CARVER®
YACHTS

44 Sojourn
Owner's Guide

HIN: CDR _____

2009 Version 1

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Robert VanGrunsven
President

Congratulations and Welcome Aboard!

This Owner's Guide was designed to acquaint you with the safe, proper operation and maintenance of your new boat and its systems. Your first duty as Captain of your new Carver should be to read your Owner's Guide and all manufacturer-supplied operating and maintenance instructions found within your Owner's Information kit.

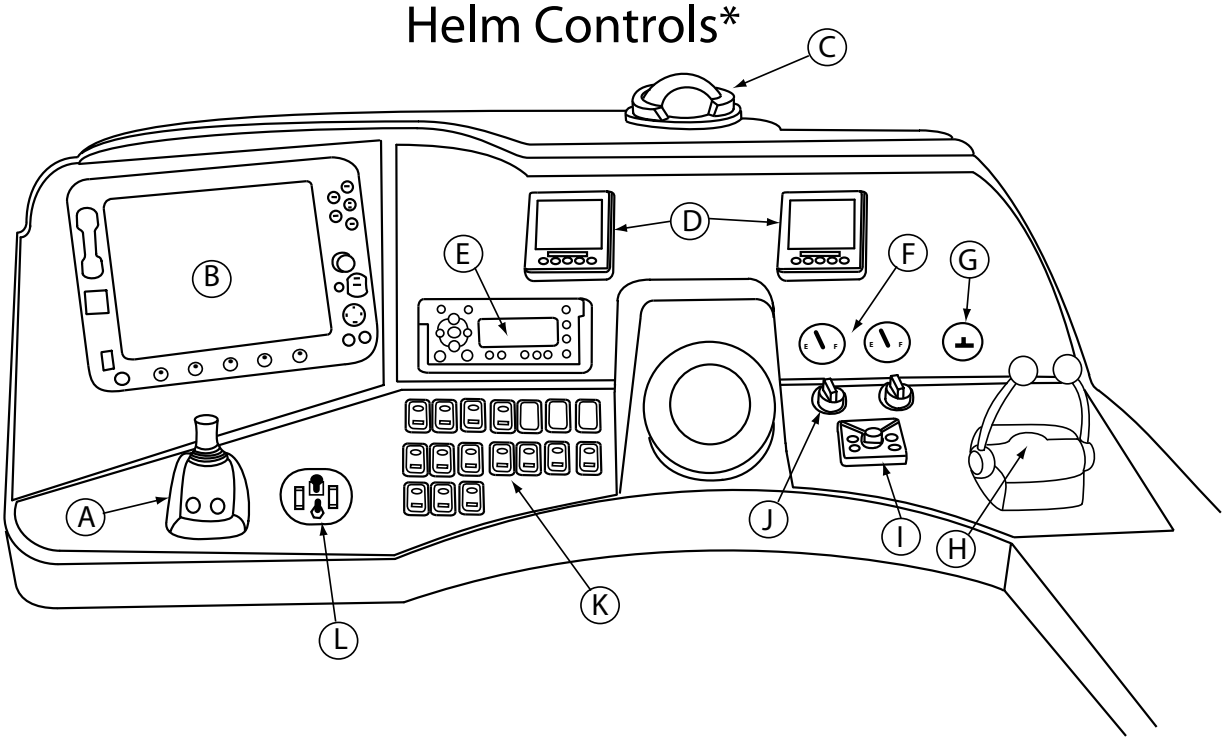
Be sure to mail in all manufacturer registrations and warranty cards to validate your Carver and OEM warranties. These warranty cards have been assembled and are contained in the OEM information packets within your Owner's Information kit.

If you're new to boating, learn the proper rules of seamanship to ensure the safety of your passengers. Refer to *Chapman's Piloting, Seamanship and Small Boat Handling* and attend a safe boating class offered by the U.S. Coast Guard Auxiliary, United States Power Squadron, or any enterprise experienced in conducting safe boating courses.

Thank you for choosing Carver. We're confident your new boat will provide you and your family with years of enjoyable cruising.

Robert VanGrunsven
President

44 Sojourn
Helm Controls*



- (A) Joystick Docking Control
- (B) Raymarine Display
- (C) Compass
- (D) Engine Display Panels
- (E) Sirius Radio
- (F) Fuel Gauges
- (G) Fireboy Control
- (H) Shift/Throttle Controls
- (I) Volvo EVC Controls
- (J) Ignition Switches
- (K) Switch Panels
- (L) Search Light Control

*Actual helm controls depend on options selected
Steering wheel removed for clarity

Preface

Section 1 - Boating Safety

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Using Your Owner's Information Kit

Your Owner's Information kit contains this Owner's Guide and a set of manuals referred to as "OEM information." Please read the Owner's Guide and OEM information carefully and familiarize yourself with your boat before operating the boat or any of its components or systems.

***IMPORTANT*: *The Owner's Information kit must be onboard whenever your boat is operated. If you sell your boat, make sure the new owner receives the entire kit*.**

Owner's Guide

This guide explains how to safely operate and maintain your boat and its various systems. The guide also contains safety precautions and operational tips, as described below.

⚠ DANGER

Describes a hazard that can cause death or severe injury if the instructions are ignored.

⚠ WARNING

Describes a hazard that can cause serious injury and/or property damage if the instructions are ignored.

⚠ CAUTION

Describes a hazard that can cause damage to your boat or its components if the instructions are ignored.

NOTE: Provides important information that can help you avoid problems.

If this is your first boat, or if you are changing to a type of boat you are not familiar with, for your own comfort and safety, please obtain handling and operation experience before operating the boat. Your dealer, national sailing federation or yacht club can advise you of local sea schools or competent instructors.

NOTE: Drawings and illustrations contained within this guide are included as graphic aids to assist in the general operation and maintenance of your boat. These drawings and graphics do not include all details of each system and are not drawn to scale. Do not reference these drawings to order parts or to service your boat. Contact your authorized Carver Dealer for any parts or service required for your boat.

The information contained in this Owner's Guide was complete and accurate at the time the guide was printed. Carver reserves the right to change materials, part numbers, specifications, or system designs at any time without notice.

OEM Information

The OEM (Original Equipment Manufacturer) information is supplied by companies from whom Carver has purchased components to install in your boat. These components include, but are not limited to, standard items like the engines, sanitation system, various pumps, and 12-volt batteries, as well as optional items. The OEM information explains how to operate and maintain the components.

If you install an aftermarket accessory on your boat, add the OEM information that accompanies the accessory to the Owner's Information kit.

NOTE: If the OEM information conflicts with this Owner's Guide, follow the instructions in the OEM information.

Pre-Delivery Service Record

The Pre-Delivery Service Record that follows this page must be completed and signed by your Carver Dealer before you take delivery of your new Carver yacht. Your Carver Dealer will prepare your boat for delivery in accordance with the procedures detailed within this document.

Be certain that the boat's Pre-Delivery Service Record and all OEM warranty cards have been completed and mailed to their respective companies. Be sure you retain a copy of the Pre-Delivery Service Record for your own reference.

Warranty Registration

Carver warrants every boat we manufacture as explained in the Carver Limited Warranty. Your copy of the warranty is located in Section 9. Please review the warranty carefully.

The Warranty Registration that follows this page is the first step in activating your Carver limited warranty. This document must be completed and signed by you and your Carver Dealer before you take delivery of your new Carver yacht. Failure to complete and register this Warranty Registration could void your Carver limited warranty.

Your Carver Dealer will review the terms of the Carver warranty and make certain the warranty is registered with Carver.

To ensure that the warranty remains in effect during its lifetime, Carver Boat Corporation, your Carver Dealer, and you must each uphold specific responsibilities. These responsibilities are described in Section 9.

At time of delivery, make a complete inspection of the boat and its systems. Document any work that needs to be completed by the Dealer in order to meet the terms of your agreement.

There are two cards located at the end of this Preface. These are Second and Third Owner Registration Cards. We strongly recommend that the purchaser of a previously-owned Carver register ownership with Carver.

A TIP FROM CARVER!

There are many people within the Carver organization who are avid boaters. Some of the experience gained during our years of boating are presented in this Owner's Guide. This information is presented in box like this.

CARVER YACHTS

THIRD OWNER REGISTRATION

Owner's Name: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: (___) _____ Date of Purchase: _____

Purchased From: _____

Boat Hull Identification Number: CDR _____

Third Owner Registration does not extend, alter, or transfer the Carver Limited
Warranty. Refer to the Carver Limited Warranty for details.

CARVER YACHTS

SECOND OWNER REGISTRATION

Owner's Name: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: (___) _____ Date of Purchase: _____

Purchased From: _____

Boat Hull Identification Number: CDR _____

Second Owner Registration does not extend, alter, or transfer the Carver Limited
Warranty. Refer to the Carver Limited Warranty for details.

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Boating Safety

Boating safety is your responsibility. You must fully understand the operating procedures and safety precautions in the Owner's Information kit and this owner's guide before you operate your new boat. Safe boating is no accident.

Safe Operation

Safe operation includes, but is not limited to, the following.

- Keep your boat and equipment in safe operating condition. Inspect the hull, engines, safety equipment, and all boating gear regularly.

Note: Federal law requires you to provide and maintain safety equipment on your boat. Consult U.S. Coast Guard, state, and local regulations to ensure your boat has all required safety equipment onboard. Additional equipment may be recommended for your safety and that of your passengers. Make yourself aware of its availability and use.

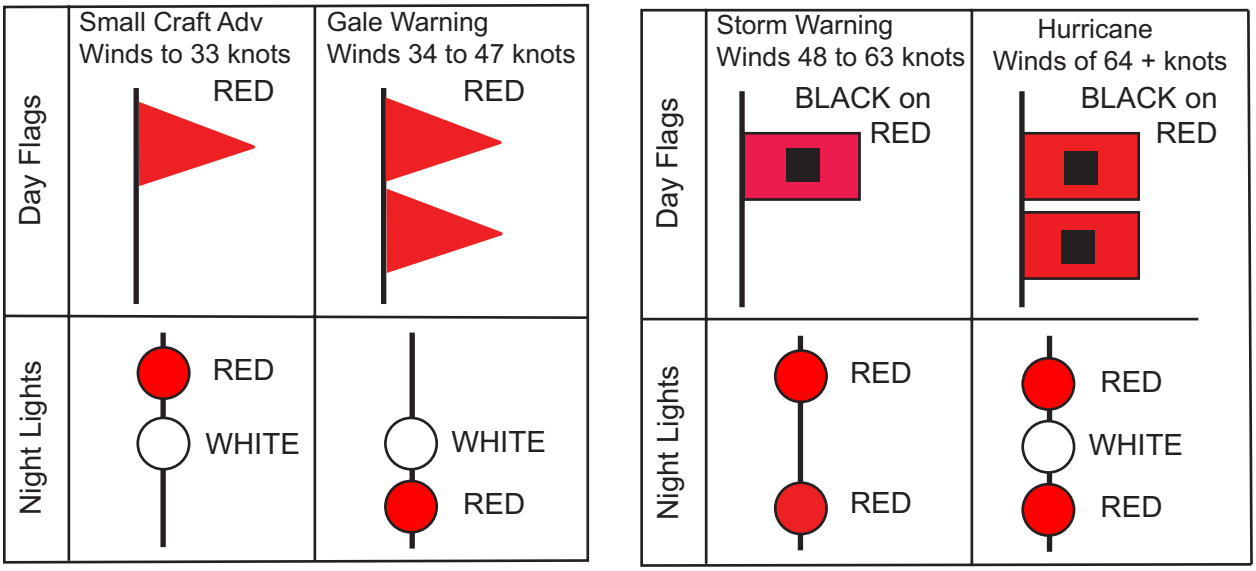
- Be very careful when fueling your boat. Be sure you know the capacity of your boat's fuel tank and the amount of fuel used when operating at frequently used engine speeds (RPMs).
- Make sure you have enough fuel onboard for anticipated cruising requirements. In general, use 1/3 of your supply to reach your destination and use 1/3 to return. Keep1/3 in reserve for changes in your plans due to weather or other circumstances.
- Be sure fire extinguishing and lifesaving equipment is onboard. This equipment must meet regulatory standards, and it should be noticeable, accessible and in proper operating condition. Your passengers should know where this equipment is and how to use it.
- Keep an eye on the weather. Be aware of possible changing conditions by checking local weather reports before your departure. Monitor strong winds and electrical storms.
- Always keep accurate, updated charts of the area you are cruising and back up charts if you use a chart plotter.
- Before you leave the port or harbor, file a Float Plan with a family member, relative, friend, or other responsible person ashore.
- Always operate your boat with care, courtesy and common sense.
- Instruct at least one passenger onboard in the basic operation of your boat. This person can take over if you unexpectedly become unable to do so.
- Do not allow passengers to ride on parts of your boat other than designated seating areas.
- Ask all passengers to remain seated while the boat is in motion.
- Do not use the boarding platform or boarding ladder while either or both of the engines are running.
- Understand and obey the "Rules of the Road." Always maintain complete control of your boat.
- Do not overload or improperly load your boat.
- Do not travel faster than conditions warrant or beyond your abilities.
- Do not operate your boat in weather or sea conditions beyond your skill and experience.
- Do not operate your boat while under the influence of drugs and/or alcohol.
- Do not operate your boat if your visibility is impaired.

Adverse Conditions

Weather

At all times, the boat operator should be aware of present weather conditions and the weather forecast. Check the forecast before you begin a day of boating. Be aware, however, that weather conditions can change rapidly. If you have a marine radio, listen to the weather reports issued by the U.S. Coast Guard and others. If you have a portable radio, keep it tuned to a station broadcasting frequent weather reports. Many boating clubs fly weather signals; learn to recognize these signals.

WEATHER SIGNALS



Storms rarely appear without advance notice. If storms are a possibility, keep a watch on the horizon, especially to the West, for their approach. Watch for changes in wind direction or cloud formations. There is no substitute for a good understanding of weather conditions and what to do when the weather takes a turn for the worse.

If a storm is approaching, the best course of action is to return to port. If you are unable to do so, then prepare to weather the storm:

- Close portlights, exterior doors and hatches and secure them. Stow all loose gear below deck and tie down any gear on deck.
- Reduce speed as the seas build. Make sure all persons onboard have put on their personal flotation devices.
- Drop a sea anchor over the stern to maintain the bow into the seas. If you do not have a sea anchor onboard, use a canvas bucket, tackle box, or other object that will work like an anchor.

Fog

Fog is a result of either warm-surface or cold-surface conditions. You can judge the likelihood of fog formation by periodically measuring the air temperature and dew point temperature. If the difference between these two temperatures is small, fog is likely to develop.

Remember the following guidelines:

- Unless your boat is well equipped with charts and navigational equipment, head for shore at the first sign of fog and wait until conditions improve. If you have charts on board, take bearings as fog sets in, mark your position, and continue to log your course and speed.
- Make sure all persons onboard put on their personal flotation devices.
- If your boat has sounding equipment, take soundings regularly and match them with depths shown on your charts.
- Station a person forward in the boat as a lookout.
- Reduce your speed. From time to time, stop engines and listen for other fog signals.
- Sound the horn or fog bell intermittently to warn others.
- If there is any doubt in continuing your excursion, anchor. Listen for other fog signals while continuing to sound your fog horn or bell.

Emergency Procedures

The following is not an exhaustive list of situations which may be encountered while boating. You should obtain training to handle any emergencies which may arise.

Fire

To help prevent a fire onboard your boat, keep your bilges clean and check for fuel vapors at regular intervals. Also, DO NOT fit free-hanging curtains or other fabrics in the vicinity of or above the stove top or other high-heat devices. Do not store any materials or equipment of any kind in the engine room.

⚠ DANGER

Any fire onboard your boat is serious. Explosion is possible. Develop a fire response plan. Respond immediately.

Every boater should develop a fire response plan to determine what kind of fire (fuel, electrical, etc.) might break out, where it might break out, and the best way to react. Have a plan and, if possible, assign responsibilities to others to allow quicker decisions and reactions.

⚠ WARNING

Never:

- ***Obstruct passage ways to exits and hatches.***
- ***Obstruct safety controls, such as fuel valves and electrical system switches.***
- ***Obstruct portable fire extinguishers in lockers.***
- ***Leave the boat unattended when cooking or heating appliances are in use.***
- ***Use gas lights in the boat.***
- ***Modify any of the boat's systems (especially electrical or fuel).***
- ***Fill the fuel tanks when machinery is running or when cooking or heating appliances are in use.***
- ***Smoke while handling fuel.***

Note: ***Everyone onboard should know where fire extinguishers are and how to operate them.***

In case of fire:

- Stop the engines immediately.
- If the fire is in the engine room, shut off the bilge blowers immediately. Do not open the hatch to the engine room. The fire will flare up if the fresh air supply increases suddenly.
- Keep the fire downwind if possible. If the fire is aft, head into the wind.
- Have all persons onboard put on their personal flotation devices.
- If you can get at the fire, aim the fire extinguisher at the base of the flames and use a sweeping motion to put out the fire.
- If the fire gets out of control, make a distress signal and call for help on the radio.

Deciding whether to stay with the boat or abandon ship will be difficult. If the decision is to abandon ship, all persons onboard should jump overboard and swim a safe distance away from the burning boat.

Flooding

If your boat is taking on water from a leak in the hull, turn on your bilge pumps. Assign someone to bail out the bilge and investigate the cause of the flooding. When the source of the leak is found, attempt to repair it.

Almost anything can be stuffed into a hole to stop the leaking temporarily. Material used to stop a leak will work better if it is applied from the outside where water pressure can help hold it in. Station a crew member to hold the plug in place if the plug is applied from the inside. In all cases, assign a crew member or passenger to watch the plugged area and alert others if it fails.

Swamped or Capsized Boat

If your boat becomes swamped or capsizes, put on a personal flotation device immediately and set off a distress signal. Chances are good a capsized boat will stay afloat. For this reason, stay with the boat. Do not leave the boat or try to swim to shore except under extreme conditions. A capsized boat is easier to see than a swimmer, and the shore may be further away than it appears.

If water is coming over the bow, reduce headway and turn the boat slightly so that the bow is slightly off from meeting the waves head on. Drop a sea anchor over the stern of the boat and adjust the length of the line to hold the bow at the most favorable angle.

Collision

If a serious collision occurs, check everyone onboard for injuries, then inspect the boat to determine the extent of the damage.

- Prepare to help the other craft unless your boat or its passengers are in danger.
- If the bow of the other craft penetrated your boat's hull, prepare to plug the fracture once the boats are separated.
- Shore up the hole inside your boat with a spare life jacket or bunk cushion.
- While plugging the hole, trim weight to get the hole above the water level during repairs, if possible.
- If your boat is in danger of sinking, have everyone onboard put on their personal flotation devices.
- If your boat has a radio, contact the U.S. Coast Guard or other rescue authorities immediately on VHF channel 16 or CB radio channel 22. (You may also be able to use VHF channels 9 or 13 or your cellular phone in some states).

Running Aground

Excessive weight in the fore or aft sections of the boat will cause a trim change and may yield greater draft than expected. Equip your boat with a good quality depth-measuring instrument and allow ample water below the hull while operating.

If your boat runs aground, check everyone onboard for injuries, then inspect the boat for damage. If lightly grounded, shift the weight of the passengers or gear to heel the boat while reversing engines. If towing becomes necessary, use a commercial towing service.

⚠ WARNING

Never attach a tow line to a single deck cleat or anchor windlass. The cleats and windlass are not designed to take the full load of the boat and may pull free from the deck, causing serious injury or property damage.

Man Overboard

You should know what to do in case someone falls overboard. Emergency procedures are published in *Chapman's* and instruction is offered by the U.S. Coast Guard.

If a person falls overboard, hypothermia may be an immediate concern. Hypothermia occurs when a person's body loses heat faster than the body can replace it. If not rescued, the person will become exhausted or likely drown. In general, the colder the water, the faster body heat is lost. Personal flotation devices increase survival time because they provide insulation.

WATER SURVIVAL CHART

Water Temp. (°F)	Exhaustion Unconsciousness	Expected Time of Survival
32.5	Under 15 min.	Under 45 min.
32.5-40	15-30 min.	30-90 min.
40-50	30-60 min.	1-3 hr.
50-60	1-2 hr.	1-6 hr.
60-70	2-7 hr.	2-40 hr.
70-80	3-12 hr.	3 hr.- Indefinite
Over 80	Indefinite	Indefinite

Medical Emergency

No one should act as a doctor if they are not properly trained and educated. Someone onboard your boat should know first aid. First aid training is available through your local Red Cross. Keep a fully stocked first aid kit onboard your boat at all times.

Equipment Failure

Steering, propulsion or control failure can be prevented by having your boat maintained correctly and checked periodically. If systems onboard your boat do fail, radio for help or signal with flags and wait until help arrives.

Radio Communication (U.S. only)

You are responsible for obtaining a radio operator's permit and knowing and following proper rules and procedures. Private boats are not required to have their radio on at all times; however, if your radio is on, it should be tuned to channel 16 unless it is being actively used. Channel 16 is the frequency for emergency calls or initial calls between boats. After establishing contact on channel 16, change your frequency to channel 22.

More information on radio communications can be found in ***Chapman's Piloting.***

Distress Signals

The operator is required to lend assistance to a craft in distress as long as your life or boat is not put in harm's way in the process. In the United States, Good Samaritan laws protect you from any liability incurred while giving aid.

Safety Equipment (this next section to page 11 applies for U.S. ownership only)

Note: ***Federal law requires you to provide and maintain safety equipment onboard your boat. Consult U.S. Coast Guard, state and local regulations to ensure your boat has all required safety equipment onboard. You must learn about any additional recommended equipment before operating the boat.***

Personal Flotation Devices (PFDs)

There must be one U.S. Coast Guard-approved wearable personal flotation device of Type I, II, or III for each person onboard your boat. The PFDs must be readily accessible and in serviceable condition. They must also be of a suitable size for each person onboard. Three PFDs (two wearable and one throwable) are required regardless of the number of persons onboard.

PFD Type I, Wearable: This offshore life jacket is most effective for all waters when rescue may be delayed. In the water, its design turns most unconscious people from a facedown position to a vertical or face-up position.

PFD Type II, Wearable: This near-shore buoyant vest is intended for calm inland waters where there is a chance of quick rescue. It turns its wearer to a face-up position, but the turning action is not as pronounced as the Type I, and it will not turn as many people under the same conditions as a Type I.

PFD Type III, Wearable: Classified as a flotation aid, this PFD will not turn a victim to a face-up position. This type of PFD is frequently used in water sports.

PFD Type IV, Throwable: You must also have onboard at least one throwable PFD Type IV device. The design of the Type IV device does not allow it to be worn. It must be thrown to a person in the water and held by the user until rescued. The most common Type IV PFDs are buoyant cushions or ring buoys. This PFD must be in serviceable condition and immediately available for use.

Visual Distress Signals

The U.S. Coast Guard requires that all boats operating on U.S. coastal waters have visual distress signal equipment. Boats owned in the United States and operating on the high seas must also carry this equipment.

Visual distress equipment must be readily accessible and in serviceable condition. Both pyrotechnic and non-pyrotechnic equipment must be U.S. Coast Guard approved. This equipment can become ineffective with age. If your equipment's usage date has expired, replace the equipment before taking your boat out.

Approved pyrotechnic equipment includes:

- Hand held or aerial red flares
- Hand held or floating orange smoke
- Launchers for aerial red meteors or parachute flares.

Approved non-pyrotechnic equipment includes:
- Orange distress flag
- Dye markers
- Electric distress light.

No one signaling device is ideal under all conditions. Consider carrying of visual distress equipment are very important. Select devices with packaging that children, but not adults, will find difficult to open, especially if young children are onboard.

Sound Signaling Device

Your boat must have an operable device that can produce a sound signal if conditions require. A horn is standard equipment on all Carver models.

Boats longer than 39' 4", must have a bell and a whistle. These devices must meet the requirements of the Inland Navigational Rules Act of 1980. Refer to the U.S. Coast Guard's publication *Navigational Rules, International-Inland* for details on the appropriate signals.

Running and Navigation Lights

Your boat must have running and navigation lights for safe operation after dark. Observe all navigation rules for meeting and passing. Do not run at high speeds during night operation. Always use common sense and good judgment when operating your boat at night.

Radar Reflectors

Radar reflectors (if installed on your boat) should be 18", measured diagonally. They should be placed 12' above the waterline, otherwise, a boat with radar may have trouble "seeing" your boat.

Fire Extinguishers

Fire extinguishers must be approved by the U.S. Coast Guard. The U.S. Coast Guard classifies fire extinguishers by the type of fire they can extinguish. These classifications include foam, carbon dioxide, chemical, and Halon-type fire extinguishers. Below are the prepared.

Boats longer than 40' and shorter than 65': Because your boat has a fixed fire extinguishing system approved by the U.S. Coast Guard, Two Type B-I or one Type B-II extinguisher is required.

All fire extinguishers should be mounted in a readily accessible location away from the engine room. Everyone onboard should know where the fire extinguishers are and how to operate them.

If your fire extinguisher has a charge indicator gauge, cold or hot weather may affect the gauge reading. Consult the instruction manual supplied with the fire extinguisher to determine the accuracy of the gauge.

Check and maintain fire extinguishing equipment in accordance with its manufacturer's recommendations. Be sure to replace fire fighting equipment, if expired or discharged, by devices of identical or greater fire fighting capacity.

Recommended Equipment

In addition to required equipment, you may want to carry the following:

- Spare anchor
- Heaving line
- Fenders
- Flashlight
- Mirror
- Suntan lotion
- Spare propeller(s)
- Tool kit
- Ring buoy
- Navigational charts
- Mooring lines
- Binoculars
- Spare parts
- Spare pump

Owner's Responsibilities

There are several areas you must have knowledge of to operate your boat in a safe, responsible manner.

Safe Boating Courses

Your local U.S. Coast Guard Auxiliary and the U.S. Power Squadrons offer comprehensive safe boating classes several times a year. You may contact the Boat/U.S. Foundation at 1-800-336-BOAT (2628) or, in Virginia, at 1-800-245-BOAT (2628). For a course schedule in your area you may also contact your local U.S. Coast Guard Auxiliary or Power Squadron Flotilla or the time and place of their next scheduled class.

Carver also recommends that you read *Chapman's Piloting, Seamanship and Small Boat Handling* for further information on how to handle your boat in various situations.

Rules of the Road

Navigating a boat responsibly requires you to comply with a set of rules intended to prevent accidents. Just as you assume other car drivers know what they are doing, other boaters assume you know what you are doing.

As a responsible boater, you must comply with the marine traffic rules enforced by the U.S. Coast Guard. There are two sets of rules: the United States Inland Navigational Rules and the International Rules. The United States Inland Rules apply to all vessels inside the demarcation lines separating inland and international waters. The U.S. Coast Guard lists the traffic regulations in its publication *Navigational Rules, International-Inland.* You can get a copy from your local U.S. Coast Guard Unit or the United States Coast Guard Headquarters, 1300 E. Street NW, Washington, D.C. 20226.

Other helpful publications available from the U.S. Coast Guard include *Aids to Navigation* (U.S. Coast Guard pamphlet #123), which explains the significance of various lights and buoys; the *Boating Safety Training Manual* and *Federal Requirements For Recreational Boats.* Check with your local U.S. Coast Guard station, your Carver Dealer, or a local marina about navigational aids unique to your area.

Documentation

The owner of a boat registered with the U.S. Coast Guard is issued a Certificate of Number. This certificate must be onboard whenever the boat is in use. State registration is also required. Check with the U.S. Coast Guard or your state regulatory agency to determine what other records are required on your boat.

In addition to required documents, it is strongly recommended that you maintain the following logs. Log books are available from maritime supply stores.

- A navigation log containing engine speeds, compass courses and time records, which are essential for both cruising and maintenance purposes.
- A radio log, which is mandatory on vessels required to have a radio. A radio log can be useful to record unusual events, especially for future litigation.
- A maintenance log to track the type and frequency of maintenance procedures performed on your boat and its systems. Refer to Section 7 for more information on maintaining your boat.
- An engine/fuel log, which is essential for calculating range and fuel requirements.
- A GPS/Loran log if your boat contains this equipment.

Drugs and Alcohol

Drugs and alcohol adversely affect a person's ability to make sound judgments, react quickly and, in general, safely operate a boat. As a responsible boater, you must refrain from using drugs or alcohol while operating your boat. Operating a motorized boat while under the influence of drugs or alcohol carries a significant penalty.

Distress Calls

If you have a ship-to-shore radio telephone, heed storm warnings and answer any distress calls from other boats. The word **"MAYDAY"** spoken three times is the international signal of distress. Monitor marine radio channel 16 which is reserved for emergency and safety messages. You can also use this channel to contact the U.S. Coast Guard or other boaters if you have trouble. **Never send a "MAYDAY" message unless there is a serious emergency and you are in need of immediate assistance.**

Voluntary Inspections

The U.S. Coast Guard Auxiliaries or state boating officials in many states offer courtesy inspections to check your boat for compliance with safety standards and required safety equipment. You may voluntarily consent to one of these inspections, after which you are allowed time to make corrections without prosecution. Check with the appropriate state agency or the U.S. Coast Guard Auxiliary for details.

Boating Accidents

The operator of a vessel used for recreational purposes is required to file a report whenever an accident results in loss of life or disappearance from a vessel, an injury requiring medical treatment beyond first aid, property damage in excess of $200 or complete loss of the vessel.

In cases of death and injury, reports must be submitted within 48 hours. In other cases, reports must be submitted within 10 days. Reports must be submitted in the state where the accident occurred.

Boating Regulations

It is your responsibility to make sure that your boat is in compliance with all federal, state and local regulations. Check with your local U.S. Coast Guard office for relevant federal regulations. Your state's Department of Natural Resources may have some publications available which deal with relevant state laws.

Garbage

Dumping garbage into the sea is a worldwide problem. U.S. Coast Guard regulations prohibit dumping plastic refuse and garbage mixed with plastic into any waters, and restrict the dumping of other forms of garbage. It is essential that all boaters help to clean our waterways by properly disposing of all garbage.

Oil

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste into or upon the navigable waters and contiguous zone of the United States if such discharge causes a film or sheen upon, or discoloration of, the surface of the water, or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a significant fine.

Septic Waste

On U.S. inland and coastal waters, it is illegal to discharge septic waste directly overboard. If your boat is equipped with an overboard discharge option, check with your local U.S. Coast Guard office to be sure that you are in compliance with federal regulations.

State and Local Ordinances

Your state or locality may have laws limiting speed, noise, or your boat's wake. Check with your harbor master to find out whether your boat's operation is restricted in any way by local ordinances or state laws. Check with state and local authorities to make sure that you are in compliance with local regulations regarding marine sanitation, noise, speed and wake.

Pre-Departure Actions

- Check the weather. Make sure conditions and seas will not be hazardous during your voyage.
- Make sure all safety equipment is onboard, accessible and in good working condition.
- Check the bilge for fuel vapor or water. Ventilate or pump out the bilge as necessary.
- Be sure the horn, navigation equipment and lights are working properly.
- Instruct guests and crew in safety and operational matters.
- Check engine and transmission oil and coolant levels. After starting the engines, check the overboard flow of cooling water, engine temperatures and oil pressures.
- Fill fuel tanks as full as you need. Know your tank capacity and fuel consumption at various RPMs and the cruising radius this gives you. When estimating your range, it is best to count on using 1/3 of your fuel to reach your destination and 1/3 of your fuel to return, with the remaining 1/3 of your fuel in reserve for emergencies.
- Have a second person onboard capable of taking over the boat's operation in case you are disabled.
- Before departing, inform a friend or relative where you intend to cruise and when you will return so they can tell the U.S. Coast Guard where to look and the type of boat in case you are delayed. Remember to tell them of your safe return to prevent false alarms. Do not file a float plan with the U.S. Coast Guard. They do not have the manpower to monitor all boats.
- Stow all loose gear securely. Fenders and docklines should be stowed immediately after getting underway.

Carbon Monoxide (CO) Warnings

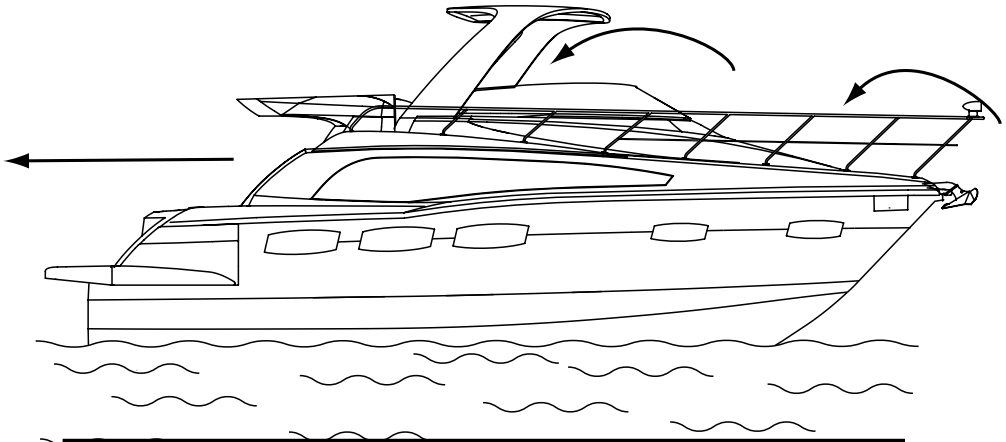
Carver has installed CO detectors on your yacht. Have these detectors professionally calibrated at regular intervals.

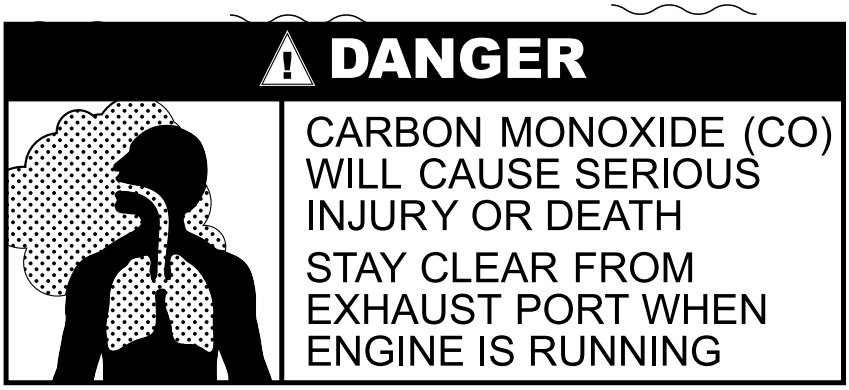
⚠ DANGER

Carbon monoxide (CO) is a colorless, odorless and tasteless gas which is emitted in all engine and generator exhaust. Prolonged exposure to CO can result in unconsciousness, brain damage and death.

Preventing CO Exposure

To help prevent the accumulation of CO in your boat's cabin and in enclosed exterior areas open a forward hatch, porthole or window to allow air to travel through the boat's interior, have a trained marine technician inspect the boat's exhaust systems whenever the boat is in for service or if you notice a change in the sound of an engine or the generator.





DANGER

People sleeping onboard can easily be overcome by carbon monoxide without realizing it. Do not sleep while the engines or generators are running.

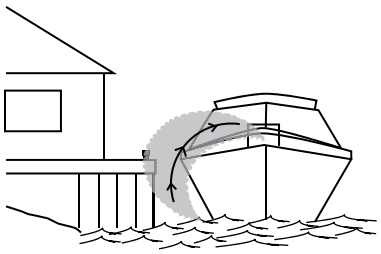
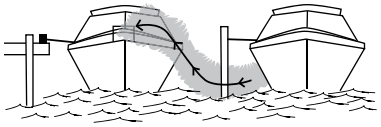
- Keep the engine room hatch closed when operating the engines and generator.
- Do not occupy aft lounging areas, including the boarding platform, or swim near the engine or generator exhaust outlets while the engines or generator are running.
- Because CO production is greater when the engines are cold, minimize the time spent getting underway.
- Maintain the propulsion and generator engines to optimize their efficiency; this in turn reduces CO emissions.

For additional information on carbon monoxide as it relates to boating, please contact marine organizations that produce safety publications.

For information on how to get a free VESSEL SAFETY CHECK, visit www.vesselsafetycheck.org or contact your local U.S. Coast Guard Auxiliary or United States Power Squadrons®.

- U.S. Coast Guard Auxiliary: 1-800-368-5647 or on the Internet at: www.cgaux.org
- U.S. Power Squadrons: 1-888-FOR-USPS (1-888-367-8777) or on the Internet at: www.usps.org

The following chart displays some possible situations where CO may accumulate. Become familiar with these examples and the suggested precautions to help prevent a dangerous accident.

	Blockage of exhaust outlets can cause carbon monoxide to accumulate in the cabin and cockpit area - even when the hatches, windows, portholes and doors are closed.	**PRECAUTION:** Never operate the generator while the boat is moored against any other boat, dock or wall structure that could block the exhaust outlet.
	Exhaust from another vessel alongside your boat, while docked or anchored, can emit poisonous CO gas inside the cabin and cockpit areas of your boat.	**PRECAUTION:** Be alert for generator and engine exhaust from other vessels alongside your boat. Provide adequate ventilation.
	The *station wagon effec*t or back drafting can cause CO gas to accumulate inside the cabin, cockpit and bridge areas when operating the boat at a high bow angle or with improper or heavy loading.	**PRECAUTION:** Provide adequate ventilation, redistribute the load or bring your boat out of high bow angle. Open forward hatch or window.
	CO gas can accumulate in the cabin, cockpit and bridge areas when operating your boat at **slow speeds or when the boat is stopped in the water**. A tail wind can also increase accumulation (force of wind entering from aft section of yacht).	**PRECAUTION:** Provide adequate ventilation or slightly increase speed if possible. Open forward hatch or window.
	The *station wagon effec*t or back drafting can cause CO gas to accumulate inside the cabin, cockpit or bridge areas when the boat is underway using protective weather coverings.	**PRECAUTION:** Provide adequate ventilation when the canvas top, side or back curtains are in their closed, protective positions. Open forward hatch or window.

Identifying CO Exposure

In high concentrations, CO can be fatal in minutes; however, the effects of lower concentrations can also be lethal. Symptoms of exposure to CO are:

- Watering and itchy eyes
- Throbbing temples
- Inability to think coherently
- Ringing in the ears
- Headache
- Incoherence / slurred speech
- Dizziness
- Vomiting
- Convulsions
- Flushed appearance
- Inattentiveness
- Loss of physical coordination
- Tightness across the chest
- Drowsiness
- Nausea
- Fatigue
- Collapse

Treating CO Exposure

If you suspect that someone is suffering from exposure to CO, take the following actions immediately:

- Thoroughly ventilate the area if possible
- Evacuate the area and move the affected person(s) to a fresh air environment
- Administer oxygen, if available
- Get medical assistance
- Determine the probable source of the CO and correct the condition.

Other Health and Safety Information

⚠ WARNING

Engine exhaust, some of its constituents, and a wide variety of components contain or emit chemicals know to the State of California to cause cancer and birth defects and other reproductive harm. In addition, oils, fuels and fluids contained in boats as well as waste produced by component wear contain or emit chemicals know to the State of California to cause cancer and birth defects or reproductive harm.

⚠ CAUTION

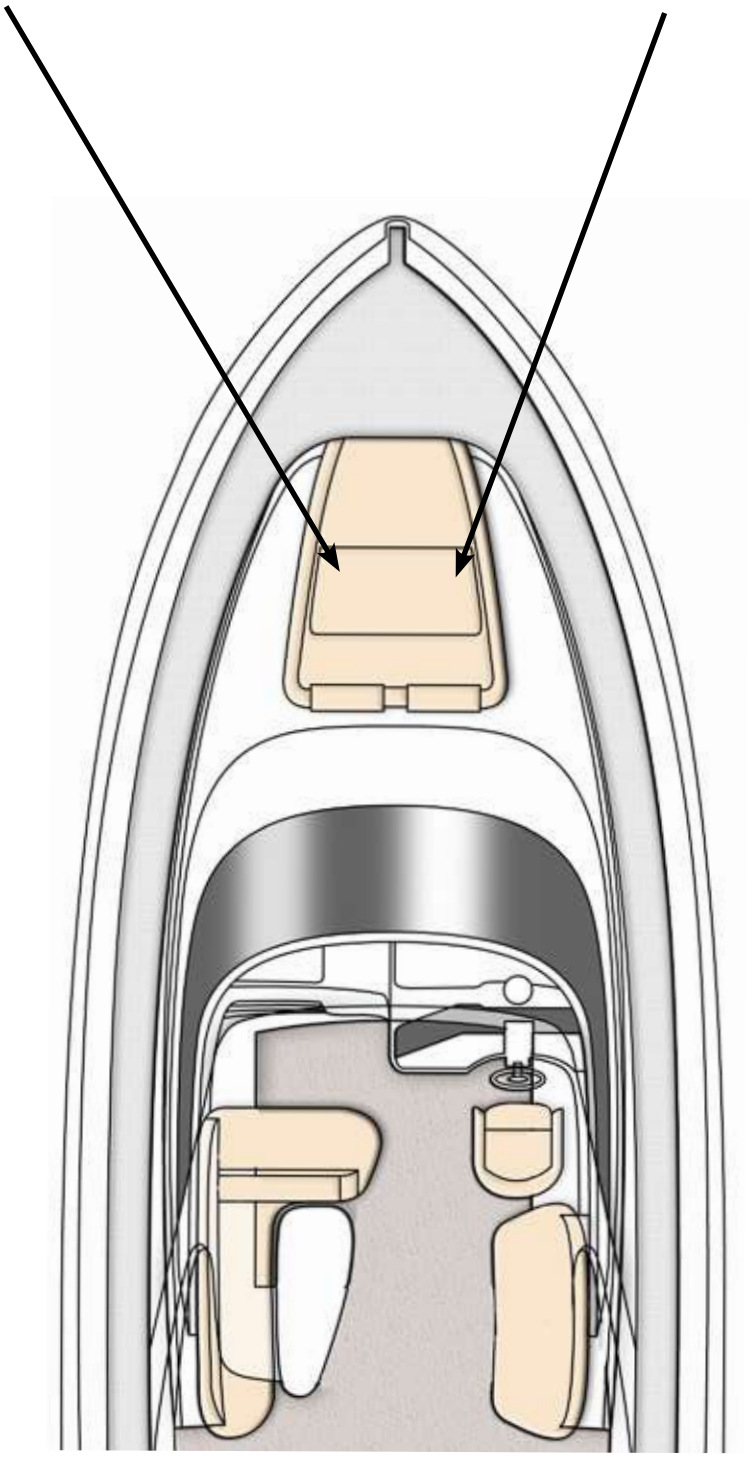
Battery posts, terminals and related accessories contain lead and lead compounds. Wash your hands after handling. Used engine oil contains chemical that have caused cancer in laboratory animals. Always protect your skin by washing thoroughly with soap and water.

Warning Labels

Warning labels are posted throughout your boat to protect you, your passengers, your boat and its equipment, and any personal property on the boat. It is important to read, understand and obey all warning labels. Failure to obey a warning label may result in serious injury or damage to the boat, its equipment, or any personal property on the boat.

⚠ WARNING

Carver reccommends that no persons be allowed to ride on the forward sunpad while the boat is under power. Sudden turning of the boat or unseen wave surge can cause loss of balance resulting in injury or falling overboard.



DC Electrical System

Your boat is equipped with a 12-volt DC (Direct Current) electrical system. This is a comprehensive system that is designed to meet your present and future 12-volt electrical needs. Wire-runs and connections are positioned to prevent abrasion and exposure to moisture, as well as to remain accessible for inspection, repairs, and the addition of aftermarket electrical accessories.

Wires used throughout the DC electrical system are plastic coated and color-coded. Connections are made using crimped connector points. The electrical system is virtually maintenance free, with only the batteries requiring periodic inspection and maintenance.

Batteries

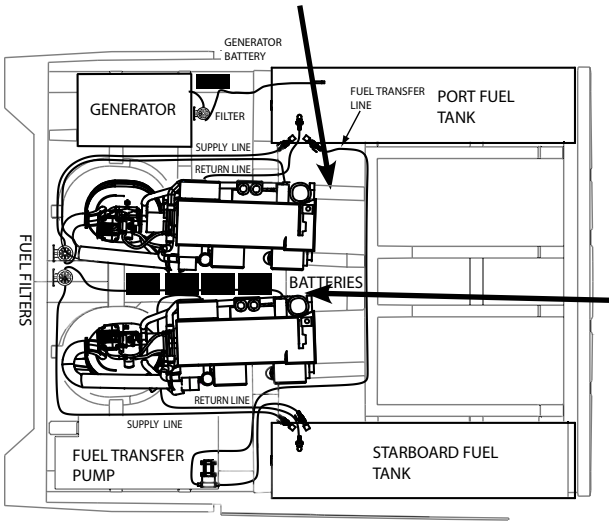
The DC electrical system is divided into three areas, each powered by one or more 12-volt batteries:

- Engine Batteries - one for each engine
- Accessory Batteries - two each 12-volt batteries parallel connected to produce 12-volts
- Generator Battery - one 12-volt

The batteries are located in the bilge between the engines.

Engine Batteries/Switches

Each propulsion engine has its own battery.
Electricity from each battery to its engine is controlled by a master disconnect switch. These switches are located in the engine room bulkhead. To provide electricity to the engines, turn the master disconnect switches to the ON position.



Generator Battery

The generator has its own dedicated battery mounted near the generator. Electricity from the battery to the generator starter is controlled by a master disconnect switch (same as the battery disconnect shown on page 1). This switch is located in the engine room bulkhead. To provide electricity to the generator starter, turn the master disconnect switch to the ON position.

Monitoring Battery Voltage Levels

A fully charged battery that has not been charged or discharged for at least two hours should indicate between 12.3 and 12.6 volts. A reading below this level indicates a partially discharged battery.

Engine Batteries

You can determine the voltage level of each engine battery pair by activating the battery's dedicated voltmeter. The voltmeters are located at the helm. To activate each engine's voltmeter, turn the engine's ignition key one position to the right.

Note: ***You do not need to start the engine to activate its voltmeter. Refer to the OEM information for details on operating the engines.***

Accessory Batteries

You can determine the voltage level of the accessory batteries using the voltmeter located on DC Control Panel - Salon.

Charging the Batteries

⚠ CAUTION

Never allow the boat's batteries to become completely discharged. Completely discharging a battery can damage it to the point that it can no longer be recharged.

The battery charger should always be operating when your boat is connected to shore power. If you leave your boat for an extended period of time and the boat is not connected to shore power, turn all battery master disconnect switches to the OFF position.

Charging the Batteries (continued)

Battery Chargers

Your boat is equipped with two battery chargers. The voltage levels of the engine and house batteries are monitored and maintained by a 60 amp battery charger and the generator battery by a 10 amp battery charger. These are mounted forward of the port engine.

To operate the battery charger:

1. Supply AC power to your boat, from either a shore power source or the onboard generator. Refer to Section 3 - Shore Power and/or Generator Power to do this.
2. On the AC Panel - Salon, switch the AC Main Circuit to proper power source and Battery Charger circuit breaker to ON. Refer to Section 3 - AC Main Distribution Panel for more information on these circuit breakers.

   While the engines are running, their alternators generally supply enough power to replace the power used by the boat's DC equipment.

   Without an engine running, however, the DC equipment will eventually drain the batteries they are using. If this occurs, either start the engines or use the appropriate onboard battery charger to recharge the batteries.

Battery Maintenance

⚠ DANGER

The batteries contain electrolyte which is an acid. Wear gloves and protective eyewear when working on and around the batteries.

When servicing the batteries avoid damaging batteries which could spill electrolyte into the engine room or bilge. Also, avoid getting any saltwater in or on the battery. Either of these conditions can create a poisonous gas that is harmful if inhaled.

While the batteries are relatively maintenance-free, there are a few things you can do to increase their effectiveness and life.

- Keep the batteries fully charged. Batteries that are kept fully or near fully charged last longer than batteries stored with a partial charge. The charge level of the batteries can be monitored using the voltmeters on the helm instrument panel (engine batteries) or the Main DC Distribution panel (accessory batteries).

- Inspect the batteries at least once every 30 days for corrosion, loose wiring, dirt, etc.

If battery is damaged and you spill electrolyte:

1. Ventilate the area of the spill.
2. Neutralize the acid in the electrolyte by pouring baking soda on the spill.
3. Remove the neutralized electrolyte using a disposable rag or paper towel.
4. Replace damaged/leaking battery.

⚠ WARNING

Disconnect batteries before cleaning.

- Periodically clean the battery terminals and cable connections. Remove any accumulation of dirt on the top of the battery case. Use a wire brush to clean the terminals. Coating the terminals with a terminal protecting product will help reduce corrosion that can form in these areas.
- Check that the battery cables are securely attached to the terminal posts. Tighten the terminal nuts snugly with a wrench to 20ft. lbs. using a torque wrench.
- Remove the batteries from the boat during periods of extended storage in freezing climate areas. Store your batteries in a cool (above freezing temperature), dry area. All batteries lose some charge during storage, but the lower the temperature the less charge is lost. Avoid storing the batteries in a humid place.

Operating DC Equipment

Power to your boat's DC components is controlled by circuit breakers and, in most cases, individual controls for each component.

Your boat contains two DC circuit breaker panels:

- DC Control Center - Salon
- DC Control Panel - Helm

The circuit breakers on the DC Control Center enable you to control the electricity to the DC components by switching the breakers ON or OFF. All of the circuit breakers protect the electrical system by automatically disconnecting the circuit from the power source in the event of a short or overload. Power is supplied to these circuit breaker panels by the accessory batteries.

There are also thermal circuit breakers installed in many circuits to provide added protection.

Note: ***Sometimes a circuit breaker location is labeled but no circuit breaker is present. In this case, the component named on the label is an option that is not installed on your boat.***

DC Control Center - Salon

⚠ WARNING

Never reset a breaker or replace a fuse that has automatically tripped without first correcting the problem. Failure to follow this procedure may create a dangerous situation.

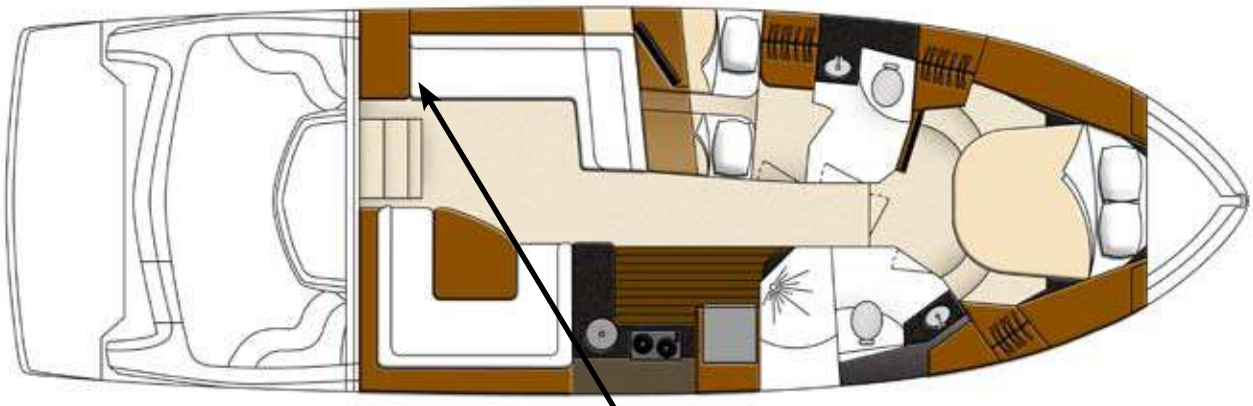
The DC Control Center - Salon manages all of the boat's DC power systems within the hull or lower level of the boat, bridge electronics and controls the flow of electricity to the various safety systems. This panel is located in the salon, aft port bulkhead

The safety systems include:

- High water alarm.
- CO detectors in salon and staterooms.
- Three automatic/manual Bilge pumps - 2000 gpm each.

Because of the importance of the safety systems (**Continuous Equipment**), their circuit breakers should remain ON at all times. If a safety system circuit breaker trips, immediately identify and correct the cause of the problem, then reset the breaker.

The DC Control Center - Salon contains following circuit breakers and switches:



Auto Bilge Pump 1, 2, 3

These breakers control the automatic bilge pumps. Each pump is activated automatically by a float/sensor switch whenever water within the bilge rises to a predetermined level. These breakers must be ON whenever the boat is in the water.

Note: ***Periodically test each bilge pump by placing two moist fingers on the two round raised areas located on the inside of the switch. The switch is located next to the pump. The pump should turn on after a few seconds of finger contact.***

Sump Pump

This breaker controls the sump pump. Switch this breaker ON before using anything that drains into the sump. The sump pump is activated automatically by a switch whenever water within the sump rises above a predetermined level.

.

CO Monitor

Carver has installed several carbon monoxide (CO) detectors on your boat for your safety. The CO detectors continuously check the air in the boat's cabin for the presence of carbon monoxide. These breakers must be ON for the CO detectors to operate.

⚠ DANGER

Always activate the CO detectors when the boat's engines or generator are running. Carbon monoxide is dangerous. Refer to Section 1 - Carbon Monoxide (CO) Warnings for information on minimizing, detecting and controlling carbon monoxide accumulation.

When the CO detectors are operating, they alert you to the presence of carbon monoxide in the cabin by emitting a loud, high-pitched sound. If you hear this alarm, determine the cause of the CO accumulation and correct it immediately.

There is a test button on each CO detector. Test each unit on a weekly basis. If you suspect that a CO detector is faulty, have your dealer repair or replace it immediately. Refer to Section 1 - Carbon Monoxide (CO) Warnings for more information on CO.

Stereo Memory

These breakers control the optional stereo systems. When the stateroom stereos are installed, these breakers should always be ON to maintain the information programmed into the stereo's memory. If this breaker is ever switched OFF, you will have to reprogram the stereos. Refer to the OEM information for details on programming the stereos.

High Water Alarm

This breaker controls the high bilge water alarm. Refer to Section 4 - Bilge System for a description of the high bilge water alarm. This breaker must be ON whenever the boat is in the water.

SeaKey®

This breaker controls the Volvo SeaKey telemetric equipment. This equipment is optional on all Carver Yachts, but can only be activated with a current service subscription. If you have a subscription, this breaker must be ON to provide electricity to the equipment. Refer to the OEM information for details on the SeaKey equipment.

Waste Pump

This breaker controls the waste pump switch for the optional overboard discharge system. Use the waste pump to empty the waste tank directly overboard. The switch is mounted to the floor at the discharge valve. To supply power to the switch, switch this breaker ON.

Washdown Pump

This breaker controls the optional washdown pump. To activate switch breaker ON. When you are finished using the washdown, turn the washdown pump off by switching this breaker OFF.

Head (Electric Head)

This breaker controls the electric pump that flushes the toilet in the head. Switch this breaker ON to enable the pump. Pressing the foot switch on the toilet then flushes the toilet. Refer to Section 4 - Toilets and the OEM information for details on operating the toilet.

DC Outlet - Bridge, Salon, Master S/R

These breakers control the 12-volt outlets located at various places in the boat. You can operate 12-volt equipment from these outlets, such as a cellular phone, hand-held spotlight, and laptop computer.

Horn

This breaker controls the switch that operates the electric horns.

Electronics Main

This breaker controls the flow of electricity to the helm's electronic equipment, such as the optional VHF radio and optional radar system. Refer to the OEM information for details on operating the equipment.

Cablemaster

This breaker controls the Cablemaster motor and its transom-mounted controls. To supply power to the motor and controls, switch this breaker ON. Refer to the vendor information for details on operating the Cablemaster.

Refrigerator(S)

These breakers control the on board refrigerators in the galley and upper deck.

Fuel Transfer Pump

This breaker controls the switch on the helm above the DC panel. The two position switch operates the pump that transfers fuel from one tank to the other. (See Propulsion - Section 5)

Pressure Water Pump

This breaker controls the fresh water system's pressure pump. After the fresh water tank is filled, switch this breaker ON to activate the pump. Refer to Section 4 - Pressurizing and Priming the Water System for information on using the water pump to fill and prime the water system.

Lighting Circuit Breakers

There are ten(10) circuit breakers that control the various light switches around the boat. Should one of the lights fail to function, check these breakers first. If any are tripped, repair the problem before resetting breaker. If no breakers are tripped, it may be a light has burned out. In the case of the underwater lights it will be necessary for this to be done by a qualified person.

Water Monitor

This breaker controls the fresh water monitoring system, including the water level gauge. To supply power to the system, switch this breaker ON.

Head Fan - Galley Fan

These breakers controls the flow of electricity to the fans as noted.

Emergency Bilge Pumps 1&2 (CE Option)

These breakers control the flow of electricity to the two emergency Bilge Pumps. These pumps are in addition to the three standard bilge pumps already installed. To turn on the pumps switch the breakers to ON.

Head Fan - Galley Fan

These breakers control the fans as noted.

Bilge Blowers 1 - 4

These breakers control the Bilge Blower switches at the helm above the DC panel. To supply power to these switches, switch these breakers ON. Use the Bilge Blower switches to manually operate the bilge blowers. The bilge blowers also operate automatically when the starboard engine ignition switch is turned ON or the generator is running.

Helm Acc'y

This breaker send power to a bus bar located on the back panel that allows power to be accessed for any added accessory.

Emergency Bilge Pumps 1&2 (CE Option)

These breakers control the flow of electricity to the two emergency Bilge Pumps. These pumps are in addition to the three standard bilge pumps already installed. To turn on the pumps switch the breakers to ON.

Entertainment Circuit Breakers

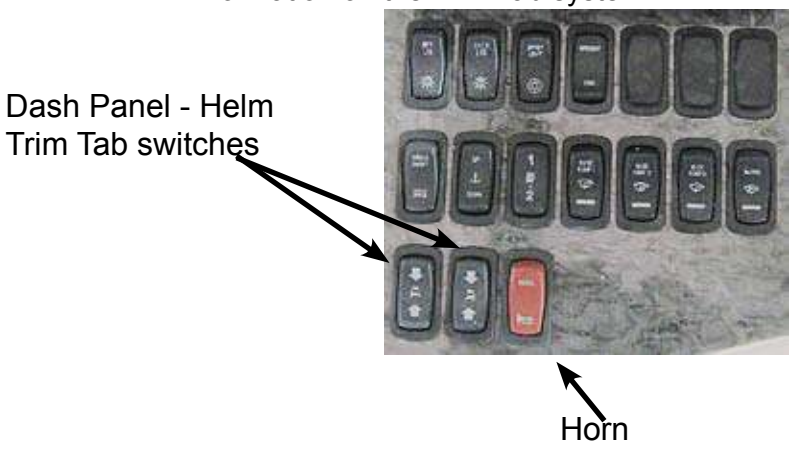
The following circuit breakers on this panel control various functions of the entertainment system associated with this boat: Stereo, Sub Woofer, Stereo Amplifier, M/S Stereo (Master Stateroom), Stereo Fwd S/R (Stateroom), DVD Players - Fwd, Mid and Aft.

Systems DC Main

This is the main breaker that controls the flow of electricity to groups of other circuit breakers on this panel.

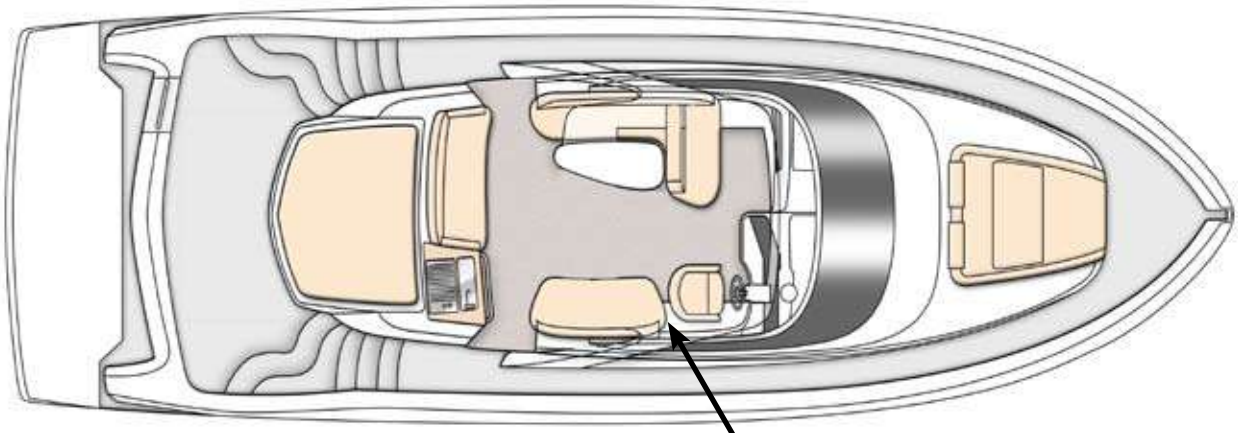
Trim Tabs

This breaker controls the Trim control system on the dash panel that operates the trim tabs. Refer to vendor information for more complete information on the Trim Tab system.



DC Control Panel (Bridge Breaker Panel) - Helm

The DC Control Panel - Helm, manages the power supply to the DC components listed on the panel. This panel is located behind the pilot seat on lower part of the salon seat. Each boat is different and will have the necessary breakers depending on the options selected. To connect power to the panel the breaker on the DC Panel - Salon, must be in the ON position.



DC Helm Control Panel

Top of DC Control Panel

High Water Alarm

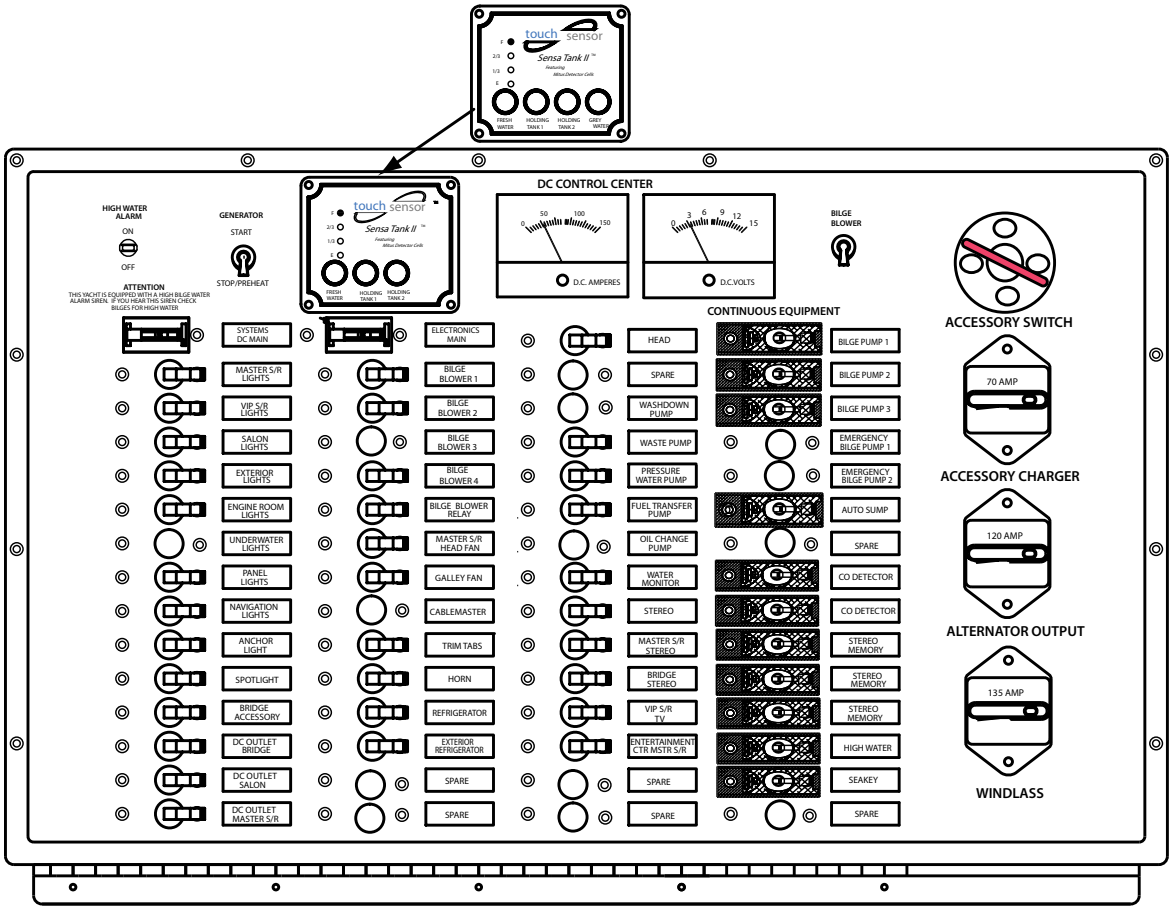
Generator Start Switch

Tank Monitor (selector to monitor all water tanks)

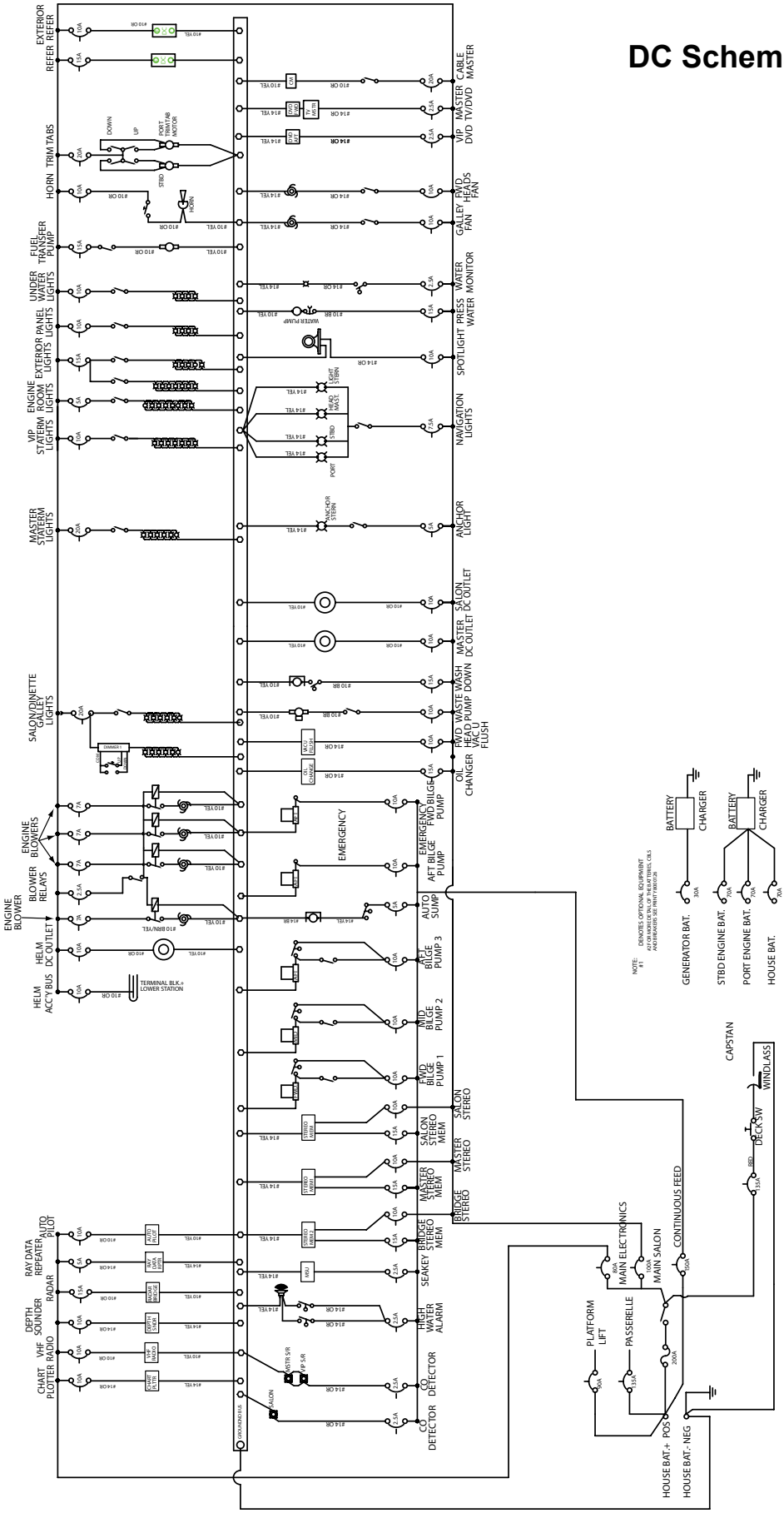
DC Ammeter

DC Voltmeter

Bilge Blower ON/OFF



DC Schematic



AC Electrical System

Your boat is equipped with a 50 amp AC (alternating current) electrical system. The power for this system is supplied by either a shore power source or the generator. The procedures for connecting to a shore power source and to the generator are explained later in this section.

If your boat was built for use in North America or the Pacific Rim, the AC electrical system is Shore 1 = 120V/205V 60Hz. If your boat was built for use in Europe, Russia, Middle East, etc, the AC electrical system is divided into two circuits: Shore 1 (230V 50Hz) and Shore 2 (230V 50Hz)

System Organization

North America/ Pacific Rim Electrical System

Line 1

The Line 1 50 amp circuit of this AC electrical system provides power to all of the AC components listed on the Line 1 column of circuit breakers on the AC Control Center. This line is configured as 120 volts 60 Hz.

Line 2

The Line 2 50 amp circuit of this AC electrical system provides power to all of the Line 2 column of circuit breakers on the AC Control Center. This line is configured as 120 volts 60 Hz.

Air Conditioning Circuit (Line 2)

The 50 amp air conditioning circuit provides power to the air conditioning system components listed on the left-hand column of circuit breakers on the AC Control Center. This line is configured as 240 volts 60 Hz.

European Electrical System

Shore1

The Line 1 50 amp circuit of this AC electrical system provides power to all of your boat's AC equipment except for the air conditioning system. This line is configured as 220 volts 50 Hertz.

Shore 2

The 50 amp circuit of this AC electrical system provides power to the air conditioning system. This line is configured as 220 volts 50 Hertz.

Wiring System

The AC electrical system on your boat uses four types of color-coded wires.

The black wire carries the current from the power source to the equipment or receptacle. Each black wire is connected to and protected by a circuit breaker installed in the AC Control Center.

The red wire carries the current from the power source to the optional air conditioning system. Each red wire is connected to and protected by a circuit breaker installed in the AC Control Center.

The white wire returns the current from the equipment or receptacle to the power source.

Safety ground wires are green. During normal operation, current does not flow through the ground wires.

Bus bars are used in the AC electrical system to help route and organize the wires. The system's white, or neutral, wires are connected together at buss bars. The ground wires are also connected together at a separate buss bar.

⚠ DANGER

Do not touch the black, red, or white wires while the AC electrical system is connected to a power source. These wires carry enough current to kill or cause serious injury.

Shore Power

Note: ***Remove all perishables from your refrigerator if you leave your boat for more than forty-eight hours. The shore power supply to your refrigerator may be interrupted and your food may spoil.***

> A Tip From Carver!
> Keeping a bag of ice cubes in your refrigerator freezer section will help in maintaining the temperature if the power is disconnected for a short time. If the ice has melted this indicates a loss of power for a long period and all food should be considered spoiled.

To connect to shore power:

⚠ DANGER

Do not supply power to the water heater when it is empty. Doing so may damage the unit's heating element and cause a fire.

Switch OFF the Water Heater circuit breaker on the AC Control Center, located in the salon. Do not switch the breaker on again until the fresh water system has been filled, pressurized and primed.

Switch main circuit breaker on the AC Control Center OFF.

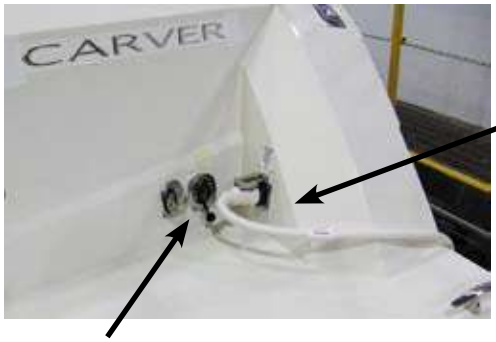
⚠ DANGER

Make sure the shore power cord you use is in excellent condition with no cuts, nicks, or abrasions in the exterior plastic cover. Also make sure that the cord is specifically designed to connect your boat to a shore power source. Using a damaged cord or a cord that is not designed for this purpose can cause electrical shock resulting in death or serious injury.

Note: ***The reason you are switching off all of the main circuit breakers before you connect to the shore power, is to prevent arching and burning of the shore cord receptacles, which will occur if there is a current demand during this process. Also, it will protect electrical equipment on board from rapid ON/OFF current connections which occur during the connection process.***

Shore Power Connection

Shore Breaker



Shore Power Cable connection

Shore Water Connection

External Cord - Locate your 50' shore power cord and connect the female end of the cord to the boat's shore power receptacle.

Secure the nonmetallic threaded locking ring that locks each cord to the boat's shore power receptacle. This prevents the cord from being accidentally disconnected and from arcing due to a gap between the cord plug and the receptacle.

⚠ WARNING

Do not allow the end of the shore power cord to hang in the water. This can cause an electrical field to form which can kill or seriously injury to nearby swimmers or passengers.

Cablemaster - Unthread and move access cap out of the way. Using the switch, pay out cord as needed.

External Cord and Cablemaster - Switch the circuit breaker that is installed in the source box at the shore power station to OFF.

Plug the male end of the shore power cord into the shore power source outlet.

Secure the nonmetallic threaded locking ring that locks cord to the shore power source outlet. This prevents the cord from being accidentally disconnected and from arcing due to a gap between the cord plug and the outlet.

Switch the circuit breaker that is installed in the shore power source box ON.

Switch the AC Main circuit breaker group ON (AC Panel - Salon). Green indicator light should be ON. If not recheck all connections and check circuit breakers on Starboard aft bulkhead near Cablemaster. Monitor voltmeter and ammeter while connected to shore power.

European Information

If your boat was built for use in Europe, there may be a Reverse Polarity indicator on the AC Control Center. If this indicator illuminates, immediately switch the Shore circuit breaker group OFF.

If you are in Germany or Italy, disconnect the shore power cord from the shore power source outlet, rotate the cord's plug 180 degrees, then plug the cord into the outlet again. Repeat connection procedure. If the Reverse Polarity indicator illuminates again, disconnect the shore power cord. Notify marina management of the reverse polarity problem and use a different shore power source box.

If you are not in Germany or Italy, disconnect the shore power cord. Notify marina management of the reverse polarity problem and use a different shore power source box.

If the Power Available indicator illuminates, power is now available to the other circuit breakers on the AC Control Center.

⚠ DANGER

Only people who are trained and experienced in working with electricity should service your boat's high voltage AC electrical system. Inexperienced or untrained people may be killed or seriously injured by incorrectly servicing the AC electrical system.

Always disconnect the boat from the shore power source, shut off the generator, and disable the inverter before attempting to service the AC electrical system.

Generator Power

You can use the onboard generator to power the boat's AC electrical system when a shore power source is not available. The generator is installed in the starboard engine room. Fuel for the generator is drawn from the starboard fuel tank.

Engine Room - STBD view (shown with deck removed for clarity)

Generator

Generator Power (continued)

To start the generator:

1. Read, understand and follow the OEM (Original Equipment Manufacturer) information that describes the generator. The **Start** switch is located on the upper left corner of the DC Panel.
2. The generator starter is powered by its own 12-volt battery. This battery is located with the rest of the batteries. Power to the generator from its battery is controlled by a master disconnect switch located on the engine room bulkhead (see photo). Turn this switch to the ON position.

Note: ***The boat's generator battery charger automatically monitors the voltage level in the generator battery and recharges the battery when necessary as long as the Generator Battery Charger circuit breaker on the AC Control Center is ON.***

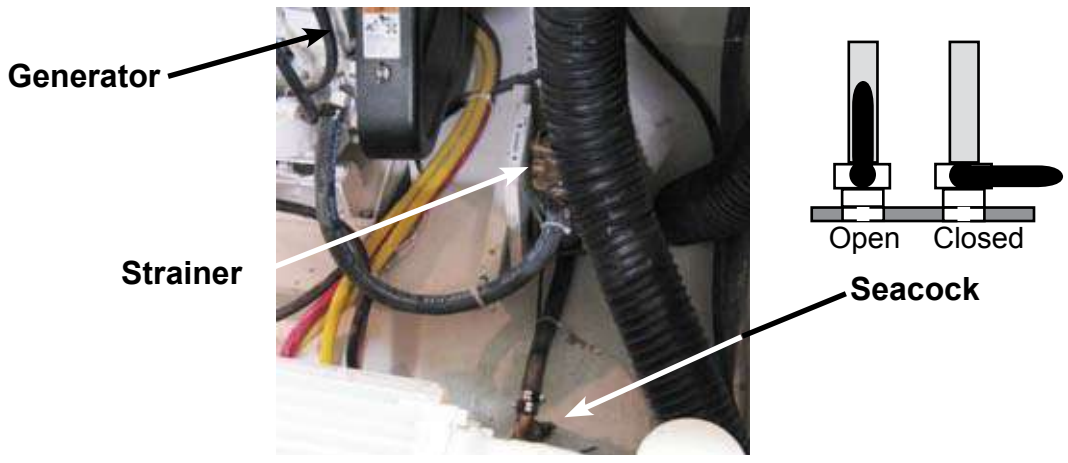
⚠ CAUTION

Never turn the Generator Master Disconnect switch to OFF while the generator is operating. Doing this can damage the generator or it's alternator wiring.

A Tip From Carver!

Dedicating a 12-volt battery to the generator provides an important safety feature. A dedicated battery enables you to start the generator regardless of the condition of the propulsion engine batteries. If the batteries become discharged to the point where they are unable to start an engine, start the generator, then turn on the engine battery chargers. When the engine batteries are recharged to an adequate level, you can then start the propulsion engines.

3. The generator engine uses a seawater cooling system. This system includes a strainer that prevents debris in the seawater from entering the cooling system's water pump. ***Close seacocks before removing strainer.*** Remove and clean the strainer. The strainer is located forward of the benerator in the bilge area.
4. Reinstall the strainer. If the strainer leaks when the seacock is opened, close the seacock, then check the strainer for correct installation.



⚠ CAUTION

Do not operate the generator when its cooling system seacock is closed. Operating the generator in this manner can damage it.

5. Open the cooling system's seacock.
6. Switch all Bilge Blower circuit breakers on the DC Control Center ON.
7. Turn the bilge blowers ON using the blower switches on the DC Control Panel - Helm.

⚠ CAUTION

The generator STOP/START switch is spring activated. Release the switch from its START position as soon as the generator starts. If you continue to hold the switch in its START position after the generator starts, you may damage the starter.

While you are attempting to start the generator, never hold the STOP/START switch in the START position for more than 10 seconds.

Generator Start Switch DC Panel

8. Push the switch to the **START** position and hold it there until the generator starts. Release the switch when the generator starts.
9. When the generator is running smoothly, switch the Generator circuit breaker group on the AC Control Center ON. This connects the boat's AC electrical system to the generator output. If the Generator Running indicator illuminates, power is now available to the other circuit breakers on the AC Control Center.
10. To turn the generator OFF, push the STOP/START switch to the **STOP** position. If you do not intend to use the generator again for at least a few days, turn the generator battery master disconnect switch to the OFF position.
11. To change the boat's AC power source from the generator to shore power, switch the Generator circuit breaker group on the AC Control Center OFF. Then connect to a shore power source as described earlier in this section.

⚠ DANGER

Do not inhale generator exhaust. Generator exhaust contains carbon monoxide, a poisonous gas. Refer to the "Carbon Monoxide Warnings" portion of Section 1 for more information on engine exhaust and carbon monoxide.

Operating AC Equipment

Power to your boat's AC components is controlled by circuit breakers and, in most cases, individual controls for each component.

Your boat contains one AC circuit breaker panel located in the Salon.

The circuit breakers on the AC panels enable you to control the electricity to either the AC component itself or to the component's controls by switching the breakers ON or OFF. They also protect the electrical system by automatically disconnecting the circuit from the power source in the event of a short or overload.

⚠ WARNING

Never reset a breaker that has automatically tripped without first correcting the problem. Failure to follow this procedure may create a dangerous situation.

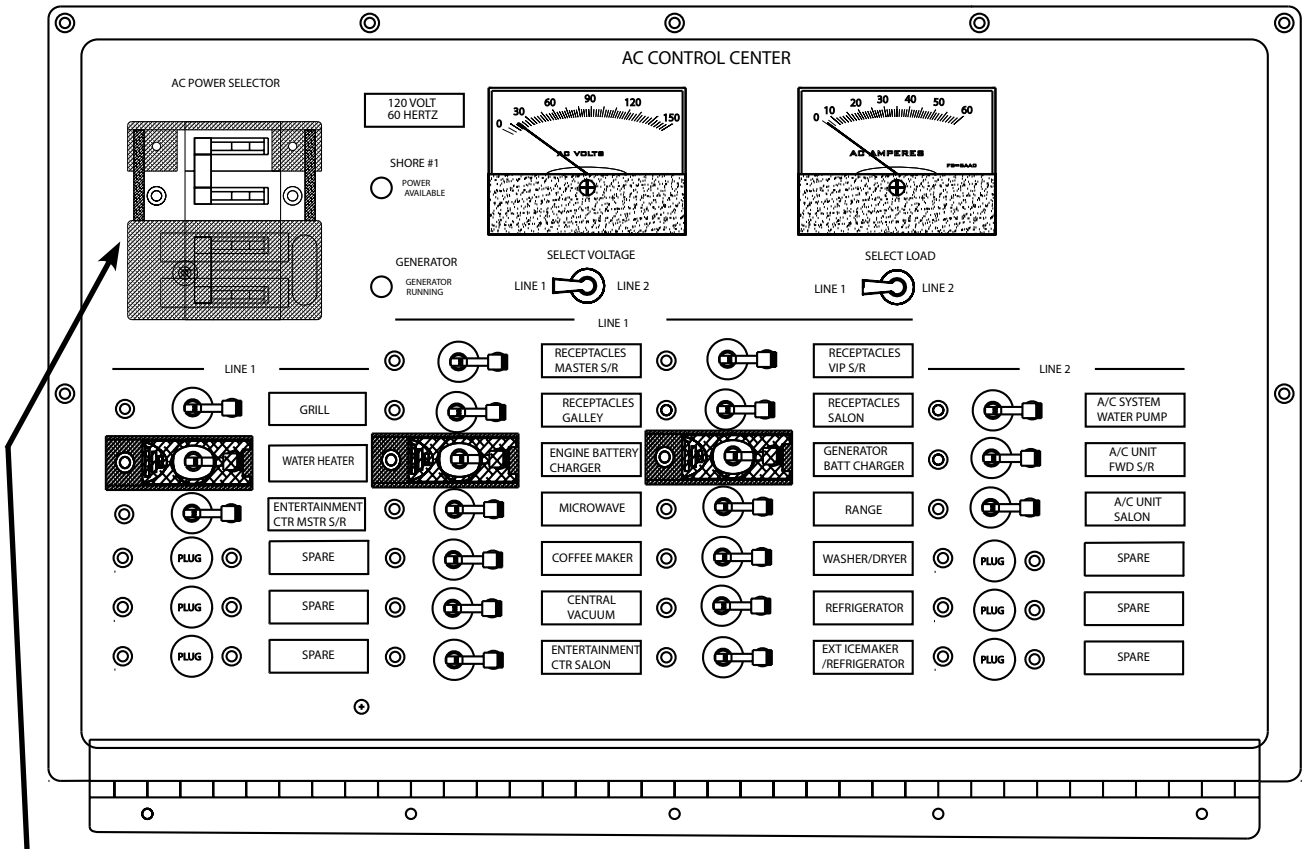
Note: ***Sometimes a circuit breaker location is labeled but no circuit breaker is present. In this case, the component named on the label is an option that is not installed on your boat.***

AC Control Panel - Salon (shown with doors open)

⚠ WARNING

Do not overload the electrical circuits. If an excessive load trips a circuit breaker, turn off all devices connected to the circuit, then switch the breaker back ON.

AC Distribution Panel



Lock Out Slide
UP for Generator
DOWN for Shore Pwr

Breakers must be
OFF to switch power

Shown is a typical layout of a AC Panel. Circuit breakers are labeled for each purpose. There are three circuits with different breakers that cannot accidentally be turned OFF (Battery Chargers and Water Heater). Options on each boat vary and some items may Be different from boat to boat.

Indicator Lights

There are two indicator lights on the front of the panel that tell you if the Generator is running or Shore Power is properly connected and available to the panel. The voltage and ammeter displays will be reading zero if the main breakers on the panel are OFF.

Ammeter - Load Current

The ammeter indicates the amount of current that is being drawn by the AC electrical equipment, as selected by the Select Load switch.

When either the Shore or Generator circuit breaker group is ON, all other breakers on the AC Control Center are OFF, and the voltmeter is reading between 110 and 120 volts, the ammeter should read zero amps.

As you switch the circuit breakers on the AC Control Center ON and turn on their associated equipment or turn on equipment plugged into the AC receptacles, the ammeter readings increase above zero amps.

Voltmeter - Line Voltage

The voltmeter indicates the amount of voltage that is entering the AC electrical system.

When the boat's AC electrical system is either connected to a shore power source or to the generator (and the generator is running) with main breakers ON, the voltmeter should read between 110 and 120 volts. If the voltmeter reads 95 volts or less, DO NOT USE THE AC SYSTEM; in this situation, either contact the marina's management to identify and correct a shore power problem, or have a qualified technician service your generator.

Note: For boats that operate on 220 volts, the limits are 220-240 volts AC and no less than 200 volts.

If the voltmeter reads zero voltage and indicator lights are not illuminated, it means that no electricity is reaching the AC Control Center. If you are using the generator, make sure:

- It is operating properly
- The safety circuit breaker on the generator control panel is ON.

If you are using shore power, make sure:

- Your shore power cord is properly attached to both the boat and the shore power source
- The circuit breaker at the shore power source box is ON
- The AC Main circuit breaker group is ON

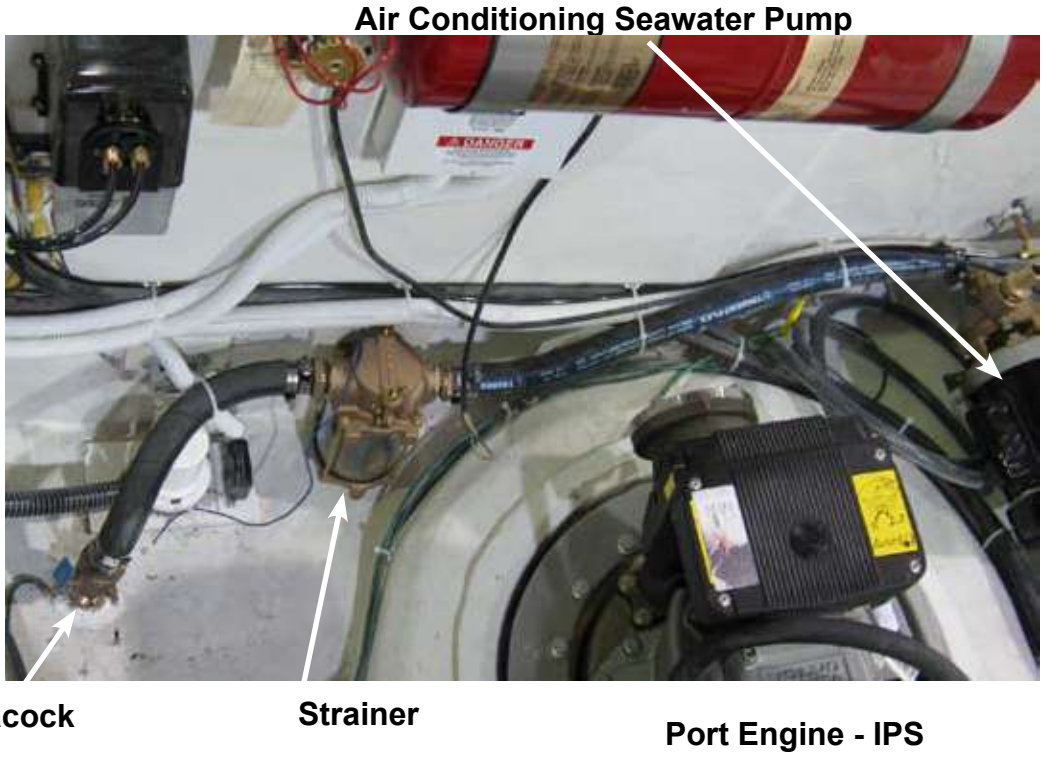
If the voltmeter continues to read zero voltage, either have a qualified technician service your generator, or contact the marina's management to identify and correct a shore power problem. If the problem appears to be with your boat's AC electrical system, have the system inspected by a qualified electrician.

Air Conditioner System Water Pump

This breaker controls the flow of electricity to the water pump that supplies the air conditioning system with seawater. Switch this breaker ON to supply power to the water pump. This must be switched ON before any other of the A/C circuit breakers are activated.

⚠ CAUTION

Do not switch the A/C System Water Pump breaker ON until after you have opened the seacocks that supplies the air conditioning system with seawater. The pump and seacocks are located in the engine room, forward of the Starboard Engine.



Water Heater

These breakers control the flow of electricity to the water heater. The water heater supplies hot water to your fresh water system. Switch the breaker ON to supply power to the water heater. Refer to the OEM information for details on operating the water heater.

⚠ DANGER

Do not supply power to the water heater when it is empty. Doing so may damage the units' heating element. Refer to Section 4 - Fresh Water System to fill, pressurize and prime the fresh water system before turning on the water heater.

Ground Fault Circuit Interrupters

Each AC receptacle on your boat contains a Ground Fault Circuit Interrupter (GFCI). The GFCI measures both the amount of current flowing to the circuit's receptacles and the amount of current returning from the receptacles, then compares the two values. If the values are not the same, the GFCI instantly trips, shutting off power to the receptacles.

If someone receives an electrical shock through a receptacle, the current flowing to the receptacle continues through the person's body and into any grounded object the person is touching or standing on. The GFCI "sees" this difference in current and shuts off power to the receptacle. This limits the amount of time the person is being shocked to a brief moment, which can reduce the amount of injury to the person.

Resetting and Testing GFCIs

Each GFCI has a Test button and ON/OFF switch mounted on it. To reset a GFCI that has tripped, switch its ON/OFF switch to ON.

Resetting and Testing GFCIs (continued)

GFCIs have Test and Reset buttons located on the receptacles. To reset the GFCI after it has tripped, press the Reset button. Resetting a GFCI allows electricity to flow again to the receptacle.

Test each GFCI circuit once every week:

1. Press the Test button. If the GFCI is operating normally, this cuts the electricity to the receptacle on the GFCI.
2. Plug a lamp or other AC powered device into the receptacle then turn on the device. The device should **not** operate.

   If the receptacle still has power after the Test button is pressed, do not use that receptacle. Contact a qualified electrician to make the appropriate repairs.
3. Reset the GFCI to restore power to the receptacle.

⚠ DANGER

Any electrical shock from the AC electrical system, even through a GFCI receptacle, can cause death or serious injury. Always seek immediate medical attention after receiving such a shock.

Electrical Loads

When operating AC powered devices through your boat's AC electrical system, be aware that each device exerts a "load" on the system. This load is equal to the amount of current (amps) that the device draws from the AC electrical system. The AC electrical system, has a maximum total load that it can handle. Each Line circuit has an electrical load capacity of 50 amps.

If the total load on the circuit exceeds the circuit's capacity, the breaker for that circuit trips. This means that the devices operating from the circuit are drawing too much current.

⚠ WARNING

Do not overload the electrical circuits. If an excessive load trips a circuit breaker, turn off all devices connected to the circuit, then switch the breaker back ON.

A list of common AC powered devices and the approximate maximum current that they draw when operating are shown in the ***Electrical Loads*** chart. If you use an AC powered device that has an electric motor, such as a vacuum cleaner or electric drill, the device should have a *motor load plate* mounted on it. This plate lists the current that the device draws while operating.

ELECTRICAL LOADS

AC Device (Amps)	Approximate Maximum Current Used
Fan	0.7
Refrigerator	1.5
Electric blanket	2.0
Television	2.7
Coffee maker	6.3
Battery charger	7.3
Toaster	10.5
Frying pan	12.3

As the chart indicates, appliances that use a motor or a heating element draw relatively large amounts of current. Therefore, be especially careful when using curling irons, toasters, coffee makers, hair dryers, food mixers or similar types of AC powered devices. Do not use too many of these types of devices at the same time.

Bonding System

Your boat is equipped with a comprehensive metallic bonding system that interconnects all underwater equipment and thru-hull fittings. The bonding system ensures that the cases of all metallic equipment onboard your boat, including the fittings, are at the same electrical potential. This minimizes corrosion of the underwater fittings caused by stray electrical currents.

Included within this bonding system are sacrificial zinc anodes that have been installed on each of the boat's drive units and onto the underwater portion of the boat's transom. These anodes corrode and deteriorate before the boat's underwater fittings and provide a visual reference to the level of stray current to which your boat is being exposed.

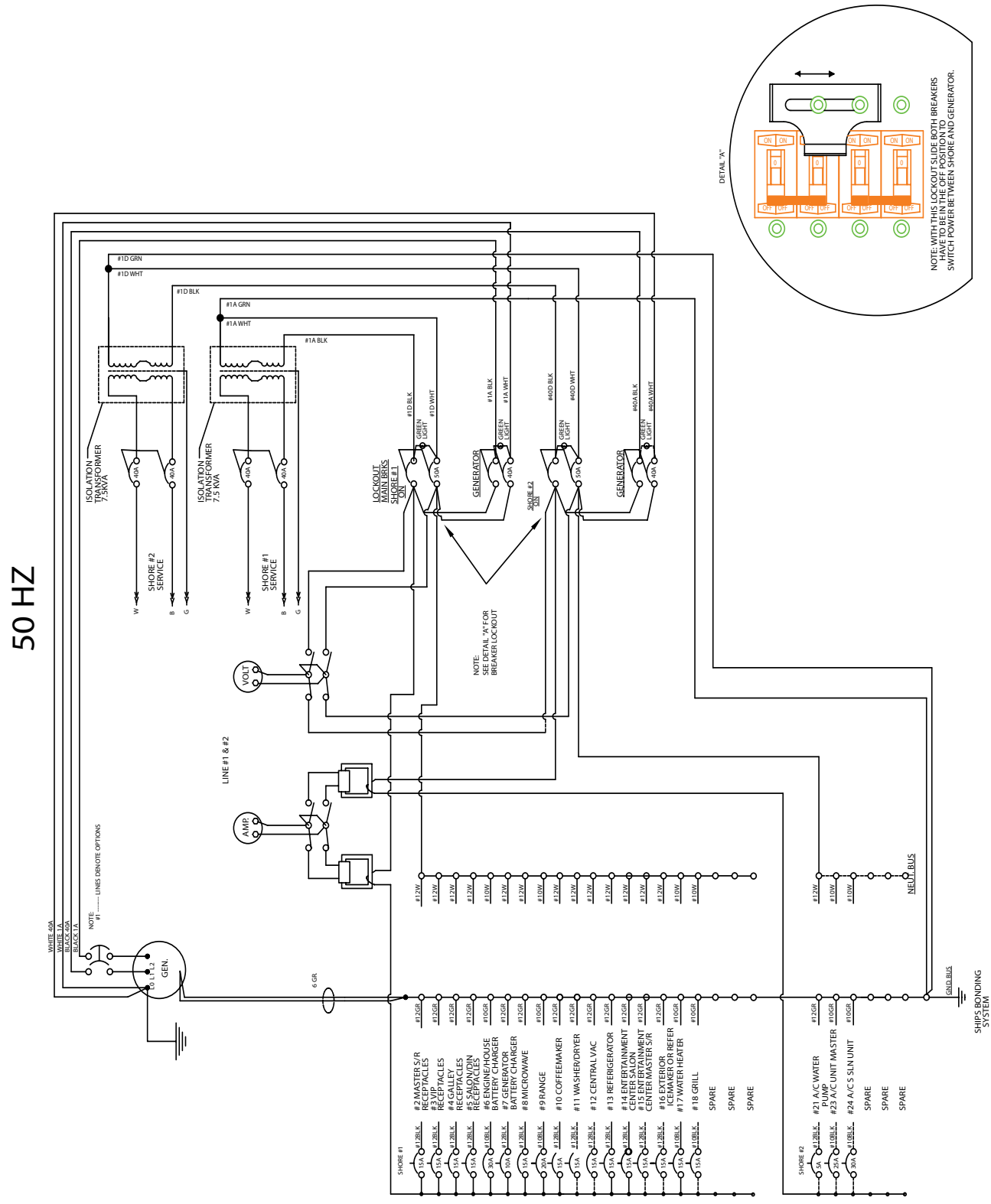
Your boat's DC electrical system, AC electrical system and the batteries' negative leads are all connected to the bonding system through bus bars. The bus bars are located in the engine room and aft bilge area and are connected to the transom-mounted zinc plate.

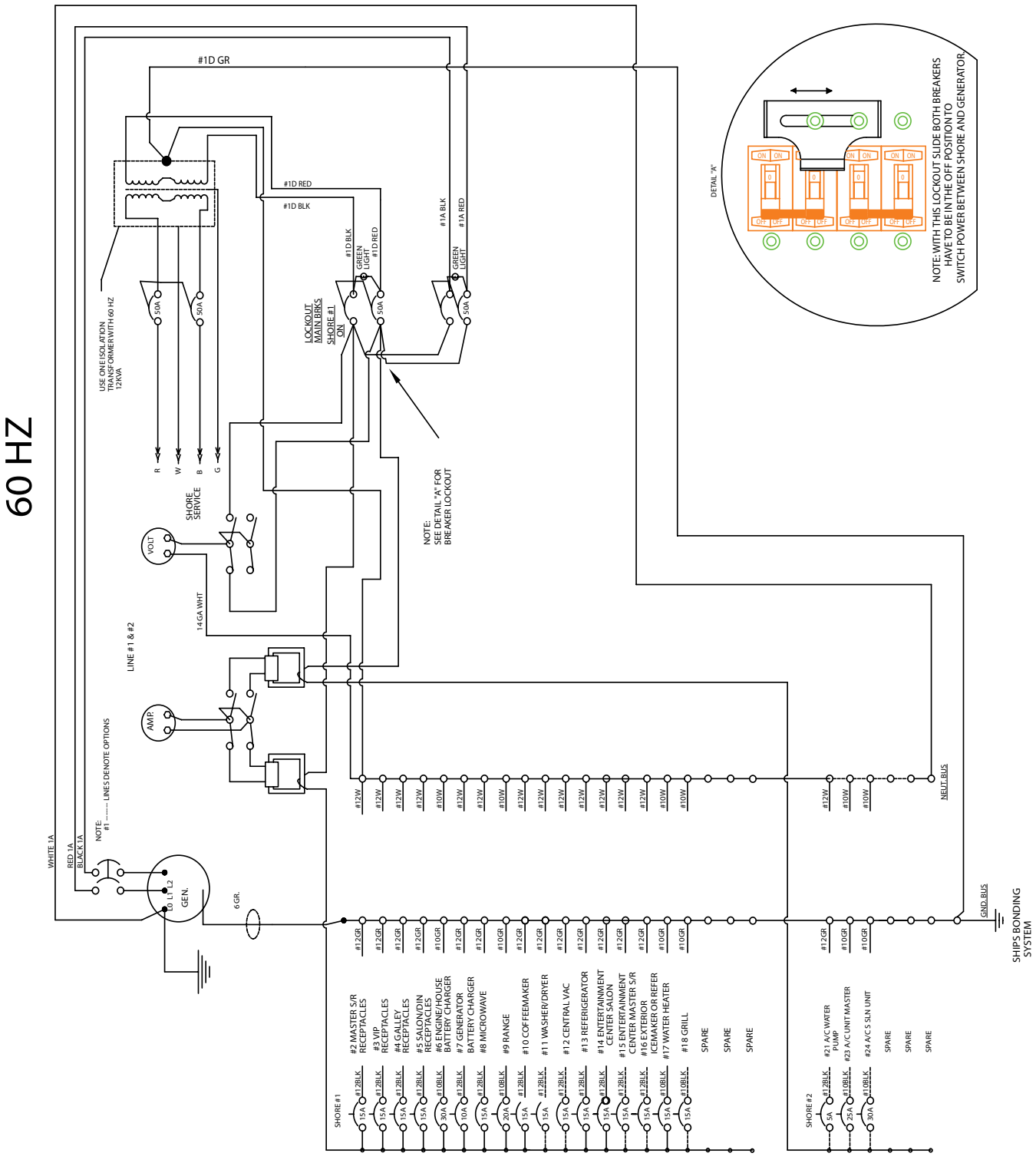
⚠ WARNING

Do not tamper with or modify the boat's bonding system. Doing so could threaten the integrity of the system.

Monitor the condition of your boat's zinc anodes. Replace the zinc anodes when they have deteriorated to 50% of their original size. Do not allow the zinc anodes to completely deteriorate. Refer to Section 7 - Maintenance Schedule for recommended inspection intervals.

Note: ***Damage resulting from any stray current or galvanic corrosion is NOT covered under the Carver limited warranty.***


50 HZ
DETAIL "A"
NOTE: WITH THIS LOCKOUT SLIDE BOTH BREAKERS MUST BE IN THE OFF POSITION TO SWITCH POWER BETWEEN SHORE AND GENERATOR.
ON
OFF
#1D GRN
#1D WHT
#1D BLK
#1A GRN
#1A WHT
#1A BLK
ISOLATION TRANSFORMER 7.5KVA
ISOLATION TRANSFORMER 7.5 KVA
40A
SHORE #2 SERVICE
SHORE #1 SERVICE
W
B
G
LOCKOUT MAIN BREAKERS SHORE #1 ON
GREEN LIGHT
50A
GENERATOR
SHORE #2 ON
#40D BLK
#40D WHT
#40A BLK
#40A WHT
NOTE: SEE DETAIL "A" FOR BREAKER LOCKOUT
VOLT
AMP
LINE #1 & #2
NOTE: #1 ——— LINES DENOTE OPTIONS
WHITE 40A
WHITE 1A
BLACK 40A
BLACK 1A
L1 L2
GEN.
6 GR
#12W
#10W
NEUT BUS
GND BUS
SHIPS BONDING SYSTEM
#12GR
#10GR
#12BLK
#10BLK
SHORE #1
#2 MASTER S/R RECEPTACLES
#3 VIP RECEPTACLES
#4 GALLEY RECEPTACLES
#5 SALON/DIN RECEPTACLES
#6 ENGINE/HOUSE BATTERY CHARGER
#7 GENERATOR BATTERY CHARGER
#8 MICROWAVE
#9 RANGE
#10 COFFEEMAKER
#11 WASHER/DRYER
#12 CENTRAL VAC
#13 REFRIGERATOR
#14 ENTERTAINMENT CENTER SALON
#15 ENTERTAINMENT CENTER MASTER S/R
#16 EXTERIOR ICEMAKER OR REFER
#17 WATER HEATER
#18 GRILL
SPARE
SHORE #2
#21 A/C WATER PUMP
#23 A/C UNIT MASTER
#24 A/C S SLN UNIT
SPARE


60 HZ
#1D GR
#1D RED
#1D BLK
#1A BLK
#1A RED
#1D BLK
GREEN LIGHT
#1D RED
GREEN LIGHT
LOCKOUT MAIN BRKS SHORE #1 ON
50A
50A
50A
50A
USE ONE ISOLATION TRANSFORMER WITH 60 HZ 12KVA
R
W
B
G
SHORE SERVICE
VOLT
AMP
14GA WHT
LINE #1 & #2
NOTE: SEE DETAIL "A" FOR BREAKER LOCKOUT
DETAIL "A"
NOTE: WITH THIS LOCKOUT SLIDE BOTH BREAKERS HAVE TO BE IN THE OFF POSITION TO SWITCH POWER BETWEEN SHORE AND GENERATOR
ON
OFF
NOTE: #1 ------ LINES DENOTE OPTIONS
WHITE 1A
RED 1A
BLACK 1A
L1 L2
GEN.
6 GR.
#12W
#10W
NEUT BUS
GND BUS
SHIPS BONDING SYSTEM
SHORE # 1
#12BLK
15A
#2 MASTER S/R RECEPTACLES
#3 VIP RECEPTACLES
#4 GALLEY RECEPTACLES
#5 SALON/DIN RECEPTACLES
#6 ENGINE/HOUSE BATTERY CHARGER
#7 GENERATOR BATTERY CHARGER
#8 MICROWAVE
#9 RANGE
#10 COFFEEMAKER
#11 WASHER/DRYER
#12 CENTRAL VAC
#13 REFRIGERATOR
#14 ENTERTAINMENT CENTER SALON
#15 ENTERTAINMENT CENTER MASTER S/R
#16 EXTERIOR CEILMAKER OR REFER
#17 WATER HEATER
#18 GRILL
SPARE
SPARE
SPARE
SHORE # 2
#12BLK
5A
#21 A/C WATER PUMP
#10BLK
25A
#23 A/C UNIT MASTER
#10BLK
30A
#24 A/C S SLN UNIT
SPARE
SPARE
SPARE

Air Conditioning System

This section applies only to the interior air conditioning system installed at the Carver assembly plant. An air conditioning system installed as an aftermarket accessory may not necessarily operate as described in this section.

For the air conditioning system to operate, it needs a source of AC power (supplied by shore power or the generator) and a supply of water (either salt or fresh).

The factory-installed air conditioning system consists of two air conditioning units:

The evaporator/blowers include:

- A 12,000 BTU unit and a 16,000 BTU unit.

Producing Heat

The air conditioning system can produce heat when it is operated in reverse cycle mode. Reverse cycle operation, however, is affected by the temperature of the seawater. As seawater temperature decreases so does the air conditioning system's ability to produce warm air. Carver recommends that the air conditioning system not be operated in reverse cycle mode when the seawater temperature is below 40°F.

Powering the Air Conditioning

1. Make sure the air conditioning seacock is closed. Remove and clean the air conditioning system's seawater strainer. The strainer prevents debris in the seawater from entering the air conditioning system. The strainer is located in the engine room forward of the starboard engine.

⚠ CAUTION

Do not switch the A/C System Water Pump breaker ON until after you have opened the seacocks that supplies the air conditioning system with seawater. The pump and seacocks are located in the engine room, forward of the Starboard Engine.

Air Conditioning Seawater Pump and Strainers

Powering the Air Conditioning (continued)

2. Reinstall the seawater strainer. If the strainer leaks when the air conditioning seacock is opened, close the seacock, then check the strainer for correct installation.
3. A single pump supplies the air conditioning units with seawater. Open the seacock before proceeding to next step.
4. Supply AC power to your boat. Refer to Section 3 - Shore Power and/or Generator Power.
5. Switch the correct circuit breakers group (Shore power or generator) on the AC Control Center - Salon to ON.
6. Switch the Auto Sump circuit breaker on the DC Control Center to ON. Condensation from the air conditioning system drains into the sump, this circuit breaker must be ON while the air conditioning system is operating.
7. Switch the Air Conditioning System Water Pump circuit breaker on the AC Control Center - Salon to ON.
8. Switch the desired Air Conditioning Unit circuit breakers ON.
9. Verify that seawater is being pumped through the air conditioning units. As the seawater exits the units, it flows out of the discharge thru-hull fittings in the boat's side.
10. Use the controls for each air conditioning unit to set the desired temperature. Refer to the OEM information for details on operating the air conditioning controls.

Fresh Water System

The total capacity of your boat's fresh water system is approximately 90 gallons. The water tank is located forward of the engine room - amidships. An 11-gallon water heaterwater heater is located on the starboard side under the sink unit.

NOTE: ***Thoroughly flush and sanitize the water system before initial use and at least once each season. As this can be a involved process it is recommended that you see your Carver dealer.***

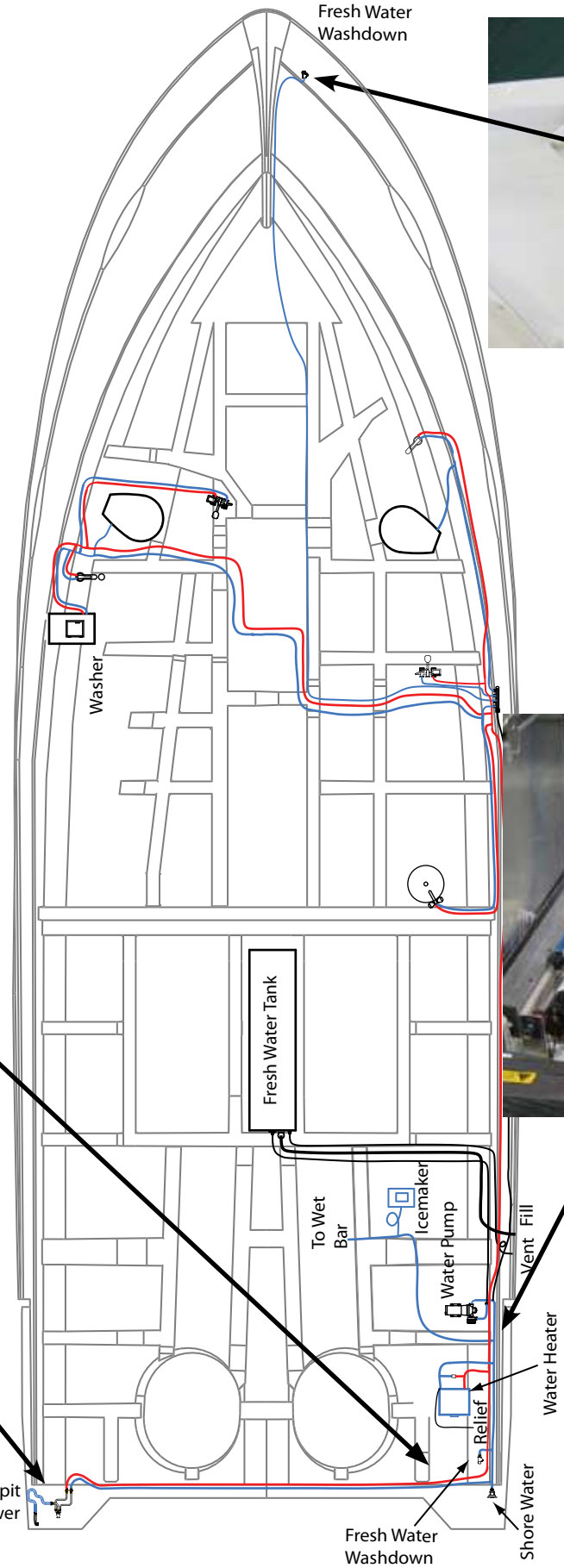
Filling The Water Tank

The fresh water tank is filled through a deck fitting with a plate labeled WATER. The plate is located on the starboard - amidships. See reference on next page.

⚠ CAUTION

Do not overfill the water tank or leave the fill hose unattended while the tank is being filled. Overfilling the tank could cause it to rupture.

Put only clean, fresh water into the water tank. The tank is full when water is discharged from the water tank vent. The vent is located in the hull outboard of the WATER deck fitting.


Fresh Water
Washdown
Washer
Fresh Water Tank
To Wet
Bar
Icemaker
Water Pump
Vent Fill
Water Heater
Relief
Cockpit
Shower
Fresh Water
Washdown
Shore Water

Pressurizing and Priming the Water System

Perform the following ONLY after the fresh water tank is full.

1. Verify power to the circuit breakers on the DC Control Panel - Helm
2. Switch the Auto Sump circuit breaker ON DC Control - Engine room.
3. Open the hot and cold shut-off valves on hot water tank and close bypass valve. (See photo next page)
4. Partially open all cold water faucets, including the faucets for the transom hand shower and bow and transom fresh water washdowns (for locations - refer to photos on following pages.)
5. Supply AC power to your boat. Refer to Section 3 - Shore Power or Generator Power to do this.
6. On the DC Control Panel - Helm, switch the Pressure Water Pump circuit breaker ON. This activates the boat's pressure water pump, which pressurizes the water system.
7. The fresh water system is primed when all air is purged from the system's pipes and hoses. Starting from the aft of the boat, monitor each sink tap and shower head. When a steady stream of water flows from the tap or shower head, close the cold water faucet for that tap or shower head, then open its hot water faucet (the washdowns supply only cold water). When a steady stream of water again flows from the tap or shower head, close the hot water faucet for that tap or shower head. When you have done this for each sink tap and shower head, the water system is primed.
8. Add water to the fresh water tank to replace that which was used in the previous step.

When water pressure within the system increases to a predetermined point, the pressure water pump automatically shuts off.

Using the Water System

After filling, pressurizing and priming the fresh water system, simply open a faucet to receive fresh water. As you draw water from the system, the pressure in the system decreases. When the pressure decreases to a predetermined point, the pressure water pump automatically turns on and increases the pressure. This ensures a steady flow of water any time you open a faucet.

Occasionally a recently filled system or one that has not been used for some time may need re-priming. This is normal and is caused by an accumulation of air bubbles at the pressure water pump. To re-prime the fresh water system, repeat the steps Pressurizing and Priming the Water System.

A Tip From Carver!

If your boat will be left unattended for at least a few days, switch the Pressure Water Pump circuit breaker OFF. If this breaker is left on, pressure in the fresh water system may fall and cause the water pressure pump to engage. If this happens frequently, it could discharge your batteries.

Water Heater

To operate the water heater:

1. Fill, pressurize and prime the fresh water system. This automatically fills the water heater.

2. Supply AC power to your boat. Refer to Section 3 - Shore Power or Generator Power to do this.
3. On the AC Control Center - Salon:
   a. Switch the Main Breaker circuit breaker ON.
   b. Switch the Water Heater circuit breaker ON.
4. Refer to the OEM information for details on operating the water heater.

⚠ CAUTION

Do not supply power to the water heater when it is empty. Doing so may damage the heating element. Fill, pressurize and prime the fresh water system as described in - Filling the Water Tank and Pressurizing and Priming the Water System before turning on the water heater.

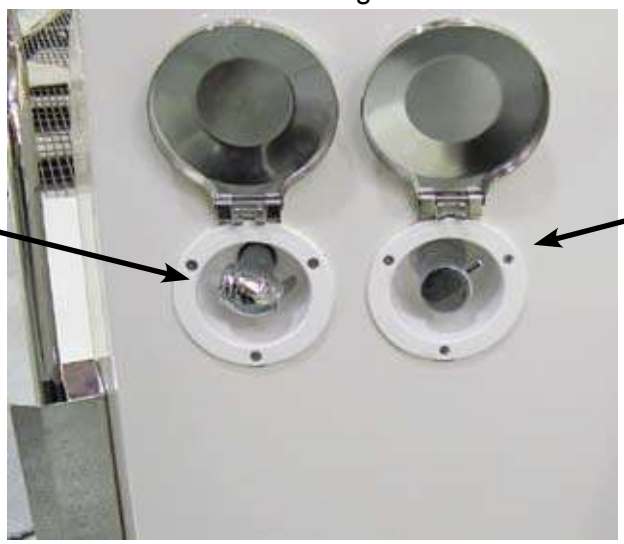
A Tip From Carver!

To obtain the most consistent shower temperature, turn on the cold water faucet fully, then slowly turn on the hot water faucet until the water flowing from the shower head is at the desired temperature. This method keeps the pressure water pump running, eliminating widely fluctuating water temperatures.

Transom Hand Shower

The transom hand shower enables you and your guests to rinse off with warm, fresh water after swimming before entering the salon. The hand shower is especially useful if you operate your boat in salt water.

The hand shower is an integral part of your boat's fresh water system. Simply turn on the faucet and adjust for the desired water temperature. The hand shower and its mixing valve is located on the transom Port side.



Fresh Water Washdowns

The bow and transom fresh water washdowns enable you to use water from the fresh water tank to washdown and clean your boat. Fresh water washdown is especially useful if you operate your boat in salt water.

A Tip From Carver!

Remember that the fresh water washdown system draws its water from the boat's fresh water tanks. Prolonged use of the washdown system quickly reduces the amount of fresh water in the water tanks.

To use the fresh water washdowns:

1. Locate the bow- and transom-mounted hose fittings. The bow mounted fitting is located on the fore deck next to the anchor guide - Port side. The transom-mounted fitting is located in the starboard aft access door for shore power/water (photos on next page).
2. Attach one end of an appropriately sized nylon water hose to the fitting you wish to use.
3. Attach a nozzle to the other end of the hose.
4. Open the faucet at the base of the hose fitting to supply water to the hose.

Shore Water

Shore Water

Your boat has a shore water fitting that enables your fresh water system to draw water from a land water source while your boat is docked. When you use shore water you are not drawing water from the onboard water tank.

NOTE: ***Connecting your boat to shore water bypasses the boat's fresh water tank and pressure water pump, therefore the water tank does not get filled. The only way to fill the fresh water tank is through the deck plate labeled WATER.***

When you connect your boat to shore water, switch the Pressure Water Pump circuit breaker on the DC Control Panel - Helm to OFF.

⚠ CAUTION

Do not leave your boat unattended when it is connected to shore water. Should one of the water lines in your boat develop a leak, an unlimited amount of water could enter your boat. Disconnect the shore water hose whenever you leave your boat unattended.

To connect to shore water:

1. Locate the shore water fitting, labeled SHORE WATER, located in the starboard aft access door for shore power/water.
2. Attach one end of a water hose to the shore water fitting.
3. Attach the other end of the hose to the dockside water tap.
4. Close all sink and shower faucets.
5. Provide power to the circuit breakers for the Auto sump.
6. Turn dockside water tap ON.

Bilge System

Your boat contains three automatic bilge pumps. The bilge is the lowest point in the interior of the boat's hull where anywater that finds its way into the hull will accumulate. Each bilge pump can remove up to 2000 gallons of water per hour. The bilges include:

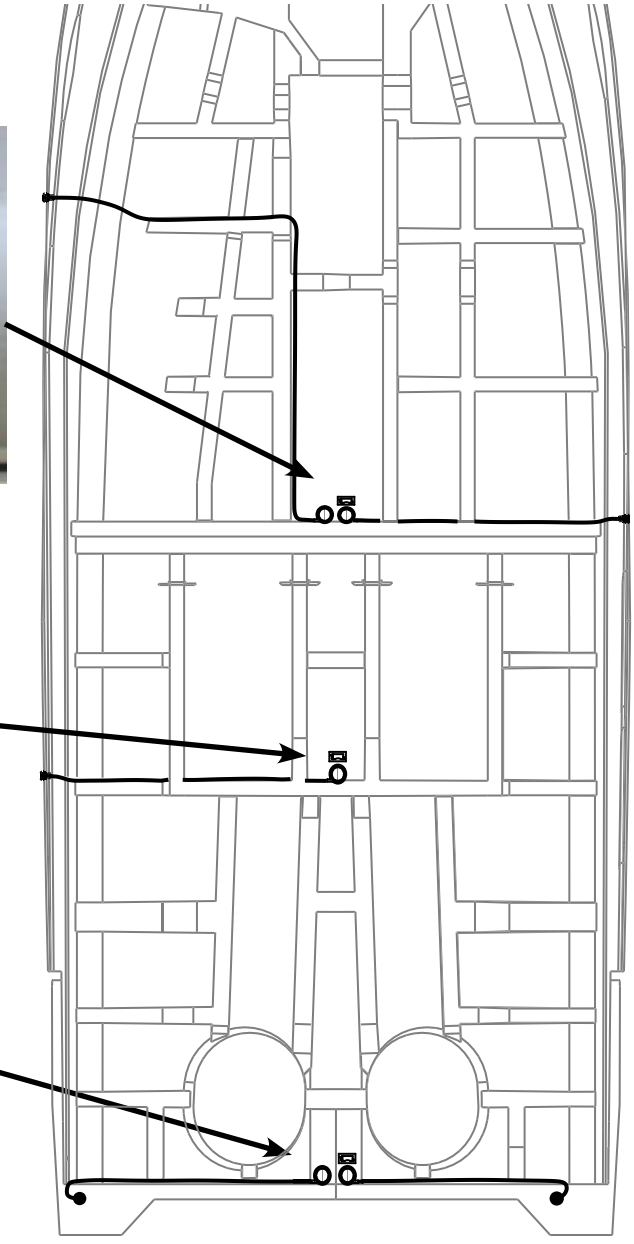
- A forward bilge pump is located behind the fresh water tank. Access this pump by lifting the hatch in the salon.
- Amidships bilge pump is located just forward of the engines. Access this pump from a hatch in the salon.
- Aft bilge pump is located in the aft bilge area at the transom.

NOTE: Before operating your boat's bilge pumps, wipe up any oil that may have accumulated in the bilges. Pumping oil overboard contributes to water pollution and is in violation of the Federal Water Pollution Control Act. Violators are subject to a substantial penalty.

Fwd Bilge Pump

Mid Bilge Pump

Aft Bilge Pump



Bilge System (continued)

⚠ CAUTION

Never store anything in the bilges. Storing loose items in the bilges could damage pumps, pipes or other components that are essential for the proper operation of your boat.
If you keep your boat in a climate where temperatures can drop below freezing, make sure that all water within the bilges is drained before you store the boat for the winter. Water that freezes in the bilges could cause severe damage to your boat and its components. Refer to Section 8 - Bilges for more information on winterizing the bilges.

Bilge Pump Operation

For safety and convenience, each automatic bilge pump can be operated either automatically or manually.

High Water Alarm Switch

The bilge pumps remove almost, but not quite, all of the water that collects within the bilges. If you want your bilges to be completely dry, use a sponge and bucket to remove the small amount of water that remains.

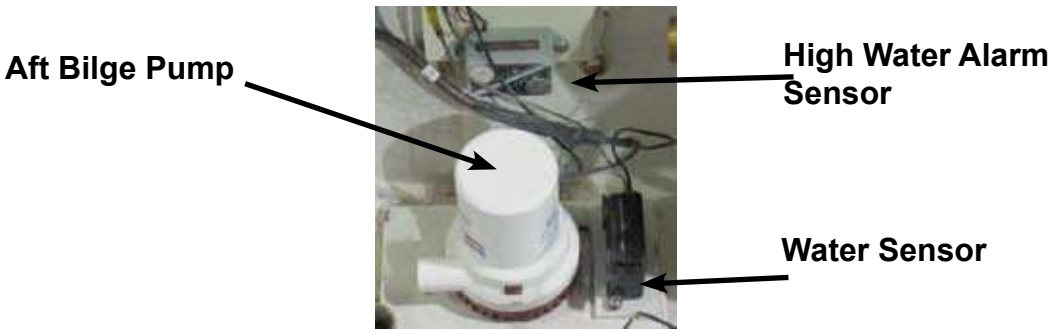
Your boat is equipped with two high water sensors. If these sensors detect high bilge water, an alarm sounds. The most likely causes of high bilge water are: a hull breach, faulty bilge pump or faulty seacock/hose. Immediately identify and correct the cause of the high water, and remove the water. Silence the alarm by turning its circuit switch OFF. The switch is located on the DC Control Panel - Helm.

NOTE: The High Water Alarm circuit breaker on the DC Panel (Salon) must be ON at all times so that the alarm will sound if there is high water in the bilge.

Automatic Operation

Incorporated into each automatic bilge pump is an electronic water sensor switch. The sensor switch automatically turns on the pump when bilge water rises to a predetermined level. To operate the bilge pumps in automatic mode:

1. Provide power to the circuit breakers on the DC Panel - Engine Room.
2. On that same panel, switch the Bilge Pump circuit breakers ON.
3. Periodically test each sensor switch by pressing the two indents on the side of the switch for 4 seconds which should turn the bilge pump on.



Bilge System (continued)

Manual Operation

To operate the automatic bilge pumps manually:

1. Provide power to the circuit breakers on the DC Panel - Salon.
   a. Switch the Bilge Pump 1 - 3 circuit breakers ON.
   b. Switch the systems DC Main disconnect ON.
   c. Switch the Emergency Bilge Pump circuit breakers ON.
2. Press the 1, 2 and 3 Bilge Pump switches, located at the helm. This activates all of the bilge pumps.

⚠ CAUTION

When operating a bilge pump in manual mode, turn the pumps OFF when the bilge water level is so low that the pump can not drain it. Allowing the pump to operate when it is not pumping water can damage it.

Note: Whenever the bilge pumps are operating, in manual or automatic mode, a light will illuminate on the manual switch at the helm. This light indicates that the pumps are operating.

A Tip From Carver!

A small amount of water always collects in your boat's bilge. This water is usually not enough to activate the automatic switch. While underway and on plane, use the helm switches to manually turn the bilge pumps on and let them run for 30 seconds to a minute. When your boat is on plane, water in the bilge flows to the stern, where the aft bilge pump is located. The amidships bilge pumps are near the lowest point in the hull when the boat is at rest.

Grey Water Holding System

Certain areas of the United States and Europe have antipollution regulations that require the use of a grey water holding system on boats. With this system, grey water is stored in tanks rather than allowed to flow directly overboard.

Sanitation System

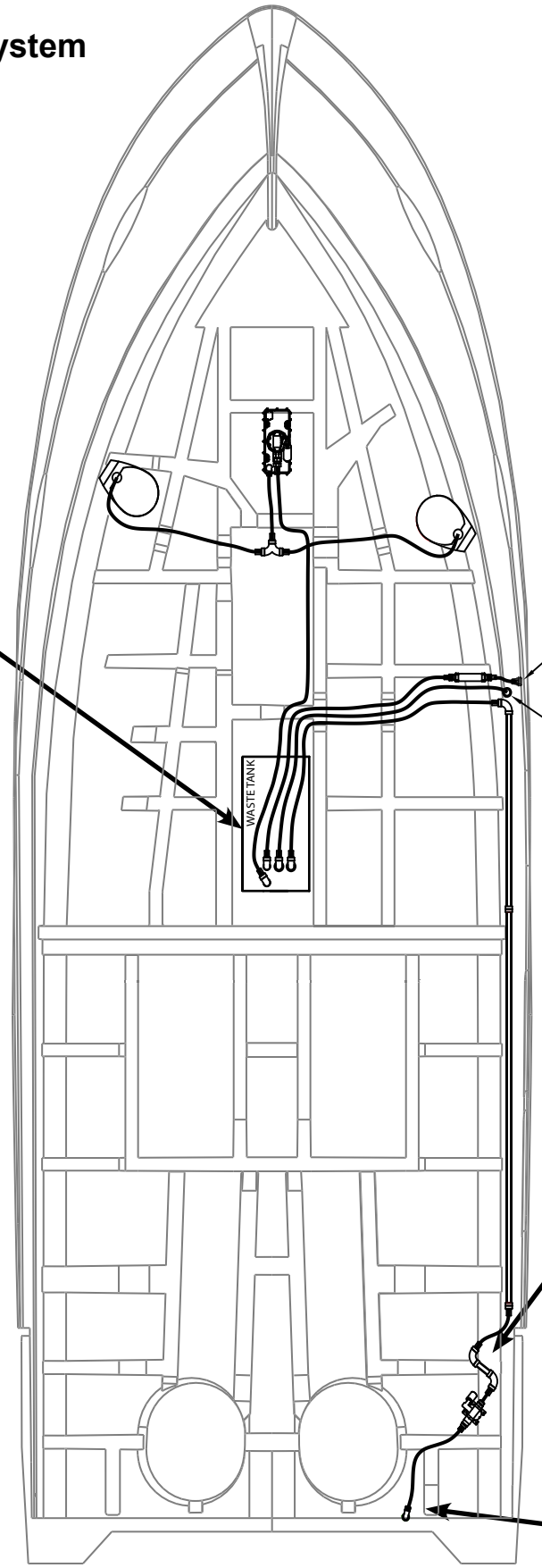
Your boat's sanitation system includes the head, center mounted waste tank and the optional overboard waste discharge system. When properly used, this system conforms to all United States antipollution laws.

Toilet

The toilet uses fresh water and vacuum pressure to remove waste from the head. If you have guests who are unfamiliar with marine sanitation systems, instruct them on how to properly use the toilets. Refer to the OEM information for details on operating the toilets.

Waste System

Waste Tank



Waste Discharge Plate

Waste Pump Discharge Switch

Waste Discharge Pump

Waste Discharge Valve (Shown Open)

Toilets

To operate the vacuum flush system:

1. Confirm DC power available at DC Control Panel - Salon.
2. On the DC Control Center make sure the Electric Head circuit breaker is ON.

DC Control Panel

Breaker

Tank Monitor

Head Switches

Toilet Switch

3. Check the tank monitor located on the DC Panel - Salon. If the indicator shows that the waste tank is at least ¾ full, it should be emptied. If the tank level is ok proceed to the next step. There is another warning light in the head that if lit, indicates the waste tank is at least ¾ full and should be emptied. If the red indicator is not lit, proceed to next step.
4. Press the foot pedal at the base of the toilet. This flushes the toilet.
5. If the toilet bowl is dry, water can be added to the bowl by lifting up on the foot pedal. This will add water without flushing.

It is common for vacuum systems to gradually lose vacuum pressure. When pressure in the system drops below a predetermined level, the vacuum pump engages automatically to bring vacuum pressure back to the optimum level.

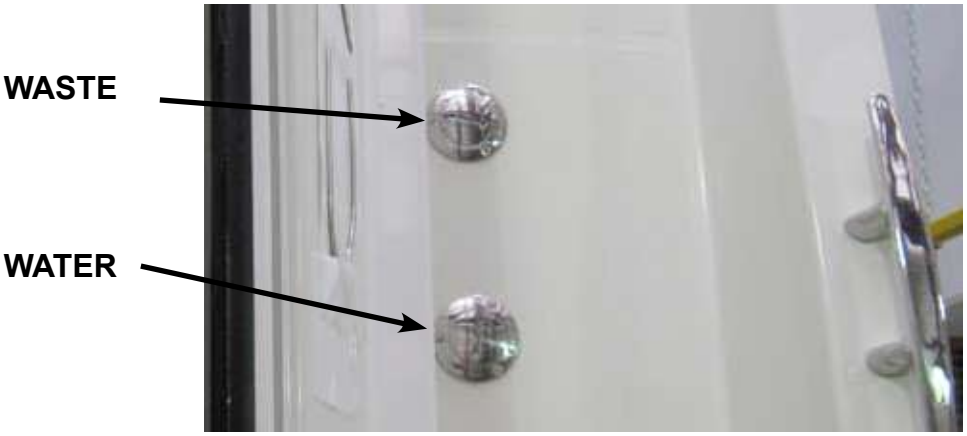
***Note:** Whenever you don't want to hear the toilet's vacuum pump operating, such as at night, you can temporarily shut it off using the Toilet switch. This switch is located on the Port Bulkhead. Placing the switch in the OFF position shuts off the toilet's vacuum pump.*

Emptying the Waste Water Tank

Dockside Discharge

To empty the tanks:

1. Locate a dockside pumpout station.
2. Remove the deck plate labeled WASTE using the removal tool supplied with your boat. The deck plate for the grey water is located on the starboard walkway amidships next to WATER plate.



3. Attach the pumpout vacuum hose to the WASTE deck fitting. Because the transfer process uses a vacuum action, there must be a secure connection between the transfer hose and the deck fitting.
4. Activate the pumpout vacuum. The pumpout vacuum transfers onboard waste to the dockside holding station.
5. After all waste is removed, flush the waste tank(s) by pouring several gallons of fresh water through the WASTE deck fitting. Reattach the vacuum hose to the deck fitting and activate the pumpout vacuum again to remove the fresh water and any remaining waste.
6. Replace the deck plate.

A Tip From Carver!

The WASTE deck plate is not connected to the fitting and does not float. Be careful that you don't drop the plate in the water when you remove it. If you do lose the plate, you can order a replacement from your Carver Dealer. WASTE deck plates are dropped overboard frequently enough that we suggest you carry an extra in your onboard spare parts kit.

Overboard Discharge

In certain coastal areas of the world it is legal to discharge the waste from your boat's waste tanks into the sea. To accommodate this procedure Carver offers an optional overboard discharge system for your boat. This system is available only on boats that are exported or used in the coastal areas of the United States.

With the overboard discharge system, waste is flushed from the toilets to the waste tanks where it is stored. Where it is legal, you can then empty the waste tanks directly overboard. If overboard discharge is not legal where you are, you can either wait until you reach an area where it is legal or use a dockside pumpout station to empty the waste tanks.

DC Control Center

Waste Pump Breaker

Engine Room Starboard

Waste Switch

Seacock
(shown Open)

⚠ CAUTION

When the waste tank is empty, turn the overboard discharge pump OFF. Operating the pump when the waste tank is empty can damage the pump.

To empty the tank

1. Open the overboard discharge seacock located at the transom bilge area.
2. Provide power to the circuit breakers on the DC Control Center - Salon. Switch WASTE PUMP circuit breaker to ON
3. Turn the overboard discharge pump switch ON. The switch is located near the overboard discharge pump. This activates the overboard discharge pump, which pumps the waste overboard.

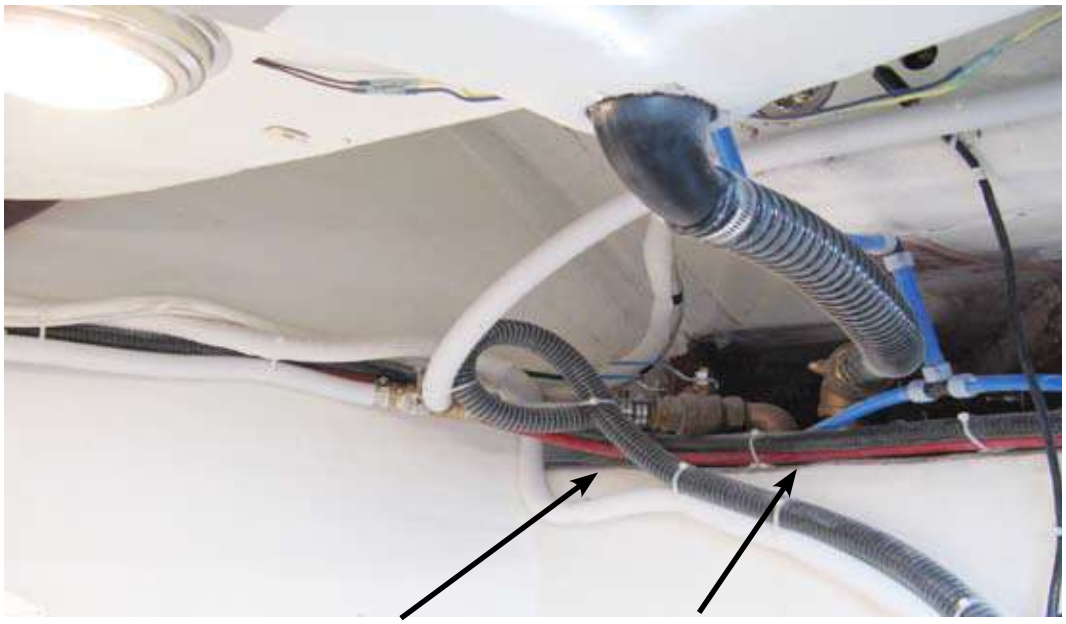
To empty the tank (continued)

4. After all waste is pumped overboard, turn the overboard discharge pump switch OFF.
5. Remove the waste tank deck plate labeled WASTE using the removal tool supplied with your boat.
6. Flush the waste tank by pouring a few gallons of fresh water through the WASTE deck fitting. Reactivate the overboard discharge pump and remove the fresh water and any remaining waste, then turn the pump OFF.
7. Replace the WASTE deck plate.
8. On the DC Control Center switch the Waste Pump circuit breaker OFF.
9. Close the overboard discharge seacock.

Transom Ledge/Aft Bilge Area

All of the valves along the transom ledge area are to be in the OPEN position to allow water drainage from the Air Conditioning units, cockpit areas, water heater and Aft Bilge Pump. Close valves when boat is being stored for the winter.

Note: The exception to this is the Overboard Discharge valve for the holding tank. Refer to pages 14 and 15 for the correct operating procedure.



Drains for aft transom area (starboard) shown in open position.

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Propulsion

Your boat is equipped with the Volvo Penta IPS drive system. This section gives a general overview of your propulsion system and how it works. For a detailed explanation of the engines installed in your boat, including how to operate and maintain them, refer to the OEM information provided with the boat. Diesel engines are standard and described on pages 1 to 4. The Gas engines are described on pages 5&6.

Fuel System

Each diesel propulsion engine in your boat is plumbed to the fuel tank located on the same side of the boat as the engine. The diesel propulsion system uses fuel supply and return lines. The supply lines feed fuel to the engine; the return lines transfer fuel not burned by the engine back to the fuel tank. The generator draws fuel from the starboard fuel tank only.

Fuel Tanks

The boat holds a maximum 400 gallons of fuel in two 200 gallon tanks. The fuel tanks are located on the starboard and port sides of the engine room. The fuel system meets or exceeds the standards set by the U.S. Coast Guard, National Marine Manufacturers Association (NMMA), and the American Boat and Yacht Council that were in effect when your boat was constructed. Each fuel tank has passed a rigorous test conducted by the tank manufacturer. Additionally, the entire fuel system passed Carver's own pressure testing and inspection.

Before your boat is delivered, your Carver Dealer also makes a full inspection of the fuel system. An entry on the Carver Pre-Delivery Service Record verifies the dealer's completion of this inspection.

⚠ CAUTION

Over time, water can condense inside the fuel tanks, especially in areas with high humidity. This water can then react with the fuel in the tanks to create a mixture that can corrode the tanks from the inside. To avoid this:

- ***Use the fuel in the fuel tanks as often and as completely as possible.***
- ***Keep the tanks full of fuel when the boat is stored and when it is used infrequently.***
- ***Do not put alcohol-based fuels in the tanks.***
- ***Check the Racor fuel filter bowls for water accumulation on a regular basis.***

Fuel Shut-Off Valves

Fuel supply shut-off valves are located on the top of the fuel tanks near the aft inboard corner. These valves must be open when operating the engines.

Fuel Tank Vents

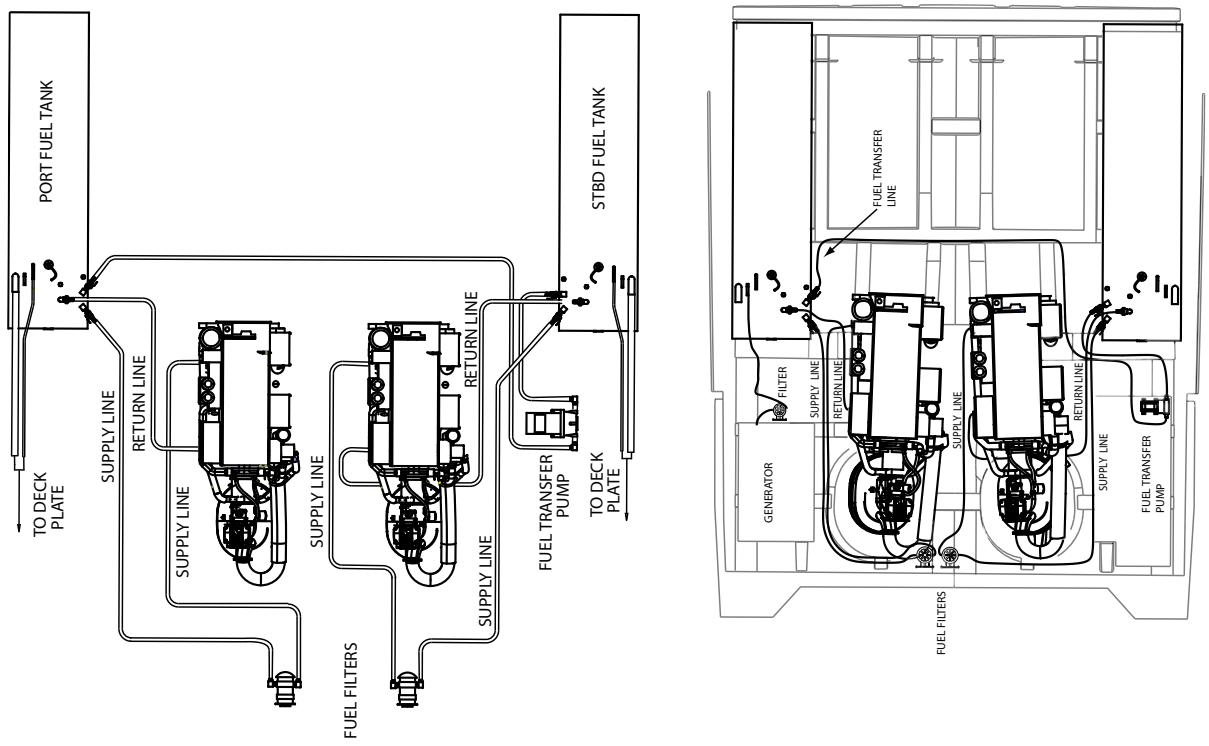
Each fuel tank is vented overboard. As the fuel tanks are filled during fueling, air is displaced from inside the tanks and escapes through the vents. Conversely, when the engines are running, air enters the fuel tanks through the vents to displace the fuel being used.

Fuel Transfer System

During refueling and because the generator draws fuel only from the starboard fuel tank, the fuel levels in the tanks may become unequal. If this occurs, open the fuel valves on top of tanks, operate the fuel transfer pump from the helm and observe the fuel gauges to determine when the fuel levels are equal. Turn off transfer pump and close the valves.

NOTE: ***The fuel gauges are active when the ignition switches to the engines are ON. Port engine = Port fuel gauge and Starboard engine = Starboard fuel gauge.***
The fuel transfer switch is a two position switch and will transfer fuel from one tank to the other depending on position.

FUEL SYSTEM - Diesel



Engine Room Ventilation

Your boat's engine room is equipped with a ventilation system consisting of intake ducts, exhaust ducts and bilge blowers. This system is designed to remove any fuel vapor and excess heat from the engine room. The bilge blowers operate whenever the engines are running, as long as the four Bilge Blower circuit breakers on the DC Control Panel are ON.

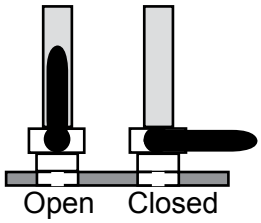
You must keep the engine room ventilation system in proper operating condition. Inspect the intake and exhaust ducts regularly to make sure they are free of obstructions and have not collapsed or torn. Inspect the blowers to make sure they are operating properly. Replace any worn components with new components of the same type.

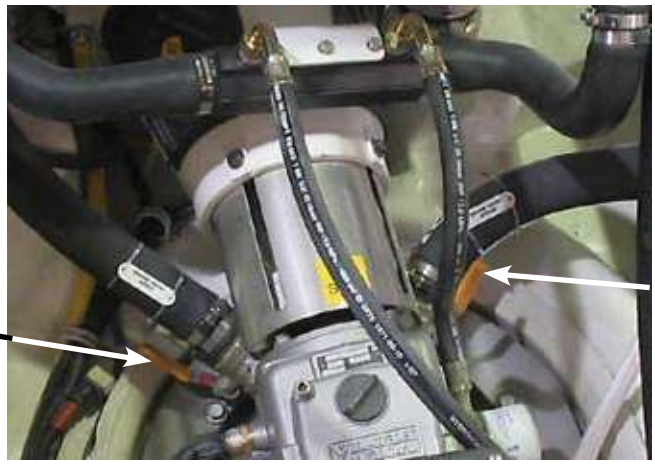
Cooling System - Diesel

Each propulsion engine has a closed cooling system which removes heat from the engine and its exhaust system. Closed systems use a freshwater/antifreeze mixture to cool the engine. This coolant mixture runs through a heat exchanger where the heat is transferred to seawater taken in through a seacock for each engine.

Make sure that you have a sufficient level of coolant mixture in each system.

Open the cooling system seacocks before you start the engines.
The seacocks for each engine are located on the IPS drives.





Clean the seawater strainer (located on the left front of the engine) every 14 days or sooner as conditions warrant.

⚠ CAUTION

Running an engine with an inadequate supply of antifreeze, or with obstructed or restricted seawater pickups or strainers can cause serious damage to the engine and its related systems.

If an engine temperature gauge registers a higher than normal temperature, the respective cooling system may need to be repaired.

If the engine temperature quickly rises, immediately shut off the affected engine and have its cooling system inspected and repaired.

Exhaust System - Diesel

The exhaust system for each engine consists of an exhaust manifold, exhaust piping, and the exhaust hoses used to vent the exhaust to the atmosphere. If the exhaust system contains leaks or obstructions, or has any other problem that prevents it from venting exhaust properly, carbon monoxide may escape and endanger you and your passengers. Check the exhaust system regularly for proper operation. Any change in engine noise could indicate an exhaust system problem and should be immediately investigated

FUEL SYSTEM - Gas Option

⚠ CAUTION

Over time, water can condense inside the fuel tanks, especially in areas with high humidity. This water can then react with the fuel in the tanks to create a mixture that can corrode the tanks from the inside. To avoid this:

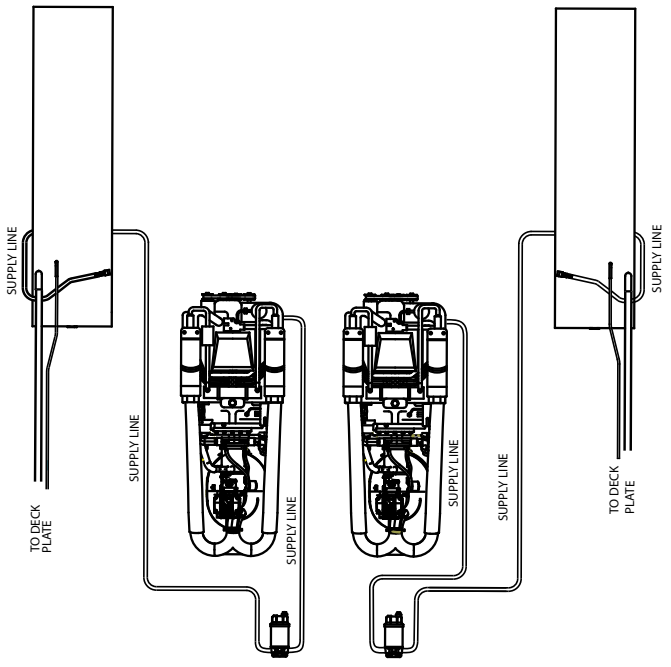
- ***Use the fuel in the fuel tanks as often and as completely as possible.***
- ***Keep the tanks full of fuel when the boat is stored and when it is used infrequently.***
- ***Do not put alcohol-based fuels in the tanks without checking with the engine manufacturer.***

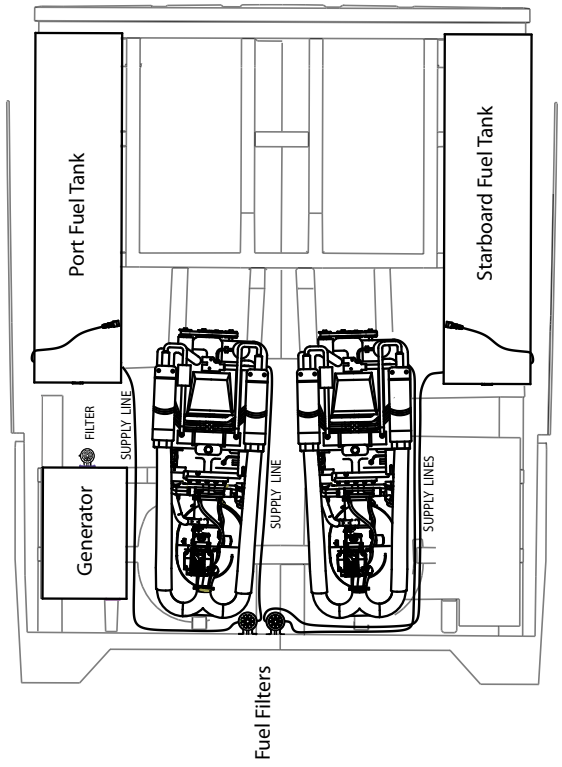
Fuel Shut-Off Valves

Fuel supply shut-off valves are located on the top of the fuel tanks near the aft inboard corner. These valves must be open when operating the engines.

Fuel Tank Vents

Each fuel tank is vented overboard. As the fuel tanks are filled during fueling, air is displaced from inside the tanks and escapes through the vents. Conversely, when the engines are running, air enters the fuel tanks through the vents to displace the fuel being used.



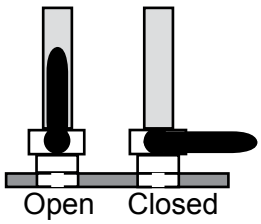


Cooling System - Gas Option

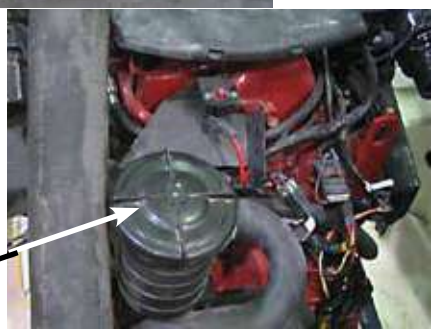
Each propulsion engine has a closed cooling system which removes heat from the engine and its exhaust system. Closed systems use a freshwater/antifreeze mixture to cool the engine. This coolant mixture runs through a heat exchanger where the heat is transferred to seawater taken in through a seacock for each engine.

Make sure that you have a sufficient level of coolant mixture in each system.

Open the cooling system seacocks before you start the engines.
The inlet seacocks for each engine are located on the IPS drives.



Clean the seawater strainer (located on the left rear of the engine) every 14 days or sooner as conditions warrant.



⚠ CAUTION

Running an engine with an inadequate supply of antifreeze, or with obstructed or restricted seawater pickups or strainers can cause serious damage to the engine and its related systems.

If an engine temperature gauge registers a higher than normal temperature, the respective cooling system may need to be repaired.

If the engine temperature quickly rises, immediately shut off the affected engine and have its cooling system inspected and repaired.

Exhaust System - Gas Option

The exhaust system for each engine consists of dual exhaust manifolds, exhaust piping, and the exhaust hoses used to vent the exhaust to the atmosphere. If the exhaust system contains leaks or obstructions, or has any other problem that prevents it from venting exhaust properly, carbon monoxide may escape and endanger you and your passengers. Check the exhaust system regularly for proper operation. Any change in engine noise could indicate an exhaust system problem and should be immediately investigated

Fire Suppression System

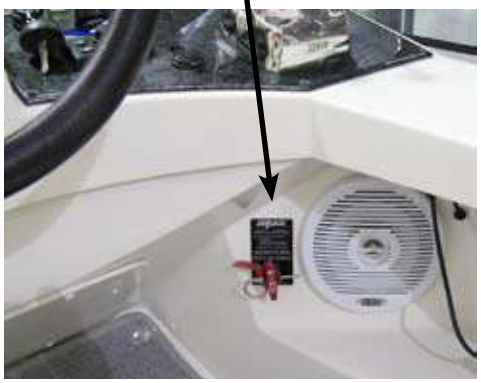
An automatic fire suppression system is installed in the engine room located forward of the port engine between fuel tank and waste tank. This system provides extra security in the event of an engine room fire. Refer to the OEM information for details on operating the fire suppression system. The system can also be activated manually by a handle mounted at the helm next to the DC control panel.

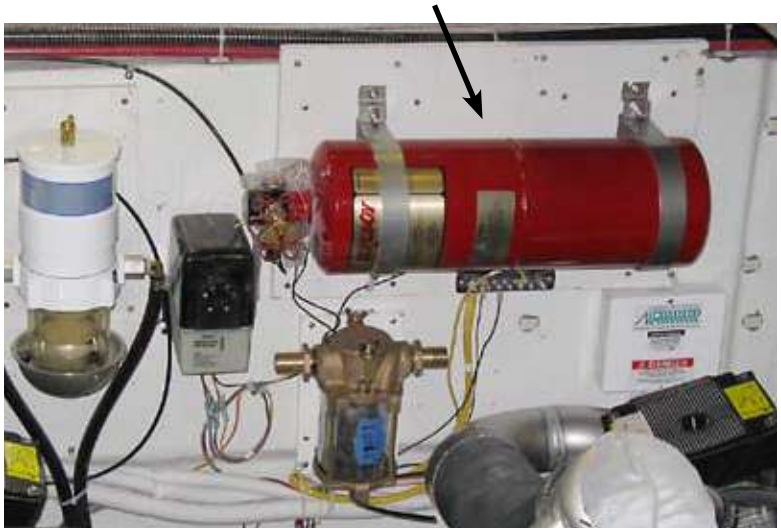
⚠ WARNING

If the fire suppression system is activated, anyone in the engine room and aft bilge area must immediately evacuate the room. The chemical used in the fire suppression system can cause asphyxiation. Once the fire is extinguished and the system is deactivated, ventilate the engine room with fresh air before reentering it.

Fire Suppression Tank (Transom Port Side)

Manual access at helm





A fire suppression system monitor, installed near the helm, is wired to an ignition switch. The monitor's light should be ON when the ignition switch is turned ON.

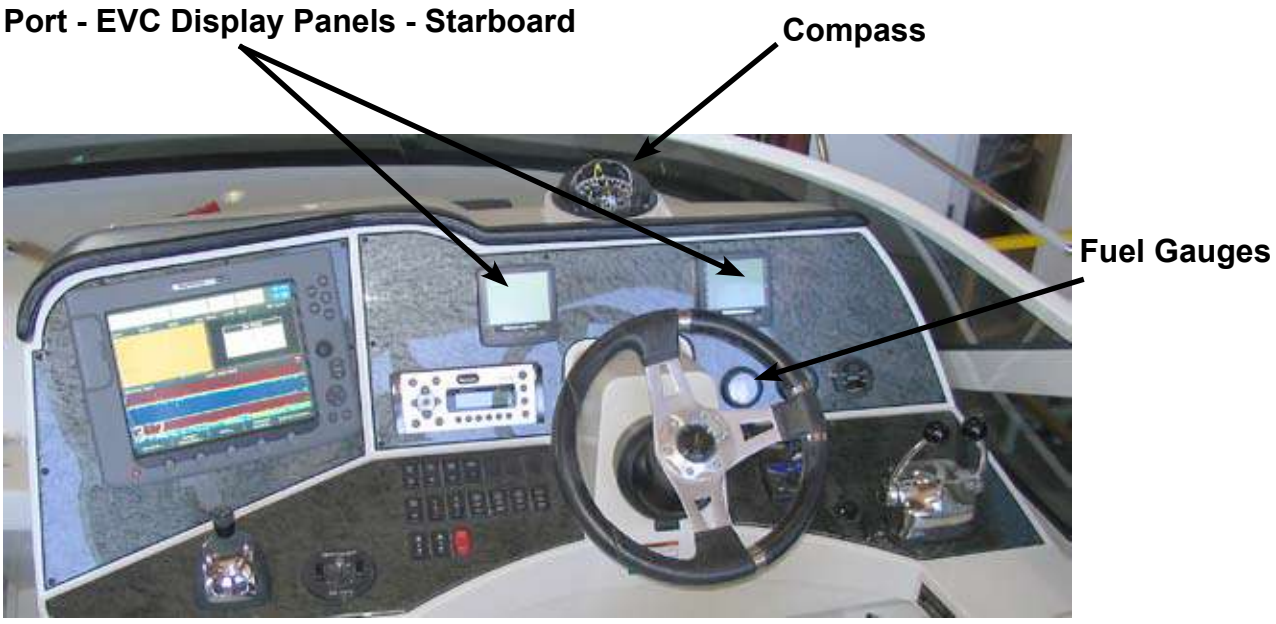
The system contains an engine shut-off circuit. When the system is activated, the engines automatically shut off for safety reasons. Do not attempt to restart the engines until the fire is out and any damage to the engines and fuel system has been repaired. An override switch, located on the system monitor, resets the engine shut-off circuit after the system has been activated, allowing you to restart the engines.

When replacing components while servicing the fire suppression system, you must use new components that have the same designation or that are equivalent in their technical and fire-resistance capabilities.

Engine Gauges

Each helm is equipped with an EVC display system on the instrument panel. This display panel (one for each engine) allows you to monitor the operation and condition of your boat's propulsion systems while underway. The side of the instrument panel that the gauges are on (port or starboard) determines the respective engine that the gauges are for. Familiarize yourself with the gauges before starting the engines for the first time.

Instrument Panel



The Volvo Penta EVC system display is an instrument which displays operating information about the engine and allows you to communicate with the engine's electrical system.

Operation information is shown on an LCD display. The driver can select the display mode operative on the display panel with the aid of the five buttons on the front of the panel. The four buttons to the left are used to display operating information in different ways. The button at the furthest right is used to adjust the display contrast and to access the configuration menu.

For a complete explanation of this panel and all of it's operations refer to the Volvo Penta operator's manual found in the information supplied with the boat.

Fuel Gauges - Individual Analog Gauges

The fuel gauges display the approximate amount of fuel in the fuel tanks. These gauges are not calibrated and should not be regarded as an accurate method of measuring the amount of fuel in the tanks. Both fuel gauges are OFF until the ignition switches for each engine is turned ON. **(See Note on page 10 for fuel calibration suggestions)**

LCD Displays/Alarms

Volvo Penta has established operating parameters for oil pressure, RPM's and engine temperatures. It is imperative that you familiarize yourself with these upper and lower limits. Should a malfunction occur with the engine, you will be able to notice this and take corrective action before damage occurs. The system will also display and sound alarms should a condition occur which needs to be addressed promptly.

Gauge Maintenance

The gauges on the helm instrument panel should be protected from the sun and weather when not in use. The gauges are not waterproof. Protecting them from the elements prolongs their life.

Note: ***Small beads of moisture (condensation) can form behind the glass bezel on some gauges. This does not mean the gauge is defective. The Carver Limited Warranty does not cover the replacement of gauges that are cosmetically affected by condensation.***

Helm Controls

The helm controls allow you to engage the boat's engines, control the boat's speed, engine RPMs, and control the direction in which the boat is traveling.

Shift/Throttle Levers

Two shift/throttle levers allow you to both shift the engines from neutral to forward or reverse and control the engine RPMs. With the levers in the center position, the engines remain in neutral at their lowest RPM levels. Lifting the levers above the neutral position shifts the engines to forward and increases the RPM levels. Lowering the levers below the neutral position shifts the engines to reverse and increases the RPM levels. Because your boat has dual engines, it is recommended that you operate the engines at the same speed while cruising. This reduces engine noise and vibration, and improves engine efficiency.

Engine Synchronizer

The engines are equipped with an automatic synchronization system. Refer to the OEM information for details on operating the engine synchronizer.

Shift/Throttle - Engine Interface - EVC Control Panel

The shift/throttle levers are connected to the engines by an electronic control system. One function of the EVC control panel is to allow the shift function to be disengaged and the levers control engine speed only. Refer to the OEM information for details on the shift/throttle control system.

Steering

A boat with a Volvo Penta IPS drive unit has more progressive steering than a boat with conventional drive or reverse gear. At half lock, the steering is more or less the same, and at full lock, the steering effect is stronger than a boat with conventional propeller.

⚠ WARNING

Full lock when driving at high speed will make the boat turn strongly, which creates a great risk of personal injury, or that people aboard can fall or be thrown overboard. Warn everyone before making emergency maneuvers.

Docking

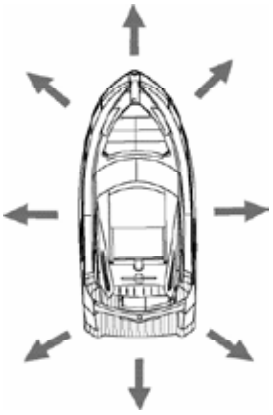
The Volvo Penta IPS drive unit is equipped with a Joystick control used for docking purposes. This controller can maneuver the boat into mooring spaces in a simpler and safer manner. This controller is to be used when the Throttle/Shift levers are in the neutral position and the engines are running.

Refer to the Owner's Manual for complete information on this feature.

⚠ CAUTION

The joystick and it's functions are only to be used when docking. In all other cases the wheel and control levers are to be used.

Joystick Control



The Joystick controller allows the operator to move the boat in many more ways than a conventional steering system, including bow thrusters.

Preparing for Cruising

Follow the steps described below to safely fuel your boat and operate its engines.

Fueling

1. Make sure that your boat is securely moored.
2. Close all portholes, windows, hatches and doors.
3. Turn OFF all devices that use electricity to operate or create electricity.
4. Extinguish all open flames and smoking material on the boat and in the area around the fuel dock.

Fueling (continued)

5. Turn all battery master disconnect switches to the OFF position.
6. Have all guests and passengers leave the boat.
7. Estimate the amount of fuel you wish to take on.
8. Select the fuel tank you wish to fuel first.
9. Remove the appropriate DIESEL/GAS fill deck plate using the cap removal tool supplied with the boat. The deck plates are located on either side of the transom.

⚠ CAUTION

Avoid spilling fuel on the gelcoat and painted surfaces of your boat. Fuel can stain the gelcoat, paint and any hull accent stripes if applied.

10. Your boat's fuel tanks are designed to take on fuel at a maximum rate of 9 gallons per minute (GPM) when the tank is between 25% and 75% full. During this time the pressure inside the tank must not exceed 4 psi. Be aware that many marine fuel pumps can deliver fuel at rates up to 35 GPM. This high fueling rate should never be used with your boat as it could damage your fuel system.

    When fueling a tank that is either nearly empty or nearly full, decrease the fueling rate. This helps prevent fuel surge when the tank is empty, and back up and spillage when the tank is full.

    Begin pumping fuel into the fuel tank at a rate of no more that 9 GPM. When the tank is close to full, slow the fuel rate to less than 9 GPM.
11. Monitor the fuel tank's air vents. The sound of the air exiting the fuel tank vents during the filling process will change significantly when the tank if full. Stop filling when this change in sound occurs.
12. Replace the DIESEL/GAS fill deck plate.
13. Repeat steps 9 - 12 for the other fuel tank.
14. Wipe up all spilled fuel.

Pre-Start Checklist

1. Read and understand this Owner's Guide and all OEM information.
2. Check both fuel gauges to verify that you have sufficient fuel for your trip.
3. Inspect the engine room:
    a. Check fuel system for any signs of leakage.
    b. Check the bilge water level.
    c. Check for oil in the bilge.
    d. Check the crank case oil level in each engine.
    e. Make an overall inspection of the engine room to look for signs of potential problems.
    f. Follow all maintenance instructions as detailed in Section 7 - Maintenance.
4. Turn the master disconnect switches for both engine battery pairs and the accessory batteries to the ON position.

Pre-Start Checklist (continued)

5. On the DC Control Center - Salon
    a. Verify that all of the safety circuit breakers are ON.
    b. If needed, switch ON Sump circuit breakers
    c. Switch the DC Main circuit breaker ON.
    d. Switch the Bilge Blower circuit breaker ON. (Make sure the four Bilge Blower circuit breakers in the engine room are ON.)
    e. If you have navigation equipment installed at the helm and are going to use it, switch the Bridge Electronics circuit breaker ON.
    f. Switch ON any other circuit breakers for equipment you may need.
6. On the Bridge Breaker Panel, verify that the circuit breakers for the navigation equipment you will use are ON.
7. Verify that all safety gear is onboard and in proper operating condition. Make sure your boat carries all safety equipment required by Federal, State and local regulations.
8. Verify that you have an adequate supply of fresh water.
9. Check the level of waste in the waste tanks. Empty them if necessary. Refer to Section 4 - Emptying the Waste Tanks.
10. Disconnect and store the shore power cord and any shore water hose.

Starting the Engines

Refer to the OEM information for details on using the engine controls.

1. Open the cooling system seacocks for both engines.
2. Move both shift/throttle levers to neutral.
3. Select the engine you wish to start first. NEVER start both engines at the same time.

⚠ CAUTION

The ignition switch is spring activated. Release the ignition key as soon as the engine starts. Failure to do so may damage the starter.
If the engine does not start within 10 seconds, release the ignition key, then try starting the engine again. Do not hold the ignition key in the START position for more than 10 seconds.

4. Turn the ignition switch clockwise to the start position. The engine should crank and start within 10 seconds.
5. When the engine is idling smoothly, start the other engine in the same manner as the first engine.

After the Engines Have Started

1. Check the engine gauges. Make sure all readings are within the normal range.

⚠ DANGER

The engine room contains moving, hot machinery. Keep your hands, feet and body out of the engine room while one or both engines are operating.

2. Look into the engine room and visually inspect the fuel system hoses and exhaust hoses. If you see a leak or suspect that anything is out of order, shut off the engines and investigate. Identify and correct the cause of any problem before restarting the engines.
3. Let the engines warm up until the temperature gauges begin moving up before engaging drives.
4. Make sure all navigation systems are operating properly.
5. Periodically perform a visual inspection of the engine room while underway.

IMPORTANT: Fuel Gauges

It is recommended that during the initial usage of your new boat that you monitor and log the amount of fuel added to each tank at fill up and compare that to the fuel gauge indication at the time of fill up. This should be done at least three (3) times - 1/4 to full, 1/2 to full and 3/4 to full. If there is a safe condition that will allow running the engines to near empty, a fourth check should also be done.

This information will give you a better indication of the amount of fuel in the tanks in reference to the fuel gauges. It will allow you to be more at ease and safe from depleting the reserve during a cruise. It is always recommended that all cruises, especially those where fuel fill stations will be at or near using 1/2 of the total capacity, you start the cruise with full tanks.

Launching the Boat

Have a professional launch your boat. Your dealer can either provide experienced people to do this or recommend someone.

Navigation

Understanding navigation is very important when operating your boat on the open seas. Instructions on how to navigate your boat are beyond the scope of this guide. Carver encourages you to read *Chapman's Piloting and Seamanship* and obtain instruction regarding how to navigate your boat.

Charts

You can obtain charts of the waters in which you intend to navigate from the National Ocean Survey, a branch of the National Oceanic and Atmospheric Administration in Washington D.C. The NOS offers a publication listing the charts you will need for your area; however, this listing may not include inland rivers. Charts of inland rivers are also available from the appropriate district office of the U.S. Army Corps of Engineers. Your dealer may also have charts of the waters in which you intend to cruise.

Keeping your charts up-to-date is a very important part of navigation. The Weekly Notice to Mariners available from the Defense Mapping Agency or the U.S. Coast Guard is an excellent resource for updating charts.

Compass

The compass is the most important piece of navigation equipment onboard your boat. To operate properly, the compass must be free from interference by local magnetic influences and electrical components. Refer to the OEM information for details on using and maintaining the compass. When it is time to compensate your compass, Carver recommends having it done professionally.

Horn

If you are navigating in fog or at night, use your boat's horn to alert other boaters of your presence. The horn meets U.S. Coast Guard standards.

Depth Sounder

An optional depth sounder can help you avoid entering waters that are too shallow for your boat and can aid in navigation.

Shallow Water Operation

Always pay attention to the depth of the waters in which you are cruising. Do not venture into waters which are too shallow for your boat's draft. Shallow water navigation can be very hazardous. If you do find yourself in shallow waters, reduce speed immediately. Consult nautical charts to determine your position. Try to plot a course out of the shallows through waters deep enough for your boat's draft. If your boat runs aground, radio for help and wait until it arrives. Do not attempt to relaunch your boat. You may do serious damage to your hull or underwater gear.

Controlling the Boat

Every boat owner should know how to perform the following procedures competently. Do not attempt any of these procedures without first receiving appropriate training.

Loading

When you load items onto the boat, have someone on the pier hand them to you after you have boarded the boat. Stow all items securely to prevent them from shifting when the boat is in motion. If your boat is loaded near capacity or if seas get rough, distribute the weight evenly and keep the load low. Don't make any abrupt changes in its distribution. Shift the load or move about only after stopping or slowing the boat.

Casting Off and Docking

Docking and casting off can be hampered by wind and current. It is important to use the current by approaching or leaving with the current instead of fighting against it. Also, the operator should adequately fender his boat against collisions with docks or other boats.

Volvo Penta IPS Drive System

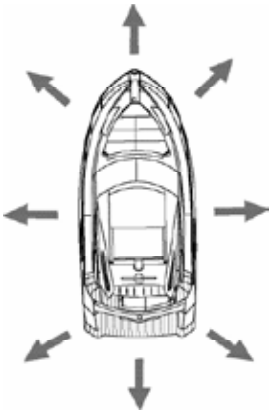
The Volvo Penta IPS drive unit is equipped with a Joystick control used for docking purposes. This controller can maneuver the yacht into mooring spaces in a simpler and safer manner. This controller is to be used when the Throttle/Shift levers are in the neutral position and the engines are running.

Refer to the Owner's Manual for complete information on this feature.

⚠ CAUTION

The joystick and it's functions are only to be used when docking. In all other cases the wheel and control levers are to be used.

Joystick Control



The Joystick controller allows the operator to move the yacht in many more ways than a conventional steering system, including bow thrusters.

If you use a dinghy to reach your boat, make sure the dinghy line does not foul the propeller.

After getting onboard, start the engines and send someone forward to slacken the line. Release the line. In a river with current, the boat will gain headway with the current. After you are clear of the buoy, power the boat forward. In a calm bay, if there is neither wind nor current, back the boat away a few boat lengths. As you power forward, keep the buoy in sight and give it ample room until you are clear. Run slowly until you clear the anchorage to avoid creating a nuisance with your wake.

Picking Up a Mooring

As you return to the anchorage, approach your mooring at slow speed. Take note of how other boats are lying at their buoys. They are heading into the wind or current and your approach course should be roughly parallel to their heading. Stay clear of other moorings to avoid fouling them. If you tow your dinghy, station a crew member at the helm to keep the dinghy line from fouling the propeller.

Shift the engines into neutral when you estimate that the boat's forward momentum will carry you to the buoy. Station someone at the bow with a boat hook to pick up the pennant float. If you are about to overshoot your mark, check headway as the bow comes up to the buoy. If you fall short, a few turns of the propeller should get you to the buoy. Keep the engine running until the pennant eye has been secured on the bitt or bow cleat.

If your crewman can not reach the pennant or if you overshoot, get clear and calmly try again.

Checking Headway

Stopping the boat's forward motion is referred to as "checking headway." You should learn how to confidently stop your boat within any required distance. You can check headway by shifting engines to neutral and coming to a complete stop over a long distance, or by reversing engines and stopping within a shorter distance.

Towing

Always offer assistance to a vessel in distress. However, towing a capsized boat or a boat with a damaged hull is not recommended. In these situations, lend aid to the occupants and call the proper authorities. Remember, you are obligated to lend aid to any person in distress, but not to the vessel. If you believe your vessel can not tow the vehicle in distress, do not attempt it. One disabled boat is better than two.

Anchoring

An anchor's holding power depends on its weight and the length of the anchor line. The most effective length is six to seven times the depth of the water you intend to anchor in. For example, if the water is 10 feet deep, you should have 60-70 feet of anchor line.

Anchoring (continued)

Approach your selected anchor site from downwind. Come to a dead stop over the spot where you want to drop anchor. Anchor can be lowered from either the helm or from the bow of the boat with foot switches. When the anchor hits bottom, reverse engines and slowly move the boat backward to pay out more anchor line. When the proper length is out, it should cause the anchor flukes to dig in and hold effectively.

Bow Anchor Switches
(lift covers to access)

Helm Anchor Power ON/OFF

Helm Anchor Switch UP/DOWN

Check for anchor drag. Immediately after anchoring, observe shoreline landmarks. After thirty minutes, observe the landmarks again. If the points of reference have changed, reset your anchor.

If the anchor is stuck when weighing in, it may be necessary to pay out a few feet of line and maneuver around the anchor. Keep the line tight until you find the angle that pulls the anchor loose.

If there is a swell, holding the anchor chain in a vertical position and letting a wave trough lift the bow, it may free the anchor.

If you intend to stay at anchor overnight or if you anchor your boat close to another structure, consider dropping another anchor from the stern. This prevents your boat from swinging around if the wind or current shifts.

⚠ DANGER

Be aware of Carbon monoxide (CO) poisoning while anchoring. Refer to Section 1 - Boating Safety for detailed safety precautions.

You may also need to anchor in a strong wind. If you drop your spare anchor, make sure the two anchors are laid out at an angle. If both anchors are set in-line and one of them drags, it may cut a trough for the other anchor to follow.

Stern Anchors

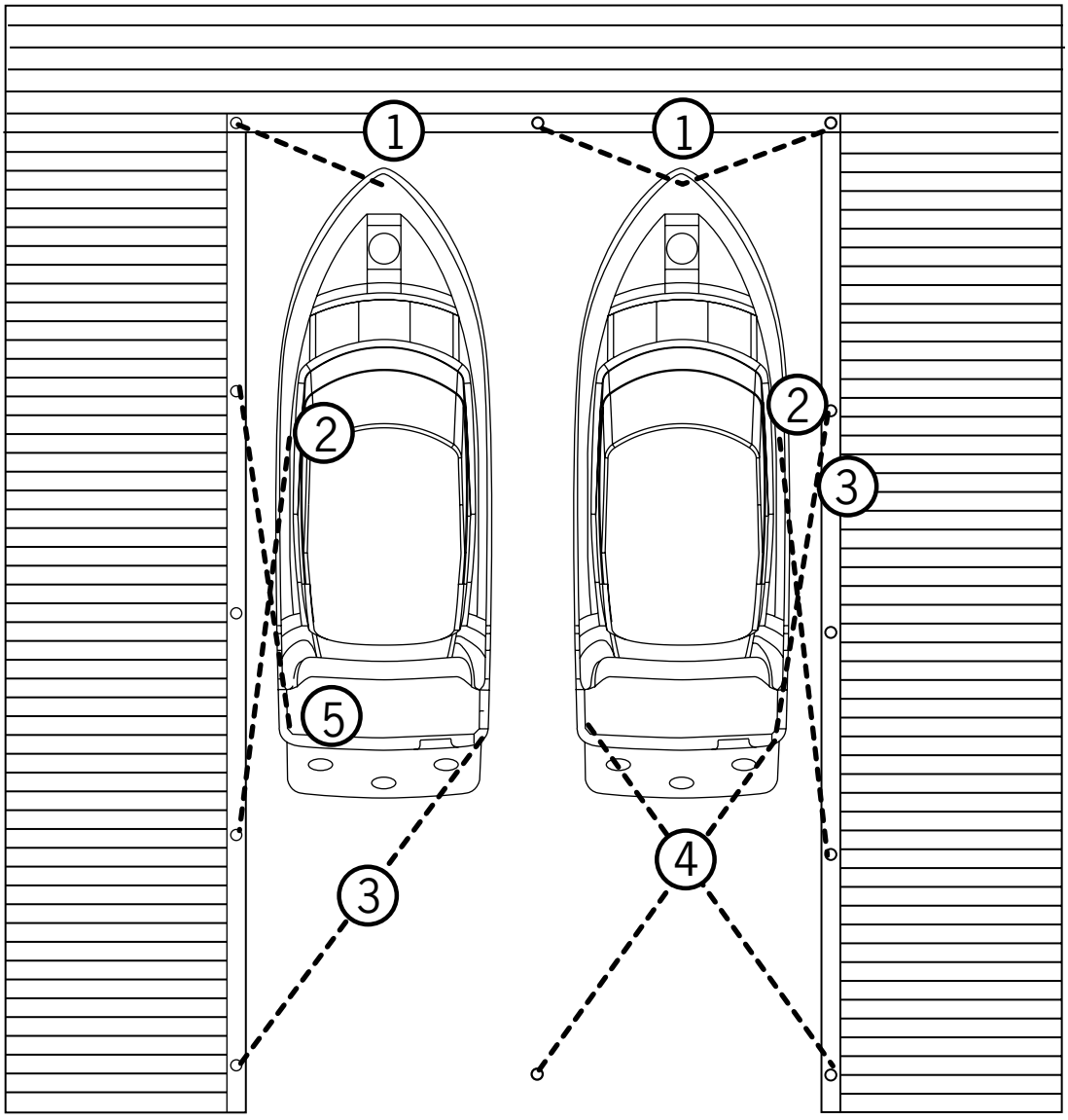
In some anchorages, boats use bow and stern anchors at the same time. To get these anchors down, drop the bow anchor first, then pay out extra anchor line (15-18 times the depth). Drop the stern anchor and adjust the length of line payed out on both anchors as necessary.

Mooring Lines

It's a good idea to familiarize yourself with mooring line terminology and using mooring lines. If necessary, obtain training on mooring your boat. Learn how and when to tie the various knots used in seamanship. Boats that are not moored correctly can suffer and cause serious damage. The following information serves only as a guide to mooring your boat.

The mooring illustration below demonstrates possible mooring lines for a small vessel. These lines include the (1) bow line, (2) after bow spring, (3) after quarter spring, (4) stern lines and (5) forward quarter spring. Of the two dockings shown, the left one shows how to tie up when docking your boat in an alongside berth. The docking shown on the right is used when tying up at four corners of the boat.

The two spring lines are crossed and running to separate deck cleats. If possible, the stern line should be run to the offshore quarter cleat. Spring lines are useful in preventing undesired movement ahead or astern in a berth; they also keep a moored vessel in position when there is a significant rise or fall in tide.



Getting Underway

It takes training and experience to become an “expert yachtsman.” Reading and understanding this Owner’s Guide gives you only part of the knowledge you’ll need to operate a yacht safely and skillfully.

Marquis owners have a wide range of abilities, from seasoned yachtsmen with years of experience to absolute beginners with a new-found love for the water. Be honest with yourself in appraising your level of skill.

Shakedown Cruise

Before taking your yacht on its first outing, be sure that the following tasks have been completed.

1. Your Marquis Dealer has completed Pre-Delivery commissioning. This inspection is documented on the Pre-Delivery Service Document and is signed by the dealer.
2. All warranty registration cards have been completed and mailed.
3. You have read and understand this Owner’s Guide and all OEM information.
4. The safety equipment onboard your yacht is in compliance with federal, state and local regulations.
5. Your yacht has been documented or registered and displays the appropriate identification on the hull.
6. A representative of your Marquis Dealer has reviewed the operation of the yacht and its systems with you and answered all of your questions to your satisfaction.

If possible, pick a calm day for your first outing. The shakedown cruise with a new yacht is not the best time to bring friends or guests along. Entertaining guests can distract you from the real purpose of the cruise, which is to familiarize yourself with your new yacht. Bring only those people (spouse and children) who will make up your regular crew. Invite the sales person who sold you the yacht or a member of your Marquis Dealer’s service staff along for the ride.

Carry a pad and pencil with you during this first outing. Write down any questions that come to mind during the cruise so you can discuss them with your dealer.

Follow the procedures outlined at the beginning of this section for fueling and starting the yacht’s engines.

This may be the first time you have been in total command of your new yacht. Proceed slowly. Have fun but remember that the objective of the cruise is to learn more about how your yacht operates and handles. Operate the engines at different RPMs. Try different trim angles. Monitor the gauges. Practice backing down and turning slow speed tight corners. Above all familiarize yourself with the IPS Drive System.

Operating at Planing Speed

Your boat has a “planing” hull. A planing hull skims over the water rather than through it. To do this, however, your boat first has to reach a certain speed, called planing speed.

When you first accelerate from a dead stop, the trim angle of the boat increases, causing the bow to rise and the stern to drop. If you continue to accelerate, the boat eventually achieves plane, which means the bow slowly drops to a more level attitude.

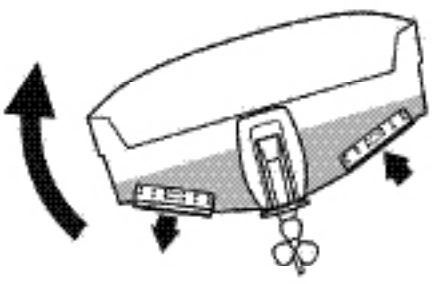
⚠ CAUTION

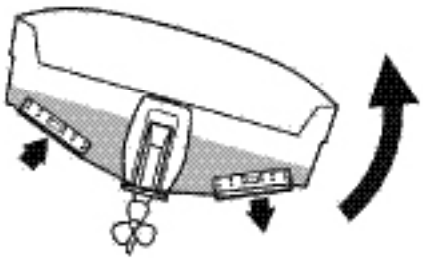
It is important to get on plane as soon as possible and avoid speeds that cause the boat to plow through the water with the boat in a bow-high attitude. A bow-high attitude obstructs your vision and limits the boat’s handling and performance capabilities.

Once the boat is on plane, you can back the throttles off to a point where the hull is still planing but the engines are operating at a fuel-efficient speed.

Trim Tabs

Trim tabs help the boat get on plane by allowing you to adjust the attitude of the boat for variables such as load, passengers, seas or wind. Use the tabs at planing speeds to make minor adjustments in the fore-to-aft and beam-to-beam angle of the boat.





⚠ CAUTION

Do not overtrim your boat. When adjusting the trim tabs, press their control switches for only one-half second at a time, then allow the boat to respond. Continue to adjust the trim tabs in this manner until the boat is at the desired trim angle. Over-trimming can cause the bow to veer and may lead to loss of control.

Use the trim tabs individually to make beam-to-beam adjustments. If the majority of your passengers are sitting on the port side, you may find that the starboard side of your boat is riding higher than the port side.

If your passengers decide to shift to the other side of the boat, level the boat by pressing the appropriate trim tab switch for a few seconds.

Maintenance Schedule

The maintenance activities and their intervals listed on the following pages are provided as guidelines only. The ideal maintenance activities and maintenance schedule depend on the components installed in your yacht and the manner and environment in which you use your yacht. The more frequently you use your yacht, the more often maintenance needs to be performed. If you use your yacht in salt water, it requires more maintenance, especially on its exterior.

For instructions on when and how to maintain many of your yacht's components, refer to the OEM information.

Maintenance activities are divided into four types:

Type A Maintenance

Perform Type A maintenance 48 hours after the first launching of your yacht, and 48 hours after launching your yacht following a period of onshore storage.

Type B Maintenance

Perform Type B maintenance after the engines have operated for 25 hours following launching, whether your yacht is new or coming out of onshore storage.

Type C Maintenance

Perform Type C maintenance semiannually or after the engines have operated for 100 hours, whichever comes first.

Type D Maintenance

Perform Type D maintenance annually or after the engines have operated for 200 hours, whichever comes first.

Maintenance Log

Use a maintenance log to keep a record of the maintenance activities you perform on your yacht. The log should list both the activities described in the following charts and the maintenance activities for the OEM equipment as recommended in the OEM information. Make copies of the log and keep the copy in a safe place.

	Type A	Type B	Type C	Type D
ENGINES AND DRIVE SYSTEM				
Perform maintenance as outlined in the engine OEM information.	Refer to OEM Information	Refer to OEM Information	Refer to OEM Information	Refer to OEM Information
Inspect water intake hoses and connections.		X	X	X
Inspect exhaust system hoses and connections.	X	X	X	X
Check prop for balance and nicks.				X
Check strut bearings.			X	X
Check rudder alignment.			X	X
Check all thru-hull fittings.			X	X
Inspect engine seals.	X	X	X	X
Check engine alignment.	X	X	X	X
Spray ignition switch with contact cleaner.			X	X
Tighten engine mounts.		X		X
Check fire suppression chemical tank.			X	X
CONTROL SYSTEM				
Make any necessary throttle and shift adjustments.		X	X	X
Lubricate any cables and controls.				X
STEERING SYSTEM				
Inspect linkage and connections.		X		X
Inspect fluid levels.	X	X	X	X
Inspect seals.	X	X	X	X

	Type A	Type B	Type C	Type D
ELECTRICAL SYSTEM				
Inspect and clean batteries.		X	X	X
Check battery fluid levels.		X	X	X
Check operation of all 12-volt equipment.	X	X	X	X
Check operation of all AC equipment.		X	X	X
Inspect shore power cords.		X	X	X
Inspect generator water intake and discharge.		X	X	X
Inspect zincs anodes.	*	*	*	*
Perform generator maintenance.	Refer to OEM Information	Refer to OEM Information	Refer to OEM Information	Refer to OEM Information
FUEL SYSTEM				
Replace engine fuel filters.	Refer to OEM Information	Refer to OEM Information	Refer to OEM Information	Refer to OEM Information
Inspect for fuel leaks.	X	X	X	X
Inspect fuel lines for signs of chafe.		X	X	X
FRESH WATER SYSTEM				
Flush water tank and system.			X	X
Clean in-line water filter.			X	X
FIBERGLASS / WOODWORK				
Clean fiberglass.		**	X	X
Wax hull and all non-tread areas.		**	X	X
Repair chipped fiberglass.				X
Clean interior woodwork.				X

* Inspect the zinc anodes at least once every two weeks. Check with your marina or consult other local yacht owners to determine the average life expectancy of your yacht's zinc anodes. If you notice a rapid deterioration of the zinc anodes, have a professional yacht corrosion specialist check your yacht, local seawater and dock.

** Owner is recommended to clean and wax fiberglass on a regular basis (monthly) but not as part of a 25 hour check by dealer.

	Type A	Type B	Type C	Type D
INTERIOR				
Perform maintenance on the head.	Refer to OEM Information	Refer to OEM Information	Refer to OEM Information	Refer to OEM Information
Inspect thru-hull fittings.	X	X	X	X
Clean refrigerator/freezer.			X	X
Clean range and microwave oven.			X	X
Lubricate door hinges and locks.			X	X
Clean vinyl fabrics and wall coverings.			X	X
Spot clean woven fabrics.				X
Spot clean carpet.				X
EXTERIOR				
Check compass for magnetic deviation.			X	X
Check Trim Tab system for leaks.		X	X	X
Check tightness and caulking of deck hardware.				X
Clean upholstery.			X	X
Clean plexiglass surfaces.				X
Lubricate hinges, latches, and locks.		X	X	X
Wash weather covers.				X
BILGE SYSTEM				
Check hull drain plug.	X	X	X	X
Check and test bilge pumps.	X	X	X	X
Inspect sump pumps.			X	X
Check and test bilge blowers.	Each time before starting engine	Each time before starting engine	Each time before starting engine	Each time before starting engine

Exterior Maintenance

The following paragraphs explain how to maintain the various materials present outside your yacht's cabin to help keep the yacht looking new.

Fiberglass Surfaces

The exterior fiberglass surfaces of your yacht are coated with a protective layer of gelcoat. Gelcoat forms a hard, smooth and durable surface. It does, however, contain microscopic pores that, over time, can collect dirt and discolor if the gelcoat is not kept clean.

⚠ CAUTION

Do not use abrasive cleaners when washing your yacht. Abrasive cleaners scratch and dull the gelcoat.

Wash the yacht with fresh water after each outing to help keep the gelcoat clean. If you operate your yacht in salt water, wash it at least once every week, even if it hasn't been used since the last washing. Periodically wash the yacht with a solution of fresh water and mild soap. Use a sponge to wash smooth surfaces and a stiff nylon or natural bristle brush to wash nonskid surfaces.

⚠ WARNING

Do not wax the nonskid surfaces. Waxing them makes them slippery and dangerous to walk on.

Wax all non-tread areas at least once a season. Use a high quality, non yellowing, marine wax. Waxing your yacht provides a shiny surface and seals the pores in the gelcoat, making it easier to keep clean.

⚠ CAUTION

The continued and frequent use of abrasive polishing compounds eventually erodes the gelcoat.

Gelcoat eventually dulls with age, much like the paint on your car. When it does this, you can restore the gelcoat's luster using an electric buffer and a very fine grade polishing compound. Ask your Carver Dealer what brand and grade of polish to use.

Stress cracks are common on all fiberglass yachts. In the majority of instances these cracks are cosmetic and limited to the gelcoat surface only. Gelcoat stress cracks are rarely an indication of structural problems. If you discover stress cracks in your yacht contact your Carver Dealer.

Note: ***The repair of cosmetic (non-structural) gelcoat stress cracks is not included under the terms of the Carver Limited Warranty.***

Gelcoat Repair

Cosmetic repair of minor gelcoat nicks and scratches is not difficult nor does it require the use of special or unique tools. Any yacht owner with a little practice can make visually satisfying repairs. Repairs to fiberglass laminates or structural fiberglass components are best left to the experienced technicians at your Carver Dealer.

A gelcoat repair kit is available from your Carver Dealer (Carver part number 82036-03). This kit includes color matched gel, gel hardener and detailed instructions on making gelcoat repairs.

Gelcoat Blisters

While fiberglass is a durable and economical material, it is not indestructible. The most commonly known problem associated with fiberglass is blistering. These blisters generally form in the gelcoat or in the outer most layer of laminate. They can range in size from microscopic to two inches or larger in diameter.

The appearance of fiberglass blisters does not indicate structural problems or faulty hull lamination. Gelcoat blisters form through a natural process and are quite common. If you discover blisters on the underwater portion of your yacht's hull, contact your Carver Dealer.

Hull Bottom

The underwater portion of your yacht's hull is coated with a high-quality, factory-applied coat of anti-fouling bottom paint, applied after the hull has been carefully prepared. The paint has a high copper content and anti-fouling elements that retard the growth of marine life on the bottom of your yacht's hull. The anti-fouling elements in this paint have a limited life span, usually from one to three years, depending on how and where you use your yacht.

Inspect the hull bottom once a year. If you see gelcoat showing through the bottom paint, repaint the hull. Be sure to use a paint that is compatible with the factory-applied paint. Failure to do so can void your bottom paint warranty. Also make sure the paint is formulated for the type of water you operate the yacht in. See your Carver Dealer for assistance in selecting an appropriate bottom paint.

To prepare the hull bottom for painting, lightly sand the existing paint with 80 grit to 100 grit sandpaper. Remove all dirt and sanding residue from the hull. Apply the new paint using a sprayer. This will give you the smoothest coating and the best hull efficiency. If you wish to apply a second coat, allow the first coat to dry before proceeding.

Underwater Metal Components

The underwater portion of your yacht's hull has been carefully prepared, primed and coated with a high-quality, anti-fouling bottom paint at the factory. However, the underwater metal components, including the shafts, struts, propellers, trim tabs and thru-hull fittings, were NOT primed or painted at the factory. You are responsible for priming and painting all of the underwater metal components. Use a high-quality primer and anti-fouling paint. Reprime and repaint these components whenever bare metal is visible.

Note: ***Painting the propellers requires special care at attaining a smooth surface. A rough surface on the propellers will seriously affect the yacht's performance.***

If you need additional information on priming and painting the underwater metal components, please contact your Carver Dealer's Service Department.

Caulking and Sealants

Deck fittings, rail bases, window and all underwater fittings have been sealed with the finest quality sealants. These sealants, however, do not last indefinitely. The working action of the yacht and the expansion and contraction caused by variations in outside temperature eventually break down the sealant.

Fittings that have begun to leak must be resealed. Remove the fitting and clean the old sealant from both mating surfaces. Reseal the fitting using the sealant recommended by your Carver Dealer.

Stainless Steel Rails and Hardware

Stainless steel is not rust-resistant nor is it stain-resistant. When left in contact with the marine environment it does rust and corrode. Proper care helps keep the stainless fittings on your yacht looking bright and shiny.

Clean the stainless steel rails and fittings after each outing with either soap and water or glass cleaner. If you operate your yacht in salt water, clean the rails and fittings at least once every week, even if the yacht hasn't been used since the last cleaning. If rust appears on the metal use 3M Metal Restorer (Carver part number 051131).

If you discover any rust, remove it immediately. Failure to do so leads to irreversible pitting. Use brass, silver or chrome polish to remove rust on stainless steel. Wax the stainless fittings and rails to help protect them from the elements and keep them looking their best. Use the same wax you use on the fiberglass surfaces of the yacht.

⚠ CAUTION

Never use abrasives like sandpaper or steel wool to clean stainless steel fittings or rails. Never use mineral acids or bleach to clean stainless steel. Never let stainless steel come into prolonged contact with iron, steel or other metals which cause contamination leading to rust or corrosion.

Hatches and Windows

The hatch frames on your yacht are fabricated from aluminum or Stainless Steel. Some of these frames are painted with enamel. To clean both the painted and unpainted frames, use a sponge dipped in a solution of fresh water and mild soap. Do not use a brush or abrasive cleaner as these can scratch the painted frame surfaces, damaging their appearance.

The cabin windows are made from tempered glass. Clean them with a soft cloth and glass cleaner. The bridge wind screen is made from formed plexiglass. Clean it with a solution of fresh water and mild soap.

Exterior Vinyl Upholstery

Refer to the OEM information for details on cleaning the exterior vinyl upholstery.

Avoid saturating the exterior cushions with water. To enhance the appearance of the exterior cushions and upholstery, occasionally treat them with an approved vinyl protectant.

⚠ CAUTION

If you have used Dr. Vinyl to repair damaged upholstery, do not use the following cleaners on the repaired area as they will damage it.

- ***Denatured alcohol***
- ***3M Citrus Cleaner***
- ***Ammonia and hydrogen peroxide***

Exterior Carpet

Rinse the bridge and deck carpet with fresh water when cleaning the other portions of the yacht's exterior. When the exterior carpet becomes soiled, remove the carpet from the yacht and wash it with hot water and any brand of carpet detergent suitable for hot water extraction. To remove stains from the carpet, refer to the carpet OEM information.

Canvas

White Vinyl

White exterior enclosures are made from vinyl coated materials. Clean the enclosures using a sponge dipped in a solution of fresh water and mild soap. To remove heavy dirt, use a vinyl cleaner. Treat the vinyl with a vinyl protectant twice each season.

Sunbrella

Colored canvas enclosures are made from Sunbrella fabric. This fabric should be cleaned regularly before dirt accumulates and becomes embedded in it. The fabric can be cleaned without removing it from the stainless steel bow supports. Refer to the OEM information for details on cleaning the Sunbrella fabric. To store the fabric:

⚠ CAUTION

The fabric must be completely dry before you store it. Moisture on stored fabric can cause the glass to cloud, and the fabric and thread to break down.

1. Thoroughly air dry the fabric.
2. If possible, store the fabric flat (avoid rolling it).
3. Avoid storing the fabric so that its zipper(s) imprints into the next curtain.
4. Place the fabric in a dry, ventilated area.

When you remove the fabric from storage, check it for cloudy glass and zipper imprints. In most cases, these can be removed by hanging the fabric in the sun.

Finish Repair Procedures

⚠ CAUTION

Although the process will allow damaged areas to be repaired with amazing results, it is only a repair procedure. Items repaired may not be restored to their original pristine condition.

Wood Finish Buffing Procedure

1. Clean surface with 3M cloths *(3M #23589)*.
2. Identify the problem area & start sanding with 1200, 1500 & 2000 grit sandpaper.
3. Clean area with alcohol and confirm area is ready to be buffed - if not, repeat steps 1 thru 3.
4. Start buffing with a small amount of 3M Extra Cut Compound using the 3M Perfect It Buffing Pad #05737 (White Color).
5. Next apply a small amount of 3M Finesse It Final Finish Compound using the 3M Perfect It Buffing Pad #05725 (Black/Grey Color).
6. Repeat if necessary if swirl marks appear.
7. Clean up area with 3M cloths *(3M #23589)* and 3M Clean and Shine.

Removing Dents in Wood Finish

1. Apply water to the wood with a wet rag.
2. Apply heat to the wood with either an iron or a hand steamer.
3. Sand area with 400 grit sandpaper.
4. Replace color with Triclad Water Base Stain 13-9810, being careful not to get any material outside of the sanded area *(this will result in a dark ring around the patch).*
5. Apply Poly Sealer TH-20: 3 to 4 coats with a paintbrush, allow 15 minutes between coats, allow 2 hours to dry.
6. Apply Poly Topcoat SC-4185: 3 to 4 coats with a paintbrush, allow 15 minutes between coats, let dry for at least 8 hours.
7. Level patch with a razor blade and sand with 1200, 1500 and 2000 grit sandpaper.
8. Following buffing procedure.

Filling Dents in Wood Finish

1. Locate the correct Burn Sticks color to match finished wood.
2. Apply Burn in Balm around area of patch to protect wood from heat.
3. Melt material into dented or chipped area.
4. Even the patch with an iron and remove any excess Burn Stick material.
5. Scuff material with 600 grit sandpaper.
6. Apply Poly Sealer TH-20: 3 to 4 coats with a paintbrush, allow 15 minutes between coats, and let dry for at least 8 hours.
7. Level patch with a razor blade & sand with 1200, 1500 & 2000 grit sandpaper and follow with buffing procedure.

Repairs for Surface Damage of Topcoat/Sealer

1. Soften material by applying Butyl Acetone.
2. Remove white scratch mark with razor blade.
3. Scuff area where patch is needed and sand with 600 grit sandpaper.
4. Apply Poly Sealer TH-20 to fill patch: 3 to 4 coats with a paintbrush, allow 15 minutes between coats to dry, and then sand with 600 grit sandpaper.
5. Apply Poly Topcoat SC-4185 to patch: 3 to 4 coats with a paintbrush, allow 15 minutes between coats.
6. Let patch dry for at least 8 hours.
7. Level patch with a razor blade and then sand with 1200, 1500 and 2000 grit sandpaper.
8. Following buffing procedure.

Repairs for Major Damage that Affect Wood Color

1. Remove all damaged areas: sand with 400 grit sandpaper until damage is gone.
2. Replace color to patch area: brush on color Triclad Water Base Stain 13-9810, dab to blend out being careful not to go outside the patch area (this will cause a dark ring around the patch area.)
3. Replace Poly Sealer TH-20: 3 to 4 coats with a paintbrush, allow 15 minutes to dry between coats, let dry for at least 2 hours, sand with 600 grit sandpaper.
4. Replace Poly Topcoat SC-4185: 3 to 4 coats with a paintbrush, allow 15 minutes between coats, let dry for at least 8 hours.
5. Level patch with a razor blade first, then sand with 1200, 1500 and 200 grit sandpaper.
6. Following buffing procedure.

Material List

8103261	Triclad Water Base Stain 13-9810
8103203	Poly Topcoat SC-4185
8103210	Poly Sealer TH-20
8103213	Butyl Acetone
8103214	Polyurethane Sealer Spray Catalyst
8103211	Toner Catalyst TH-720
8103212	Topcoat Catalyst TH-2537
8697610	400 Grit Sanding Disk
8697229	600 Grit Sanding Disk
8697188	800 Grit Sanding Disk
8697618	1200 Grit Sanding Disk
8601218	1500 Grit Sanding Disk
8697496	15 Micron Polishing Disk
----	Burn in Balm from Mohawk
----	Burn Sticks from Mohawk
8601207	3M Extra Cut Compound (1st Buff)

Material List - continued

8619411	3M Finesse It Final Finish Compound (Final Buff)
----	3M Perfect It Buffing Pad #05737 (White Color)
----	3M Perfect It Buffing Pad #05725 (Black/Grey Color)

Interior Maintenance

One of the best things you can do to maintain the interior of your yacht is to ventilate the cabin as often as possible. Do not allow moisture to accumulate in the yacht's interior. Moisture leads to a damp, musty environment, which encourages the growth of mildew.

Woodwork

Solid hardwood and hardwood veneer are used throughout the interior of your yacht. Treat this woodwork like you treat your finest furniture. Dust it on a regular basis using 3M Clean and Shine and a soft rag. Do not use wax-based furniture polish or cleaner containing abrasives.

Do not lay wet or damp towels or clothing on or against the finished hardwood surfaces.

The interior woodwork was finished at the factory with a special industrial/ commercial grade finish. If you need to refinish any woodwork, contact your Carver Dealer to order the appropriate product. Follow the manufacturer's instructions on the product package when applying the finish.

High Pressure Laminate

High Pressure Laminate (HPL) is used on many of the cabinet faces and counter tops inside your yacht. HPL is extremely durable and easy to clean. Clean the laminated surfaces with a cleaner made for use on household counter tops. Avoid using the counter tops as cutting surfaces. Cutting or slicing on the HPL surfaces can permanently scratch them.

Fabrics

The fabrics used in your yacht's interior include drapes, pillow shams, bed spreads, woven headliners, and some sofa and chair coverings. Some of these fabrics have been treated with a stain protector. All of the fabrics require periodic cleaning. For best results, have the fabrics dry cleaned.

For furniture upholstered in Ultraleather, refer to the OEM information for details on cleaning this material.

Carpet

The carpet used on the interior of the yacht has been treated with a stain protector. Even so, the carpet still needs periodic cleaning. Care for the carpet as you would care for the carpet in your home. Vacuum it often and shampoo it as needed using a carpet shampoo.

When your yacht is new, the carpet sheds and needs to be vacuumed frequently. This is normal. The shedding stops after a few weeks.

Interior Fiberglass

Some of your yacht's interior components, such as the shower stalls and stateroom berth platforms, are made of gelcoated fiberglass. Interior fiberglass can be cleaned with any household cleaner that has been made for cleaning fiberglass. Many of these types of cleaners are marketed as "tub and tile" cleaners. Do not use abrasive cleaners on the interior fiberglass surfaces. Abrasive cleaners scratch and dull the shiny gelcoat surface.

Plexiglass

Clean any plexiglass surface with a solution of fresh water and mild liquid detergent. Remove any fine scratches with a fine automotive acrylic rubbing and polishing compound.

⚠ CAUTION

Do not use glass cleaners, abrasive cleaners, or aromatic solvents on plexiglass. Doing so etches the plexiglass.

Mechanical Systems

The following paragraphs explain how to maintain your yacht's propulsion, electrical, fresh water, bilge and sanitation systems.

Engines/Generator

Refer to the engine and generator OEM information for instructions on maintaining your yacht's engines and generator. There may be a seawater strainer installed in the water intake lines for each engine and the generator. At least once every 30 days, close the seawater seacocks, then open and clean the strainers. Refer to Section 9 - Hatches and Section and/or Engine Room for the exact location of the strainers. If you are operating the yacht in dirty waters or areas with a high degree of aquatic vegetation, inspect the strainers more frequently. A clogged strainer restricts the intake of seawater which can cause the affected engine or the generator to overheat.

Thru-Hull Valves

Inspect the thru-hull valves on a monthly basis. Make sure the connections between the hose and the valve are tight. Look for water leaks around the area where the valve and hull meet. Every 30 days open and close each valve two or three times. This guards against the valve seizing in the open or closed position. While doing this make sure the valve handle is securely fastened. Tighten any loose handles. Refer to Section 9 - Thru-Hull Fittings for the location of the thru-hull valves.

Props

Inspect your props often. Carry a swim mask in your yacht so you can inspect the props while swimming. Props that are out-of-balance or damaged can diminish the yacht's performance by reducing the yacht's speed, causing steering problems, and creating vibrations. Vibrations can lead to drive train damage.

Have the propellers balanced by an established propeller repair shop at least once a year. Repair or replace damaged props.

⚠ DANGER

Wear gloves when handling a propeller. Its blades are sharp.

A TIP FROM CARVER!

Consider purchasing and carrying a spare set of props onboard your yacht. Many marine dealers do not carry a full inventory of replacement propellers. A spare set allows your vacation or cruise to continue in the event that your yacht's primary set of props is damaged.

DC Electrical System

The majority of difficulties that occur with the 12-volt DC electrical system are caused by poor battery maintenance. The factory-installed batteries on your yacht should function normally for several years if properly maintained. These heavy-duty batteries can be discharged and recharged repeatedly without damaging them; however, completely discharging or overcharging a battery can shorten its life span.

To maximize the useful life of the batteries:

- While using the yacht, use the voltmeters to frequently monitor the voltage level of each battery or battery bank. Monitor the charge level with the engines turned off (static condition). Use the onboard battery charger or the engine alternators to recharge the batteries when they are not fully charged. Refer to Section 2 - Charging the Batteries for more information. When the battery bank is fully charged, the voltmeter reads between 12.3 and 12.6 volts.
- Do not store batteries that are only partially charged. Recharge each battery, if necessary. Check the voltage level every 30 days while the battery is in storage and recharge it if the voltage reads below 12.3 volts.

⚠ WARNING

Disconnect the batteries when performing maintenance tasks on the DC electrical system. Failure to do so can lead to electrical shock.

Inspect the batteries once every month. Clean any corrosion that has developed on the battery terminals. Spray a terminal protector on the terminals and battery cable eye connectors. Make sure the battery cables are securely fastened to the terminals. Tighten the nuts only slightly beyond finger tight with a wrench.

Spray the connections for the bridge instruments and switches with an electrical connection protector every six months.

Fresh Water System

Flush and sanitize the fresh water system at least once every season. Flushing involves draining all water from the system. Sanitizing involves using a commercially-made fresh water tank sanitizing liquid that is available at many marine supply stores.

Shower

If the water flow from a shower head becomes restricted, it may be due to the accumulation of sediment in the shower head. If this happens, remove the head and rinse it with clean water. If necessary, clean the discharge holes with a narrow wire.

Water Taps

Periodically remove and clean the filter screens from the sinks' water taps. Rinse the screens with clean water. If necessary, clean the screens with a narrow wire. A buildup of debris in the filter screens can block the water flow enough to cause the pressure water pump to repeatedly cycle on and off.

Sump

Clean the sump and sump filter frequently. Hair, dirt and soap scum collect in the sump and, if not removed, eventually clog the sump pump or sump hoses.

Bilge System

Keeping the bilges clean is important. A dirty bilge leads to clogged bilge pumps and unpleasant odors in the cabin. Keeping the bilges dry helps reduce moisture in the cabin.

- Periodically inspect and clean each bilge pump's strainer. The strainers prevent dirt and debris from clogging the bilge pump intakes. Refer to Section 9 - Engine Room and/or Section 4 - Bilge System diagram for the exact location of the bilge pumps.
- Frequently check the operation of each bilge pump float switch to ensure that it is operating properly.
- Clean the bilge pumps twice a season by wiping any dirt or oil from their exterior surfaces.
- Remove any oil, dirt or debris from the bilges. Treat the bilges with a commercial bilge cleaner, available from your Carver Dealer, twice a season.

Sanitation System

Unlike the other systems in your yacht, the sanitation system requires ongoing maintenance to avoid problems.

- Always use sanitation system deodorizer. Use the brand recommended by your Carver Dealer.
- Your yacht's sanitation system is not like the toilet and sewer in a home. Do not flush any items down the toilet that the toilet was not designed to accommodate. Refer to the OEM information for details on maintaining the toilet.
- Empty the waste tank often and when you know the yacht will not be used for an extended period. Each time you empty the waste tank, flush it with fresh water. This helps remove any remaining waste from the tank.
- If waste gauges are reading incorrectly, the senders in each tank may need to be cleaned.

Teak Decking

Teak is a natural, sensitive material used on decks because of it's excellent properties. As a natural growing material, it generates harder and softer section in the growth rings - grain. Softer sections wear quicker than harder sections, therefore you should never scrub the deck with a hard bristle brush and never brush with the grain.

The best way to clean your deck is with a regular rinse of clean salt water. DO NOT spray with a high pressure washer. If washing is needed use a dish soap with a cotton mop and rinse well with salt water. If scrubbing is necessary use a soft bristle brush across the grain of the wood.

Avoid all chemical teak restoring materials, some of these remove the top layer of wood cells. Do not use any oils as they may attack any caulking present and oil holds dirt which does not wash off.

Any repairs to your deck should be referred to your local Carver dealer.

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Winterization - Storage

Before you store your boat for an extended period of time during which temperatures could fall below freezing (such as during winter), you must properly winterize it. Winterizing your boat removes all water from its various systems. If this water froze, it could cause extensive damage to the boat and its systems.

Carver Yachts recommends that you hire a professional to winterize your boat and its systems. Carver Yachts also recommends that you place your boat in dry (out-of-water), as opposed to wet, storage. Some of the winterizing procedures can only be completed when the boat is out of the water. Dry storage also gives you the opportunity to thoroughly inspect your boat's hull and underwater components for any maintenance needs.

Lifting

To lift your boat from the water, hire an experienced professional who has the proper equipment and is trained in lifting yachts. The boat's hull must be properly supported during the lifting operation to avoid serious and permanent hull deformation.

⚠ CAUTION

Do not place a lifting strap around the boat's IPS drives or any other underwater component.

Use approved lifting straps. "SLING" tags are located on the sidedeck of the boat. These are the only places where lifting straps should be positioned for lifting.

⚠ WARNING

Never go under the boat when it is suspended in a lift.

Blocking

When your boat is placed in dry storage its hull must be properly blocked to avoid damaging it. You can either use a cradle or blocking supports.

If you are using a cradle, the forward end of the cradle should be slightly elevated to position the boat in a bow-high attitude. This allows any water in the bilges to flow to the back of the aft bilge and drain through the hull drain.

All of the blocking supports should be setup to prevent the boat from shifting while it is in storage.

Winterization - Systems

⚠ CAUTION

Your boat must be properly winterized before storage. Failure to winterize the boat could result in damaged pipes, valves, faucets, tanks, hot water heater, and other components.

Engines

Refer to the OEM information for details on winterizing the engines.

Generator

Refer to the OEM information for details on winterizing the generator.

Marine Satcom Unit (MSU) Storage

If your boat is equipped with a MSU, during off-season storage the unit should be deactivated. During winter storage the unit should be turned OFF.

⚠ CAUTION

If the boat is not stored in a heated facility you will need to remove the internal battery to prevent freeze damage. Refer to the OEM information for removal procedures.

Air Conditioning System

Refer to the OEM information for details on winterizing the air conditioning system. Carver Yachts recommends that you have a qualified marina winterize your air conditioning system for you.

Fresh Water System

Refer to Section 4 - Fresh Water System for a description of your boat's fresh water system.

⚠ CAUTION

When winterizing your boat's fresh water system, drain the entire system including the water heater.

Draining the System

1. On the AC Control Center, switch the Water Heater circuit breaker OFF.

⚠ CAUTION

Do not supply power to the water heater when it is empty. Doing so may damage the unit's heating element.

2. On the DC Panel, make sure the Auto Sump circuit breaker is ON.
3. Switch the Pressure Water Pump circuit breaker ON DC Panel - Helm.
4. Open all sink and shower faucets on the boat, including the faucets for the transom hand shower and bow and transom fresh water washdowns.

5. When there is no more water coming from any of the sink taps, shower heads, or fresh water washdowns, switch the Pressure Water Pump circuit breaker OFF.
7. Drain the water heater. Refer to the OEM information for details on draining the water heater.

Winterizing the System

1. Pour 20 gallons of nontoxic recreational vehicle antifreeze into your boat's fresh water tank.

Note: ***If the fresh water system loses pressure during this procedure, you will have to add more antifreeze into the fresh water tank.***

⚠ CAUTION

You must use a nontoxic, non-alcohol, RV-type (pink) antifreeze in your boat's fresh water system. Using the wrong type of antifreeze can damage the fresh water system. The repair of such damage is not included under the terms of the Carver Limited Warranty.

2. Close all faucets.
3. Switch the Pressure Water Pump circuit breaker ON.
4. If your boat does not have the optional grey water holding system, place a large bucket under the sump discharge fittings. This catches the antifreeze pumped out in the next step.
5. Open the galley sink cold water faucet. When a steady stream of antifreeze flows from the tap, close the faucet. Repeat this step for the galley hot water faucet, then for each cold and hot water faucet on the boat and the windshield washer, except for the transom hand shower and bow and transom fresh water washdowns.

For the transom hand shower, place the shower head in a bucket before turning on the shower faucet. This catches the antifreeze, which can be reused. Proceed as described earlier in this step.

For the bow and transom fresh water washdowns:

a. Remove the hose(s) from the fresh water washdown fittings.

b. Place a bucket under the washdown fittings to catch the antifreeze, which can be reused.

c. Open the washdown faucets. When a steady stream of antifreeze flows from the fittings, close the faucets.

6. Pour one quart of antifreeze into each shower and sink drain.
7. When you remove your boat from storage and prepare to use it again, flush the entire fresh water system with fresh water. Nontoxic antifreeze is colored, so the water system is adequately flushed when uncolored water flows from all of the faucets and shower heads. You may need to fill the water tank more than once to flush the system.

Bilge

Refer to Section 4 - Bilge System for a description of your boat's bilge system.

1. Open the hull drain. Leave the drain open while your boat is in storage.
2. Remove all water from the bilge.
3. Clean the bilge as described in Section 7 - Bilge System.

Sanitation System

Before performing this procedure on the sanitation system, your boat should be pulled from the water. Refer to the OEM information for more information on winterizing the sanitation system.

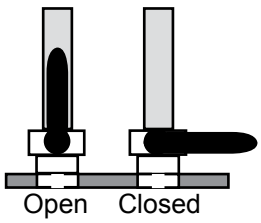
Refer to Section 4 - Sanitation System for a description of your boat's sanitation system.

Standard Sanitation System

1. Empty the waste tanks as described in Section 4 - Emptying the Waste Tanks. Remove as much of the fresh water used in flushing the tanks as possible.
2. Flush 4 gallons of nontoxic recreational vehicle antifreeze through the toilet and allow it to remain in the waste tanks while the boat is in storage.
3. When you remove your boat from storage and prepare to use it again:
   a. Flush 5 gallons of fresh water through each toilet.
   b. Empty the waste tanks as described in Section 4 - Emptying the Waste Tanks.
   c. Charge the waste tanks by adding deodorizer. Use the brand of deodorizer recommended by your Carver Dealer.

Overboard Discharge System

1. Empty the waste tanks as described in Section 4 - Emptying the Waste Tanks. Remove as much of the fresh water used in flushing the tanks as possible.
2. Under the boat, place a large bucket under the overboard discharge fitting to collect antifreeze pumped out in this procedure. Refer to Section 9 - Thru-Hull Fittings for the exact location of the overboard discharge fitting.



3. Open the overboard discharge seacock.
4. Turn the waste discharge valve to open.
5. Verify DC Power is available.
6. On the DC Control Panel switch the Waste Pump circuit breaker ON.
7. Turn the overboard discharge pump switch ON.
8 . When a steady stream of antifreeze flows from the overboard discharge fitting, turn the overboard discharge pump switch OFF.
9. Close the overboard discharge seacock.

10. Switch the Waste Pump circuit breaker OFF.
11. When you remove your boat from storage and prepare to use it again:
    a. Flush 5 gallons of fresh water through each toilet.
    b. Empty the waste tanks as described in Section 4 - Emptying the Waste Tanks.
    c. Charge the waste tanks by adding deodorizer. Use the brand of deodorizer recommended by your Carver Dealer.

Overboard Discharge System

1. On the DC Control Panel - Engine Room, make sure the Auto Sump circuit breaker is ON.
2. Under the boat, place a large bucket under the overboard discharge fitting to collect antifreeze pumped out later in this procedure. Refer to Section 9 - Thru-Hull Fittings for the exact location of the overboard discharge fitting.
3. Pour 3 gallons of nontoxic recreational vehicle antifreeze through each shower and sink drain.
4. When a steady stream of antifreeze flows from the overboard discharge fitting, turn the Auto Sump circuit breaker OFF.
5. When you remove your boat from storage and prepare to use it again:
    a. Pour 5 gallons of fresh water through each shower and sink drain.
    b. Empty the sump as described above.
    c. Charge the sump by adding deodorizer. Use the brand of deodorizer recommended by your Carver Dealer.

Exterior

Wash the exterior of the boat, particularly the underwater portions. Remove as much aquatic growth as possible while it is still wet. Once the growth has dried it is more difficult to remove.

Check the zinc sacrificial anodes for deterioration. If the zincs show signs of deterioration have them replaced before spring launch. Check stainless steel rails and fittings for signs of rust. Remove rust prior to winter lay-up. Inspect the underwater portions of the hull. Review anything that looks out of the ordinary with your Carver Dealer.

Interior

Air out the cushions and make sure they are dry. Storing damp cushions leads to mildew. Position the cushions so air can circulate around them. Purchase and position moisture accumulators throughout the boat. These help reduce the amount of moisture that accumulates during storage. Remove everything from the boat that could spoil or freeze while the boat is stored. Also remove all dried food. Food attracts mice and insects.

Storage

To give your boat the maximum protection while it is in storage, Carver recommends that you place your boat in dry, as opposed to wet, storage.

Dry Storage

Protecting the boat from the elements during winter storage is advised. Have your marina shrink wrap the boat or have a winter storage cover made. Occasionally check on the boat while it is in storage to make sure that it is in good condition.

If your boat will be in outside storage, properly support a storage cover and secure it over the boat. Do not secure the cover to the boat too tightly. Allow adequate ventilation to protect against dry rot. Do not store the boat in a damp storage enclosure. Purchase and position moisture accumulators between the shrink-wrap and your boat's enclosures to help prevent moisture from accumulating. Excessive dampness can lead to mildew, electrical problems, corrosion and dry rot.

Note: If you remove the Hull drain plug for storage be sure and install plug prior to launch.

Wet Storage

Wet storage procedures vary from region to region. Consult your Carver Dealer before preparing to leave your boat in the water over the winter.

Spring Recommissioning Checklist

Before launching your boat, complete the following.

Hull

- ☐ Fill gelcoat nicks and gouges
- ☐ Inspect props, struts, rudders
- ☐ Inspect thru-hull fittings
- ☐ Apply new antifouling bottom paint or touch up failing areas
- ☐ Buff out minor hull scratches
- ☐ Remove dirt, stains
- ☐ Apply wax

Deck and Cabin

- ☐ Inspect hatches and windows for leaks
- ☐ Wax non-walk surfaces

Engines

- ☐ Follow manufacturer's recommissioning guidelines
- ☐ Inspect belts, hoses
- ☐ Tune-up engines
- ☐ Replace fuel filters

Electrical System

- ☐ Check battery water level
- ☐ Charge batteries
- ☐ Inspect connections for corrosion

Plumbing

- ☐ Purge fresh water system of antifreeze
- ☐ Replace Sealand vent filters.
- ☐ Inspect seacocks
- ☐ Inspect heads
- ☐ Chemically charge waste and grey water tanks
- ☐ Fill fresh water tank

Safety Equipment

- ☐ Inspect PFDs
- ☐ Replace old distress signals
- ☐ Inspect fire extinguishers
- ☐ Inspect, test bilge pumps
- ☐ Inspect mooring lines, fenders
- ☐ Test, recalibrate and/or replace CO detectors

After Launch

- ☐ Check for engine cooling water flow
- ☐ Check propeller shaft alignment
- ☐ Check propeller shaft seals
- ☐ Check crankcase (boat must be in-water)
- ☐ Check transmission oil levels
- ☐ Have compass professionally calibrated
- ☐ Inspect thru-hulls, exhaust, etc.

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Warranty Information

Carver Boats warrants every boat we manufacture as explained in the Carver Limited Warranty. Your copy of the warranty is located at the end of this section. Please review the warranty carefully.

To ensure that the warranty remains in effect during its lifetime, Carver Boats, your Carver Dealer, and you must each uphold specific responsibilities. Carver's responsibilities are described in the Carver Limited Warranty.

Carver Dealer's Responsibilities

Warranty Information

Your Carver Dealer will review the terms of the warranty and make certain the warranty is registered with Carver. Your Dealer will also instruct you on how to obtain warranty service.

Pre-Delivery Service Procedure

Your Carver Dealer will prepare your boat for delivery in accordance with the procedures detailed on the Pre-Delivery Service Record. Your dealer will sign the Pre-Delivery Service Record and provide you with a copy.

Registration of your boat and its engines is required by the Federal Safe Boating Act of 1971. Your Carver Dealer will complete and mail your engine warranty cards as part of the Pre-Delivery Service procedure.

Boat and Systems Review

A representative from your Carver Dealer will review the operation of your boat and its systems with you.

Owner's Responsibilities

Pre-Delivery Service Record

Verify that the boat's pre-delivery service record has been completed and mailed to Carver. The pre-delivery service record is located in the Preface of this guide. Review the Pre-Delivery Service procedure with your dealer. Read the Pre-Delivery Service Record. Be certain you sign a copy of the Pre-Delivery Service Record and retain a copy for your records.

OEM Components

Many of the OEM components installed in your boat are warranted by their respective manufacturers. To activate these warranties, complete and mail all OEM warranty cards. The warranty card for each component that is warranted is located with its respective OEM information. Many of these OEMs also have programs designed to resolve any problems you may experience with their products. Your Carver Dealer can assist you when necessary in gaining access to these programs.

Note: ***All warranty cards must be completed and forwarded to the appropriate company within 5 days of taking delivery of your boat.***

Delivery

At the time of delivery, make a complete inspection of the boat and its systems. Document any work that needs to be completed by the dealer in order to meet the terms of your agreement.

Owner's Information Kit

Read, understand and follow the instructions in this Owner's Guide and all other guides and manuals supplied with your boat, including all OEM information.

Contact your Carver Dealer if you have any questions regarding warranty responsibilities.

Obtaining Warranty Service

The following requirements must be met before warranty work can be performed on your boat.

1. Your boat must be registered with Carver Boats. Registration is accomplished by completing, then submitting the Pre-Delivery Service Record to Carver Boats, P.O. Box 1010, Pulaski, WI 54162-1010.
2. Pre-Delivery Service must be completed by your Carver Dealer. Information concerning Pre-Delivery Service can be found in the preface of this manual. The Pre-Delivery Service Record must be signed by both the dealer and the owner.

Note: Your Carver Dealer is the ONLY person authorized to approve warranty work. If warranty service is needed you MUST contact your Carver Dealer first. There are no exceptions to this policy.

Your Carver Dealer has knowledgeable professionals who are familiar with your boat and are capable of providing the highest level of service. The Carver Dealer's service personnel will communicate with Carver Boats to ensure that you receive fast and satisfactory solutions to any problem that may arise.

Second and Third Owner Registration

A "Second Owner Registration" card and "Third Owner Registration" card are located in the Preface of this Owner's Guide. The purchaser of a previously-owned Carver boat should complete the appropriate card and mail it as soon as taking title to the boat.

Registration of a previously-owned Carver boat does not extend or in any way modify the boat's original limited warranty. However, purchasers of a previously-owned Carver boat should register the boat so that, if it is ever necessary, Carver can contact you.

Hull Identification Number

The U.S. Coast Guard has established an identification system which assigns a unique hull identification number (HIN) to each boat. The HIN consists of 12 alphanumeric characters which provide coded information about the boat.

When contacting your Carver Dealer for parts or service, provide them with your boat's HIN.

OEMs

Whenever you need information about a system or component on your boat, contact your Carver Dealer first. If your Dealer is unable to provide the information, contact the manufacturer (OEM) of the system or component. Refer to the OEM information for telephone numbers and addresses.

When contacting an OEM for information, be ready to provide the component's serial number. A Serial Number Record Sheet is provided on the following pages. Use this sheet as a convenient location to record the serial numbers of your boat's OEM components.

Specifications

The specifications listed here are based on a standard model with no options installed. Certain options may change some of these specifications.

LOA *(with platform)* . . . . . .44'1" (13,4 m)
Beam . . . . . 14'1" (4,3 m)
Bridge Clearance *(with arch)* . . . . . 16'6" (5 m)
Fuel System . . . . . 400 U.S. gals. (1514 liters)
Holding Tank. . . . . 50 U.S. gals. (189 liters)
Water System. . . . . 90 U.S. gals. (340 liters)

Load Capacity

If you have an International model the certification plate is located near the helm and indicates maximum weight and number of individuals your boat can handle under calm sea conditions. The number of individuals on board must be reduced if you go out in poor weather and rough water. If you have a domestic model it its the responsibility of the Captain to maintain a safe capacity.

⚠ DANGER

Do not exceed the load capacities stated. This information on the certification plate does not relieve the operator from responsibility. Use common sense and sound judgement when placing equipment and/or passengers in your boat.

Carver Boat Corporation , LLC is a continuous improvement manufacturer and may change product specifications, features, options and prices from time-to-time, including changes during the model year, without prior notification or obligation to other Carver boats. Carver makes no warranty or representation as to performance or fuel range of any individual boat because of the many factors that may affect the performance obtained.

Bill of Material

Carver Limited Warranty

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