument panel and cuts the electrical power to all of the systems.

The **Master fuse** (25 Amp waterproof fuse with spare fuse strapped to it or circuit breaker as shown in the previous picture) is located adjacent to the master switch or on newer boats is a circuit breaker. This fuse or circuit breaker is designed to cut all power (except the radio/clock memory circuits) in the event that there is a short circuit in the active line of the electrical cables. This fuse or circuit breaker should be checked in the event of total loss of power. If the fuse is replaced and fails again, switch off the master switch and refer the matter to your dealer before continuing.



WARNING: Under no circumstances should a fuse of a higher rating be installed, as this may result in overloading of the electrical system and result in a serious fire. The Master Switch should always be switched off when the boat is not in use.

Circuit Fuses or Circuit Breakers

In addition to the circuit breaker master are smaller circuit breakers in the area around the dash. Circuit breakers are marked, either adjacent to each circuit breaker or on the removable covers. Each mark identifies the fuse that is located behind it. Fuse values are shown on appendix A. On some models, circuit breakers are installed in lieu of fuses. The fuses (or circuit breakers where fitted) are marked according to their function. When tripped by an overload, the fuse will blow and will require replacement with an identical fuse value. Where circuit breakers are fitted the relevant breaker will pop out and must be pushed back in. If a fuse continues to blow or a circuit breaker continues to pop out this indicates a fault in the circuit. The fault must be investigated and cleared before continuing otherwise severe damage could occur to the equipment it services and may result in a fire.

Battery Maintenance

The batteries in your boat are sealed and do not require topping up with distilled water. However they do need to be kept charged when the boat is not in regular use. Ensure that the charger you use incorporates electronic circuitry of a type that automatically detects the battery voltage and regulates the charge so as not to overcharge. Overcharging will eventually cause loss of electrolyte and battery failure.



WARNING: Do not connect jumper leads to the battery terminals while power is applied to the charger. This could cause sparks and a possible explosion from the hydrogen gas given off by the battery. Make sure that the engine bay is completely vented of air prior to charging.

Keep the battery terminals clean and coated with silicone grease. Make sure that the master switch is "Off" when the boat is not in use.

Ensure that all boots (protective covers over electrical terminals) remain in place when the boat is in use. They are there to avoid the possibility of sparks in the engine compartment caused by metal objects touching the terminals which will ignite fuel and/or other vapours. Ensure that the air in the engine compartment is completely vented to remove vapours prior to using jumper leads as they may cause sparks.



WARNING: Never—

- work on the electrical installation while the system is energized;
- modify the craft's electrical system or relevant drawings: installation, alterations and maintenance should be performed by a competent marine electrical technician;
- alter or modify the rated current amperage of overcurrent protective devices;
- install or replace electrical appliances or devices with components exceeding the rated current amperage of the circuit;
- leave the craft unattended with the electrical system energized, except automatic bilge-pump, fire protection and alarm circuits

Checking Battery Charge

There are two tests that can be completed when the boat is not in the water to test the start battery and house battery.

- Once on the water you can also test the batteries by watching the charging system perform using the engine volt meter and sounder volt meter. When you start the engine, the engine volt meter will rise up to 13.4 Volts, then you see it start to charge the house battery and the sounder volt meter from 12 Volts to 13.2 Volts. When this procedure occurs, it indicates that the management system is working correctly.

[illegible]

ENGINE

The engine installed on your boat will be the one you ordered. You must refer to the manufacturer's operating manual for details of the operation and maintenance of the engine. **It is important that you study the motor manual supplied with your boat (Volvo manual for sterndrive engines and the Yamaha manual for outboard engines) particularly the sections detailing RUNNING IN PROCEDURES.** The manual contains many safety instructions, operating details and maintenance requirements including day to day checks, all of which must be adhered to for the safe, economical and efficient operation of your motor.



WARNING: Before starting the engine for the first time, consult the engine manufacturer's operating manual to familiarise yourself with the correct running in procedures. Failure to observe correct running in procedure may void your engine warranty.

Service products (oil, fluid levels etc) should be checked on each occasion that the boat is used. Also visually check the engine for damaged cables, oil leaks or worn belts etc. Refer to the Care and Maintenance section of this manual.

The warning sensors that form part of your engine installation will activate a warning signal on the instrument panel if the following temperatures and pressures fall outside recommended safe limits: - engine oil pressure, engine water temperature and the stern-drive leg oil level.



WARNING: This will vary with different engines. Refer to the instrumentation section of the manual supplied by the manufacturer of your engine for details of the instrument cluster warning system.

If your boat is fitted with a sterndrive engine, the engine compartment will contain a ventilation inlet and outlet, which connect to ducts that feed air into and out of the engine compartment.



WARNING: Do not obstruct or modify the ventilation system in any manner. It is crucial, for the safe operation of the engine, that ducts remain in their correct position and the vents remain open to the atmosphere.

The weight of the motor installed on your boat will be included on the Trailing Weight Specification sheet located on the inside of the back cover of this manual. This sheet is designed to assist you to ascertain the overall towing weight (highway) of the entire rig.

The Builders Plate located near the helm indicates the maximum engine power that this boat is designed to carry.



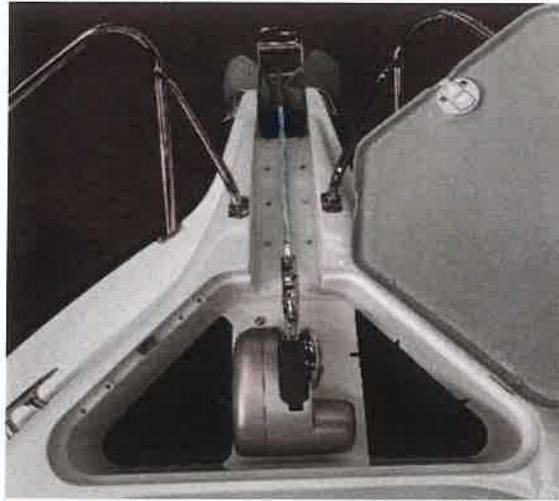
WARNING: Do not install an engine of maximum power and weight exceeding the maximum figures specified on the Builders Plate located in the boat near the driving position. To do so will result in overloading and instability of the boat configuration.

Whittley Marine and Volvo Penta will not warrant any product that is stored in a Seapen or in water from corrosion and the effects of corrosion to the engine or its accessories.

EXTERNAL

Anchor Locker

The anchor locker is located under the hinged cover on the foredeck. The cover allows chain access to the locker when in the closed position and a nylon chain skid is provided on the bowsprit. A fastening point is provided inside the locker to permanently attach the anchor rope.



DANGER: Always ensure that the anchor is firmly pulled into the bowsprit and held securely whether the boat is in the water or on the trailer for towing. The clutch on the anchor winch should always remain tight. Refer to the instructions of the manufacturer of the winch. However a secondary method such as securing the chain by means of a rope should also be employed. It is imperative that the anchor is not allowed to fall from the boat when towing on the trailer or when in the water, otherwise severe damage will occur to the hull and /or a serious road accident is highly likely.

Forward Hatch

The forward hatch, located on the foredeck, contains two latching handles that can be used from the inside or outside to firmly close the hatch. The hatch is closed by turning the handles so that the levers engage under the bottom of the hatch frame. Do not allow them to enter any grooves on the insides of the extruded frame as the hatch is not watertight in this position. This groove contains two plastic inserts in the groove at the location of the handles in order to prevent the handles from being forced into the grooves. The hatch is only watertight when the handles are closed correctly.

