CARVER®
YACHTS

2002

374 Voyager

Owner's Guide

HIN - CDR _____

2002 Version 1

CARVER
YACHTS

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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.

DECLARATION OF CONFORMITY

Model Designation

374 Voyager

Carver Boat Corporation declares that the 374 Voyager complies with EC directive 94/25/ EC, and in accordance with the following harmonized standards and the recreational craft sectoral guidelines in effect at the time of construction.

ISO Reference

8666	12216	8469
12217	8849	8099
8665	11812	10088
14945	12216	12217
15083	10087	9094
15084	14945	15085
8885	11592	11591
10240	11192	7840
8846	10133	11105
12215	9093	13592
9097	13297	15584
8847	8848	9775
10592	13929	15852
10239		4505

(Directive) Requirement (RSG) Reference

Annex I	3.2
Annex V-VIII, XII	3.3
Article 8	2.1
2.2	2.3
3.6	2.4
2.5	3.1
3.4	3.5
3.7	3.8
3.9	4
5.1.1	5.1.3
5.2.1	5.2.2
5.3	5.4.1
5.5	COLREGS

Type Examination

EC Module B+C

Certification Number

CAR005

Notified Body

IMCI (#0609)
Rond-Point
Schuman 6 Box 6
B-1040 Brussels
Belgium

Robin J. Clonkey
Manager Manufacturing Methods
Carver Boat Corporation
790 Markham Drive
Pulaski, WI 54162
USA

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.

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 the left margin and is entitled "A TIP FROM CARVER".

⚠ 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 or 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 like the air conditioning system and navigation systems. 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.

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.

CARVER BOAT CORPORATION
P O BOX 1010
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Section 1

SAFE OPERATION

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

SAFETY RECOMMENDATIONS

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

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

NOTE: Federal law requires you, the owner, to provide and maintain safety equipment on your boat. Consult your Coast Guard, state, and local regulations to ensure your boat has all required safety equipment on board. 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). Ask your dealer about the capacity of your boat's fuel tank. See the "**Fueling**" portion of **Section 5** for information on fueling your boat.

- 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. Keep 1/3 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 safe 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.
- 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 other passenger onboard in the basic operating procedures in handling 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 swim platform or boarding ladder while the engine or 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 or alcohol, inclusively.
- Do not operate your boat if the your visibility is impaired or blocked.

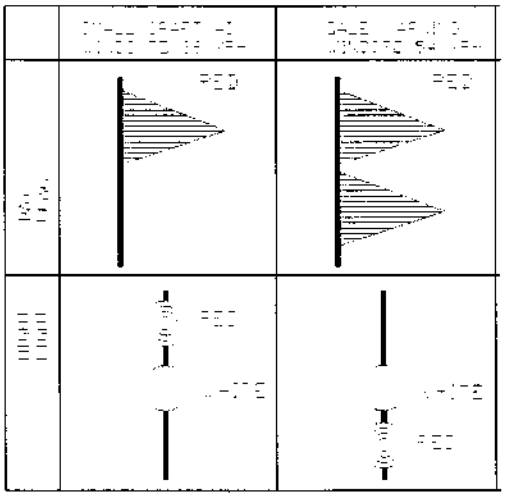
ADVERSE CONDITIONS

WEATHER

Storms rarely appear without advance notice. Check the weather 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, and listen to your local forecasts before leaving port.

WEATHER SIGNALS



Your surroundings can also be a good indicator of changing weather conditions. 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.

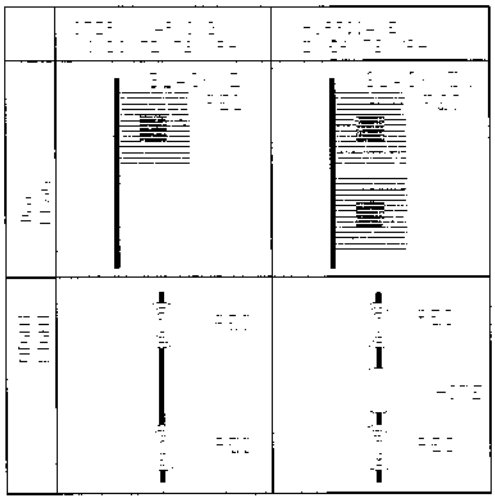
FOG

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 (PFDs).
- 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 engine(s) 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.

WEATHER SIGNALS



STORMS

At all times, the boat operator should be aware of present weather conditions and the weather forecast. If storms are a possibility, keep a watch on the horizon,

especially to the West for approaching storms. Monitor the weather forecast on a marine channel or local weather station. It would be best to return to a safe port if time allows.

Other steps to follow to weather the storm include:

- Close portals and hatches and secure them. Stow all loose gear below deck and tiedown 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 thatwill work like an anchor.

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

EMERGENCY PROCEDURES

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

FIRE

⚠ DANGER

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

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

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.

⚠ CAUTION

NEVER:

- Obstruct passage ways to exits and hatches.
- Obstruct safety controls, e.g. fuel valves, gas valves, switches of the electrical system.
- Obstruct portable fire extinguishers in lockers.
- Leave a craft unattended when cooking and/or heating appliances are in use.
- Use gas lights in the craft.
- Modify any of the craft's systems (especially electrical, fuel or gas).
- Fill any fuel tank or replace gas bottles when machinery is running or when cooking or heating appliances are in use.
- Smoke while handling fuel or gas.

IN CASE OF FIRE

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

- Stop the engine(s) immediately.
- If the fire is in the engine compartment, shut off the bilge blower **immediately. Do not open the hatch to the engine compartment!** 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 action 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.

⚠ WARNING

Smoking, poor maintenance, or carelessness when refueling can cause hazardous conditions. Always follow proper refueling procedures for your boat.

FLOODING

If your boat is taking on water from a leak in the hull, turn on your electric 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. If necessary, station a crew member to hold the plug in place if the plug is applied from the inside. In all cases, station 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 PFD 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, first check the persons onboard for injuries. Then inspect the boat to determine the extent of damage.

- Prepare to help the other craft unless your boat or its passengers are in danger.
- If the bow of the other boat 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 out of the water during repairs.

- If your boat is in danger of sinking, have all persons 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 instrument and allow ample water below the hull while operating.

If your boat runs aground, check everyone for injury and inspect damages to the boat or propeller(s). If lightly grounded, shift the weight of passengers or gear to heel the boat while reversing engine(s). If towing becomes necessary, do not attach a tow line to deck cleats. These are not designed to take full load of the boat. A commercial towing service should be used.

⚠ WARNING

Never attach a tow line to a deck cleat or anchor windlass. The cleat or windlass may pull free from the deck and cause serious personal injury or property damage.

MAN OVERBOARD

The operator should know what to do in case someone goes 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 means a person's body loses heat to the water 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 shorter the time for survival. PFDs will increase survival time because they provide insulation.

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 yacht do fail, radio for help or signal with flags and wait until help arrives.

RADIO COMMUNICATION

The operator is responsible for obtaining a radio operator's permit and knowing and following proper rules and procedures. Private yachts 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 vessel in distress as long as his life or vessel is not put in harm's way in the process. A Good Samaritan clause protects the operator from liability incurred while giving aid.

WATER SURVIVAL CHART

Water Temperature (°F)	Exhaustion Unconsciousness	Expected Time of Survival
32.5	Under 15 min.	Under 15 to 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

SAFETY EQUIPMENT

NOTE: Federal law requires the owner to provide and maintain safety equipment onboard your boat. Consult your Coast Guard, state, and local regulations to ensure your yacht has all required safety equipment on board. The owner should learn about any additional recommended equipment before operating his boat.

PERSONAL FLOTATION DEVICES (PFDs)

There must be one United States Coast Guard approved wearable personal flotation device of Type I, II, or III for each person onboard your yacht. 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 persons from a face down position to a vertical or face-up position.

PFD Type II, Wearable: This near-shore buoyant vest is intended for calm inland water or 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 persons 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 grasped 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 VISUAL DISTRESS SIGNALS INCLUDE:

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

Non-pyrotechnic equipment includes an orange distress flag, dye markers, or an electric distress light.

No one signaling device is ideal under all conditions. Consider carrying various types of equipment. Careful selection and proper stowage of visual distress equipment are very important. Select devices with packages which children, but not adults, will find difficult to open, especially if young children are onboard.

SOUND SIGNALING DEVICE

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

For boats over 26 feet and under 39 feet, 4 inches, the device can be hand or power operated and must be able to produce a four-second blast which can be heard one half of a mile away. Refer to the U.S. Coast Guard's publication "Navigational Rules, International-Inland" for details about the appropriate signals.

Boats longer than 39 feet, 4 inches, must have a bell and a whistle. These devices must meet the requirements of the Inland Navigational Rules Act of 1980.

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.

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 it can extinguish. Coast guard classifications include foam, carbon dioxide, chemical,

and Halon type fire extinguishers. Below are the requirements for fire extinguishers at the time this manual was prepared.

- **Boats longer than 26' and shorter than 40':** Two Type B-I or at least one Type B-II portable hand extinguishers. If your boat has a fixed fire extinguishing system approved by the U.S. Coast Guard, one Type B-1 extinguisher is required.

- **Boats longer than 40' and shorter than 65':** Three Type B-I or one Type B-I and one Type B-II portable hand extinguishers. If 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 compartment. 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 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
- Tool kit
- Ring Buoy
- Navigational charts
- Mooring line
- Binoculars
- Spare parts
- Spare pump

OWNER'S RESPONSIBILITIES

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 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 for 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 yacht responsibly requires the operator 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 yachtsman, you will comply with the marine traffic rules enforced by the 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 Coast Guard publishes 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 Coast Guard station, your Carver dealer, or a local marina about navigational aids unique to your area.

DOCUMENTATION

The owner of a Carver yacht is required to have proof of registration onboard at all times the boat is being operated. In addition, a radio license may be necessary if your boat is equipped with a VHF radio.

In addition to required documents, it is strongly recommended that the operator of a boat keep a log of the boats operation. A navigation log containing compass courses and time records is essential for both cruising and maintenance purposes. Radio logs are mandatory on compulsorily equipped vessels, and can be helpful even if one is not required to be kept. In addition, a maintenance log can help keep your boat operating for years.

DRUGS AND ALCOHOL

Drugs and alcohol affect a person's ability to make sound judgments and react quickly. As a responsible boater, you will refrain from using drugs or alcohol (inclusively) while operating your yacht. Operation of motorized vessels while under the influence carries a significant penalty. Drugs or alcohol decrease your reaction time, impair your judgement, and inhibit your ability to safely operate your yacht.

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 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.**

The owner or operator of a vessel is required by law to render assistance to any person or vessel in distress so long as his vessel is not endangered in the process.

VOLUNTARY INSPECTIONS

The U.S. Coast Guard Auxiliaries or state boating officials in many states offer courtesy inspections to check out your craft. They will check your yacht for compliance with safety standards and required safety equipment. You may voluntarily consent to one of these inspections, and you are allowed time to make corrections without prosecution. Check with the appropriate state agency or the 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, or 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 the responsibility of the operator to make sure that his 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. Coast Guard regulations prohibit dumping of 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 pitch in to clean up our waterways and properly dispose of all garbage.

Within three miles from the shore of U.S. lakes, rivers and bays it is illegal to dump plastic, dunnage, lining and packing materials that float, and any garbage except dishwater/greywater or fresh fish parts. From a distance of three to twelve miles it is illegal to dump plastic, dunnage, lining and packing materials that float, and any garbage not ground to less than one square inch. Within 12-25 miles from shore, it is illegal to dump plastic, dunnage, lining and packing materials that float. Outside 25 miles, it is illegal to dump plastics.

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 penalty of $5,000.

WASTE

On U.S. inland and coastal waters, it is illegal to discharge waste directly overboard. If your boat is equipped with an overboard discharge option, check with your local 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. The boat owner should check with state and local authorities to make sure that he is in compliance with local regulations regarding marine sanitation, noise, speed, and wake.

RECORDS

The owner of a boat registered with the Coast Guard is issued a Certificate of Number. This certificate must be onboard whenever the boat is in use. State registration is also required. If your boat has a VHF radio onboard, a FCC license must also be displayed. 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 the required documentation, it is advised that boaters keep a log book which suits the needs of the individual boater. A navigation log with engine speeds, RPM, compass courses and time records can be an invaluable asset on future cruises.

An engine/fuel log is essential to calculate range and fuel requirements. Radio logs, while not required for voluntarily equipped vessels, can be useful to record unusual events, especially for future litigation. A GPS / Loran log can also be useful if so equipped. Log books are available from maritime supply stores.

PRE-DEPARTURE ACTIONS

- Check the weather. Make sure conditions and seas will not be hazardous.
- Make sure all safety equipment is onboard, accessible, and in good working condition.
- Check the bilge for fuel fumes or water. Ventilate or pump out as necessary.

- Be sure the horn and 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 engines, check 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. 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 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 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. A float plan form is included at the end of this section. Do not file this plan with the 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 WARNINGS FOR GASOLINE ENGINES

⚠ DANGER

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

In high concentrations, CO can be fatal in minutes; however, the effects of lower concentrations can be just as lethal. Symptoms of excessive exposure to carbon monoxide are:

- Dizziness Watering, Itchy eyes
- Drowsiness
- Nausea or Vomiting
- Headache
- Ringing in the ears
- Throbbing temples
- Flushed appearance
- Inattentiveness
- Incoherence
- Fatigue
- Convulsions

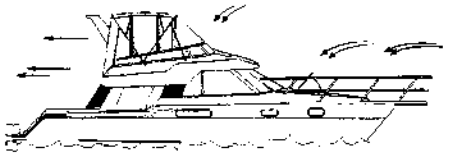
NOTE: Carbon monoxide accumulation requires immediate attention! Thoroughly ventilate cabin and cockpit areas. Determine the probable source of the carbon monoxide and correct the condition immediately. Carver has installed CO detectors on your boat. Have these detectors professionally calibrated at regular intervals.

⚠ DANGER

Sleeping onboard can easily be overcome by carbon monoxide without realizing it. Sleeping while the engines or generator are running is NOT recommended!

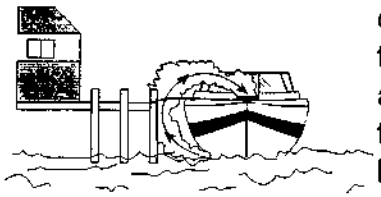
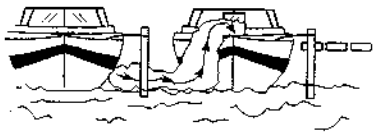
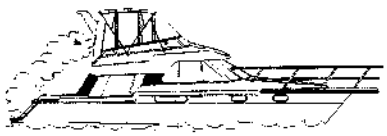
To help prevent carbon monoxide accumulation, ventilate your cabin and cockpit while underway. Open a forward hatch, porthole, or window to allow air to travel through the boat's interior.

DESIRED AIRFLOW THROUGH BOAT



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 generator. Maintain proper engine adjustments, condition, and performance.

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

⚠ DANGER THESE CONDITIONS MAY CAUSE CARBON MONOXIDE TO ACCUMULATE.	PRECAUTIONS
 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.	Never operate generator while 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.	Be alert for generator and engine exhaust from other vessels alongside your boat. Provide adequate ventilation.
 The "station wagon effect" or back drafting can cause CO to accumulate inside cabin, cockpit and bridge areas when operating the boat at a high bow angle or with improper or heavy loading.	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).	Provide adequate ventilation or slightly increase speed if possible. Open forward hatch or window.
 The "station wagon effect" 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.	Provide adequate ventilation when the canvas top, side or back curtains are in their closed, protective positions. Open forward hatch or window.

WARNING LABELS

Warning Labels are posted throughout the 374 Voyager to protect you, your passengers and your property. It is important to Identify and understand all warning labels that you encounter. Failure to identify and obey a posted warning label may result in serious injury or damage to personal property. While the following is not a comprehensive list of all warning labels throughout the 374 Voyager , it is a list of important warnings you should be familiar with.

WARNING

GASOLINE VAPORS CAN EXPLODE. BEFORE STARTING ENGINE OR GENERATOR, OPERATE BLOWER FOR 4 MINUTES AND CHECK ENGINE COMPARTMENT BILGE FOR GASOLINE VAPORS. ALWAYS OPERATE BLOWER WHILE GENERATOR IS RUNNING AND BELOW CRUISING SPEED.

⚠ CAUTION

TO PREVENT EXHAUST FUMES FORM ENTERING CABIN, KEEP CLOSED WHEN ENGINE OR GENERATOR ARE RUNNING.

WARNING

TO MINIMIZE SHOCK AND FIRE HAZARDS

- Turn off the boat's shore connection switch before connecting or disconnecting shore cable.
- Connect shore power cable at boat first.
- If polarity warning indicator is activated immediately, disconnect cable and have the fault corrected by a qualified electrician.
- Disconnect shore-power cable at shore-outlet first.

DANGER

This engine compartment is a machinery enclosure. It contains exposed moving parts. Do Not enter this area during equipment operation unless you are a trained service technician.

WARNING

HOT WATER HEATER

WILL BURN OUT IF POWER IS SUPPLIED TO AN EMPTY UNIT

WARNING

Leaking Fuel is a Fire Hazard. Inspect Fuel System Often. Examine Fuel Tank for Leaks and Corrosion at Least Annually.

CAUTION

BATTERIES ARE WET AND CHARGED

DANGER

Carbon monoxide is colorless, odorless and dangerous. All gasoline powered engines and generators exhaust carbon monoxide (CO). Direct or prolonged exposure result in CO poisoning, which can be harmful or fatal. Signs of exposure to CO include nausea, dizziness and drowsiness. To prevent excess exposure and reduce the possibility of accumulations of CO in the boat, the operator must insure adequate forced air ventilation in the cockpit and all partially or fully enclosed areas, though utilization of hatches, doors, windows, vents and forward facing canvas or plastic curtains to increase air movement through all areas. The following conditions tend to increase the accumulations CO in the boat and require the operator's particular attention.

1. Operation at slow speeds or dead in water
2. Operation with a bow-high attitude.
3. The utilization of canvas tops, front, side and back curtains, and enclosures.
4. Contributing climate conditions, such as head wind or tail wind.
5. Operation of engines and/or generator in confined spaces or at dockside.
6. Operation of engines and/or generator which have not had fuel mixture and ignition timing properly maintained and adjusted.
7. Any blockage of hull exhaust outlets.

SEE OWNERS MANUAL FOR MORE DETAILS.

"THIS PRODUCT CONTAINS HALON 13 AND R-12 REFRIGERANT WHICH ARE SUBSTANCES THAT CAN CAUSE ENVIRONMENTAL DAMAGE BY DEPLETING THE OZONE CONTENT OF THE UPPER ATMOSPHERE."

CARVER BOAT CORPORATION

Section 2

Powering the 12 Volt Systems 23

DC ELECTRICAL SYSTEM

Your Carver 374 Voyager 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 placed and positioned to prevent abrasion and exposure to moisture, as well as to remain accessible for inspection, repairs and adding additional electrical components.

Electrical wire used throughout your boat is plastic coated, color-coded wire. Connections are made using crimped connector points. Your boat's electrical system is virtually maintenance free, with only the batteries requiring periodic inspection and maintenance.

BATTERY POWER

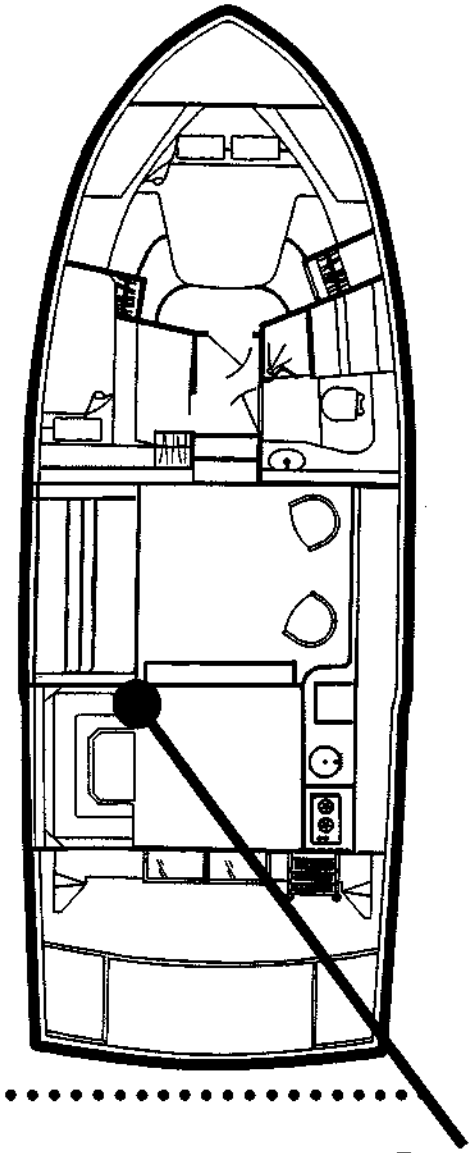
GASOLINE ENGINES

If your boat is equipped with gasoline engines, power to the ship's propulsion engines and the "house" 12 volt equipment is powered by two 12 volt batteries mounted below a hatch in the salon floor. Each battery is dedicated to start either the port or starboard engine.

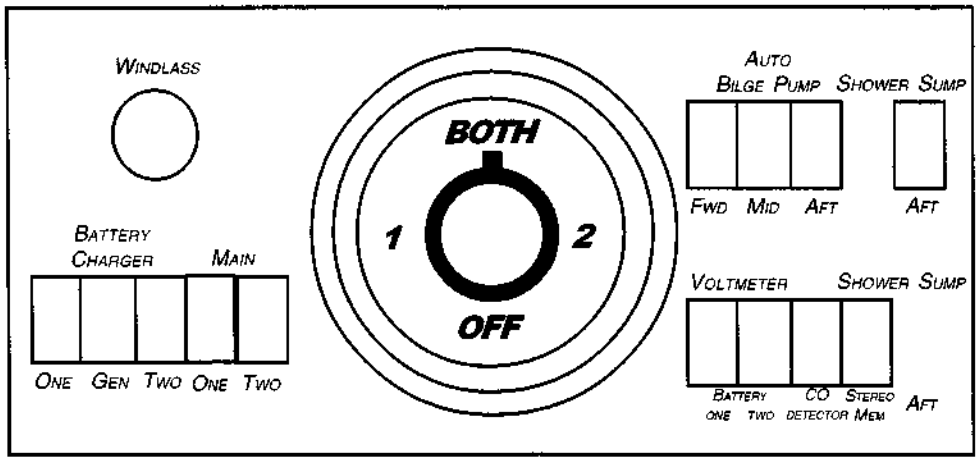
DIESEL ENGINES

If your boat is equipped with diesel propulsion, each diesel engine requires a dedicated double battery bank to start the engine. In this case, each engine will require a master disconnect switch ON/OFF switch located in the engine compartment. These master disconnect switches must be in the ON position for the engines to start.

BATTERY SELECTOR SWITCH



BATTERY SELECTOR SWITCH LOCATION



NOTE: With diesel engines, the battery selector switch located behind a hatch in the dinette should only be used to select which battery bank (#1 or #2) that your "house" 12 volt equipment will draw power from. Or, you can use the "BOTH" position to parallel the power from both battery banks should one or the other become unable to start an engine.

BATTERY SELECTOR SWITCH

The power from these batteries to the "house" equipment is controlled by the battery selector switch. This switch is located behind a hatch in the ship's dinette. The battery selector switch acts as a master disconnect for the "house" 12 volt systems. The selector switch lets 12 volt equipment draw power from either battery bank #1, battery bank #2, or both battery banks together.

If your boat is equipped with gasoline engines, the selector switch also lets your start your ship's engines by combining the power within both batteries should the charge in an engine's dedicated battery bank become unable to start the ship's engine. This is accomplished by positioning the battery selector switch to the "BOTH" position.

BATTERY SELECTOR SWITCH POSITIONS

The following information refers only to boats equipped with gasoline engines. If your boat is equipped with diesel engines, the engines are wired directly to battery ON/OFF switches mounted in the engine room. With diesel propulsion, the battery selector switch should be used only to parallel both batteries together if the charge in either battery is too low to start your engines.

With the battery selector switch in the "OFF" position, all 12 volt DC power to the boat is shut off except for the bilge pumps, voltmeters, battery charger leads, and the CO detectors.

The boat's bilge pumps, and CO detectors are "hard wired" to the selector switch so they operate in the automatic mode even when the boat is unattended and the selector switch is in the "OFF" position.

A TIP FROM CARVER!

Carver recommends using ONE BATTERY AT A TIME . The only time you should use the "ALL" position is when a single battery is not capable of starting your engines.

After starting the engines in the "ALL" position, switch the selector to either the #1 or #2 position. Running the boat in the "ALL" position combines the output of both batteries and does not permit the engine alternator's voltage regulator to sense the charge level of an individual battery.

This could lead to inadequate charging if one battery has been drained lower than the other. *Alternating between position #1 and position #2 will increase the life of your batteries.*

⚠ WARNING

NEVER turn the battery selector switch or the diesel master disconnect switch to the "OFF" position while the engine or generator are running. Doing so may cause damage to your engine's electrical system.

#1 Position #1 will use battery bank #1 to power both engines and all other 12 volt equipment. Battery bank #2 will be isolated and remain in reserve.

#2 Position #2 will use battery bank #2 to power both engines and all other 12 volt equipment. Battery bank #1 will be isolated and remain in reserve.

All With the selector switch in the "ALL" position, battery bank #1 and battery bank #2 are connected in parallel. Both battery banks will be used by the engines and all other 12 volt equipment.

BATTERY MASTER DISCONNECT SWITCHES

(DIESEL ENGINES ONLY)

Power from the ship's batteries to diesel engines are regulated by master disconnect ON/OFF switches. Each engine and the generator will have a dedicated master disconnect switch. For the propulsion engines, these master disconnect switches are mounted in the engine compartment.

For the generator, this master disconnect switch is located near the generator beneath the ships cockpit. These master disconnect switches must be turned to the "ON" position before starting your engines or the generator.

VOLTMETERS

Two active voltmeter gauges are installed at the helm console. These gauges become active whenever the ignition has been activated.

A voltmeter gauge reads static voltage when the engines are off. When the engines are running, each battery will indicate a higher reading than when the engine is off. This is because the voltmeter reads alternator charging rate when the engines are running. Each engine's alternator will automatically charge the dedicated battery whenever it is running.

12 VOLT EQUIPMENT

While the engines are running, 12 volt equipment can be used with little concern for excess battery discharge. The power generated by the engine alternators is usually more than adequate to replace any power consumed by 12 volt equipment.

HOWEVER, without an engine running, a battery will discharge as it powers 12 volt equipment. Operating 12 volt equipment without the engines running or the battery charger functioning will eventually completely discharge the battery. This is why we recommend using either battery bank #1 OR battery bank #2 . The condition of your batteries can be monitored by referencing the helm voltmeters.

Fully charged batteries that have not been charged or discharged for at least 2 hours should indicate between 12.3 to 12.6 volts. A reading below this level indicates a partly discharged battery.

A TIP FROM CARVER!

If your boat is equipped with a generator and a battery becomes completely discharged, and you are unable to start an engine, start the onboard generator. Next, turn the AC breaker labeled BATTERY CHARGER to the "ON" position. In a short time your battery will be charged enough to start the engine.

BATTERY CHARGER

Your 374 Voyager is equipped with a 35 amp battery charger. The battery charger uses AC power to recharge the 12 volt batteries. You can find this battery charger mounted in the engine compartment forward the port engine. With the boat connected to a dockside power source, you can provide AC power to the battery charger by turning the AC breaker labeled BATTERY CHARGER to the "ON" position. This breaker is located in the salon's AC Main Distribution Panel mounted on the starboard salon wall just forward the galley.

When activated, the battery charger automatically monitors the charge of the ship's batteries regardless of the position of the battery selector switch. When the voltage in a battery drops below a predetermined level the charger automatically recharges the low battery.

With your boat connected to AC power (either through the shore power cord or by operating the onboard generator) and your battery charger operating, you can use 12 volt equipment (such as cabin lights) with little concern for discharging the boat's batteries.

NOTE: The battery charger will charge the batteries even when the battery selector switch is in the "OFF" position. More information on using the battery charger can be found in the "Shore 1" portion of Section 3.

12 VOLT BREAKER PANELS

Twelve Volt (Direct Current) power is managed throughout your boat using two 12 volt breaker panels.

MAIN DISTRIBUTION PANEL

The first, the 12 volt "Main Distribution Panel," manages 12 volt electrical power to most of your boat's 12 volt systems and accessories. This "Main Breaker Panel" is mounted behind a sliding panel on the starboard salon wall just forward the galley.

SAFETY BREAKER PANEL (BATTERY SELECTOR SWITCH)

The "Safety Breaker Panel" is combined with the battery selector switch. You can find the "Safety Breaker Panel" mounted behind a hatch at the base of the ship's dinette.

This safety breaker panel manages power to some of the ship's safety equipment such as CO detectors and bilge pumps which are "hard wired" to the safety panel so they operate in the automatic mode even when the boat is unattended and the selector switch is in the "OFF" position.

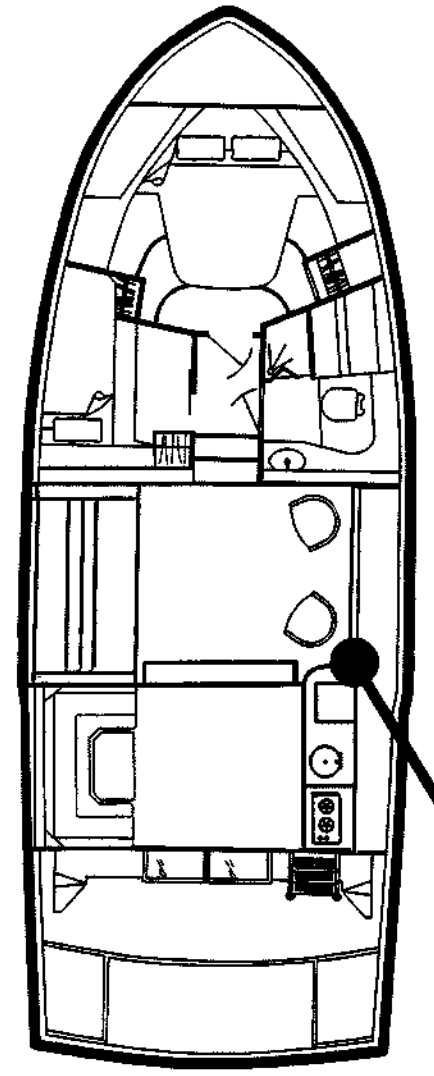
These circuit breakers enable you to manually interrupt a circuit by switching the breaker on or off. They also protect the electrical system by automatically disconnecting the circuit from the power source in the case of a short or overload.

NOTE: Some breakers on this panel are meant to remain in the "ON" position at all times. For this reason, you will need a tool like a standard screw driver to manually "trip" or interrupt these circuits.

⚠ WARNING

NEVER reset a breaker that has been automatically tripped without first correcting the problem. Failure to do this may create a dangerous situation.

MAIN PANEL LOCATION



12 VOLT MAIN BREAKER PANEL

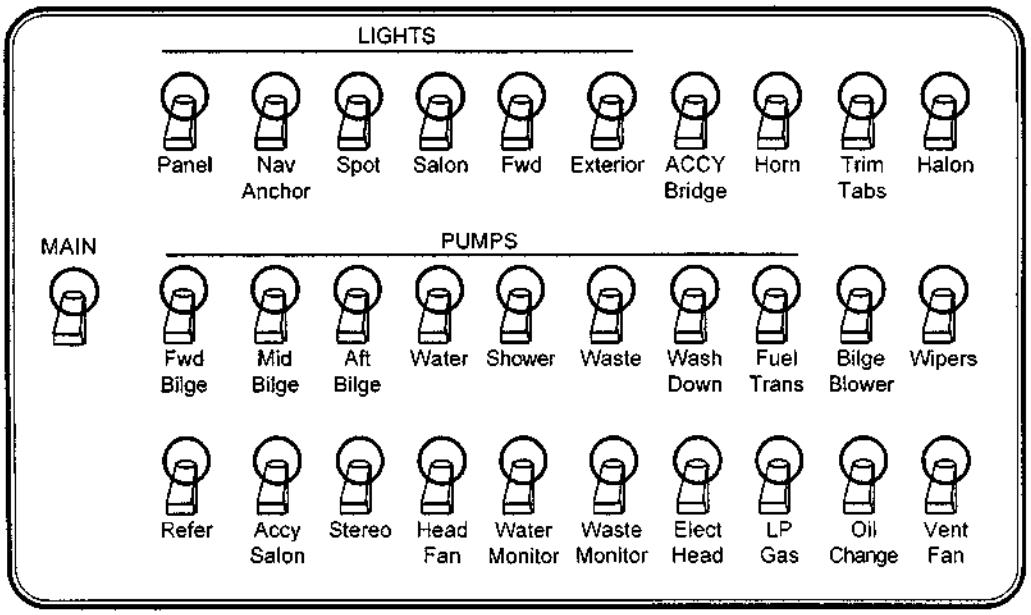
Your 12 volt main breaker panel is mounted behind a panel located on the starboard salon wall forward the ship's galley. To provide power to this panel, position the battery selector switch to draw from either battery #1 or battery #2. The 12 volt main breaker panel is divided into three rows. The following breakers manage power to the factory installed equipment onboard your 374 Voyager.

MAIN

MAIN BREAKER

The main breaker manage the supply of electricity to the remaining DC breaker groups. The 30 amp breaker is located in the upper left corner of the DC Main Distribution Panel. To supply power to the individual equipment breakers, turn this main breaker to the "ON" position. To cut the power supply to the remaining breaker groups, turn the main breaker to the "OFF" position.

12 VOLT MAIN DISTRIBUTION PANEL



ROW 1

PANEL LIGHTS

This breaker controls the flow of electricity to the helm instrument panel. Turn this breaker "ON" to supply power to the instrument panel.

NAVIGATION

This breaker controls the flow of electricity to the boat's navigation light controls located at the helm station. To activate these controls, turn this breaker "ON." Use the navigation light's ON/OFF switches at the helm to turn lights OFF and ON.

SPOTLIGHT

This breaker controls the flow of electricity to the controls for the boat's spotlight (if factory equipped). Turn this breaker "ON" to activate the controls for the spotlight. These controls are located at the boat's helm station. Refer to the OEM supplied operator's guide for detailed information regarding the proper operation of the spot light. This information is supplied in your Captain's Kit.

SALON LIGHTS

This breaker controls the flow of electricity to the lights in the salon area. To supply power to the lights' ON/OFF switch, turn this breaker "ON."

FWD (V-BERTH LIGHTS)

This breaker controls the flow of electricity to the light controls in the Fwd stateroom. To supply power to the light's ON/OFF switch, turn this breaker "ON."

EXTERIOR LIGHTS

This breaker controls the flow of electricity to the exterior lights. Turn this breaker "ON" to supply power to ON/OFF controls for these lights. The exterior ON/Off switch for these lights is located in the forward, port corner of the ship's cockpit.

BRIDGE ACCESSORIES

This breaker controls power to the cigar lighter at the upper helm station. Use the 12 volt outlet to power 12 volt equipment such as cellular phones. Turn this breaker "ON" to supply power to this power outlet.

HORN

This breaker controls the flow of electricity to your boat's horn. Turn this breaker to the "ON" position to activate the horn's controls located at the boat's helm station. To operate the horn, turn the momentary horn switch to the "ON" position to sound the appropriate horn blast.

TRIM TABS

This breaker regulates the flow of electricity to the trim tab controls located at the helm station. Trim tabs are used to improve the running angle of your boat while underway. To manually activate the trim tabs using these bridge controls, you must first turn this breaker "ON." Before operating these trim tabs, refer to the **TRIM TABS** portion of **SECTION 6.**

HALON

This breaker controls the flow of electricity to your boat's halon fire suppression system installed in the engine room. Turn this breaker to the "ON" position to activate the halon fire suppression system. Refer to the OEM supplied operator's manual found in your Captain's Kit for detailed information regarding the operation and maintenance of this system.

ROW 2

BILGE PUMP (FORWARD)

The forward bilge pump can be manually activated at the boat's instrument panel. A helm switch labeled forward bilge turns the forward bilge pump OFF and ON. To supply power to the forward bilge control switch, turn this breaker to the "ON" position.

BILGE PUMP (MID)

The mid bilge pump can be manually activated at the boat's instrument panel. A helm switch labeled mid bilge turns the mid bilge pump OFF and ON. To supply power to the mid bilge control switch, turn this breaker to the "ON" position.

BILGE PUMP (AFT)

The aft bilge pump can be manually activated at the boat's instrument panel. A helm switch labeled Aft Bilge turns the aft bilge pump OFF and ON. To supply power to the aft bilge control switch, turn this breaker to the "ON" position.

⚠ CAUTION

DON'T FORGET TO TURN YOUR BILGE PUMPS OFF. Leaving the forward, mid or aft bilge pump on for extended periods of time could cause excessive wear to the pump.

WATER (PRESSURE)

This breaker controls the flow of electricity to the water system's pressure water pump. After your water tank is filled, turn this breaker "ON" to activate the pressure water pump. Refer to the **PRIMING THE WATER SYSTEM** portion of **SECTION 4** for information regarding filling and priming your water system using this pressure pump.

SHOWER (SUMP PUMP)

This breaker controls the flow of electricity to the boat's shower sump pump installed below the floor hatch at the base of the head room door. Before you operate your air conditioning system, or begin using the headroom sink or shower, turn this breaker to the ON position.

All shower and sink waste water and forward air condition unit condensation drains into this shower sump. Since this shower sump is mounted below the water line, a sump pump is needed to pump the water overboard or into the waste holding tank. Whenever water within this sump rises above a certain level, this shower sump will activate via a float switch and rid the sump of water.

WASTE PUMP

On boats equipped with overboard discharge, this breaker controls the flow of electricity to the overboard discharge waste pump ON/OFF switch. This waste pump us used to empty your waste holding tank directly overboard.

You can find this waste pump and its ON/OFF switch in the ship's engine compartment forward the starboard engine. Turn this breaker "ON" to supply power to the overboard discharge waste pump controls. Refer the **OVERBOARD DISCHARGE** portion of **SECTION 4** for the proper use of this pump.

SPARE

This breaker is reserved for any aftermarket accessories you install on your boat.

A TIP FROM CARVER!

"A certain amount of water will always collect in your boat's bilge especially in the bilge area where the shaft logs are located. The small amount of water that normally accumulates is usually not enough to activate the bilge pump's automatic float switch. While underway and on plane, use the helm station switch to turn your bilge pumps on manually and let them run for 30 seconds to a minute. "

BILGE BLOWER

This breaker controls the flow of electricity to the bilge blower controls located at the helm's instrument panel.

A bilge blower system has been installed in your engine compartment to evacuate any hazardous vapors that may have accumulated there. Before you turn on your engines or the generator, activate your bilge blower system for at least four minutes.

⚠ DANGER

ALWAYS run bilge blowers at least 4 minutes before starting the boat's engines or the generator.

WIPERS

This breaker controls the flow of electricity to the helm's windshield wiper controls. Use these wipers to clear water from your ship's windshield. Turn this breaker to the "ON" position before using the windshield wiper.

ROW 3

REFER (GALLEY)

This breaker controls the flow of electricity to the dual voltage refrigerator located in the galley. To operate the galley's dual voltage refrigerator using your boat's 12 volt power, this breaker must be turned "ON."

Your refrigerator will operate on AC power when you boat is connected to dockside power or when an onboard generator is running. With the REFER breaker in the "ON" position, the ship's circuitry will automatically switch to DC power when AC current is not available.

NOTE: care should be taken when operating your dual voltage refrigerator using 12 volt power without the engines running. A refrigerator left operating on 12 volt power will eventually discharge the ship's batteries.

ACCESSORIES SALON

This breaker controls power to the cigar lighter at the Optional lower helm station. Use the 12 volt outlet to power 12 volt equipment such as cellular phones. Turn this breaker "ON" to supply power to this power outlet.

STEREO

This breaker controls the flow of electricity to your boat's stereo. To supply power to the stereo, turn this breaker to the "ON" position. Refer to the component's OEM supplied operator's guide for detailed information on operating this equipment. This information can be found in your Captain's Kit.

HEAD FAN

This breaker manages power to the ship's head fan ON/OFF switch. Use this fan to refresh air from within the ship's head room. To supply power to the ship's head fan, turn this breaker ON. Use the ON/OFF controls mounted inside the head room to active the fan.

WATER TANK MONITOR

This breaker controls the flow of electricity to the boat's water tank monitor. Use this water tank monitor to determine the level of water in your water tank. To activate the boat's water tank monitor, turn this breaker "ON". This water tank gauge is mounted in the head ship's compartment.

WASTE MONITOR

This breaker controls the flow of electricity to the boat's waste tank monitor. Use this waste tank monitor to determine the level of waste in your waste tank. To activate the boat's waste tank monitor, turn this breaker "ON". Refer to the OEM supplied operator's information supplied in your Captain's Kit for details on operating this equipment. This waste tank monitor is located in the head compartment.

ELECTRIC HEAD

On boats equipped with the electric head, turning this breaker "ON" supplies power to the head unit. Pressing the button labeled "FLUSH" clears waste from the head. For detailed information on maintaining and operating your boat's head system, refer to the manufacturers information supplied in your Captain's Kit.

NOTE: If your boat is equipped with a Vacu-Flush head, turn this breaker on to activate the vacuum pump. Pressing the foot lever at the base of the unit will rid the head of waste.

LP GAS

This breaker manages power to the ship's optional propane stove if installed. Before turning this breaker "ON," read the owner's information within your captain's kit. Also, refer to the **PROPANE STOVE** portion of **SECTION 4** for the proper use and maintenance of this equipment.

SPARE/OPTIONAL OIL CHANGE PUMP

This breaker controls the flow of electricity to the ship's optional oil change pump if factory installed. This system is located in the engine room and is designed to assist with propulsion and generator engine oil changing.

Turn this breaker to the "ON" position before attempting to operate this equipment. Refer to the OEM supplied operator's information supplied in your Captain's Kit for the proper use and maintenance of this oil change system.

BILGE BLOWER

This breaker controls the flow of power to the cockpit bilge blower system installed below the ship's cockpit. Since the optional generator is installed below the cockpit, be sure to operate this blower at least 4 minutes before you start the generator or engines. Use the bilge blower controls at the helm station to operate the blower.

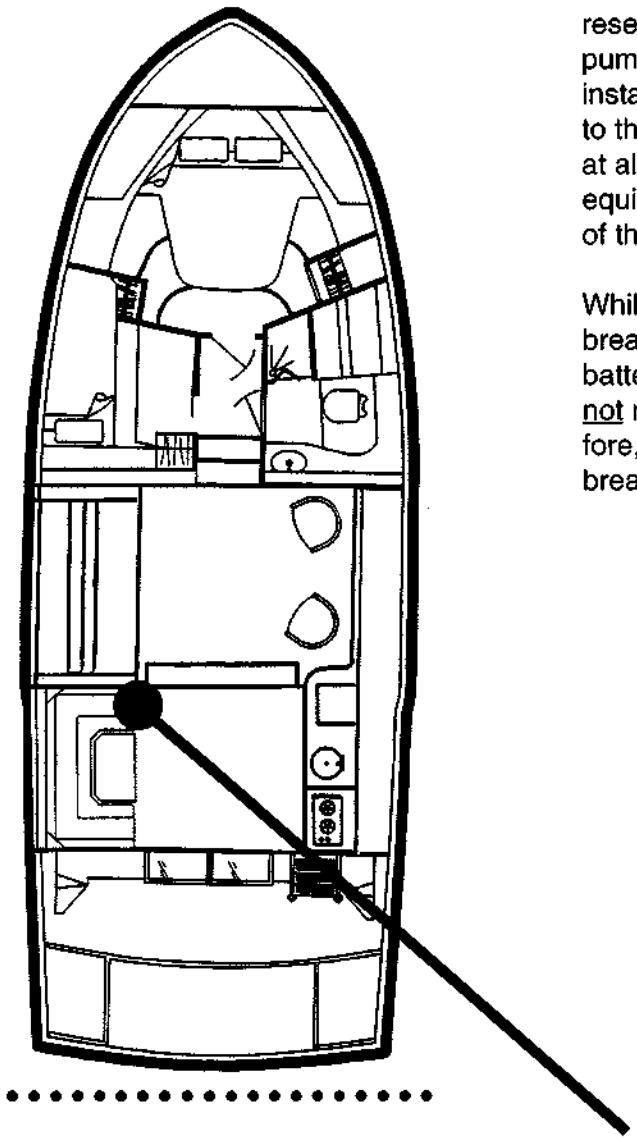
⚠ DANGER

ALWAYS run bilge blowers at least 4 minutes before starting the boat's engines or the generator.

NOTES:

SAFETY BREAKER PANEL (BATTERY SELECTOR SWITCH)

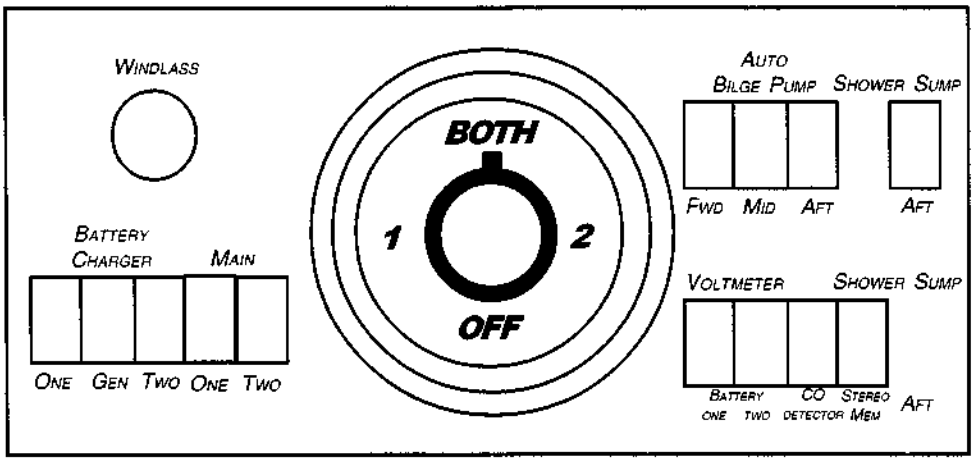
BATTERY SELECTOR SWITCH



The battery selector switch panel is mounted behind a hatch at the base of the ship's dinette. This panel is reserved for safety equipment such as automatic bilge pumps, CO detectors etc... Some safety equipment installed on the Safety Breaker Panel is directly wired to the batteries and should remain in the "ON" position at all times. This allows various pumps and safety equipment to remain active regardless of the position of the battery selector switch.

While the safety equipment wired though this safety breaker panel will operate at all times even when the battery selector switch is in the "OFF" position, it will not run should a breaker becomes interrupted. Therefore, it is important to frequently check that these breakers are working properly.

BATTERY SELECTOR SWITCH LOCATION



BATTERY CHARGER

BATTERY #1

This breaker protects the circuitry between the ship's battery charger and battery bank #1. With this breaker in the "ON" position and your ship's battery charger operating, the battery charger will automatically charge battery #1 whenever voltage dips below a predetermined level.

BATTERY #2

This breaker This breaker protects the circuitry between the ship's battery charger and battery bank #2. With this breaker in the "ON" position and your ship's battery charger operating, the battery charger will automatically charge battery bank #2 whenever voltage dips below a predetermined level.

GENERATOR BATTERY

This breaker protects the circuitry between the generator battery and the ship's battery charger. With this breaker in the "ON" position and your ship's battery charger operating, the battery charger will automatically charge the generator's battery whenever voltage dips below a predetermined level.

AUTO BILGE PUMPS

SHOWER SUMP

This breaker controls the flow of electricity to the Air conditioning sump pump located below the salon floor. Condensation from the ship's air conditioning system drains into this sump pump. Since the sump tank is located below the ship's water line, this sump pump is needed to pump air conditioning condensation water overboard or into the grey water holding tank (if boat is equipped with grey water).

This sump pump is activated automatically by a float switch whenever water within the sump rises above a predetermined level. This breaker is meant to remain in the "ON" position at all times.

NOTE: Since condensation from the air conditioning unit drains into the shower sump pump, these shower sump breakers must remain in the "ON" position whenever operating the air conditioning system.

AUTO BILGE PUMPS (FORWARD, MID, AFT)

These bilge pump breakers regulate the flow of electricity to the automatic bilge pumps. These pumps are activated automatically by a float switch whenever water within the bilge area rises to a predetermined level. It is important that this breaker remains in the "ON" position whenever the boat is in the water.

NOTE: Incorporated into each bilge pump is a float switch. The float switch "automatically" activates the appropriate bilge pump when bilge water rises above a predetermined level. Since your bilge pumps are "hard wired" to the battery selector switch, they will operate automatically via their float switch regardless of the position of the breakers on the 12 volt circuit breaker panel or battery selector switch. It's a good idea to periodically test each float switch by lifting the float. The pump should turn on when the float is lifted.

VOLTMETER

BATTERY #1

This breaker protects the circuitry between the helm's voltmeter and battery bank #1. With this breaker in the "ON" position and your ship's voltmeter will operate whenever the engine ignition is engaged. Use the voltmeter to monitor the charge level within battery bank #1.

BATTERY #2

This breaker protects the circuitry between the helm's voltmeter and battery bank #2. With this breaker in the "ON" position and your ship's voltmeter will operate whenever the engine ignition is engaged. Use the voltmeter to monitor the charge level within battery bank #2.

MAINS

This breaker protects the circuitry between the DC Main Distribution Panel and the battery banks. This breaker must remain active for power to reach the panel.

WINDLASS

This breaker protects the circuitry between the ship's windlass and the battery bank. This breaker must remain active for power to reach the windlass controls mounted at the helm. Refer to the OEM supplied operator's manual for information regarding the proper use and maintenance of this equipment. This information is found in your Captain's Kit.

CO DETECTOR

Carver installs several carbon monoxide detectors on the 374 Voyager. This breaker must remain "ON" for the CO detectors to function.

This safety equipment detects the presence of carbon monoxide (abbreviated as CO) within the cabin of your boat. Carbon monoxide is a colorless and odorless gas that is present in engine and generator exhaust fumes. Carbon monoxide is a very dangerous gas that is potentially lethal when inhaled.

When your CO detector is activated, it will alert you to the presence of carbon monoxide in the cabin by emitting a loud, high pitched sound. When you hear this alarm, determine the cause 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. More information concerning carbon monoxide is included in **Section 1** of your Owner's Guide.

⚠ DANGER

ALWAYS activate the CO Detectors when the boat's engines and/or generator are running. Carbon monoxide is dangerous. Study Section 1 of your Owner's Guide for information on minimizing, detecting and controlling carbon monoxide accumulation.

STEREO MEMORY

This supplies constant power to the stereo equipment - keeping the memory active. This breaker should remain active at all times. Should this breaker become interrupted, you will have to reprogram the stereo's memory features.

BATTERY INSTALLATION AND MAINTENANCE

Your boat's 12 volt DC electrical system is powered by 12 Volt batteries. These batteries are anchored beneath a hatch in the salon floor. If your boat is equipped with an optional generator, a dedicated battery supplies power to the generator starter. This dedicated generator battery is located near the generator below the ship's cockpit.

While your boat's batteries are relatively maintenance free, there are a few things you can do to increase their effectiveness and life.

⚠ DANGER

Your boat's batteries contain electrolyte which is an acid. Wear gloves and protective eye glasses when working on and around the batteries.

When servicing your boat's batteries avoid spilling electrolyte into the engine compartment or bilge. Also, avoid getting any salt water in or on the battery. Either of these conditions could create a poisonous gas that would be harmful if inhaled.

If you should spill electrolyte ventilate the area. Neutralize the acid in the electrolyte by pouring baking soda on the area of the spill. Neutralized electrolyte can then be cleaned up with a disposable rag or paper toweling.

MAINTAINING YOUR BATTERIES

1) Keep your batteries fully charged. Batteries that are kept full or near fully charged will last longer than batteries stored with a partial charge. Battery condition can be monitored using the voltmeter that is installed on the helm console.

2) Inspect your boat's batteries at least every 30 days.

3) Periodically clean the battery terminals and cable connections. DISCONNECT THE BATTERIES BEFORE CLEANING.

   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.

4) Check to make sure that the battery cables are securely attached to the terminal posts. Tighten the terminal wing nuts 1/4 turn beyond finger tight with a pliers.

5) Check the level of electrolyte in each cell of each battery. Correct level is just above the plates. If the fluid level is low, top off the cell with DISTILLED water. DO NOT OVERFILL.

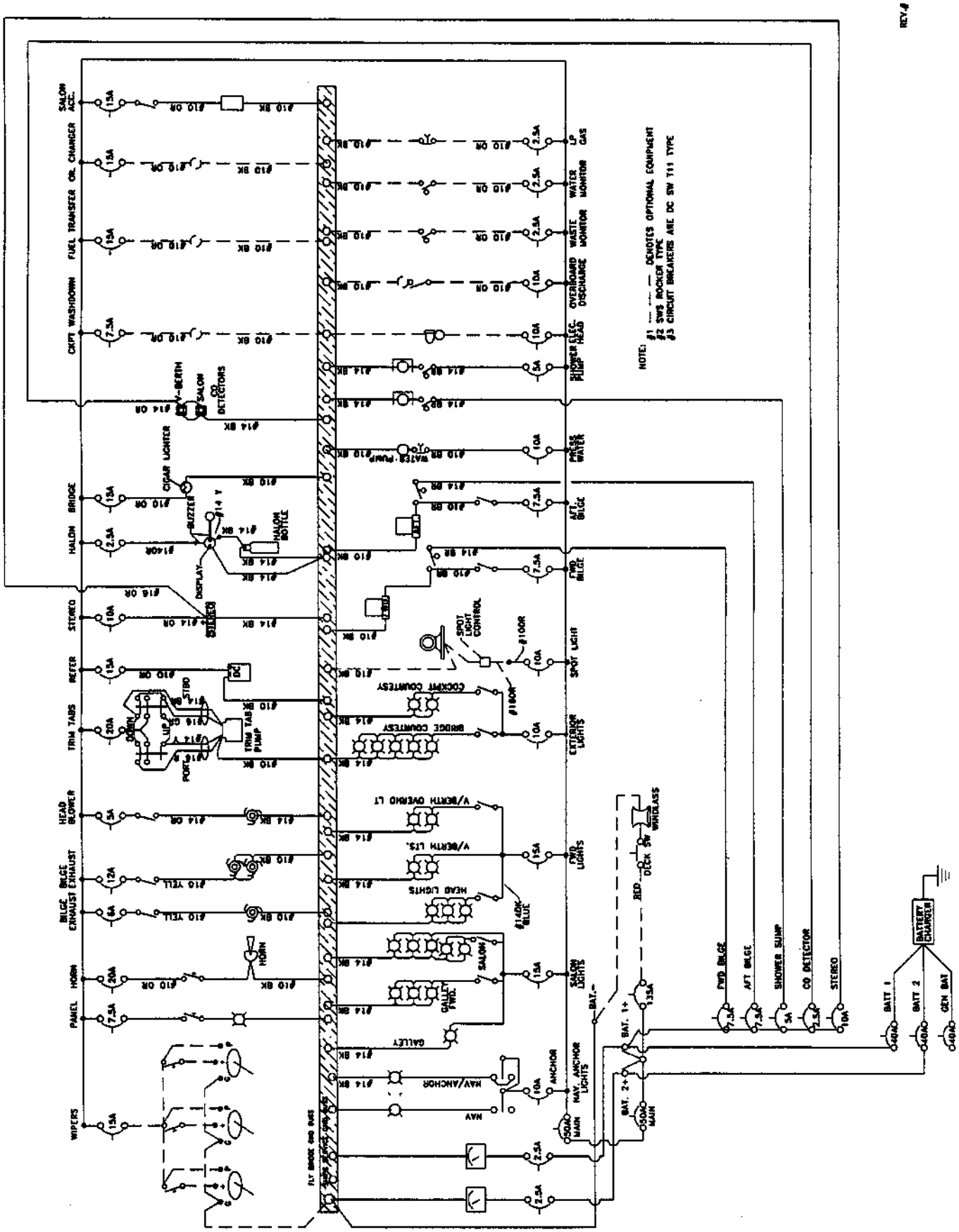
Remove the batteries from the boat during periods of extended storage. Store your batteries in a cool (above freezing temperature), dry area. All batteries will lose some charge during storage but the lower the temperature the less loss of charge. Avoid storing the batteries in a humid place. Humidity will lead to corrosion of the terminals.

Check the battery charge level every 3 months using a hydrometer or voltmeter. If the specific gravity of the battery is less than 1.225 or voltage less than 12.4 volts charge the battery. Avoid overcharging.

TROUBLE SHOOTING 12 VOLT ELECTRICAL SYSTEM

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
12 volt equipment will not function.	Battery selector switch in the "OFF" position.	Turn the battery selector switch to position #1 or position #2.
	Main circuit breaker in the "OFF" position.	Turn on MAIN circuit breaker.
	Weak or dead battery bank.	Reposition battery selector switch and charge battery.
Individual 12 volt component will not operate.	Circuit breaker for that component in the "OFF" position.	Turn circuit breaker for that component on.
	Weak or dead battery bank.	Reposition battery selector switch.
	Loose or disconnected wire within the 12 volt system.	Repair system as needed.
Cabin lights do not come on OR are dim.	Circuit breaker marked CABIN in the "OFF" position.	Turn on CABIN circuit breaker.
	Weak or discharged battery bank.	Reposition battery selector switch and charge weak battery bank as needed.
	Light bulb burned out.	Replace light bulb.
Battery will not hold a charge.	Faulty or old battery.	Replace with new battery.
Engine is running and voltmeter does not indicate adequate voltage.	Engine alternator belt is loose.	Refer to engine manual for instructions on tightening belt.

12 VOLT WIRING SCHEMATIC



Section 3

Shore Power/Generator Power..... 45

AC ELECTRICAL SYSTEM

INTRODUCTION

Your 374 Voyager is equipped with a 30 amp AC (alternating Current) electrical system. Power for this electrical system is routed through the AC Main Distribution Panel. This Main Distribution Panel is mounted behind a panel on the salon's starboard wall forward the galley.

You can supply power to your boat's 30 amp electrical system by connecting a dockside power cord to a dockside power source or by operating the optional onboard generator.

If your boat is **not** equipped with air conditioning, all AC power is routed through a single dockside MAIN breaker service called SHORE 1. If your boat is equipped with air conditioning, the air conditioning system is powered through an additional 30 amp breaker service called SHORE 2.

SINGLE 30 AMP DOCKSIDE (SHORE 1)

The SHORE 1 30 amp service is the standard configuration for the 374 Voyager. This system is powered by a single 30 amp shore power cord or the boat's onboard generator.

The SHORE 1 service is wired at the Carver factory in either 120 volt AC or 220 volt AC. 120 volt systems are used throughout North American and Pacific Rim countries. 220 volt is primarily used in European countries whose standard electrical system is based on 220 volt power.

DUAL 30 AMP DOCKSIDE (SHORE 2)

If your 374 Voyager is equipped with air conditioning, a second 30 amp service called SHORE 2 has been installed to handle the extra current flow. The SHORE 2 system utilizes two 30 amp services, each service powered by its own 30 amp shore power cord or by the boat's onboard generator. SHORE 2 service is available in either 110 volt or 220 volt configurations.

WIRING SYSTEM

The SHORE 1 or SHORE 2 electrical service on your 374 Voyager uses three wire, color-coded circuitry. The black wire in a circuit carries the current from the power source to the outlet.

Each black wire is connected to and protected by a circuit breaker that is installed in the circuit breaker panel. The white wire carries the current from the outlet back to the power source. Ground wires will be either green or bare copper wires. During normal operation, current does not flow through the ground wires.

Buss bars are used within the 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 another independent buss bar.

⚠ DANGER

The black and white wires are hot, current carrying wires. Do not touch them while the system is connected to a power source.

REVERSE POLARITY

Reverse polarity only occurs with 110 volt electrical systems. If your boat is equipped with a 220 volt system, disregard this section.

The MAIN circuit within your boat's electrical system is designed to sense the voltage difference between the neutral and ground terminal blocks. If the dockside electrical power source is incorrectly wired and the polarity is reversed, the red reverse polarity light in the dockside electrical box will come on. If reverse polarity occurs while your boat is connected to shore power, the reverse polarity light on your boat's AC electrical panel will come on.

⚠ WARNING

If reverse polarity occurs, turn off the 30 amp main breaker(s) on your AC electrical panel and disconnect your power cord(s) from the shore power supply. Notify marina management of the problem. Use a different dockside electrical box.

AC MAIN DISTRIBUTION PANEL

Power within your boat's AC electrical system is routed and controlled via the AC Main Distribution Panel. The Main Distribution Panel is located behind a panel located on the salon's starboard wall forward the galley.

Your Main Distribution Panel has a 30 amp MAIN breaker which protects the overall AC electrical system. Another MAIN breaker protects the circuits used if your boat is equipped with air conditioning. Circuit breakers enable you to manually interrupt a circuit by switching the breaker on or off. They also protect the electrical system by automatically disconnecting the circuit from the power source in the case of a short or overload.

⚠ WARNING

NEVER reset a breaker that has been automatically tripped without first correcting the problem. Failure to do this may create a dangerous situation.

VOLTMETER AND AMMETER USAGE

Your boat's electrical system is equipped with a voltmeter and an ammeter. These instruments are located on the Main Distribution Panel. The voltmeter provides you with an indication of the electrical voltage that is entering your boat's AC system.

With your boat connected to a dockside power source, the voltmeter should read between 110 and 120 volts in a 110 volt system and between 210 and 240 volts in a 220 volt system. If the voltage indicates a reading of 105 volts (205 volts in a 220 volt system) or less, DO NOT USE THE SYSTEM. If you experience a low voltage reading as described, contact the marina's management to locate the source of the problem.

If the voltmeter is reading zero voltage it is an indication that no current is getting to the AC circuit breaker panel. Check your shore power cord to make sure it is properly attached to both the boat and the dockside electrical box. Also, make sure you have turned on the dockside electrical breaker.

After checking these items, if you are still not getting power to the boat, contact marina management to ensure that the dockside power is operable. If indications are that the problem is with the boat's electrical system, have the system inspected by a qualified electrician. The ammeter provides you with an indication of the LOAD that is being put on the boat's 30 amp electrical system.

With all other breakers on the AC circuit breaker panel turned off and only the MAIN breaker switched on, and a reading of between 110 and 120 volts (210 and 240 volts for a 220 volt system), the ammeter should be indicating 0 amps.

As you begin to power AC equipment (water heater, battery charger or any other portable equipment powered through the wall-mounted AC receptacles), the ammeter will begin to give readings in excess of 0 amps. More information on amperage and electrical loads can be found in the **ELECTRICAL LOADS** portion of **SECTION 3**.

SHORE POWER

Power to your AC electrical system can be supplied by an onboard generator or by using a dockside power supply. A relay installed behind the ship's AC panel automatically determines the AC power source (generator or shore power).

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

CONNECTING TO SHORE POWER

⚠ DANGER

Supplying power to an empty water heater may result in damage to the units heating element and could result in a fire.

1) Turn off the WATER HEATER circuit breaker on your AC panel. Do not turn the breaker back on until your boat's fresh water system and water heater have been filled, pressurized and primed.

2) Make sure the 30 amp Shore 1 and Shore 2 MAIN breaker(s) located within the boat's AC Main Distribution Panel are turned "OFF."

3) Locate your dockside electrical cord(s). Be certain that all cords are in good repair. Inspect cords for cuts, nicks or abrasions in the exterior plastic cover.

⚠ DANGER

DO NOT use a damaged cord or a cord that is not specifically designed for this purpose. A household extension cord should not be used as a shore power cord for your boat. Using a damaged or improper cord could lead to electrical shock and serious personal injury.

4) Connect the female end of the cord to your boat's shore power receptacles located on the transom. Be sure to secure the nonmetallic threaded locking ring that locks the cordset to the inlet. This prevents accidental disconnection or arcing due to a gap between plug and inlet.

5) Choose a neat and safe way to route the dockside cord(s) to the dockside electrical box.

⚠ WARNING

Do not allow shore power cable end to hang in the water. An electrical field can be caused which can cause injury or death to nearby swimmers or passengers.

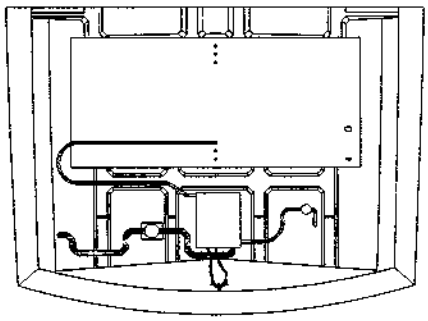
6) Turn off the breaker that is installed in the dockside electrical box. Plug the male end of the dockside cord into the dockside electrical box. The shore power plugs have a nonmetallic threaded locking ring that locks the cordset to the dockside inlet. This prevents accidental disconnection or arcing due to a gap between plug and inlet. After the cordset is connected, turn the dockside electrical box breaker "ON".

7) Turn "ON" the AC MAIN breaker(s) near the shore power inlet and the MAIN breakers on your Main Distribution Panel.

8) If the red reverse polarity light comes on, disconnect the shore power cord and contact marina management. If polarity is okay, turn on your boat's 30 amp MAIN Breaker(s) located near the shore power inlets.

9) Monitor the voltmeter and ammeter while your boat is connected to any electrical power source.

GENERATOR LAYOUT



⚠ WARNING

If the red reverse polarity light comes on, DO NOT try to turn on the MAIN breaker. INSTEAD, disconnect the shore power cord immediately. Notify the marina management of the reverse polarity problem and use a different dockside electrical box.

⚠ DANGER

ONLY people who are trained and experienced in working with electricity should service your boat's AC system. Inexperienced or untrained people may be harmed by incorrectly servicing a high voltage electrical system.

⚠ DANGER

Disconnect the power source before attempting to service any electrical system.

USING THE GENERATOR

If so equipped, your 374's onboard generator will enable you to power AC electrical accessories while away from dockside power. The generator is installed below the cockpit floor. Fuel for the generator is drawn from the same main tank as the propulsion engines.

STARTING THE GENERATOR

1) Read, understand and follow the operator's manual that has been prepared and supplied by the generator manufacturer.

⚠ DANGER

Operate bilge blowers for AT LEAST 4 minutes and inspect the bilge for fuel vapors prior to starting the generator. If you discover fuel vapors in the bilge. DO NOT START THE GENERATOR. Investigate the source of these vapors and fix the problem before starting the generator. Continue to operate the bilge blowers while the generator is running.

2) Turn the MAIN breakers on the AC Main Distribution Panel to the OFF position.

3) The generator starter is powered by a dedicated and separate 12 volt deep cycle battery. This battery is installed near the generator below the cockpit floor.

   Power to the generator from this battery is controlled by a ON/OFF switch mounted near the generator. Turn this switch to the "ON" position prior to starting the generator.

NOTE: The boat's battery charger monitors and charges the generator battery along with the other ship's batteries.

⚠ WARNING

NEVER turn the generator battery ON/OFF switch to the "OFF" position while the generator is running. Doing this will damage the generator or alternator wiring.

4) The generator engine uses sea water as a coolant. The sea water intake valve must be opened prior to starting the generator. This valve is located near the generator below the cockpit.

NOTE: Before performing the next procedure, be sure three 12 volt breakers labeled "BILGE BLOWER" located on your ship's 12 Volt MAIN DISTRIBUTION PANEL are in the "ON" position.

5) A BLOWER breaker is installed on the "12 Volt Main Distribution Panel" located in the salon. Turn this blower breaker "ON." Turn on the BLOWER switch mounted on the helm panel and let your bilge blowers run for at least 4 minutes before starting the generator.

⚠ DANGER

Run bilge blowers for AT LEAST 4 minutes and inspect the bilge for fuel vapors prior to starting the generator. If you discover fuel vapors, DO NOT START THE GENERATOR. Investigate the source of these vapors and fix the problem before starting the generator. Continue to operate the bilge blowers while the generator is running.

6) A spring-loaded generator START/STOP switch is installed in the center of the boat's AC MAIN DISTRIBUTION PANEL. This panel is mounted on the salon's starboard wall forward the galley.

After your bilge blowers have operated for at least 4 minutes, push the momentary switch to the "START" position until the generator starts. Release the switch when the generator has started.

⚠ WARNING

The START/STOP switch is spring activated. Release the switch when the generator has started. Failure to release the switch after the generator has started may damage the starter. ALSO, do not activate the generator starter for periods longer than 10 seconds. If the generator fails to start after the first attempt, wait 1 minute before trying again.

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 two 12 volt ship's batteries. If the ship's batteries become discharged to the point where they are not able to start an engine, start the generator and turn on the battery charger. This will recharge the ships batteries and will enable you to start the propulsion engines when the batteries have been recharged to an adequate level."

7) When the generator is running smoothly, switch the MAIN breaker(s) to the "ON" position. This connects the generator to the boat's AC electrical system. AC receptacles and accessories can now be used in the same manner as when the boat is connected to dockside power.

8) To turn the generator "OFF", press the START/STOP switch to the "STOP" position. If the generator will not be used for an extended period (a few days or more) turn the generator battery ON/OFF switch to the "OFF" position. This switch is located near the generator.

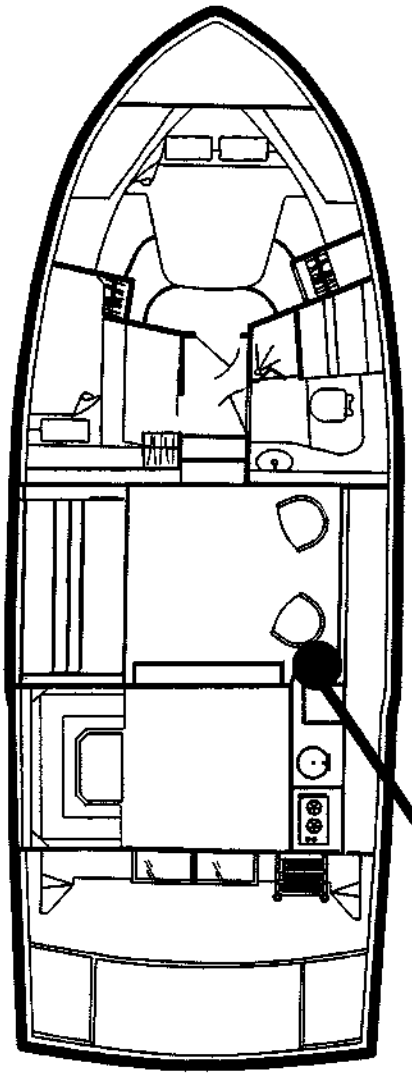
9) To use dockside power, turn the MAIN breaker(s) to the "OFF position. Then, connect and use the dockside power system as detailed in the **CONNECTING TO DOCKSIDE SHORE POWER** portion of **SECTION 3**.

⚠ DANGER

Generator exhaust contains carbon monoxide, a dangerous and poisonous gas. DO NOT INHALE GENERATOR EXHAUST. Refer to Carbon Monoxide portion of Section 1 for more information on engine exhaust and carbon monoxide.

AC MAIN DISTRIBUTION PANEL

AC MAIN PANEL LOCATION



SHORE 1 (MAIN POWER)

Your AC MAIN DISTRIBUTION PANEL is mounted behind a panel on the starboard salon wall just forward the galley. This panel is divided into two groups: SHORE 1, and SHORE 2 (if so equipped). The following breakers manage power to the factory installed equipment powered by the SHORE 1 service.

MAIN BREAKER

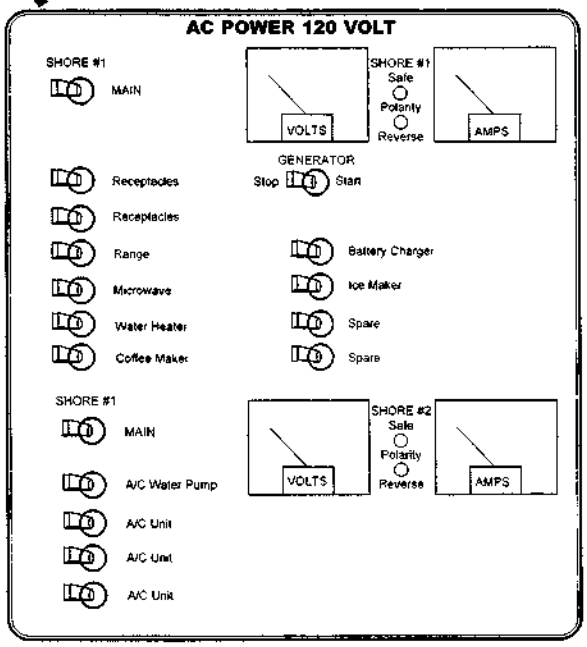
The SHORE 1 service is controlled by a 30 amp MAIN CIRCUIT BREAKER. This MAIN breaker supplies power to the individual circuit breakers for that service. Each individual breaker will not function unless the MAIN breaker is "ON". The following individual circuit breakers have been installed in your boat.

RECEPTACLES

This breaker regulates the power supply to the receptacles along the port salon, galley, and forward cabin. Turning this breaker "ON" supplies power to the various receptacles. Use these receptacles as you would the ones in your home.

NOTE: The GFI receptacle for this group of outlets is located above the forward, port corner of the ship's dinette. Should these outlets fail, first check to see if the GFI breaker has tripped.

AC MAIN DISTRIBUTION PANEL LOCATION



RECEPTACLES

This breaker regulates the power supply to receptacles throughout the starboard side of the ship. Turning this breaker "ON" supplies power to the various receptacles. Use these receptacles as you would the ones in your home.

NOTE: A GFI receptacle is installed under this circuit. This GFI breaker is installed in the galley. Should these outlets fail, first check to see if the GFI breaker has tripped.

RANGE:

This breaker regulates the power supply to the boat's range. To use the range turn the AC circuit breaker labeled RANGE to the "ON" position. Use the controls mounted on the range to control burners and heat adjustments.

Information on the proper use and maintenance of the range is provided by the OEM supplier. Look for this information in the OEM information packet.

NOTE: Propane stoves were offered as an option at the time your boat was built. If your boat was equipped from the Carver factory with a propane stove, an additional DC breaker labeled LP breaker must be turned to the "ON" position. For further safety and maintenance information using the propane stove, refer to the OEM information packet.

MICROWAVE

A microwave oven has been installed on your boat as original factory installed equipment. This appliance operates on AC power. To power your microwave, switch this AC circuit breaker to the "ON" position. Refer to the OEM supplied operator's guide for detailed information regarding operation and maintenance of this equipment.

WATER HEATER:

Hot water can be supplied to your fresh water system through your boat's hot water heater. Turning this breaker labeled "WATER HEATER" to the "ON" position supplies power to the water heater. The water heater is located under a hatch beneath the ship's dinette.

A TIP FROM CARVER!

"Whenever your water heater has been winterized for storage, or your water tanks are empty, Carver recommends taping the WATER HEATER breaker to the "OFF" position. This will help prevent the breaker from accidentally being turned on when no water is in the water system."

⚠ DANGER

DO NOT supply power to an empty water heater. Fill, pressurize and prime the boat's water system prior to turning on the water heater. Heating an empty water heater will damage to the unit's heating element and could lead to a fire.

Refer to the Fresh Water System portion of Section 4 for instructions on filling, pressurizing, and priming the fresh water system. Refer to Section 4 for information on how to operate the onboard water heater. Information on the proper use and maintenance of your boat's water heater has also been provided by the OEM supplier. This information is in the OEM information packet.

COFFEE MAKER

A coffee maker has been installed on your boat as original factory installed equipment. This appliance operates on AC power. To power your coffee maker, switch this AC circuit breaker to the "ON" position. Refer to the OEM supplied operator's guide for detailed information regarding operation and maintenance of this equipment.

BATTERY CHARGER

This breaker supplies power to the ship's charger. With AC power supplied to your boat, the battery charger will automatically monitor and charge the ship's 12 volt batteries regardless of the position of the battery selector switch. The battery charger is mounted forward the port propulsion engine in the engine room.

Detailed information regarding the proper operation and maintenance of the battery charger can be found in the OEM supplied operator's manual. This information is supplied in your Captain's Kit.

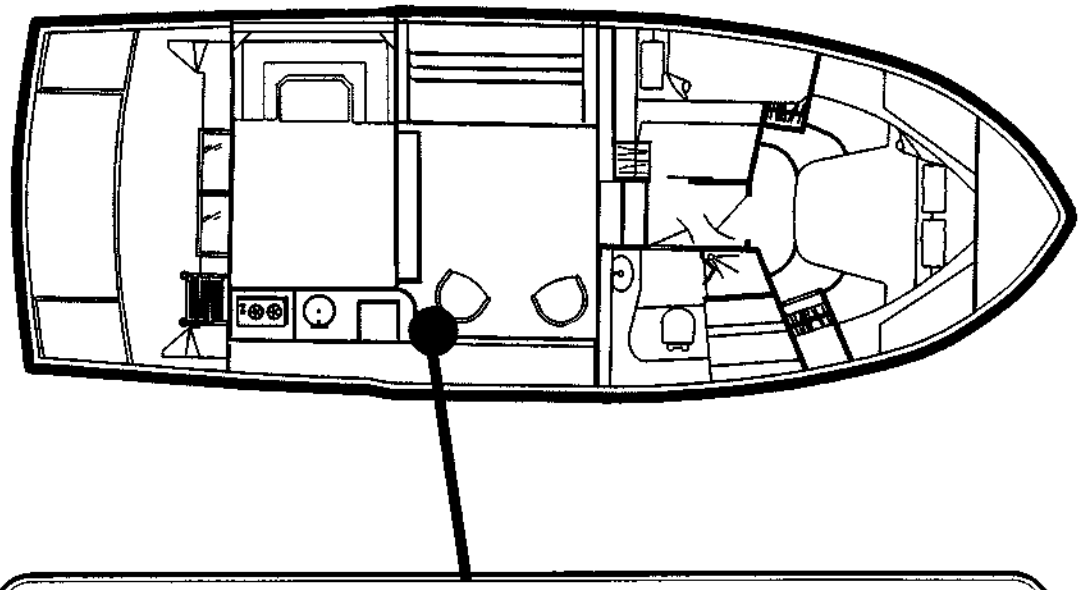
ICE MAKER

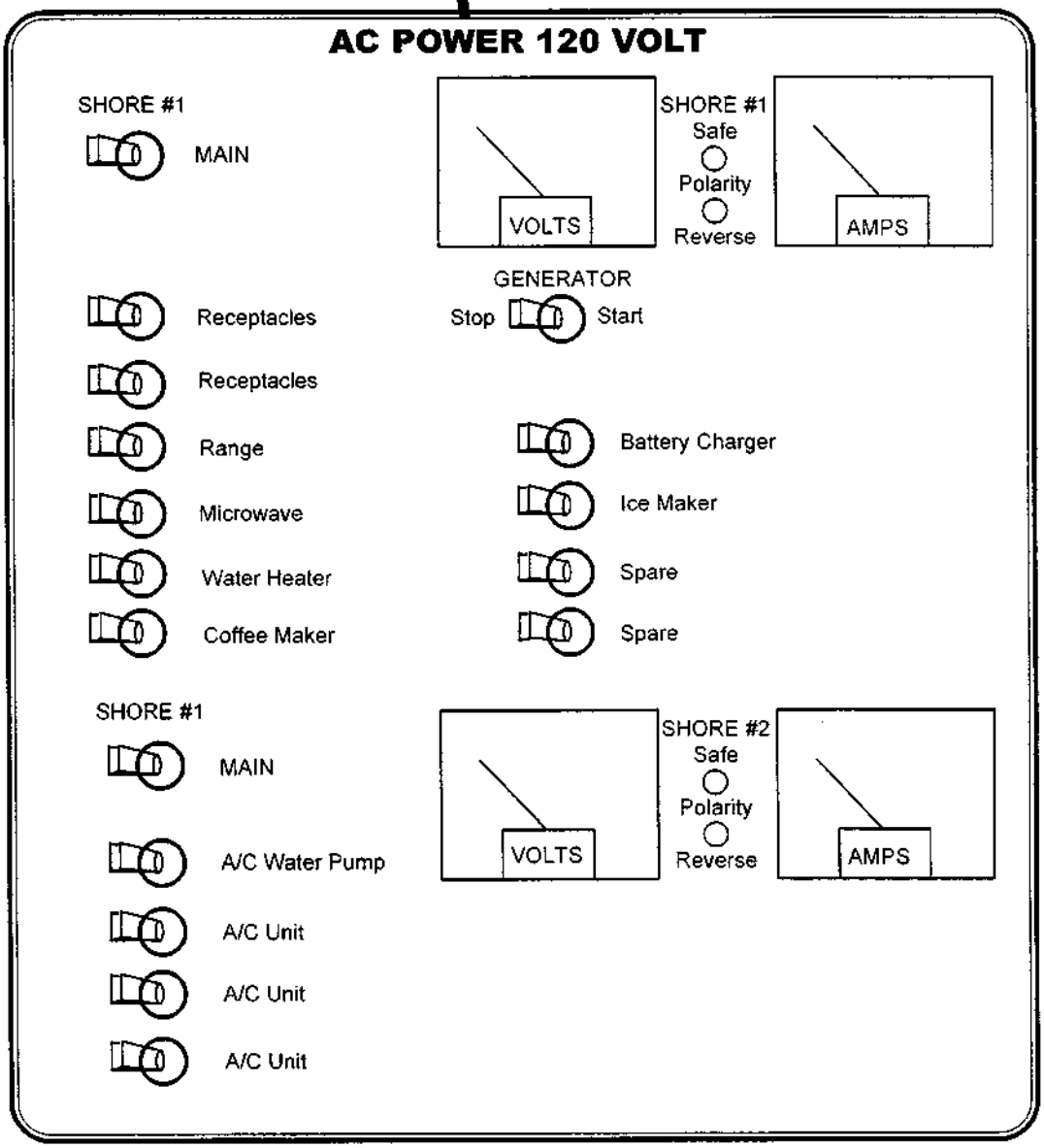
An optional ice maker may have been installed on your boat as original factory installed equipment. This appliance operates on AC power. To power your ice maker, switch this AC circuit breaker to the "ON" position. Refer to the OEM supplied operator's guide for detailed information regarding operation and maintenance of this equipment.

SPARE

The remaining two breakers are reserved for after market accessories you would like to install.

AC MAIN DISTRIBUTION PANEL LOCATION





SHORE 2 (OPTIONAL AIR CONDITIONING SYSTEM)

The following Shore 2 breakers supply power to your boat's optional air conditioning system if installed at the factory.

MAIN BREAKER

The SHORE 2 service is controlled by a 30 amp MAIN CIRCUIT BREAKER. This MAIN breaker supplies power to the Air Conditioning Breakers. The Air Conditioning Breakers will not function unless this MAIN breaker is "ON".

NOTE: Before turning the AC UNIT breakers "ON", you must supply the AC Units with sea water. Refer to the *Air Conditioning* portion of *Section 4* for detailed instructions on operating the air conditioning system.

AC WATER PUMP

Your air conditioning system relies on a source of water to operate. This pump supplies the air conditioning system with water. Before turning this breaker to the "ON" position, open the sea cock valve that supplies water to the pump. Also, clean the water filter located near the valve. This valve and filter are located forward the port engine.

NOTE: Before operating the air conditioning system, Refer to the *Air Conditioning* portion of *Section 4* for detailed instructions on operating the air conditioning system.

AC UNIT (FWD)

This circuit breaker manages the power to the forward air conditioning unit mounted beneath the V-berth. After you have activated the AC water pump, turn this breaker "ON" to supply power to the forward air conditioning system controls. Refer to the OEM supplied operator's guide supplied in your Captain's Kit for details operating instructions.

AC UNIT (AFT)

This circuit breaker manages the power to the aft air conditioning unit mounted beneath the ship's dinette. After you have activated the AC water pump, turn this breaker "ON" to supply power to the aft air conditioning system controls. Refer to the OEM supplied operator's guide supplied in your Captain's Kit for details operating instructions.

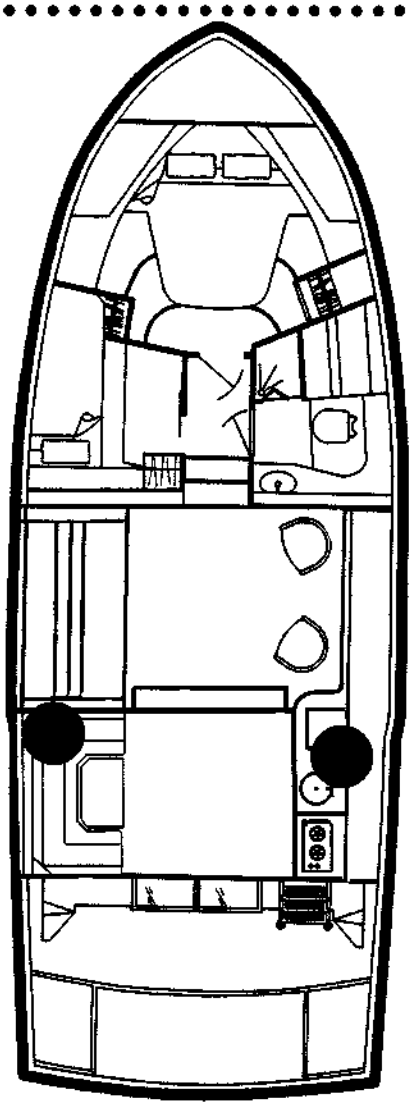
GROUND FAULT CIRCUIT INTERRUPTERS RECEPTACLES

Certain receptacles on your boat are Ground Fault Circuit Interrupters (GFCI). GFCI outlets provide protection against abnormal current flow from a conductor to ground. Ground fault protection is based on the idea that a normal electrical circuit has all the current flowing in the wires designated for that circuit.

Ground fault protection is provided by measuring the current in each conductor and seeing that whatever flows "down" one conductor in a circuit, flows "back" through the corresponding conductor of the same circuit. If there is an imbalance in the current, it is considered a "fault" in that circuit. Your boat's electrical receptacles are protected from ground fault through the installation of GFCI receptacles.

When a ground fault current is detected, the GFCI outlets will trip and interrupt the flow of current. The advantage of ground fault protection onboard your boat is to provide you and your guests with protection from inadvertent electrical shock.

GFCI RECEPTACLE LOCATIONS



GFCI RECEPTACLES LOCATIONS

Two GFCI breakers are installed on your 374 Voyager. The first is located in the galley and protects the receptacles in the starboard side of the ship. The second is located above the forward, port corner of the ship's dinette. The illustration to the left identifies where each GFCI breaker is located.

TESTING GFCI RECEPTACLES

GFCI receptacles are identified by a test button that is located between the receptacle's two outlets. Pushing the test button will interrupt the current in that receptacle and all other receptacles on that circuit. If the power IS NOT interrupted do not use the receptacles on that circuit and contact a qualified electrician to make the proper repairs. Press the reset button to restore power of the receptacles in that circuit. Test the GFCI receptacles on a weekly basis to ensure proper operation.

ELECTRICAL LOADS

When using your boat's AC receptacles be aware that household appliances exert a "load" on an electrical system when they are used. Your boat's system is only capable of carrying a certain electrical load. This load is measured in AMPs. Each MAIN circuit in your boat has an electrical capacity of 30 amps.

If the load on this system exceeds the level of amperage it was designed for, a breaker will trip. This is a signal that you have overloaded the circuit. Following is a list of typical household equipment and the approximate loads that could develop during their use.

AC EQUIPMENT ELECTRICAL LOADS

Fans	Up to 0.7 amps
Electric Blanket	Up to 2 amps
Television	Up to 2.7 amps
Coffee Maker	Up to 6.3 amps
Battery Charger	Up to 7.3 amps
Toaster	Up to 10.5 amps
Fry pan	Up to 12.3 amps
Space heater	Up to 13.7 amps
Refrigerator	Up to 1.5 amps

An appliance that uses an electric motor, such as a vacuum cleaner or electric drill, will have a "motor load plate" mounted on the unit. This motor load plate will provide information on the load that will be created while using the device.

As the chart indicates, appliances that utilize a motor or a heating element create rather high loads. Be particularly careful when using curling irons, toasters, coffee makers, hair dryers, mix masters or any other comparable types of equipment.

⚠ WARNING

DO NOT overload the electrical circuits. Use the above chart to judge the load that is being put on an individual receptacle. Exceeding these loads will trip the circuit breaker. Reduce the amperage on a receptacle before resetting a tripped breaker.

BONDING SYSTEM

Your Carver is equipped with a comprehensive metallic bonding system that effectively interconnects all underwater equipment and thru-hull fittings. This is done to ensure that fittings are at equal electrical potential. Bonding minimizes the effects of corrosion due to stray electrical currents.

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

Your boat's 12 volt system, AC system, and the batteries negative leads are all connected to the bonding system. These systems are interconnected through buss bars located in the engine and aft bilge compartments and connected to the transom mounted zinc plate. This system ensures that the "cases" of all metallic equipment onboard your boat are at the same electrical potential.

⚠ WARNING

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

⚠ WARNING

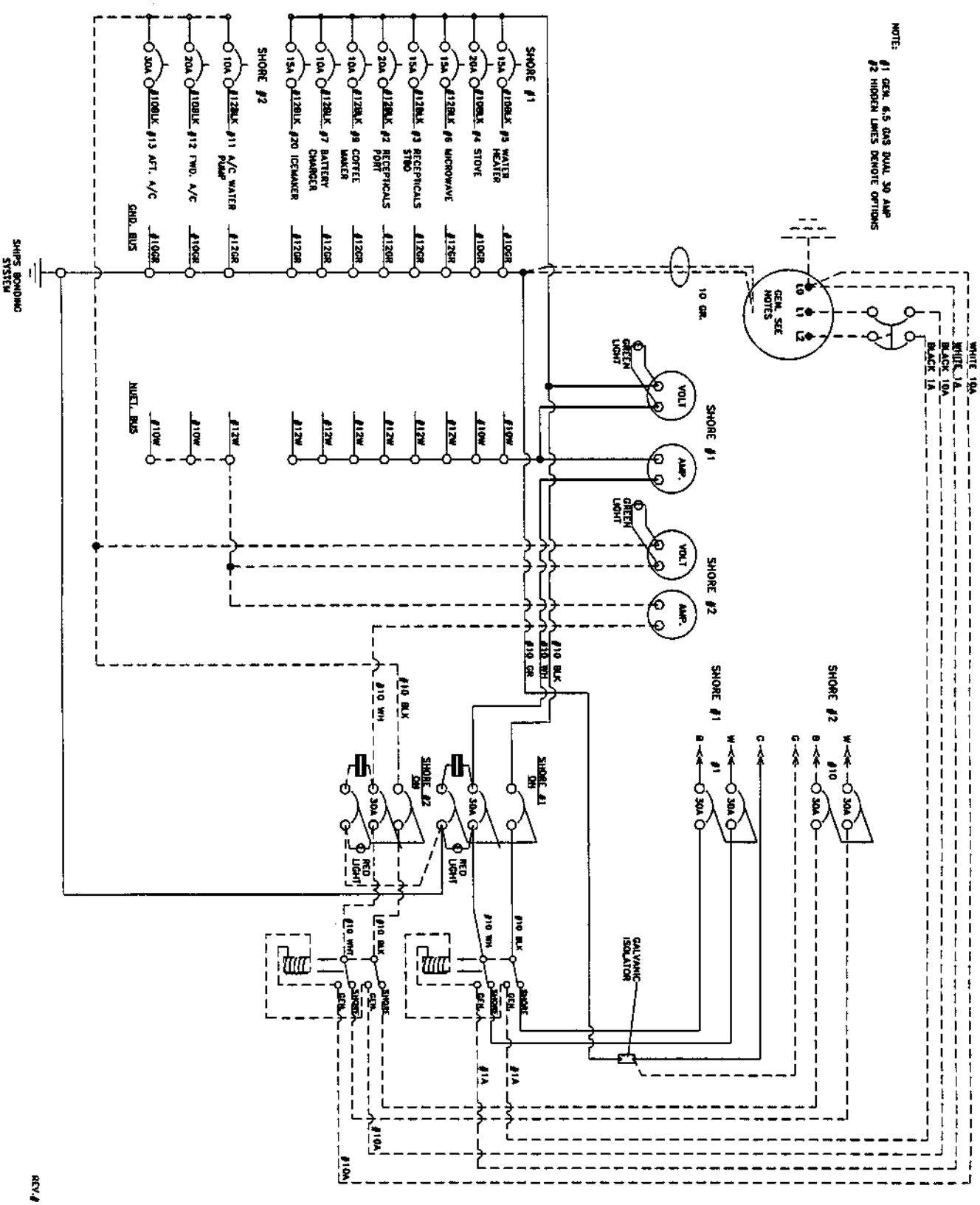
Monitor the condition of your boat's zinc anodes. Replace zinc anodes when you have determined that they have been reduced from their original size by 50%. DO NOT allow the zinc anodes to completely deteriorate. Refer to Section 5.5 for additional precautions concerning the sacrificial anodes.

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

TROUBLE SHOOTING THE AC ELECTRICAL SYSTEM

PROBLEM	POSSIBLE CAUSE	SOLUTION
No AC power as indicated by voltmeter.	Shore power cord not connected.	Inspect shore power cord.
	Power not turned on at dock box.	Turn dock box breaker ON.
	30 amp MAIN breaker tripped or in OFF position.	Reset MAIN breaker or turn to ON position.
	Loose or disconnected electrical wire.	Contact Carver Dealer.
No power at cabin AC outlets.	30 amp MAIN breaker tripped or turned to the OFF position.	Reset or turn ON the 30 amp MAIN breaker.
	Breakers labeled REC or REC GALLEY turned to the OFF position.	Turn breakers ON.
	Ground fault interrupter tripped.	Locate and reset ground fault interrupter.
	Shore power cord disconnected.	Reattach shore power cord.
30 amp MAIN breaker continues to trip.	Faulty MAIN breaker.	Contact Carver dealer to have breaker replaced.

AC WIRING SCHEMATIC



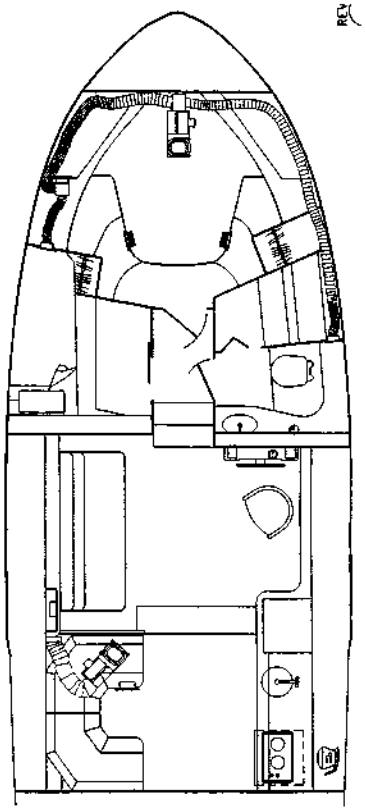
NOTES:

Section 4

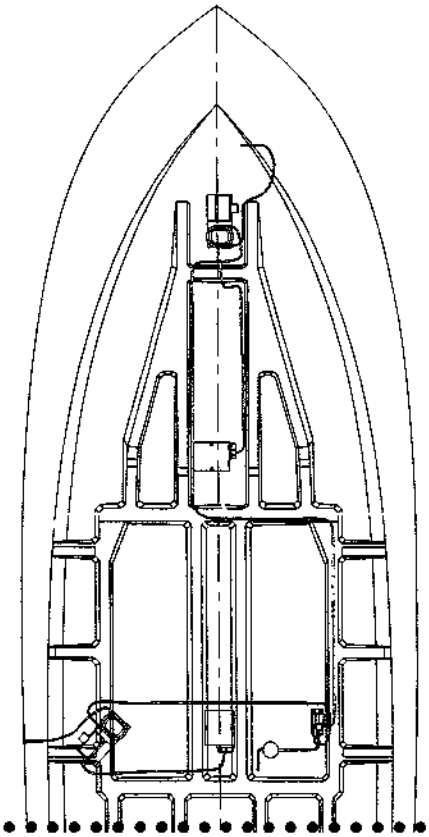
Powering The Internal Systems . 65

AIR CONDITIONING SYSTEM

AIR CONDITIONING DUCTING



AIR CONDITIONING PLUMING



Air conditioning is offered on the 374 Voyager as a factory installed option. The procedures outlined in this section pertain only to units installed at the Carver factory. Air conditioning systems installed as aftermarket accessories may not necessarily operate in the manner described within this section.

Factory installed systems depend upon a source of AC power (supplied by shore power or an onboard generator) and a supply of sea water (salt or fresh).

The air conditioning units used on the 374 Voyager also have the capability to produce heat in their reverse cycle mode. This reverse cycle operation, however, is affected by the temperature of the sea water. As sea water temperature decreases so does the units ability to produce warm air. We recommend that the air conditioning system installed on the 374 Voyager not be used in reverse heat mode when the sea water temperature is below 40 degrees F.

Two air conditioning units have been installed on your 374 Voyager . The first, a 12,000 BTU unit is installed beneath the forward V-berth. This unit is used to cool the forward cabin, mid cabin and the head compartment. Condensation from this air conditioning unit drains into the forward shower sump.

A second 16,000 BTU unit is installed beneath the ship's dinette. Condensation from this air conditioning unit drains into a designated sump tank below the galley floor.

NOTE: Since the air conditioning condensation drains into the shower sumps, the shower sump breakers located on the 12 volt Main Panel must remain in the "ON" position whenever the air conditioning system is in use.

POWERING THE AIR CONDITIONING:

1) Turn the AC MAIN breakers to the "OFF" position.

2) A single pump is used to supply the air conditioning units with sea water. Locate and open the thru-hull valve that supplies sea water to the pump. You can find this valve below the hatch in the galley floor. Turn the valve to the open position. (When open, the handle will run parallel with the seacock valve).

3) A strainer is installed near the above mentioned seacock valve. This strainer stops foreign matter from being ingested into the pump or air conditioning units. Inspect and clean this strainer prior to using the pump.

4) Supply power to the AC breaker panel on your boat. Power can be supplied to the AC breaker panels by connecting to a dockside power source or by starting the onboard generator. Refer to **Selecting a Power Source** portion of **Section 3**.

5) Once you have connected to an AC power source, turn the Shore 2 MAIN breaker to the "ON" position.

6) Turn "ON" the breaker labeled AC WATER PUMP. This breaker activates the water pump for both AC units.

7) Turn "ON" the breakers labeled AC UNIT. This will activate the air conditioning control center for each air unit.

8) Make sure that water is being pumped to the air conditioning unit. Sea water discharge outlets are installed through your boat's hull.

9) The conditioning units are controlled by a separate control center. Refer to the instructions provided by the manufacturer for detailed information on operating and maintaining the air conditioning system. This information can be found within your Captain's Kit.

FRESH WATER SYSTEM

Your 374 Voyager is capable of carrying approximately 83 gallons of fresh water. Water is carried within the boat's two 36 gallon water tanks installed beneath the galley floor and within an additional 11 gallon hot water heater installed outboard the ship's port engine.

FILLING THE WATER TANK

The fresh water tanks are filled through a seperate water fill deck plates labeled "WATER". You can find these water fill plates mounted on the starboard and port sidedecks near amidships. Refer to the **Fill Plate Locations** portion of **Section 9** for the water fill location.

NOTE: Thoroughly flush and sanitize the water system before initial use and at least once each season.

Put only clean, fresh water into your water tank. Your tank is full when water is discharged from the water tank vent fitting installed through your boat's hull. DO NOT overfill your water tank OR leave a fill hose unattended while the tanks are being filled.

PRIMING THE WATER SYSTEM

After filling the tank:

1) Be sure the 12 volt breakers labeled SHOWER SUMP are in the "ON" position. These breakers are located on the 12 volt safety panel mounted behind a hatch at the base of the ship's dinette.

2) Partially open all cold water faucets and the cold water side of the shower mixing valves (including fresh water washdown - if installed).

3) Position the battery selector switch to either the #1 or #2 position. This battery selector switch is located behind a hatch at the base of the ship's dinette.

4) Switch the 12 volt MAIN circuit breaker and the 12 volt circuit breaker labeled WATER to the "ON" position. This will activate the ships pressure water pump. This pump will begin to pressurize your water system. This pump is located in the aft, center portion of the engine room between the propulsion engines.

A TIP FROM CARVER!

"If your boat will be left unattended for an extended period (three days or more) turn the 12 volt circuit breaker labeled PRESSURE WATER to the "OFF" position. If the this breaker is left on, pressure within the system may fall and cause the water pressure pump to engage. If this happens frequently, it could needlessly discharge your batteries."

The system will be primed by purging all air from the system's pipes. Monitor each faucet and the shower mixing valves. When a steady steam of water is being discharged from the COLD side of a faucet or shower head you may turn the valve controls for that faucet or shower head to the HOT side.

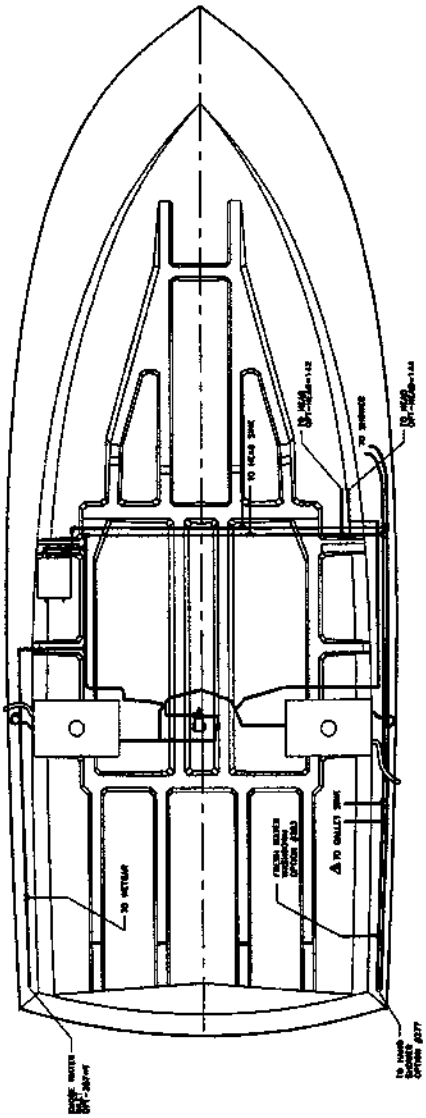
As a steady steam of water flows from the hot side of each faucet or shower head, they can be turned off. Pressure within the system will build and the pressure water pump will automatically shut off. Priming the system also fills and maintains the water level within the water heater.

⚠ DANGER

DO NOT supply electric power to an empty water heater. Supplying power to an empty heater will damage the element and may start a fire.

SYSTEM OPERATION

WATER SYSTEM LAYOUT



A TIP FROM CARVER!

"To obtain the most consistent shower temperature, turn the COLD water valve on full, then mix hot water until the desired temperature is achieved. This system will keep the pressure water pump running, eliminating widely fluctuating water temperature."

The fresh water system is designed to operate in the same manner as the water system within your home. After properly filling and pressuring the fresh water system, simply turn a valve to receive fresh water.

Sometimes 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.

WATER HEATING SYSTEM

An 11 gallon water heater is part of your boat's on-board fresh water system. The water heater is located outboard the ship's port engine. The water heater is automatically filled by the pressure water pump.

Water can be heated when AC power is applied to the water heating unit. Switch the AC MAIN circuit breaker and the AC circuit breaker labeled WATER HEATER to the "ON" position AFTER the water system has been filled, pressurized, and primed.

⚠ DANGER

DO NOT supply electric power to an empty water heater. Supplying power to an empty heater will damage the element and may start a fire.

For more information on your boat's water heater refer to the information supplied by the unit's manufacturer. This information is contained in the OEM supplied materials within your Captain's Kit.

SHOWER

Your 374 Voyager is equipped with a shower in the head compartment. This shower requires a minimum of preparation before use and cleanup after showering. The drain basin of the shower is positioned lower than the boat's water line.

Because of this, a shower sump pump is needed to drain the basin and to discharge the shower drain water overboard or into a optional grey water holding tank. Before using the shower, turn the 12 volt breaker labeled SHOWER to the "ON" position. The shower sump is triggered automatically when water within the shower's basin rises above a predetermined level.

NOTE: The "SHOWER" breaker located on the

salon's 12 volt main panel must be in the "ON" position for the shower sumps to be active.

WATER SYSTEM MAINTENANCE

If the water flow from the shower appears to become restricted, it may be due to the accumulation of sediment at the shower head. If this happens, remove the head, rinse with clean water and clean the discharge holes with a fine wire.

Periodically remove and clean the filter screens from the faucet discharge spouts. Clean the screens with a fine wire if necessary. A buildup of debris in the faucet filter screens can create enough restriction to cause the pump to repeatedly cycle on and off.

There is an in-line filter installed near the pressure water pump. Clean this filter on a monthly basis. Clean the screen in the water tank vent on an annual basis.

Flush and sanitize your water system at least once per season. Flushing involves draining all water from the system. Sanitizing involves using a commercially made tank sanitizing liquid that is available at any well stocked marine supply store.

NOTE: Your boat's fresh water system INCLUDING THE WATER HEATER must be drained prior to winter lay-up. Failure to winterize the water system could lead to damaged pipes, valves, faucets, tanks, or a ruptured water heater. Refer to the Winterization section of this manual for more information.

TRANSOM SHOWER

The transom shower option is a convenient item that allows you and your guests to rinse off with warm, fresh water after swimming. This option is especially handy on boats used in salt water.

USING THE TRANSOM HAND SHOWER

The optional transom hand shower is an integral part of your boat's fresh water system. Use it just as you would use a shower located in the boat's head compartment. The transom hand shower and mixing valves are located in the starboard corner of the transom.

A TIP FROM CARVER!

"Remember that the fresh water washdown system draws its water from the boat's fresh water storage tanks. Prolonged use will quickly reduce the amount of fresh water contained within the onboard storage tanks."

FRESH WATER WASHDOWN

The optional fresh water washdown enables you to use fresh water from the boat's water storage tanks to washdown and clean your boat. Fresh water washdown is particularly useful in salt water areas.

USING THE FRESH WATER WASHDOWN

1) Be sure the fresh water system has been filled and primed as detailed in the **FRESH WATER SYSTEM** portion of **SECTION 4**.

2) Locate the transom-mounted hose fitting and valve located on the transom.

3) Attach a nylon water hose to the transom deck hose fitting mounted on the boat's transom. Screw a nozzle to the other end of the hose. The best type of nozzle to use is the "pistol grip" type that can be opened and closed by squeezing your hand.

4) Open the valve at the base of the transom deck fitting to supply water to the hose. Use the washdown as you would a garden hose at your home.

RAW WATER WASHDOWN

TRANSOM WASHDOWN

The optional raw water washdown enables you to use sea water for washdown and cleaning.

1) Locate the transom-mounted hose fitting. This fitting is located on the transom.

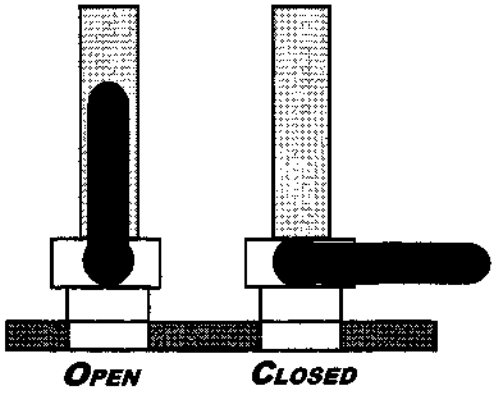
2) Attach a 3/4" nylon water hose to the transom hose fitting. Screw a nozzle to the other end of the hose. The best type of nozzle to use is the "pistol grip" type that can be opened and closed by squeezing your hand.

3) Open the seacock that supplies sea water to the raw water washdown pump. This seacock valve is located below a hatch in the cockpit.

4) Turn the battery selector switch to position #1 or #2.

5) Turn the 12 volt MAIN circuit breaker to the "ON" position.

WATER PICKUP VALVE POSITIONS



6) Turn "ON" the 12 volt breaker labeled WASHDOWN.

7) Turn the washdown's ON/OFF switch to the "ON" position. This switch is located near the washdown's transom-mounted deck fitting.

8) The washdown system uses an automatic 12 volt pump to create pressure. When the hand nozzle is in the closed position the pressure will build within the system. The automatic pressure pump will shut off when a predetermined amount of pressure has been reached. Opening the hand nozzle will release pressurized water and will engage the pressure water pump.

⚠ CAUTION

DO NOT run the washdown pressure water pump when the seacock that supplies sea water to the system is closed. The pump may become damaged if it is allowed to operate with no water. Be sure to clean the raw water filter frequently.

SHORE WATER HOOKUP

Shore water hookup utilizes dockside city water as the fresh water source while your boat is docked. When your boat is connected to shore water you are not drawing from the fresh water supply stored within your onboard water tank. The shore water connection is located in the starboard corner of the boat's transom.

NOTE: Connecting to shore water hookup does not fill the fresh water tanks. The only way to fill the fresh water tank is through the deck fitting labeled WATER.

TO CONNECT TO SHORE WATER HOOKUP

1) Locate the shore water hookup fitting labeled "SHORE WATER." This fitting is located near the port corner of the ship's transom.

2) Attach a water hose between the shore water fitting and the dockside water tap.

3) Close all sink and shower faucets.

4) Turn "ON" the 12 volt breaker labeled "Shower."

5) Turn the dockside water tap "ON."

Connecting your boat to shore water bypasses the boat's water tank and pressure water pump. Connecting the boat to shore water does not "automatically" fill the fresh water tank. The only way to fill the onboard tank is through the water fill deck plate.

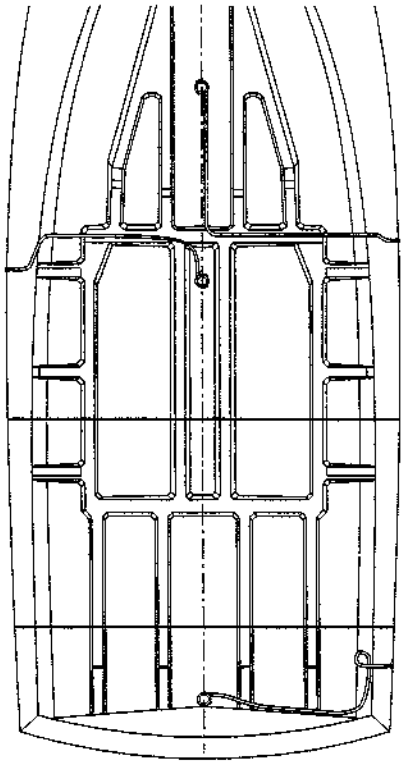
⚠ CAUTION

Shore water should not be left connected when your boat is unattended. Any break in the water lines inside your boat will allow an unlimited amount of water to enter your boat. Disconnect the shore water connection whenever leaving you boat unattended.

BILGE PUMP SYSTEM

Your 374 Voyager has been equipped from the Carver factory with three automatic bilge pumps located beneath the cabin floor. The bilge is the lowest point in the interior of the boat's hull where any liquid that finds its way into the hull will accumulate. Each pump has a rated ability to pump up to 1500 gallons of water per hour. These pumps have been strategically installed to remove water that accumulates in each bilge area.

BILGE SYSTEM LAYOUT



The 374 Voyager bilge is divided into three sections:

1) The forward bilge which starts near the lower level entrance to the forward cabin. You can access this bilge pump by pulling the hatch near the entrance to the forward cabin.

2) The amidships's bilge can be found at the base of the engine room's forward bulkhead near the centerline. You can access this bilge pump by pulling the center hatch in the salon floor.

3) The aft bilge is located in the aft-most bilge area beneath the cockpit floor. You can access this aft bilge pump by lifting the center hatch in the ship's cockpit. Refer to the **ACCESS HATCH LOCATIONS** portion of **SECTION 9** for more information on bilge pump access.

A TIP FROM CARVER!

"A certain amount of water will always collect in your boat's bilge, especially in the bilge area where the shaft log is located. The small amount of water that normally accumulates is usually not enough to activate an automatic float switch.

"While underway and on plane, use the helm station switches to turn your bilge pumps on manually and let them run for 30 seconds to a minute.

"The fwd and aft bilge pumps on your boat are located in the aft most section of each bilge. When your boat is on plane bilge water will flow to the aft area of the bilge and be pumped overboard by your manually activated bilge pumps. The mid pump is near the lowest point in the hull at rest."

BILGE OPERATION

For safety and convenience, each bilge pump can be operated manually or automatically when needed.

AUTOMATIC OPERATION

Each bilge pump is wired to a breaker located in the Safety Main panel and then routed to the batteries. Incorporated into each bilge pump is a float switch. The float switch "automatically" turns on the appropriate bilge pump when bilge water rises to a predetermined level. The bilge pumps will operate automatically via their float switches regardless of the position of the battery selector switch. Test each switch by lifting the float. Lifting the float should turn the bilge pump on.

NOTE: The breakers for the bilge pumps in the safety main panel should be in the "ON" position at all times so that the pumps will operate automatically via their float switch.

MANUAL OPERATION

The bilge pumps can also be operated manually. A set of bilge pump control switches have been installed at the bridge helm station to manually control the pumps. For manual operation, turn the 12 volt circuit breakers labeled FWD BILGE, MID BILGE and AFT BILGE to the "ON" position. At the helm station, turn the switches marked FWD, MID, AFT BILGE PUMP to the "ON" position.

⚠ CAUTION

WHEN OPERATING THE BILGE PUMPS IN THE MANUAL MODE, DON'T FORGET TO TURN THEM "OFF" AFTER WATER HAS BEEN REMOVED FROM THE BILGE. Leaving a pump run dry could seriously damage the pump.

Your boat's bilge pumps will remove nearly all the water that may collect within the bilge. Yet, a small amount of water will remain in the bilge area. If you insist upon an absolutely dry bilge you will need to remove the last bit of water with a sponge and bucket.

BILGE PUMP MAINTENANCE

Periodically inspect and clean the bilge pump strainers. DO NOT allow dirt and debris to clog the intakes of the bilge pumps. Frequently check each bilge pump switch to ensure that they are operating properly.

The bilge area should be kept clean by removing any

dirt or debris and by using any of the commercially available bilge cleaners that are available from your Carver Dealer. Keeping a dry, clean bilge will help reduce moisture and minimize odor within your boat.

The bilge area of your boat should never be used as a storage area. Storing loose items in the bilge could damage pumps, pipes or other components that are essential parts of your boat's operational system.

NOTE: Before operating your boat's bilge pumps, wipe up any oil that may have accumulated in the bilge area. 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.

⚠ CAUTION

If you keep your boat in a cold climate where temperatures can drop below freezing, make sure that all water within the bilge is drained prior to storing the boat for the winter. Water left to freeze in the bilge could lead to severe damage to your boat and its components.

GARBOARD DRAIN

A TIP FROM CARVER!

"Coat the threads of the garboard drain plug with waterproof grease prior to installing the plug into the garboard drain fitting. This will make it easier to remove at a later date."

Your 374 Voyager is equipped with one garboard drain. This drain has been installed to allow water to drain from the bilge while the boat is in dry storage. The boat and cradle should be positioned in a manner that will allow water to flow toward the garboard drain. The garboard drain is located in the transom in the deepest portion of the hull's "V."

⚠ CAUTION

Be certain that the garboard drain plug is securely screwed into the garboard drain BEFORE launching the boat.

SANITATION SYSTEMS

HEAD UNITS

Your 374 Voyager is equipped with a self-contained head/sanitation system that, when properly used, conforms to all United States antipollution laws. The standard head system on your 374 Voyager uses a manual pump to discharge waste from the head.

An optional electric head system is available and uses and electric pump and raw or fresh water to clear the head of waste.

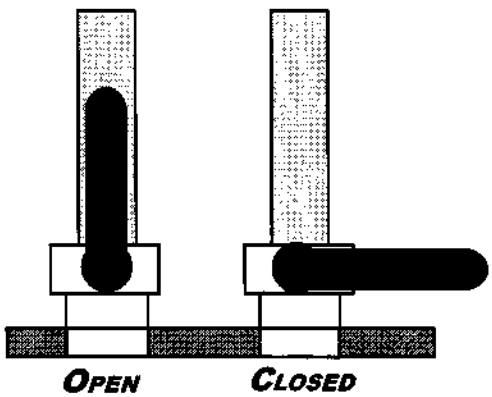
A TIP FROM CARVER!

"Before leaving the boat for an extended period (more than 48 hours) flush the electric head for at least 10 seconds. For manual head, pump the foot lever several times. This ensures that waste has cleared the sanitation transfer hose and has entered the holding tank. Waste left within the transfer hose tends to dry-out and harden. This could restrict the internal size of the hose and hamper future operation.

"Make sure that there is always a small amount of water left in the bowl of the head. This acts as a trap and will reduce unwanted odors.

"If sea water is used to flush the head, material suspended in sea water (seaweed, aquatic organisms, etc.) can become trapped within the passages of the system and lead to bowl staining and unwanted odors. In-line deodorant dispensers are available from your marine supply dealer that will minimize these types of problems."

WATER PICKUP VALVE POSITIONS



An optional Vacuum system is also available and may have been installed on your boat. This system relies on your boat's fresh water supply and vacuum pressure to rid the head of waste.

MANUAL HEAD

The standard manual head system installed on your boat may be flushed using your boat's fresh water supply or with raw water. If your boat is equipped to use raw water, you must supply raw water to the heads unit by opening the raw water pickup valves.

If your boat uses fresh water flushing, water will be supplied to the head unit after water tanks are filled.

Refer to the OEM supplied operator's manual for detailed information on the proper use and maintenance of your boat's manual head unit. This information is in your Captain's Kit.

ELECTRIC HEAD (OPTIONAL)

The optional electric head system installed on your boat may be flushed using your boat's fresh water supply or raw water. If your boat is equipped to use raw water, you must supply raw water to the head unit by opening the raw water pickup valve. If your boat uses fresh water flushing, water will be supplied to the head unit when your water tanks are filled.

FRESH WATER HEADS

The electric head is flushed with the aid of a motor powered by 12 volt DC power. With fresh water heads, before operating the head fill your water tanks and turn on the 12 volt breaker labeled electric head. Flush the electric head by pressing the "FLUSH" button mounted near the head.

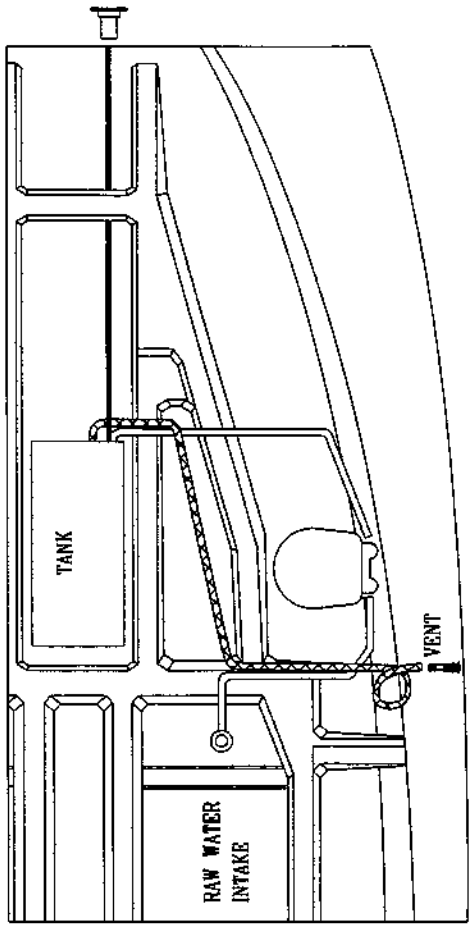
The head will continue to flush for as long as the switch is depressed. Refer to the OEM supplied operator's manual for detailed information on the proper use of your boat's manual head unit.

RAW WATER HEADS

The electric head is flushed with the aid of a motor powered by 12 volt DC power. If the heads require raw water for flushing, you must open the seacock for each head before flushing. The head's raw water pickup is located in the engine room forward the starboard engine.

Flush the electric head by pressing the "FLUSH" button

STANDARD WASTE SYSTEM



mounted near the head. The head will continue to flush for as long as the switch is depressed. Refer to the OEM supplied operator's manual for detailed information on the proper use of your boat's manual head unit.

VACUUM HEAD (OPTIONAL)

The optional vacuum head system that may be installed on your boat relies on a source of fresh water and vacuum pressure to rid the toilet of waste. Before operating the Vacu-Flush head system, fill your water tanks and turn "ON" the 12 volt breakers labelled "Head." Flush the head unit by depressing the foot pedal at the base of the unit.

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: During periods of time when you don't wish this pump to run, (night time), you can temporarily shut down the pump using a "Sleep" switch installed in the head.

For more detailed information regarding the proper operation and maintenance of the vacuum head system, refer to the OEM supplied operators guide found in your Captain's Kit.

EMPTYING THE WASTE HOLDING TANKS (ALL SYSTEMS)

All 374 Voyager waste system utilizes a single polyethylene waste tank. The tank is installed below the hatch at the base of the forward stairs leading to the forward cabin. This waste tank can be emptied using a dockside pumpout station. The following instructions for using your marina's dockside pumpout station can be followed for all 374 Voyager waste systems.

USING DOCKSIDE DISCHARGE

Waste is transferred to and stored in the waste holding tank. This tank is then emptied using a dockside pumpout station.

1) Locate a dockside pumpout station.

2) Remove the waste tank deck fitting labeled "WASTE" using the cap removal tool supplied with

A TIP FROM CARVER!

"The cap for the WASTE deck plate IS NOT connected to the deck plate and it does not float. Be careful that you don't drop the cap in the water when you remove it.

But, if you do lose one you can order a replacement cap from your Carver Dealer. Waste fitting caps are dropped overboard frequently enough that we suggest you carry an extra cap in your onboard spare parts kit."

A TIP FROM CARVER!

"The overboard discharge system incorporates a good deal of sanitation hose and numerous sanitation components. If waste is permitted to remain within the sanitation hose for extended periods it may dry out and harden.

This will reduce the interior size of the hose and reduce the efficiency of the system. We suggest you clear the lines by flushing each head for at least 10 seconds prior to leaving the boat for an extended period (48 hours or more). Also, when using the system in the direct overboard or overboard transfer mode, allow the head to flush or the transfer pump to run long enough to clear the sanitation hose of all waste."

your boat. This waste pumpout plate is located on the ship's foredeck at the bow of the boat. Refer to the **FILL PLATE/PUMPOUT LOCATIONS** portion of **SECTION 9** for the waste cap location.

3) Attach the pumpout vacuum hose to the "WASTE" deck plate. The transfer process uses a vacuum action making a secure connection between the transfer hose and the deck fitting essential.

4) Activate the pumpout vacuum. The pumpout vacuum will transfer onboard waste to a dockside holding station.

5) After all waste is removed, flush the waste tank by pouring a few gallons of fresh water through the waste deck plate. Reattach the vacuum hose to the deck fitting and activate the waste pumpout station as detailed in the previous step.

NOTE: Remember to replace the waste deck fitting before continuing.

The waste holding tank is vented to the outside of the boat's hull. As the tank is filled, air is displaced and vented outside the boat. Clean this screen once a month.

OPTIONAL OVERBOARD DISCHARGE

Waste is transferred to and stored in the waste holding tank. This tank is then emptied overboard through the use of an onboard 12 volt transfer pump.

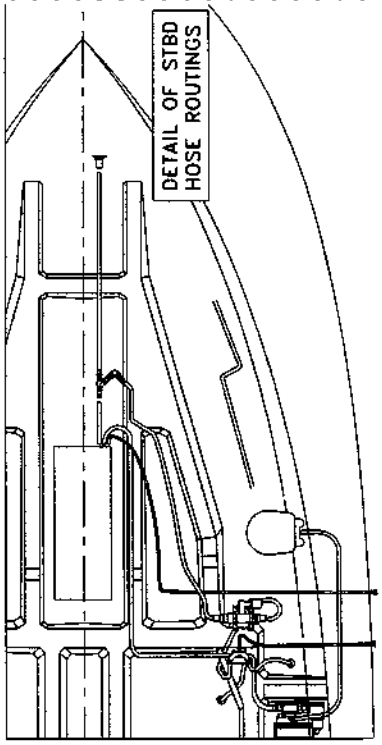
In certain coastal areas of the world it is lawful to directly discharge waste into the sea. To accommodate this procedure Carver offers the overboard discharge options. Optional overboard discharge is available on boats that will be exported or used in the coastal areas of the United States only.

With the overboard discharge option, you can empty the waste tanks directly overboard, or use a dockside pumpout facility where direct overboard discharge is not allowed.

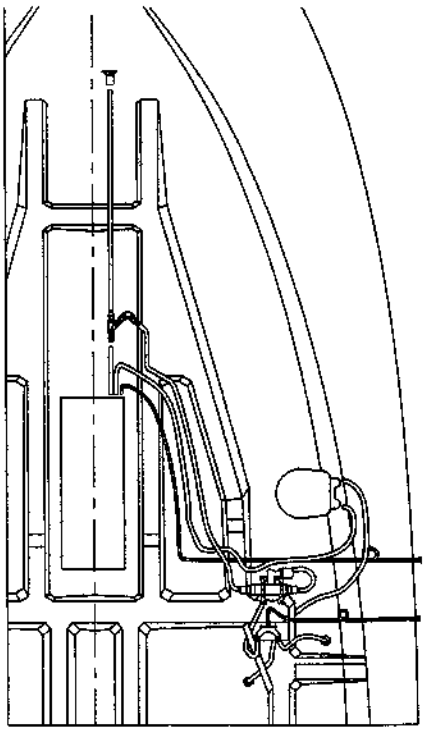
⚠ WARNING

It is against the law to discharge waste overboard in many areas of the United States. It is your responsibility to make sure that you are in

VACUUM HEAD (OVERBOARD DISCHARGE)



ELECTRIC HEAD (OVERBOARD DISCHARGE)



compliance with Federal and local laws when using your boat's overboard discharge system. People who discharge waste overboard in restricted areas are subject to sizable penalties.

1) Open the overboard discharge thru-hull valve. This valve is located in the engine room forward the starboard engine.

2) Turn "ON" the 12 volt MAIN circuit breaker and the breaker labeled "WASTE". This breaker is located on the 12 volt Main Distribution panel.

3) Turn "ON" the waste pump ON/OFF switch. This switch is mounted on the engine room's forward bulkhead forward the starboard engine. Turning this ON/OFF switch to the "ON" position will activate the waste pump and waste will begin to be pumped overboard.

4) After all waste is pumped overboard, turn off the pump and pour a few gallons of fresh water through the waste plate deck fitting located on the port side deck near amidships. Reactivate the waste pump and flush any remaining waste from your tank.

5) Shut the overboard discharge valve.

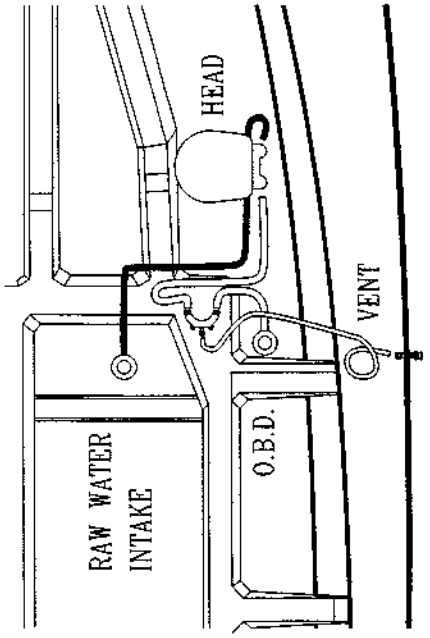
6) Remember to turn the "WASTE" breaker and the waste pump's ON/OFF switch to the "OFF" position once the waste tank is empty. Leaving the pump run while no waste is being pumped overboard will damage the pump.

⚠ WARNING

DO NOT run an overboard discharge transfer pump for an extended period after waste has been transferred from the tank. Letting this pump run when dry will damage the pump.

Using the sanitation system in this manner allows you to utilize the waste holding tank when in restricted discharge areas. When the boat enters an unrestricted area, you can then empty the tanks using the overboard transfer pump.

RAW WATER MANUAL HEAD (DIRECT DISCHARGE)



DIRECT OVERBOARD DISCHARGE

Waste is flushed directly overboard whenever the head is flushed. Or, waste can be transferred to and stored in the waste holding tank. This tank is then emptied overboard through the use of an onboard 12 volt transfer pump.

In certain coastal areas of the world it is lawful to directly discharge waste into the sea. To accommodate this procedure Carver offers the direct overboard discharge options. Optional direct overboard discharge is available on boats that will be exported or used in the coastal areas of the United States only.

With the direct overboard discharge option, you flush waste directly from the head overboard or you can direct waste to the holding tank. Then, when you arrive in an area where it is lawful to discharge waste into the sea, you can empty the waste tanks directly overboard.

FLUSHING WASTE DIRECTLY OVERBOARD

1) Open the direct overboard discharge thru-hull valve. This valve is located in the engine room forward the starboard engine.

2) If your head uses raw water for flushing, open the raw water seacock valve located forward the starboard engine.

3) Now waste will flush directly overboard whenever the head unit is flushed

OPTIONAL GREY WATER SYSTEM

Certain areas of the United States and Europe have initiated antipollution regulations that require the installation of a grey water waste system. This system drains all sink and shower drain water into a waste holding tank, rather than directly overboard.

If your boat is equipped with a grey water system, the galley sink and equipment and the head sink and shower drain into a waste holding tank. Sink and shower water drains into a sump which then transfers the drain water into the waste tank.

Holding tank deodorizer should be used within the waste tank between pump-outs. Grey water is emptied when you pump or empty the ship's waste holding tank. Refer to the **EMPTYING THE WASTE TANK** portion of the section for more information.

PROPANE STOVE

The propane stove option includes the propane stove and a liquid propane storage tank. For information on using the propane stove, refer to the owner's manual provided by the manufacturer. This manual can be found in the OEM supplied materials in your boat's Captain's Kit.

An LPG fuel tank has been installed in a fiberglass box on the boat's swim platform. The system is designed to be used with LPG (liquid propane gas) only. DO NOT USE ANY OTHER TYPE OF FUEL. The LPG tank must be firmly secured to the boat with the tank in a horizontal position. The ABYC (American Boat and Yacht Council) has developed specific standards on how LPG tanks must be installed. Carver has installed this tank according to those ABYC standards. DO NOT relocate or reposition the tank.

NOTE: The LPG tank valve outlet fitting and the regulator system nut, by law, have LEFT HAND THREADS. The nut is so marked with a slot.

Always close fuel supply line valves and cylinder valve when appliances are not in use. Close valves immediately in an emergency. Be sure that appliance valves are closed before opening the cylinder valve.

⚠ CAUTION

Fuel burning appliances consume cabin oxygen and release products of combustion into the craft. Ventilation is required when appliances are in use. Do not operate the stove or oven for space heating. Never obstruct ventilation openings.

Never obstruct quick access to the LPG system components and shut-off valves. Keep valves on empty cylinders closed and disconnected.

Keep protective covers, caps or plugs in place. Store reserve or empty cylinders on open decks or in gas tight lockers vented overboard intended for the purpose. Do not use LPG cylinder housings or lockers for storage of any other equipment.

Never leave craft unattended when LPG consuming appliances are in use. Do not smoke or use open flame when replacing LPG cylinders. Hoses in system must be inspected regularly, at least annually, and replaced if any deterioration is found. Inspect flue pipes at least annually. Replace if deterioration or openings are found.

CHECKING THE SYSTEM FOR LEAKS:

⚠ WARNING

Never use flame to check your LPG system for leaks.

Propane systems are inspected and pressure checked as part of Carver's quality assurance process. We do, however, suggest that you Test the system for leaks regularly. Use the following system inspection process every time you remove and reinstall the LPG tank. The following information has been taken from the Seaward Products Owner's Manual For Gas Operated Stoves:

1) After the LPG tank has been installed, the regulator system connected, the hose run and connected to both appliance and regulator, slowly crack open the LPG tank valve and observe the pressure gauge on the regulation system. The gauge should read approximately 110 psi at 70 degrees F. (Higher if warmer, or lower if cooler atmospheric temperature).

2) Close the LPG tank valve and observe the pressure gauge. It should hold a constant reading. If you can detect a falling in pressure over a 15-minute period of time, there is a leak. LEAKS CAN BE DANGEROUS.

A. If a leak occurs, Close cylinder valve and have the system repaired before using. System repairs should be made by a competent person.

B. Check all fittings with a soap and water solution. NEVER USE FLAME TO CHECK FOR LEAKS.

⚠ CAUTION

Do not use solutions containing ammonia.

3) If you cannot find the leak, contact the manufacturer or your Carver Dealer.

⚠ DANGER

LPG is heavier than air and if allowed to leak, settle, and accumulate LPG could ignite and explode.

Section 5

Powering The Engines 83

PROPULSION SYSTEMS

Your 374 Voyager can be equipped with several types of inboard engine packages. Your engines may be gas or diesel, fuel injected or carburetted. This section is a general overview of your propulsion system and how it works.

For more detailed information on specifications and the proper operation and maintenance of the engines installed on your boat, refer to the engine's operation and maintenance guide supplied in your Captain's Kit. Since you'll need to fuel your boat before you can start the engines, lets start with the Fuel System on your 374 Voyager .

FUEL SYSTEM

FUEL TANKS

The 374 Voyager hold a maximum 297 gallons of fuel within a single tank. You can access this fuel tank by removing the center hatch in the salon's floor. Fuel systems installed by Carver meet or exceed the requirements of the U.S. Coast Guard, the Boating Industry Association, and the American Boat and Yacht Council during the time your boat was constructed. Each tank must pass a rigid test conducted by the tank manufacturer. In addition to this test, all fuel systems are inspected and pressure tested by Carver.

Your Carver Dealer also makes a full inspection of the fuel system prior to delivering your boat. An entry on the Carver Pre-Delivery Service Record will attest to the dealer's performance of this fuel system inspection.

GASOLINE FUEL SYSTEMS

Each gasoline engine and the optional generator is plumbed to the 374's single fuel tank. Anti-siphon check valves are installed in gasoline fuel systems between the fuel hose and the fuel tank withdrawal tube. Anti-siphon check valves are spring loaded and will "automatically" stop the flow of fuel in the case of a ruptured or disconnected fuel hose.

⚠ DANGER

Anti-siphon check valves are important safety components. DO NOT remove anti-siphon valve(s) from the fuel system. Clean and or replace clogged or sticky valves.

On electronically fuel injected systems, fuel return lines have been installed. The fuel return lines return the fuel to the tank.

NOTE: Fuel return lines are not used with carbureted propulsion systems.

DIESEL FUEL SYSTEMS

Diesel propulsion systems utilize fuel "supply" and fuel "return" lines. The supply lines feed fuel to the engine. Return lines transfer fuel not burned by the engine back to the fuel tank. Each diesel engine and the optional generator in the 374 Voyager is plumbed to the ship's single fuel tank.

FUEL SHUT-OFF VALVES

Fuel shut-off valves are installed in diesel fuel systems between the fuel line and the fuel tank. Both supply and return lines incorporate fuel shut-off valves located on top of the fuel tanks. These valves must be open when running the diesel engines.

⚠ WARNING

DO NOT operate a diesel engine with its fuel "RETURN" line valve in the closed position. Failure to allow unburned fuel to return to the tank will create excessive pressure within the fuel system that could lead to fuel system failure.

FUEL TANK VENTS (GASOLINE AND DIESEL)

Each fuel tank is vented overboard. While the tank is being filled, air is displaced by fuel and escapes through the vent.

AUXILIARY SYSTEMS

See the engine manufacturer's manual for care and maintenance of your engine. This manual can be found in your owner's packet.

ENGINE VENTILATION

Your engine compartment is equipped with a ventilation system consisting of intake ducts, exhaust ducts and bilge blowers. After fueling, run the bilge blowers for four minutes to evacuate any fuel fumes from the engine compartment. Inspect the engine compartment. Sniff the engine compartment for fuel vapors. After fueling, do not operate onboard equipment until you are sure that the boat is rid of fuel vapors.

Continue to operate your blowers. When operating below cruise speed, this will help disperse excess heat in the engine compartment and also prevents the accumulation of CO which may form under some operating conditions.

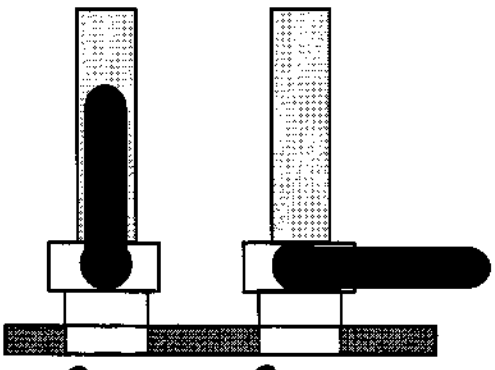
⚠ DANGER

Operate bilge blowers for AT LEAST 4 minutes and inspect the bilge for fuel vapors prior to starting the engines or the generator. If you discover fuel vapors, DO NOT START THE ENGINES or GENERATOR. Investigate the source of vapors and fix problem before starting the generator. Continue to operate the bilge blowers while the engines or generator is running.

All owners are responsible for keeping their boat's ventilation system in operating condition. **Do not obstruct or modify the ventilation system in any way.** Ensure that openings are free of obstructions. Inspect ducts regularly. Make sure that ducts are not blocked, collapsed or torn, and blowers are operating properly. Replace any worn out components with equivalent type equipment.

COOLING SYSTEM

ENGINE COOLANT PICKUP VALVE POSITIONS



Your cooling system removes excess heat from your engine and exhaust system. Closed systems use a freshwater/antifreeze mixture to cool the engine. The coolant runs through a heat exchanger where the excess heat is transferred to raw water taken in through the seacocks. Open cooling systems use raw water to cool the engine directly. If you are not sure, contact your dealer to find out which type of system you have.

Both open and closed cooling systems require sea water to function. Before each cruise, make sure your strainers are free of sea weed and other debris. Open the cooling system seacocks before you start your engines. The seacock valve for each engine's cooling system is located in the engine room forward each engine. If you have a closed system, make sure that you have a sufficient level of coolant in the system.

⚠ WARNING

Running your engine with an inadequate supply of antifreeze, or with blocked or restricted water pickups or water strainers can cause serious damage to your boat's systems.

After starting your engines, check your engine exhaust outlet. If water is not being ejected through the outlet, shut your engine down immediately and ascertain why sea water is not being pumped into the system. Have the problem corrected before restarting your engines.

If your engine temperature gauges register a higher than normal temperature reading, your cooling system may need to be repaired. If the needles start a rapid movement toward a high temperature reading, shut your engines down immediately and have your cooling system checked and repaired.

EXHAUST SYSTEM

The exhaust system consists of an exhaust manifold, a muffler, and the exhaust pipes used to remove engine exhaust from your engine to the atmosphere. If your exhaust system is ruptured or compromised in any way, dangerous carbon monoxide may escape and endanger you or your passengers. Check your exhaust system regularly for leaks. Any change in engine noise should be carefully investigated.

FIRE SUPPRESSION

An automatic fire suppression system is installed in the engine compartment of your 374 Voyager . This system provides an added measure of fire safety in the event of an onboard engine compartment fire.

A Halon tank is installed on the engine compartment's aft bulkhead at the centerline. A system monitor is installed near the helm station. The system monitor is wired to an ignition switch. The monitor's light should be "ON" when the ignition switch is turned "ON."

Read the instruction booklet provided by the manufacturer for more information on the fire suppression system. This booklet is included with the OEM materials in your boat's Captain's Kit.

Your Halon system incorporates an engine shut-off circuit. When the Halon system is activated, the diesel engines are automatically shut down. An override switch is incorporated in the monitor for starting the diesel engines after the system has been activated. Read the manufacturer's manual for more instructions.

When replacing parts of the fire fighting installation, only matching components shall be used, bearing the same designation or being equivalent in their technical and fire resistant capabilities.

⚠ CAUTION

This craft is equipped with a fixed fire extinguishing system for the engine room, using Halon. Before discharging, SHUT DOWN ENGINES AND BLOWERS AND EVACUATE THE CRAFT.

⚠ WARNING

Engine compartment has fixed extinguishing system: The fire extinguishing medium may act as an asphyxiation. AFTER DISCHARGE, VENTILATE CRAFT BEFORE ENTERING.

ENGINE GAUGES

Each helm station is equipped with a complete set of gauges. These instruments allow you to monitor the operation and condition of your boat's engines. Gauges located on the starboard side of the helm station correspond to the starboard engine, port side gauges correspond to the port engine. Familiarize yourself with these gauges before running your engines for the first time.

⚠ CAUTION

Engine operator's manuals have been included within your boat's OEM supplied materials package. The engine manual is a detailed and comprehensive manual that will provide you with information on proper operation and maintenance of the engines. DO NOT START OR OPERATE YOUR BOAT'S ENGINES WITHOUT FIRST READING THE ENGINE OPERATOR'S MANUAL.

INSTRUMENTAL PANEL GAUGES

TACHOMETER

The tachometer monitors and indicates the speed of an engine as measured in "revolutions per minute" or RPM. This engine speed will not show your boat's speed over the water nor does a tachometer necessarily indicate the speed of propeller rotation. The tachometer may not register zero RPM when the respective engine's ignition key is turned off. This is normal.

NOTE: The engine manufacturer has established a maximum RPM rating for your engines. This rating can be found in the engine's operator's guide. Refer to your engine operator's guide for further information concerning maximum RPMs. DO NOT EXCEED THE MAXIMUM RPM RATING.

TEMPERATURE GAUGE

A temperature gauge monitors the cooling system of an engine. Every engine is designed to operate within a specified temperature range. A sudden increase in an engine's temperature could indicate that the cooling water intake system has become blocked, a water intake hose has failed, or the engine's water pump has malfunctioned.

A TIP FROM CARVER!

"A cold engine has a tendency to stall when first put into gear. Let your engines warm up a few minutes before departing your dock or anchorage."

Your engines are equipped with alarms that will sound when an engine's temperature rises beyond a predetermined level. If this alarm sounds shut down the overheated engine immediately.

Also, while your engines are equipped with high temperature alarms you should still visually monitor each temperature gauge. If an engine's temperature gauge indicates excessive engine temperature, shut down that engine immediately.

⚠ WARNING

The engine manufacturer has established a safe operating temperature rating for your engines. This rating can be found within the engine operator's guide. Refer to your engine's operator's guide for further information concerning engine temperature. DO NOT EXCEED THE ENGINES SAFE OPERATING TEMPERATURE.

OIL PRESSURE GAUGE

Each engine has an oil pressure gauge. This gauge provides an indication of the pressure within the engine's lubrication system. The oil pressure reading will change as engine speed changes. However, a drop (either sudden or gradual) in an engine's oil pressure while you are maintaining a constant speed, may be an indication of an oil pump failure, or leak in the lubrication system, or excessive engine wear.

Your boat is equipped with audible alarms that will sound when oil pressure drops below a predetermined level. These alarms will sound upon initially starting an engine or anytime an ignition switch is "ON" and the engine is not running. The alarm sounds under these situations because the engine does not yet have adequate oil pressure. The alarm will cease as soon as oil pressure rises to the proper level.

If this alarm sounds when the boat has been running, or if the alarms fail to become silent within 15 seconds after starting the engines, look at your engine oil pressure gauges. If either gauge indicates abnormally low oil pressure shut down the corresponding engine immediately.

Also, while your engines are equipped with low oil pressure alarms you should still visually monitor each oil pressure gauge. If an oil pressure gauge indicates low pressure, shut down that engine immediately.

VOLTMETER

The voltmeters monitor the condition of your boat's batteries. A fully charged battery will indicate approximately 12.5 volts. As power within a battery is used, the indicated voltage for that battery will decrease as indicated on the appropriate voltmeter. The 374 Voyager utilizes a voltmeter gauge for each propulsion battery located at the helm station. Voltmeters are protected by circuit breakers located on the battery selector switch panel.

A detailed explanation on how to use the voltmeters to monitor battery capacity is included in the **Voltmeter and Ammeter** portion of **Section 2.**

FUEL GAUGES

Your boat's fuel gauges display an approximate indication of the level of fuel that is held within each fuel tanks. These gauges are not calibrated and should not be regarded as a precise or highly accurate method of measuring available fuel quantities.

The fuel gauge will display a reading when the ignition switch for the port engine is turned to the "ON" position.

GAUGE MAINTENANCE

The gauge panel should be protected from the sun and weather when not in use. Instrument gauges are not waterproof. Protecting them from the elements will prolong their life.

NOTE: Some gauges can collect condensation within the gauge assembly. This condition is indicated by small beads of moisture behind the gauge's glass bezel. This moisture does not indicate a defective gauge. The Carver Limited Warranty does not include replacing gauges that are cosmetically affected by condensation.

Electronic gauges can be affected by static electricity that may build up on the glass face of the gauge. Periodic washing of the gauge face with warm water and mild liquid detergent will help reduce the static electricity problem and improve gauge accuracy.

CONTROLS

A TIP FROM CARVER!

"If you turn the ignition switch key and the engine starter fails to engage it may be because the neutral safety switch for that engine is slightly out of adjustment. If this happens, wiggle the gear shift for that engine fore and aft until the starter engages."

GEAR AND THROTTLE CONTROLS

SHIFT LEVERS

Shift levers are installed on the port side of the steering wheel. The outboard lever controls the port engine and the inboard lever controls the starboard engine. The shift levers allow you to shift from neutral to forward or reverse. These levers are designed to permit independent shifting of each engine. This improves maneuverability in tight quarters.

⚠ WARNING

DO NOT shift into, or out of, gear while the engine speed (as indicated on the tachometers) is above IDLE. Costly damage to your boat's drive train could result.

A neutral safety switch is incorporated into the linkage of each gear shift. When properly adjusted, this safety switch will not permit you to start an engine while it is in gear.

THROTTLE LEVERS

The throttles are installed on the starboard side of the steering wheel. The inboard throttle lever controls the port engine and the outboard throttle controls the starboard engine.

The throttles allow you to increase or decrease the speed of each engine. These levers are also designed to permit independent control of each engine's speed.

⚠ WARNING

ALWAYS return a throttle to its extreme low speed position before shifting the engine into, or out of gear. Failure to follow this procedure may result in drive train damage.

On a dual engine boat such as the 374 Voyager it is recommended that both engines be operated at the same speed while cruising. This reduces engine noise and vibration and improves engine efficiency.

If installed, use the engine synchronizer gauge to monitor the speed of each engine. Adjust the throttles so the synchronizer gauge needle is centered. Attempting to synchronize the engines by aligning the throttle levers will seldom work. When the engines are properly synchronized the throttle levers may not necessarily be aligned.

THROTTLE SYNCHRONIZER (OPTIONAL EQUIPMENT)

Your 374 Voyager may be equipped with a throttle synchronizer. If so equipped, this throttle synchronizer allows you to electronically and mechanically interconnect BOTH engine throttles. Interconnecting the throttles allows you to increase and decrease engine speed by using one throttle lever. This also allows you to maintain precisely synchronized RPM levels.

For information on operating the throttle synchronizer, refer to the OEM supplied operator's manual found in your Captain's Kit.

CONTROL CABLES

Push - Pull type cables are used to connect the shift and throttle controls to the engine. Refer to the information provided by the control manufacturer for more information on adjusting and maintaining your boat's engine controls.

STEERING

The 374 Voyager uses a hydraulic steering system. Hydraulic steering provides better response than mechanical steering when used on large boats like the 374 Voyager.

The boat's helm is connected to the rudders through a hydraulic pump, a network of hydraulic lines, an oil reservoir, a hydraulic cylinder, and a tiller tie rod. By turning the helm, oil is pumped through the hydraulic line which activates the hydraulic cylinder. This cylinder is connected to the tiller tie rod. Extending and retracting the cylinder moves the rudders and enables you to steer the boat. With hydraulic steering the effort needed to turn the helm remains the same regardless of the speed of the boat.

Your hydraulic steering system depends upon a proper and adequate source of hydraulic fluid and sufficient pressure within the hydraulic pump and lines. Refer to the operator's manual for the hydraulic steering system for more information on its operation and maintenance.

PREPARING FOR CRUISING

FUELING

Your fuel tanks are designed to flow a maximum 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.

When the tanks are completely empty, or when they are reaching full capacity during fueling, slow down the rate fueling. This will help prevent fuel backup and spillage when the tank is full or fuel surge and rupture when fueling an empty tank. Be aware that many marine fuel pumps can easily deliver fuel at rates up to 35 GPM. This high fueling rate should never be used without risking damage to your fuel system.

PRIOR TO FUELING

NOTE: Refer to the engine manual for the fuel type and octane rating recommended for your boat's engines.

1) Ensure that the boat is securely moored.

2) Close all ports, windows, hatches and doors.

3) Stop fans, motors or any other device that could create a spark. Turn off the stove and oven. Shut down the generator.

4) DO NOT SMOKE OR ALLOW ANYONE NEAR THE FUEL DOCK TO SMOKE.

5) Turn the battery selector switch to the "OFF" position.

6) Have all guests and passengers leave the boat. Only the fuel handlers should be in the area.

FUELING

1) Locate the fuel fill deck plate and remove the deck plate cap. Refer to the **FILL PLATE/PUMPOUT LOCATIONS** portion of **SECTION 9** for fuel fill plate locations

2) Be certain that the fuel you are about to pump into your boat is the proper type recommended by the engine manufacturer.

3) Have an approximate idea how many gallons of fuel you will be taking on.

4) Pump fuel into the fuel tanks. Begin at a slow rate (no more than 9 gallons per minute). As the tank nears full capacity, slow the fuel flow rate to less than 9 GPM until the tank is full. While fueling, keep the fuel hose nozzle in contact with the metal fuel fill deck plate at all times. This is a safe guard against static spark.

⚠ CAUTION

Avoid spilling fuel on the gelcoat surface of your boat. Fuel can stain the gelcoat and damage the hull accent stripes.

5) Monitor the fuel tank air vent. When the fuel tank is almost full, air will whistle through the vent.

AFTER FUELING

1) Replace the fuel fill deck plate cap.

2) Wash down or wipe up all spilled fuel.

3) Ventilate the cabin by opening ports, windows, doors and hatches.

4) Turn the battery selector switch, the 12 volt MAIN breaker and the BILGE BLOWER breakers to the "ON" position.

5) Turn "ON" and run the bilge ventilation blower for at least 4 minutes prior to starting an engine or generator.

6) Inspect the engine compartment. Sniff the engine compartment for fuel vapors.

7) Operate onboard equipment ONLY after you are sure that the boat is free from all fuel vapors.

PRE-START CHECKLIST

1) Read and understand the information contained in the Owner's Guide and all OEM supplied literature.

2) Open and inspect the engine compartment.
   - Sniff for fuel fumes.
   - Check the bilge water level.
   - Check for oil in the bilge.
   - Check the crank case oil level in each engine.
   - Make an overall inspection of the engine

compartment to look for signs of potential problems.
- Follow all periodic maintenance instructions as detailed in **Section 7**

3) Turn the battery selector switch to either the #1 or the #2 position.

4) Go to your 12 volt bridge breaker panel and turn the MAIN breaker, the BILGE BLOWER breakers and any other breakers for equipment you may need (horn, trim tabs, etc.) to the "ON" position. Turn the helm console bilge blower switch "ON."

5) Check the output level of the bilge ventilator. You will feel air being blown from the output bilge vent if the bilge blower is operating properly.

⚠ DANGER

Operate the bilge blower for AT LEAST 4 minutes prior to starting an engine AND whenever running the boat at idle speed. Check bilge blower output before starting engines.

During the 4 minutes the bilge blower is running you can complete the following steps:

6) Be sure that all safety gear is onboard and operative. Check out items such as navigational lights, VHF radio, depth sounder, etc. Make sure your boat carries the safety equipment required to meet Federal and local regulations.

7) Check to make sure you have an adequate supply of fresh water. Check level of waste holding tank.

8) Remove and store shore power cord and dockside water lines.

9) Once all tanks are properly filled, return the fuel fill deck plates and secure them.

STARTING THE ENGINES

1) Read, understand and follow the operator's manual that has been prepared and supplied by the engine manufacturer. The information supplied in the engine manual takes precedence over information presented in the Carver Owner's Guide.

2) Be sure to open the engine water pickup valves located forward each engine. These valves supply water used in the engine's cooling system.

3) Put gear shift controls into NEUTRAL.

4) Select the engine you will start first. NEVER start both engines at the same time.

5) Put the shift level into neutral. Keep one hand on the throttle and engage the engine starter by turning the ignition key with your other hand. Release the key when the engine starts.

⚠ WARNING

The ignition switch is spring activated. Release the key when the engine has started. Failure to release the ignition key after the engine has started may damage the starter.

⚠ WARNING

DO NOT operate the starter by engaging the ignition key for more than 10 seconds. If the engine does not start after engaging the starter for 10 seconds, release the key and try again.

The oil pressure warning buzzer will sound for the first few seconds after the engine has started. This is normal. When oil pressure builds the buzzer will stop. A cold engine may run rough and require some slight advancing of the throttle lever to keep it running.

AFTER YOUR ENGINES HAVE STARTED

1) Check your engine gauges. Make sure the oil pressure complies with the engine manufacturer's recommendations. Voltmeter should read about 12.5 to 13.4 Volts.

2) Be sure to check that water is being pumped through each engine's exhaust port near the transom. If you do not see water being pumped out, turn the engine off and determine why water is not entering the engine's cooling system before restarting the engine.

3) Check your fuel gauge to make sure you have adequate fuel for your trip.

4) Take a look into the engine compartment. Visually inspect the fuel system hoses and exhaust hoses. If you discover a leak or suspect that anything is out of order, shut down the engines and investigate.

⚠ DANGER

The engine compartment contains moving, hot machinery. KEEP YOUR HANDS, FEET AND BODY OUT OF THE ENGINE COMPARTMENT WHILE ONE OR BOTH ENGINES ARE RUNNING.

NOTES:

Section 6

Operating & Maneuvering 99

BEFORE OPERATING

NAVIGATION

Navigation is very important on the open seas. Information on how to navigate goes beyond the scope of this manual. The owner is encouraged to read *Chapman's Piloting and Seamanship* and obtain instruction regarding how to navigate this boat.

CHARTS

You can obtain charts of the waters in which you will be navigating 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

Your compass is the most important piece of navigation equipment onboard your boat. To operate properly, the compass must be in an area free from local magnetic influences and electrical components.

Refer to your compass manufacturer's owner's guide and use a small, nonmagnetic screw driver to compensate your compass. We recommend having a professional compensate your compass.

HORN

If you are caught in fog or are navigating at night, your horn will tell other boaters where you are. Your boat's horn meets U.S. Coast Guard requirements.

DEPTH SOUNDER

This can be an invaluable tool to insure that you do not get caught in waters too shallow for your boat. A depth sounder could also aid in navigation.

SPEED LOG

Keeping a speed log is essential when trying to determine your position over time. For your convenience, a speed log has been included at the back of this owner's guide. Use the information recorded on this log to plot your approximate position from a known position.

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 and try to ascertain 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.

LAUNCHING

Have a professional launch your boat. Your dealer employs experienced people to do this or he can recommend someone who can.

ON THE BOAT

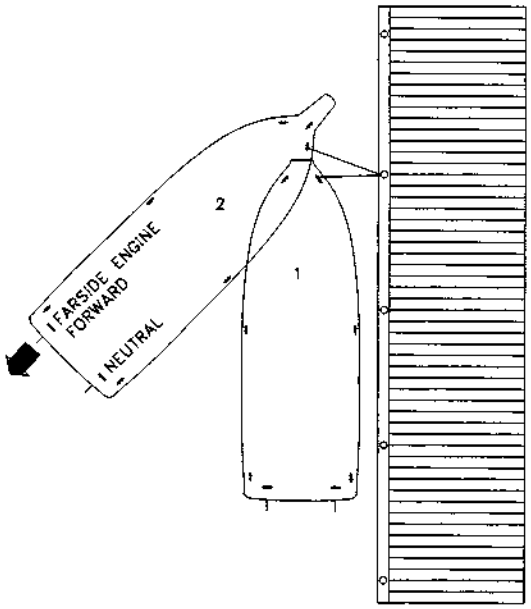
Every boat owner should know how to perform the following maneuvers competently. Do not attempt any of the following procedures or maneuvers without first receiving adequate training.

LOADING

Have someone on the pier hand it to you after you have boarded the boat. Stow all items securely to prevent shifting while your 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.

DOCKING AND CASTING OFF

The following maneuvers can be hampered by the presence of 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 be sure to adequately fender his boat against collisions with docks or other boats.



LEAVING A PIER OR MOORING

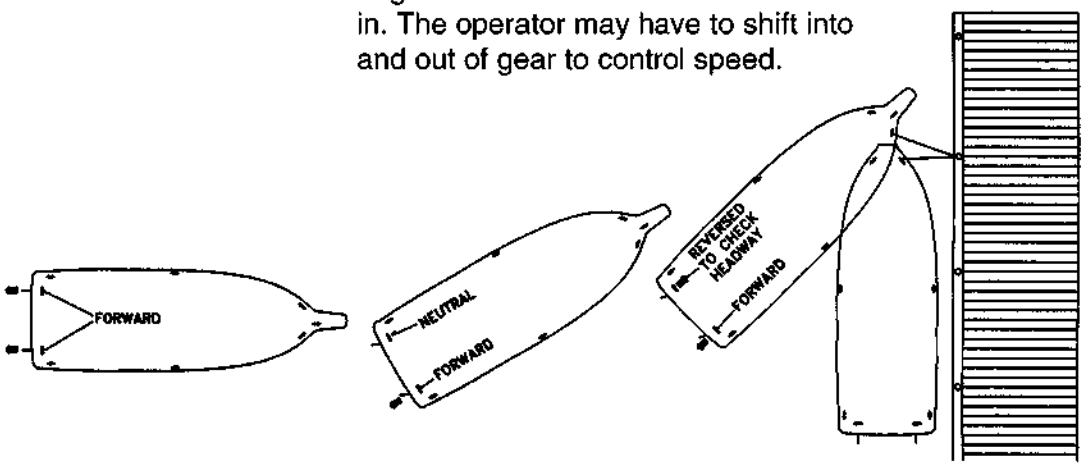
Getting underway from a pier is normally accomplished by taking in all lines except the bow spring. With a neutral rudder, power the boat forward using only the engine farthest from the pier. The boat will pivot around the bow spring line, moving the stern out and away from the pier. A fender should be placed between the bow and the pier to prevent scraping as the boat pivots about the bow spring. Once the stern is clear of boats and other obstructions, the bow spring is taken in and the boat is backed away.

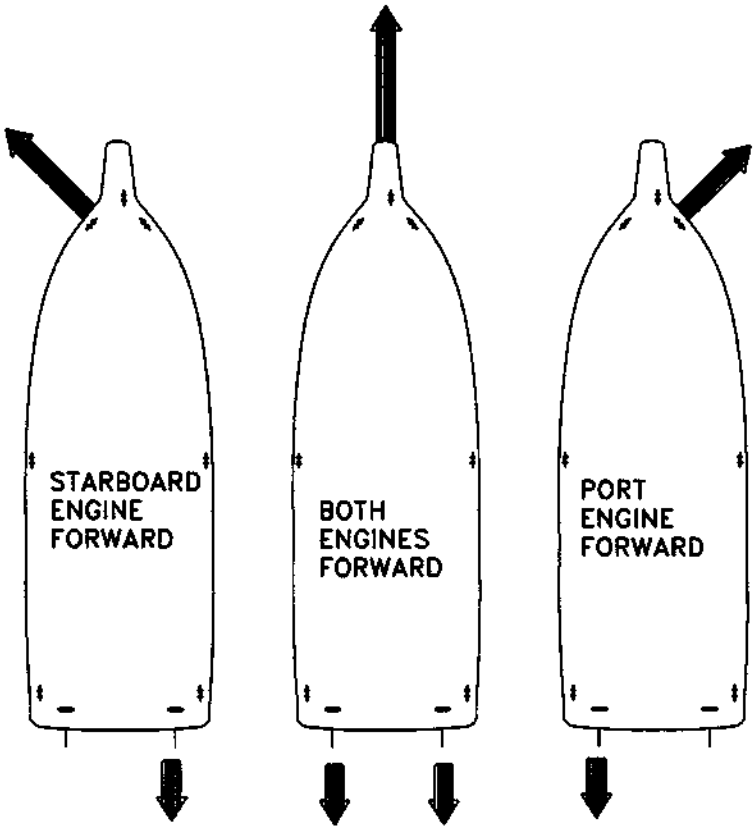
At marina anchorages, boats are often secured to a mooring buoy. Fouling your propeller with a mooring line is the principal hazard when leaving a mooring. If you use a dinghy to reach your boat, make sure the dinghy line does not foul the propeller.

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.

LANDING AT PIER

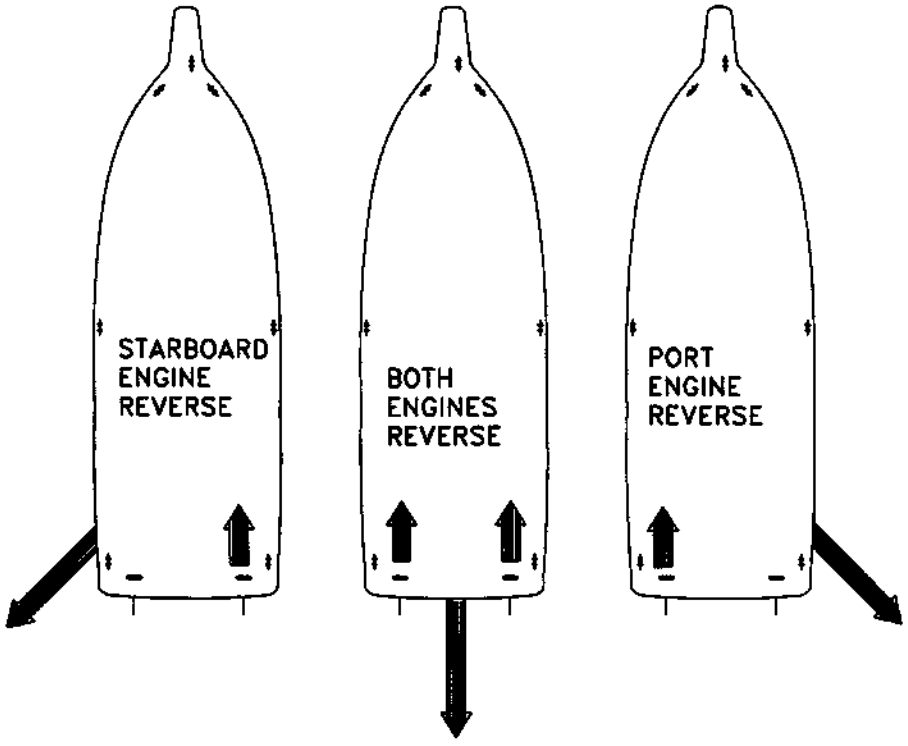
To land at a pier, the boat should come toward the pier at a right angle. If a starboard side landing is desired, place the rudders to port and reverse the port engine to check headway. The starboard engine is left in forward gear to swing the boat in parallel to the pier. For landings on the port side, turn the rudders to starboard and put the starboard engine into reverse as the boat comes in. The operator may have to shift into and out of gear to control speed.





TRACKING FORWARD (PROPS ONLY)

TRACKING ASTERN (PROPS ONLY)



PICKING UP A MOORING

As you return to the anchorage, approach your mooring at slow speed. Take notice 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.

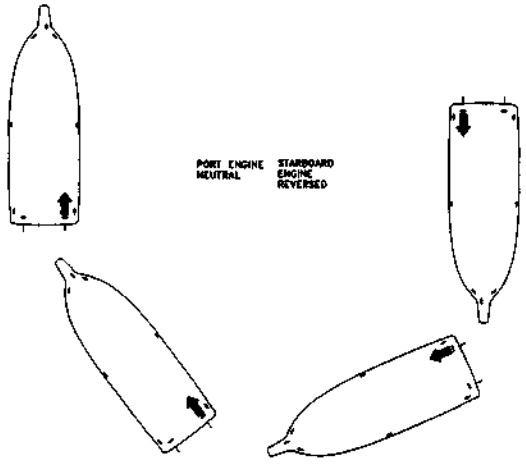
Slip the clutch into neutral when you estimate that the boat's forward momentum will carry you up to the buoy. Station someone at the bow with a boat hook to pick up the pennant float. If you are about to overshoot your mark, check headway as the bow comes up to the buoy. If you fall short, a few short turns of the propeller should suffice. 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.

MANEUVERING

The propellers on your boat rotate in opposite directions. With only your port propeller rotating, your boat would track forward and to starboard in forward gear or backwards to port in reverse. With the starboard propeller rotating, your boat would track forward to port in forward gear or backwards to starboard in reverse. With both propellers rotating at the same speed and your rudder amidships, your boat will track straight forward.

During backing, your rudders are not as effective and the side force from the twin screws is used to steer the boat.



MANEUVERING ASTERN

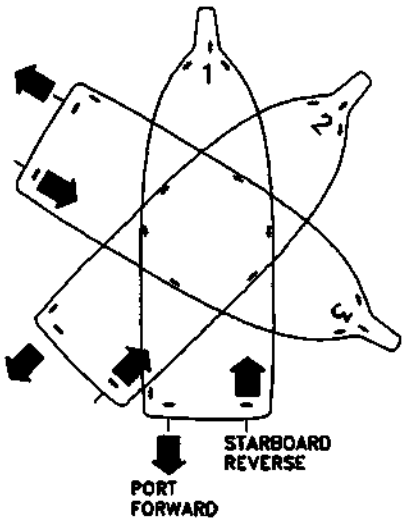
Backing a boat may be necessary in a crowded marina. Your boats twin inboards allow the boat to track straight astern or to either side. When backing, be sure to keep your trim tabs up. To make a turn to port, shift the port engine to neutral. A starboard turn astern is made by shifting the starboard engine to neutral.

Check sternway (stop reverse motion) by shifting your engines to forward gear and throttling forward.

Full stern turns can be executed, but watch the bow. The bow cuts a much wider arc than the stern and collisions could occur in crowded areas.

CHECKING HEADWAY

Stopping the boats 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 reversing engines and stopping within a shorter distance.



CLOSE QUARTERS TURNS

To execute a close quarters turn, **check your headway** and shift one engine into reverse while shifting the other into a forward gear. As you advance the throttles, the opposing forces will cause the boat to pivot about a point centered between the propellers. You can assist the rate of turn by turning the rudders in the direction of the turn.

ANCHORING

An anchor's holding power depends on it's 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. If the water is 10 feet deep, you should have 60-70 feet of anchor line.

Approach your selected anchor site from downwind and come to a dead stop over the spot where you want to drop anchor. Have a crew member lower the anchor. When the anchor hits bottom, reverse engines and slowly move the boat backwards to add length to the anchor line as the crew member keeps a slight tension on the line. When the proper length is out, the crew member can snub the line by winding it around the bow cleat. This should cause the anchor flukes to dig in and hold effectively.

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.

When weighing or pulling in your anchor, pull the line in until the anchor line is vertical. When the line is taut, a hard tug will pull the anchor's shank up. If the anchor is stuck, wrap some of the line around a bow cleat and keep tension on the line.

The boat's momentum may free the anchor. If there is a swell, wind the line around a bow cleat when the bow drops into a wave trough. As the bow lifts, it may free the anchor. If neither of these methods works, pay out a few feet of line, secure it around the bow cleat, and maneuver around the anchor. Keep the line tight until you find the angle that will pull the anchor loose.

An electric windlass simplifies the above procedures. Follow the above procedures and use the windlass control at the helm to drop anchor. To relieve strain on the windlass, hooks called *devil's claws* engage the chain when the anchor is down.

If you intend to stay at anchor over night or if you anchor your boat close to another structure, consider dropping another anchor from the stern. This will prevent your boat from swinging around if the winds or currents shift.

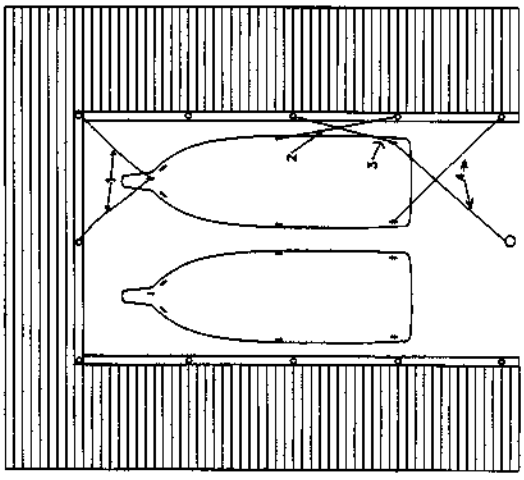
In a strong blow, you may need two anchors also. If you drop your spare anchor, make sure the two anchors are laid out at an angle. If both anchors are set in-line, a dragging anchor may cut a trough for the other to follow.

STERN ANCHORS

In some anchorages, boats lie to anchors bow and stern. To get these anchors down, let the bow anchor go first and drop back on an extra long scope (15-18 times the depth). Drop the stern anchor and adjust the scope on both as necessary.

MOORING LINES

MOORING ILLUSTRATION



The owner should familiarize himself with mooring line terminology and their use. If necessary, obtain training dealing with mooring your boat. Learn how to tie the various knots used in seamanship and when to use them. Boats which are not tied up correctly can suffer serious damage. The following information serves only as a guide to mooring your boat.

The mooring illustration demonstrates possible docking lines for a small vessel include the (1) bow line, (2) after bow spring, (3) after quarter spring and (4) stern lines. Of the two dockings shown, the boat on the bottom is used when docking your boat in an alongside berth. The top docking 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 off shore 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.

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.

GETTING UNDERWAY

It takes training and experience to become an "expert yachtsman." Reading and understanding this Owner's Guide is only part of the knowledge you'll need to operate a boat safely and skillfully.

Carver Owners have a wide range of abilities, from seasoned yachtsman 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.

THE SHAKEDOWN CRUISE

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

1) Dealer has completed Pre-Delivery commissioning. This inspection has been documented on the Pre-Delivery Service Document and has been signed by the dealer and the owner.

2) ALL warranty registration cards have been completed and mailed.

3) You have read and understand The Carver Owner's Guide and all other literature pertaining to your boat's systems.

4) Safety equipment onboard your boat is in compliance with Federal and local regulations.

5) Your boat has been documented or registered and displays the appropriate identification on the hull.

6) A representative from your Carver Dealer has reviewed the operation of the boat and its systems with you and answered your questions.

If possible, pick a calm day for your first outing. The shakedown cruise with a new boat is not the best time to bring friends or guests along. Entertaining guests will distract you from the real purpose of the cruise, which is to familiarize yourself with your new boat.

Bring only those people (spouse and children) who will make up your regular crew. Invite the sales person who sold you the boat or a member of your Carver 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 boat's engines.

This may be the first time you have been in total command of your new boat. Proceed slowly. Have fun but remember that the objective of the cruise is to learn more about how your boat operates and handles. Operate at different RPM settings. Try different trim angles. Monitor the gauges.

Practice backing down and turning slow speed tight corners that simulate docking maneuvers. Write down any questions you may have so you can review these items with your dealer when you return to the dock.

OPERATING AT PLANING SPEED

The 374 Voyager utilizes a "planing" hull. Planing hulls skim "over" the water rather than "through" the water. To do this, however, they first have to reach a certain hull speed, called "planing speed."

When you first accelerate from a dead stop, the trim angle of the boat will increase and cause the bow of the boat to rise and the stern of the boat to drop. Continue to accelerate and the boat will eventually achieve plane and the bow will slowly drop 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 will obstruct your vision and limit your 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 and the engines are operating at a fuel efficient speed.

TRIM TABS

Your boat is equipped with a set of electric / hydraulic trim tabs. Trim tabs allow you to trim the boat to adjust for variables such as load, passengers, seas or wind. Under normal conditions the 374 Voyager will not need adjustments to the trim tabs to achieve plane. Use the tabs at planing speeds to make minor adjustments in the fore and aft and beam to beam angle of the boat.

Use the trim tabs in the following way:

1) Turn the 12 volt circuit breaker labeled TRIM TABS to the "ON" position.

2) The trim tab control is mounted at the boat's helm console. The control has two switches. The port switch corresponds to the port tab and the starboard switch to the starboard tab. The control is labeled "BOW UP" and "BOW DOWN." Before advancing the throttles, depress both switches on the BOW UP side for 5 seconds. This lifts the tabs to the full "up" position.

3) Advance the throttles to bring the boat on plane. Adjust engine RPM for cruising speed.

4) 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. Push the BOW DOWN side of the starboard trim tab control switch for a ONE-HALF SECOND interval. Continue to adjust in half second intervals until the desired trim angle is achieved.

   If your passengers decide to shift to the other side of the boat level your boat by pressing the BOW UP side of the starboard trim tab control for a few

seconds. This neutralizes your prior adjustment. Next, press the BOW DOWN side of the port tab control switch to adjust the trim of the boat.

5) Trim tab switches can be used together to bring the bow of the boat to a lower attitude. This adjustment is often used when running into choppy seas. Bringing the bow down uses the sharper part of the boats "V" hull to break through waves. Press both BOW DOWN switches together at HALF-SECOND intervals to bring the bow down. Be careful when making bow down adjustments. Excessive bow down trim can cause considerable bow spray hampering visibility and reduced control of your boat.

⚠ CAUTION

DO NOT OVERTRIM. Make your adjustments in HALF-SECOND intervals and allow the boat to adjust to trim tab input. Over-trimming could cause the bow to veer and may lead to loss of control. ALWAYS reset the tabs to the BOW UP position BEFORE advancing throttles to achieve plane. Initial acceleration with lowered tabs could lead to a loss of control.

Section 7

GENERAL INFORMATION

The proper maintenance and maintenance schedule for you boat will vary depending on many factors including such variables as the amount you use your boat, the climate, and whether you use your boat in fresh or salt water. As you use your boat you should become familiar with routine that is specific to your boat. The following information is only a general guide to maintaining your boat's original condition.

Since your boat is constructed of many materials, each requiring different types of care, lets start with the various materials you may find on your boat.

MATERIALS

Your new boat is constructed from a variety of high quality materials. These materials work together to provide a vessel that is uniquely suited to the marine environment.

FIBERGLASS

Many of the pieces used to build your boat, such as the hull, deck and shower stalls, are made of molded fiberglass. Dozens of fiberglass components are used to make a 374 Voyager . Many of the fiberglass parts in your boat are further reinforced by laminating core materials between layers of fiberglass. Natural materials like balsa wood and plywood are used as are a variety of synthetic materials like "cormat" and aluminum.

The exterior or exposed surface of many fiberglass parts is coated with a layer of gelcoat. Gelcoat acts as a cosmetic and protective layer, much like the paint on your car. Below the waterline hull surfaces have a layer of vinylester under the gelcoat.

The exterior walking surfaces of your boat have been textured with nonskid. This provides a solid footing surface on the boat's deck, walkways, ladder steps and swim platforms.

WOOD

Several different types of wood are used in your 374 Voyager .

FIR PLYWOOD

Several carefully selected types and thicknesses of premium quality, exterior grade plywood are used throughout your boat to construct and reinforce a variety of components.

FINISH PLYWOOD

Finish plywood is used on the interior of your boat to fabricate bulkheads, door panels and cabinets. Plywood has outer layers of high grade veneer, and a fir or pine inner plywood core.

⚠ CAUTION

Be careful if you sand the finish plywood portions of your boat's interior. Heavy sanding will damage the veneer.

SOLID MAHOGANY LUMBER:

High grade, mahogany lumber is used in a variety of dimensions in areas that provide structural strength to the boat and interior framework.

METAL

Stainless steel and aluminum are used throughout your 374 Voyager These metals provide high strength-to-weight ratios, are nonmagnetic, and are highly resistant to moisture. The safety rails on the 374 Voyager are welded from stainless steel rail. Information on how to care for the rails and hardware of your boat can be found later in this section.

HIGH PRESSURE LAMINATE (HPL)

HPL is used within the 374 Voyager to surface bulkheads, cabinets and counter tops. These laminates are selected for their strength and durability, are easy to clean, and add colorful highlights to the inside of your boat.

FORMED PLASTICS

Formed plastic is used in a variety of ways throughout the interior and exterior of your boat. Plastic offers a high strength-to-weight ratio and excellent resistance to the affects of moisture. A few of the areas where formed plastics are used are in the boats water and sanitation tanks, bridge seat forms, venturi windshield and electrical wire covers.

FABRICS, WALL COVERING AND CARPET

A wide variety of fabrics can be found throughout the interior and exterior of your boat. Woven fabrics are used for interior mattresses and chairs, and vinyl fabrics are used for exterior cushions and helm seats. The vinyl coating of the interior wall coverings and headliner makes them easy to clean. The carpet and fabric selected for your boat are of premium grade and have been treated with a popular stain resistant product.

CONSTRUCTION

Your 374 Voyager was built using a modular construction technique. This method of building boats uses the physical properties of many components to add strength and rigidity to the boat's hull and deck. The interior liners of the boat are securely bonded to the hull and deck to increase strength while minimizing the boat's overall weight.

HULL

The hull is made of numerous layers of various types of laminated fiberglass. Its strength is derived from laminating several carefully selected, hand laid layers of fiberglass material that have been impregnated and bonded together with polyester resin. Your hull does not contain any balsa wood coring materials. The actual thickness of your boat's hull varies depending upon the structural requirements of a particular area. The thickness, however, generally increases as you go from the sheer to the keel area of the hull.

Carver protects the underwater portion of your hull from marine growth with a layer of antifouling bottom paint.

⚠ CAUTION

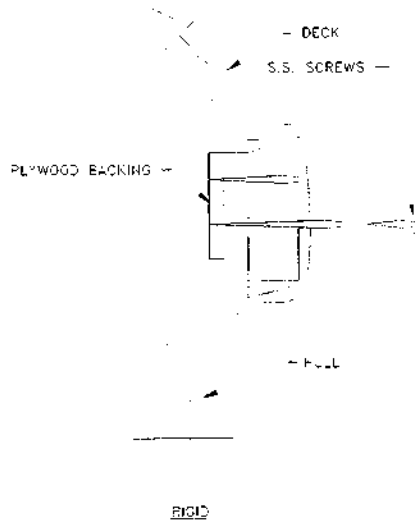
DO NOT install an item into or through the hull without sealing the area penetrated by the fastener or fitting. Improper or inadequate sealing may lead to hull leaks or serious hull damage. Consult your Carver Dealer for recommendations on what type and brand of sealer to use.

DECK

The deck of the CARVER 374 Voyager uses a complex system of laminated fiberglass to give it the ability to support the superstructure of the boat. All exterior surfaces, including the nonskid areas are coated with pigmented gelcoat. Where equipment and hardware are fastened, wooden or metal backing plates are used.

Many of these backing plates can't be seen on a completed boat because they are actually laminated into the fiberglass. High stress areas receive additional layers of fiberglass laminates as reinforcement. The hull and deck are fastened together using the Carver "shoe box" hull-to-deck joint. This joint creates a strong and highly water tight union between these two critical components of your boat.

CARVER "SHOE BOX" HULL-TO-DECK JOINT



INTERIOR MODULES

Carver utilizes a modular construction process. Major components and cabin modules are built independent of the hull and deck. These components are then fitted into the hull before the deck is positioned and secured.

Modules are designed to work with the hull and deck to add strength to the boat.

MAINTENANCE SCHEDULE

This section provides guidelines that will make you aware of the areas within your boat that need periodic attention. Time periods listed in this section are only rough guidelines. The more frequent your boat is used, the more often periodic maintenance needs to be performed. Boats used in salt water will require more maintenance, especially on the exterior of the boat.

OEM supplied manuals include information on detailed maintenance procedures that you should follow. Read these manuals and follow the component manufacturers suggestions. Maintenance tasks have been divided into 4 categories:

TYPE "A" MAINTENANCE

Type A maintenance should be performed 48 hours after a new boat has been launched AND 48 hours after a boat has been launched following a period of onshore storage.

TYPE "B" MAINTENANCE

Type B maintenance should be performed after the first 25 hours of operation following initial launching and after periods of onshore storage.

TYPE "C" MAINTENANCE

Type C maintenance should be performed twice each season, every 6 months or every 100 hours, whichever period is more frequent.

TYPE "D" MAINTENANCE

Type D maintenance is performed seasonally, every 12 months or after every 200 hours of use, whichever period is more frequent.

A maintenance log is included at the end of this owner's guide. The items on the log correspond to the items on the following pages. Make several copies of the log. As you go through your routine maintenance, use the log to check the projects you have completed on the maintenance schedule.

A blank log sheet has been provided for your use when you do maintenance on your engine, generator, and head. Make a copy of this page and write in the suggested items from your OEM materials.

GENERAL MAINTENANCE SCHEDULE

	Type A 48 hours after launching	Type B 25 engine hours after launching	Type C 6 months or 100 engine hours	Type D 12 months or 200 engine hours
ENGINES AND DRIVE SYSTEM				
Maintenance as outlined in the engine manual.	As recommended by manufacturer.	As recommended by manufacturer.	As recommended by manufacturer.	As recommended by manufacturer.
Inspect water intake hoses & connections.		X	X	X
Inspect exhaust system hoses & connections.	X	X	X	X
Inspect exhaust guard cover.				X
Check prop for balance & nicks				X
Check strut bearings				X
Check rudder alignment				X
Check all thru-hull fittings				X
Inspect shaft log packing nut	X	X	X	X
Check engine and shaft alignment	X	X	X	X
Spray ignition switch with contact cleaner				X
Tighten engine mounts		X		X
Weigh halon bottle			X	X
CONTROL SYSTEM				
Throttle and shift adjustments		X		X
Test neutral safety switch				X
Lubricate cables and controls				X
STEERING SYSTEM				
Inspect linkage and connections		X		X
Inspect hydraulic fluid level	X	X	X	X
Inspect rudder packing nut	X	X	X	X
Inspect tiller tie bar linkage		X	X	X
Inspect trim tab reservoir		X	X	X

GENERAL MAINTENANCE SCHEDULE (CONTINUED)

	Type A 48 hours after launching	Type B 25 engine hours after launching	Type C 6 months or 100 engine hours	Type D 12 months or 200 engine hours
ELECTRICAL SYSTEM				
Inspect and clean batteries			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 cord			X	X
Inspect generator water intake and discharge		X	X	X
Inspect zincs			X	X
Generator maintenance	As recommended by manufacturer.	As recommended by manufacturer.	As recommended by manufacturer.	As recommended by manufacturer.
FUEL SYSTEM				
Clean engine fuel filters		X	X	X
Inspect for fuel leaks	X	X	X	X
Inspect fuel lines for signs of chafe		X	X	X
Check propane system for leaks		X	X	X
Inspect propane storage system			X	X
FRESH WATER SYSTEM				
Flush water tank and system			X	X
Clean in-line water filter			X	X
FIBERGLASS / WOODWORK				
Clean fiberglass				X
Wax hull & all non-tread areas				X
Repair chipped fiberglass			X	X
Clean interior woodwork				X

GENERAL MAINTENANCE SCHEDULE (CONTINUED)

	Type A 48 hours after launching	Type B 25 engine hours after launching	Type C 6 months or 100 engine hours	Type D 12 months or 200 engine hours
INTERIOR				
Head maintenance	As recommended by manufacturer.	As recommended by manufacturer.	As recommended by manufacturer.	As recommended by manufacturer.
Inspect thru-hull fittings	X	X	X	X
Clean refrigerator			X	X
Clean stove			X	X
Lubricate door hinges and locks			X	X
Clean vinyl fabrics & wall coverings				X
Spot clean woven fabrics				X
Spot clean carpet				X
EXTERIOR				
Check compass for magnetic diviation				X
Check trim tab system for leaks		X		X
Check deck hardware tightness & caulking				X
Clean vinyl upholstery			X	X
Clean plexiglass surfaces				X
Lubricate hinges, latches & locks			X	X
Wash weather covers				X
BILGE SYSTEM				
Check garboard drain plug	X	X		X
Check and test bilge pumps	X	X	X	X
Inspect shower sump pump			X	X
Check & test bilge blower	Each time before starting engine.	Each time before starting engine.	Each time before starting engine.	Each time before starting engine.

EXTERIOR MAINTENANCE

FIBERGLASS SURFACES

The exterior fiberglass surfaces of the 374 Voyager are coated with a protective layer of gelcoat. Gelcoat offers a hard, smooth and durable surface. It does, however, contain very small pores that will collect dirt and discolor if the surface is not kept clean.

Washing the boat with fresh water after each outing will help keep the gelcoat clean. This is especially important for boats that are used in salt water. Periodically wash the boat with fresh water and a mild soap solution. DO NOT USE ABRASIVE CLEANERS. Abrasive cleaners will scratch and dull the gelcoat surface. Use a sponge to wash smooth surfaces and a stiff nylon or natural bristle brush to wash nonskid surfaces.

Wax all non-tread areas at least once a season. Use a high quality, non-yellowing, marine wax. Waxing your boat will provide a shiny surface and it will seal the pores in the gelcoat surface and make it easier to keep clean.

⚠ WARNING

DO NOT wax the nonskid surfaces. It will make them slippery and dangerous to walk on.

Gelcoat will eventually become dull with age, much like the paint on your car. When it becomes dull we suggest cleaning the gelcoat with an electric buffer and a fine grade polishing compound. Be careful, as the continued and overly frequent use of abrasive polishing compounds will eventually erode the gelcoat surface. Use the finest grade compound that will accomplish the task. Ask your Carver Dealer what brand and grade of polish to use.

Stress cracks are a common occurrence on all fiberglass boats. 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 failure. If you discover stress cracks on your boat 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 boat 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 gel repairs.

GELCOAT BLISTERS

While fiberglass is a durable and economical material, it is not indestructible as is often assumed by many boaters. 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 are formed through a natural process and are quite common. If you discover blisters on the underwater portions of your boat's hull, contact your Carver Dealer.

ANTI-FOULING BOTTOM PAINT

The underwater surfaces of your boat are coated with a high-quality, factory-applied coat of antifouling bottom paint, applied after the hull has been carefully prepared and primed.

The paint has a high copper load and antifouling elements that will retard the growth of marine life on the bottom of your boat's hull. The antifouling elements within this paint have a limited life span, usually about 12 months. Because of this, Carver suggests you repaint the hull with a fresh coat of bottom paint on an annual basis. Be sure to use the correct bottom paint supplied by your authorized Carver dealer to avoid compatibility problems. Failure to do so can void your bottom paint warranty.

To prep the boat for painting, lightly rough up the existing paint with 80 grit or 100 grit sandpaper. Paint can be applied by brush, roller or spray. The paint type you choose will depend upon the condition of the water in which you do your boating. Ask you Carver dealer which type of bottom paint they recommend. Once applied, allow adequate dry time between coats if two coats are applied.

CAULKING AND SEALANTS

Deck fittings, rail bases, window frames and all underwater fittings have been sealed with the finest quality sealants available. These sealants however will not last indefinitely. The working action of the boat and the expansion and contraction caused by variations in outside temperature will 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 will rust and corrode. Proper care will help keep the stainless fittings on your boat looking bright and shiny.

Wash your boat with fresh water after each outing. Boats used in salt water should be washed with fresh water at least once per week, even if they have not been used. Clean stainless rails and fittings with soap and water. Glass cleaner is also good for cleaning stainless steel.

Rust must be removed as soon as it is discovered. Failure to remove rust will lead to irreversible pitting. Use brass, silver or chrome polish to remove rust on stainless steel. Waxing stainless fittings and rails will help keep them in top shape. Use the same wax you use on the fiberglass surfaces of the boat.

⚠ 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.

DECORATIVE STRIPING TAPE

A variety of decorative stripes are used on the exterior of the 374 Voyager . Striping tapes are custom made to Carver's color and size specifications. Replacement striping tape is only available through authorized Carver Dealers. To remove a damaged section of tape, heat the area with a hair dryer. This will soften the adhesive and make the tape easier to remove. Adhesive residue can be removed with acetone.

⚠ CAUTION

Be careful when fueling your boat. Avoid spilling fuel on the decorative boot stripe or any other tape. Spilling fuel on the striping tape will damage the tape.

WINDOWS

The window and hatch frames on your 374 Voyager are fabricated from aluminum. Some of these frames are painted with enamel. Clean painted and unpainted frames with fresh water and a mild soap solution. Use a sponge to clean window frames. Using a brush or abrasive cleaner will scratch and damage the appearance of the painted frame surface.

The cabin windows on the 374 Voyager are made from tempered glass. Clean these surfaces with a soft rag and glass cleaner. The bridge wind screen is made from formed plexiglass. DO NOT use glass cleaner to clean plexiglass. Use a mild solution of soap and fresh water.

EXTERIOR VINYL UPHOLSTERY

The exterior vinyls on the 374 Voyager are made to resist the effects of sun, heat, acid rain, and soiling under normal conditions. Exterior vinyl can be cleaned with a mild solution of soap and water.

Please consult the cleaning recommendations on the following insert. All cleaning methods must be followed by a thorough rinse with water. An occasional treatment with a vinyl protectant will enhance the appearance of your boat's exterior cushions and upholstery. Avoid saturating the exterior cushions with water.

Cleaning Supplies Include:

- Ivory Dishwashing Liquid and water
- Clean, white towels
- Medium-soft brush
- Fantastik Spray Cleaner

NOTE: The following cleaners should not be used on seats repaired by Dr. Vinyl. These cleaners will damage the repair spot.

- Denatured Alcohol
- 3M Citrus Cleaner (order call 404-447-7132)
- Ammonia and hydrogen peroxide

BASIC STAINS, GREASE, PENCIL, DIRT:

Use Ivory Soap and water or Fantastik Spray Cleaner applied with a medium-soft brush

TOUGH STAINS, ADHESIVE, TEAK OIL, RUST:

Use 3M Citrus Cleaner; rinse with soap and water

INK STAINS

Use Denatured alcohol

MILDEW STAINS:

To kill bacteria creating the mildew, vigorously brush the stained area with a 4-to-1 mixture of water and ammonia; rinse with water

TOUGH MILDEW STAINS:

Apply a mixture of one teaspoon ammonia, one-fourth cup of hydrogen peroxide, and three-fourths cup of distilled water; rinse with water.

Always clean stains immediately. DO NOT use 409 Cleaner or Armor-All.

VINYL CLEANING & CARE

Important information concerning your G&T vinyls. G&T vinyls are made to withstand the effects of sun, heat, acid rain, and soiling under normal conditions. Please consult these cleaning recommendations.

Steps	1	2	3
Betadine	B	A	
Chewing Gum	D	A	B
Eyeshadow	B		
Motor Oil	B		
Spray Paint	B	E	
Mildew or Wet Leaves*	C	A	B
Shoe Polish*	D	B	E
Yellow Mustard	A	B	C
Oil Base Paint (fresh)	D	B	E
Oil Base Paint (dried)	D	A	B
Suntan Lotion*	A	B	E

Steps	1	2	3
Tar/Asphalt	D	A	B
Lipstick	A	B	
Latex Paint	A	B	E
Crayon	D	B	
Ketchup	A	B	
Grease	D	B	E
Ballpoint Ink*	A	B	E
Household Soil	A	B	
Permanent Marker*	B	C	E
Coffee, Tea, Chocolate	B		

A. Medium-soft brush, warm soapy water/Rinse/Dry

B. Fantastik Spray Cleaner/Rinse/Dry

C. One (1) tablespoon ammonia, one-fourth (1/4) cup of hydrogen peroxide, three-fourth (3/4) cup of water/ Rinse/Dry

D. Wipe or scrape off excess (Chill gum with ice)

E. 3M Citrus Base Cleaner Rinse/Dry (617-733-1110 *55)

F. Denatured Alcohol/Rinse/Dry

Note: All cleaning methods must be followed by a thorough rinse with water.

*Suntan lotion, shoe polish, wet leaves, and some other products contain dyes that stain permanently.

Certain household cleaners, powdered abrasives, steel wool and industrial cleaners can cause damage and discoloration and are not recommended. Dry cleaning fluids and lacquer solvents should not be used as they will remove the printed pattern and gloss. Waxes should be used with caution. Many contain dyes or solvents that can permanently damage the protective coating. Alway remove stains immediately.

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1-800-247-9901

DO NOT USE
409 CLEANER
OR
SILICONE BASE PRODUCTS!!!

MARINE SPECIALTIES GROUP

G&T INDUSTRIES

IMPORTANT INFORMATION REGARDING YOUR VINYL

WHILE YOUR VINYL IS MADE TO WITHSTAND THE ELEMENTS, IT IS IMPORTANT TO CARE FOR IT BY KEEPING IT CLEAN AT ALL TIMES. MANY SUBSTANCES MAY STAIN YOUR VINYL IF LEFT ON OVER A PERIOD OF TIME. REMEMBER TO REMOVE ANY CONTAMINANT AND CLEAN VINYL IMMEDIATELY.

EXTERIOR CARPET

Rinse the bridge and deck carpet with fresh water when cleaning the other portions of the boat's exterior. When the exterior carpet becomes soiled remove the carpet from the boat and wash with hot water and any brand of carpet detergent suitable for hot water extraction. To remove stains refer to the materials provided by the manufacturer of the carpet, which is included in the OEM materials pouch.

CANVAS

WHITE VINYL

White exterior enclosures are made from vinyl coated materials. Clean this material with a sponge and mild soap solution. Heavy dirt can be removed using a vinyl cleaner. Treat the vinyl with a vinyl protectant product twice each season.

SUNBRELLA

Colored canvas enclosures are made from Sunbrella fabric. Sunbrella should be cleaned regularly before dirt is allowed to accumulate and become embedded in the fabric. The fabric can be cleaned without removing it from the stainless steel bow supports. Brush off all loose dirt and hose down with a mild solution of natural soap and lukewarm water (no more than 100 degrees F.). Rinse with fresh water to remove soap. DO NOT USE DETERGENTS.

For stubborn stains: Remove the fabric from the bow supports. Soak fabric for 20 minutes in a solution of no more than 1/2 cup (4 oz.) Clorox and 1/4 cup (2 oz.) natural soap per gallon of lukewarm water (no more than 100 degrees F.). Rinse with fresh water to remove soap and let air dry.

⚠ WARNING

Excessive soaking in Clorox can damage sew threads. Cleaning Sunbrella using the method described above may remove part of the fabric's water repellency. Treat the fabric with an application of an air-curing fluorocarbon water repellent treatment to restore water repellency.

DO NOT SUBJECT CANVAS FABRICS TO EXCESSIVE HEAT. Fabric must be air dry before storage and stored in a dry, ventilated area.

ENCLOSURE CURTAINS

The enclosure curtain's clear vinyl windows are easily scratched if cleaned incorrectly. Because of this, use only NON-ABRASIVE cleaners and a soft cloth to clean these surfaces. Glass cleaner and a clean , soft cloth can be used to remove water spots. Dirt and dust can be removed with a very mild soap solution and a clean, soft cloth. DO NOT use paper towel to clean the clear vinyl enclosure windows. Paper towel will scratch the windows.

There are several cleaners available that are made specifically for vinyl windows. If you elect to purchase and use one of these cleaners, try the product on a small, inconspicuous area to make sure the product does not damage or scratch the vinyl surface.

INTERIOR MAINTENANCE

One of the best things you can do on a continued basis to maintain the interior of your boat is to make sure the cabin is well ventilated. Do not allow moisture to accumulate in the boat's interior. This will lead to a damp, musty environment. Mildew will form if the interior of the boat is damp. Ventilate the boat's interior whenever possible.

WOODWORK

Solid hardwood and hardwood veneer is used throughout the interior of the 374 Voyager . Treat the interior woodwork of your boat like you treat your finest furniture. Dust the interior woodwork on a regular basis with lemon oil and a soft rag. Avoid using wax based furniture polish.

Avoid laying wet or damp towels or clothing on or against the finished hardwood surfaces.

Carver finishes interior woodwork with MOHAWK POUR-N-WIPE FINISH #603-3017. This is an industrial/commercial grade finish that is not commonly found at local paint and hardware stores. You can order MOHAWK POUR-N-WIPE (Carver part number 81069-00) through your Carver Dealer. Follow the manufacturers instructions on the product packaging when applying this product to your wood surfaces.

HIGH PRESSURE LAMINATE (HPL)

HPL is used on many of the cabinet faces and counter tops within the boat's interior. HPL is extremely durable and is 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 will permanently scratch them.

WOVEN FABRICS

The fabrics used on the interior of the boat have been treated with a popular stain retardant product. The manufacturer of many of the fabrics used on the 374 Voyager has provided Carver with the following recommendations on cleaning interior woven fabrics. Woven fabrics are used to make drapes, pillow shams and bed spreads. Sofas and barrel chairs are also covered with woven fabrics. The following instructions can also be used to clean woven (fuzzy) headliner.

Cleaning Supplies Include:

- Westley's Clear Magic (order call 1-800-545-0982)
- Lendow Glass Cleaner (order call 1-313-777-2236)
- Lift-Off-Spot Remover (order call 1-216-881-4070)
- Clean white towels
- Clothes shaver
- Source of compressed air (if available)

BASIC STAINS, INK, GREASE, PENCIL, DIRT:

Use Westley's Clear Magic

ADHESIVES, TEAK OIL, GUM, TAR:

Use Lift-Off Spot Remover

WATER STAINS:

While fabric is still wet, use an air hose and nozzle to go over the wet area. This will force the stain into the back of the fabric.

For stains that have dried, spray Lendow Glass Cleaner over the stained area. Let the foam dissipate, then rub the area with a clean white towel. Repeat.

TOUGH STAINS, SET WATER STAINS:

Always try the technique outlined in #3 first. If that doesn't remove the stain...

Spray Westley's Clear Magic on the area, going 2" around the stain or, if possible, bring wetness to a break point, such as a bulkhead. Spray water on the area as directed on the product bottle. Let set about 5 minutes. Rub the area with a clean towel, rotating the towel as the stain is removed. As you rub, go a little beyond the wetness with the towel, flaring the edges.

Allow to dry or blow complete area with compressed air. Repeat if necessary or try the Lendow cleaner. After the stain is removed, use the clothes shaver to remove "fuzzies".

CARPET

The carpet used on the interior of the boat has been treated with a popular stain retardant product. Care for this carpet as you would care for the carpet within your home. Vacuum often, shampoo as needed.

When your boat is new, the carpet will shed and need to be vacuumed frequently. This is normal. The shedding will stop after a few weeks.

INTERIOR FIBERGLASS AND PLEXIGLASS

INTERIOR FIBERGLASS

Gelcoated fiberglass is used to form interior components such as the shower stall, lower station helm module and the master stateroom bed platform. 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 will scratch and dull the shiny gelcoat surface.

PLEXIGLASS

Plexiglass is used to fabricate the shower door and mirrored face of the head compartment medicine cabinets and other areas of your boat. DO NOT USE GLASS CLEANER TO CLEAN THESE SURFACES!!! Glass cleaner will etch the polished surface.

Clean plexiglass with water and mild liquid detergent. Avoid use of abrasive cleaners and aromatic solvents. Remove fine scratches with fine automotive acrylic rubbing and polishing compound.

FABRIC CLEANING & CARE

Important information concerning your G&T Marine Headliner and Fabrics

Steps	1	2	3
Water Stain	B	C	E
Motor Oil	A		
Spray Paint	A	D	F
Mildew	A	E	
Yellow Mustard	A	D	
Wet Leaves*	A		
Oil Base Paint	A	D	F
Suntan Lotion*	A	F	
Chewing Gum	D		
Tar	D	A	
Lipstick	A		

Steps	1	2	3
Ketchup	A		
Grease	A	D	
Ball Point Ink	A		
Household Soil	A		
Permanent Marker*	A	F	
Coffee, Tea	A		
Chocolate	A		
Adhesive	D		
Teak Oil	D		
Latex Paint	A	D	F
Crayon	A	D	

A. White cloth - Westley's Clear Magic. 1-800-545-0982

B. White cloth - Westley's Clear Magic - air hose.

C. Lendow Glass Cleaner. 313-777-2236

D. Lift Off Spot Remover. 216-881-4070

E. Clothes shaver to remove lint.

F. Follow instructions of staining agent manufacturer.

*Suntan lotions, wet leaves, permanent markers and some other products contain dyes that permanently stain.

Always clean immediately. Test an unseen area of fabric before cleaning stain.

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MARINE SPECIALTIES GROUP

MECHANICAL SYSTEM

ENGINES / GENERATOR

Maintain engines and generator in accordance with the instructions provided in the respective manufacturer's owner's manual. There is an in-line sea water strainer installed in each engine and generator water intake lines. These strainers must be opened and cleaned at least every 30 days. If you are operating the boat in dirty waters or areas with a high degree of aquatic vegetation, inspect these strainers more frequently. A clogged strainer will restrict the intake of sea water which could lead to an overheated engine.

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 will guard 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.

PROPELLER SHAFT SEALS

⚠ DANGER

Inspect propeller shaft seals ONLY when the engines are off. The engine compartment contains moving and hot machinery. KEEP YOUR HANDS, FEET AND BODY OUT OF THE ENGINE COMPARTMENT WHILE ONE OR BOTH OF THE ENGINES ARE RUNNING.

The propeller shaft extends through a water tight fitting called a shaft seal. Check the shaft seal every month. If you notice that this shaft seal is leaking, contact your Carver dealer.

PROPS

Nicked or out-of-balance props will affect performance and smooth operation. Damaged props also can develop serious vibrations that may lead to drive train damage.

Inspect your props often. Carry a swim mask in the boat so you can take a look at the props while swimming. Have the propellers balanced by an established propeller repair shop at least once a year. Repair or replace damaged props.

A TIP FROM CARVER!

"Consider purchasing and carrying a spare set of props onboard your boat. Many marine dealers do not carry a full inventory of replacement propellers. A spare set will allow your vacation or cruise to continue in the event you should damage your boat's primary set of props."

⚠ WARNING

The blades of a propeller are sharp. Wear gloves when handling a propeller.

STRUTS

Propeller shaft struts require very little maintenance. Within each strut is a strut or cutlass bearing that provides a smooth surface for the shaft to rotate. These bearings occasionally need to be replaced. Replacement will be needed more often in water that has a lot of sand or abrasive material suspended in it. Have your marine technician inspect the strut bearings whenever the boat is pulled. Have the bearing replaced upon the technician's recommendation.

12 VOLT SYSTEM

The majority of 12 volt difficulties that are experienced on a boat are caused by poor battery maintenance. The factory installed batteries on the 374 Voyager should provide several years use if properly maintained. Factory installed batteries are heavy duty batteries that have the ability to be discharged and recharged repeatedly without damaging the battery. However, completely discharging and overcharging a battery can result in a shortened battery life span.

Avoiding the following two situations will dramatically extend the useful life of your boat's batteries:

1) Do not store batteries that are only partially charged. Recharge batteries to a voltage reading between 12.3 and 12.6 volts before storing. Monitor the voltage reading every 30 days during storage and recharge if the voltage drops below 12.3 volts.

2) Don't overcharge your batteries. Stop charging the batteries when voltage is between 12.3 and 12.6 volts. Don't continuously trickle charge the batteries. Even trickle charging a fully charged battery will reduce its useful life.

While using the boat, use the voltmeters to frequently monitor the charge level of each battery bank. Monitor the charge level with the engines turned off (static condition). Use the onboard battery charger or the engine alternator to recharge the batteries when they are not fully charged. A fully charged battery bank will indicate between 12.3 and 12.6 volts on the voltmeter.

Avoid charging batteries that are already fully charged. Engine alternators will not overcharge the batteries. The AC battery charger installed on your boat however will switch to a trickle charge mode but will not "automatically" turn itself completely off.

⚠ CAUTION

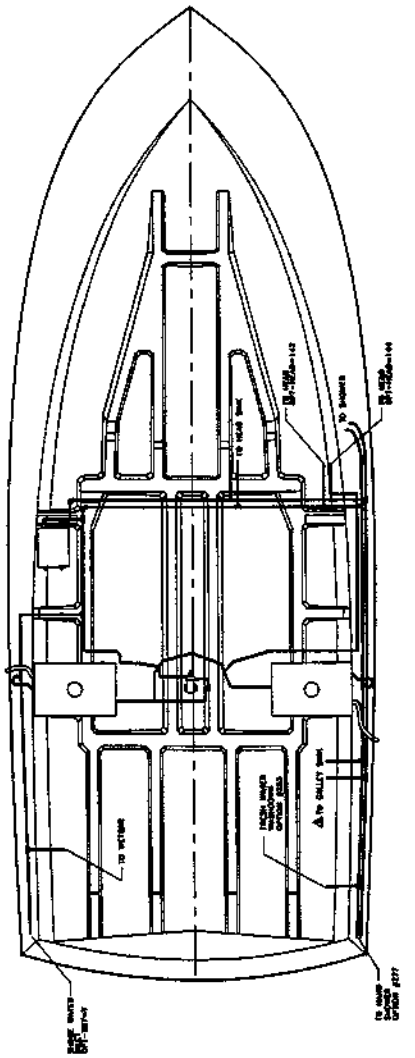
Disconnect the batteries when performing maintenance tasks on the 12 volt system. Failure to do so could lead to electrical shock.

Inspect the batteries every 30 days. Clean any corrosion that has developed on the battery terminals. Spray a terminal protector on the terminals and battery cable eye connections. Make sure the battery cables are securely fastened to the terminals. Tighten the wing nuts SLIGHTLY beyond finger tight with a pliers.

Check the level of fluid in each battery cell. Top off low cells with "distilled" water. The fill level is marked along the side of the battery case.

Spray the connections for the bridge instruments and switches with an electrical connection protector every 6 months.

WATER SYSTEM LAYOUT



WATER, BILGE AND SANITATION SYSTEM MAINTENANCE

WATER SYSTEM MAINTENANCE

Maintain your boat's water system by emptying, flushing, and sanitizing the system at least once per season. Products are available at your local marine supply store that are made to sanitize fresh water systems.

Clean the in-line water filter every 6 months or twice per season. This filter is located near the pressure water pump. A water tank vent has been installed through your boats hull. This vent includes a screen over the opening to prevent dirt and insects from entering the vent hose. Clean these vent screen every 6 months or twice a season. Refer to the **THRU-HULL FITTINGS** portion of **SECTION 9** for water vent locations.

Clean the shower sump frequently. Hair, dirt and soap scum will collect in the sump and if left unattended will eventually clog the sump pump system.

BILGE

Keeping your boat's bilge clean is important. A dirty bilge will lead to clogged bilge pumps and unwanted cabin odors.

Wipe all oil and dirt from the bilge. Treat the bilge with a commercially available bilge cleaning detergent twice a season. Clean the bilge pumps twice a season. Wipe any dirt or oil from the exterior surface of the pump. Clean the float switch so that it operates freely. Remove dirt from the bilge pump inlet screen.

SANITATION SYSTEM

A marine sanitation system that is not maintained properly can create a variety of unpleasant problems. Unlike other systems within the boat that only require periodic attention, sanitation system maintenance is an ongoing process that must be maintained to avoid problems.

Always use waste system deodorizer. Use the brand recommended by your Carver Dealer. A boat's head and sanitation system is not like the toilet and sewer in a home. Do not flush any items down the head that the head was not designed to accommodate.

Instruct non-boating guests on how to use the head before problems arise. Refer to the OEM supplier's manual for further advice on how to use, service and maintain the head.

Flush the holding tank with clean water EVERY TIME IT IS EMPTIED. This will help remove the last remnants of waste that may collect within the tank. Empty the holding tank often and when you know the boat will not be used for an extended period.

SECTION 8

Winterization 135

WINTERIZATION

Whenever your boat will be stored for the winter season or for an extended period of time where there is potential for freezing. Your boat must be properly winterized to prevent damage during winter storage.

Any water left standing in your boat's systems could freeze, expand, and cause extensive damage to your boat and it's systems. Carver recommends having your marina or a hired professional winterize your boat and its systems before winter conditions set in. Start the winterization process by draining and winterizing the following systems:

ENGINES

Proper procedures must be followed to prepare the boat's engines for winter storage. Detailed winterizing instructions are included in the engine operators manual found in your Captain's Kit.

AIR CONDITIONING SYSTEM

Proper procedures must be followed to prepare the boat's air conditioning system for winter storage. Detailed winterizing instructions are included in the air conditioning system's operator's manual found in your Captain's Kit. Carver recommends that you have a qualified marina winterize your air conditioning system for you.

FRESH WATER SYSTEM

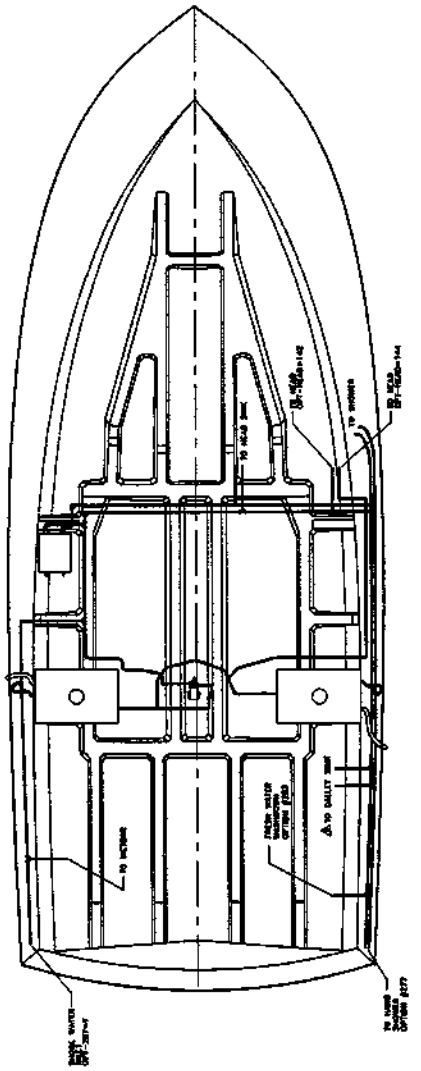
⚠ CAUTION

Your boats fresh water system INCLUDING THE WATER HEATER AND ENGINE HEAT EXCHANGER must be drained prior to winter lay-up. Failure to winterize the water system could lead to damaged pipes, valves, faucets, tanks or a ruptured water heater.

To drain the water system:

1) Disconnect power to the boat's water heater by turning the WATER HEATER breaker to the "OFF" position. Carver recommends taping the breaker in the "OFF" position until the water system is filled and primed after spring recommissioning.

WATER SYSTEM LAYOUT



⚠ DANGER

DO NOT supply electric power to an empty water heater. Supplying power to an empty heater will damage the element and may start a fire.

2) Provide power to the 12 volt pressure water pump by switching the "WATER" circuit breaker to the "ON" position.

3) Open all faucets and let the water drain completely. (Include the fresh water washdown if so equipped)

4) Shut off the 12 volt pressure pump by turning "OFF" the breaker Labeled "WATER."

5) Disconnect power to the water heater and drain the water heater located outboard the port engine. Refer to the units operating instructions supplied with the OEM material in your Captain's Kit.

<u>To winterize the onboard water system:</u>

1) Purchase 15 gallons of NONTOXIC recreational vehicle antifreeze from your carver dealer.

2) Pour this nontoxic antifreeze into your boat's fresh water tank through the water fill deck fittings located on the starboard and port sidedecks near amidships.

3) Close all faucet and shower valves (including the transom shower if equipped) and provide power to the 12 volt pressure water pump by switching the 12 volt "WATER" circuit breaker to the "ON" position.

4) Check to make sure the "SHOWER" breakers located on the 12 volt main distribution panel are in the "ON" position. This breaker activates the shower sump pump.

5) Open the galley sink cold water valve and purge the system until a steady stream of antifreeze flows from the faucet. Repeat for the hot water valve. Repeat this process for the head sinks and showers (include the transom hand shower and the fresh water washdown - if available).

6) Pour a quart or two of nontoxic antifreeze into each shower drain until the shower sump pump turns ON.

7) Pour a quart of nontoxic antifreeze into each sink drain.

⚠ WARNING

Using the wrong type of antifreeze could damage your boat's sanitation system. Refer to Technical Bulletin #VF-005 supplied by SeaLand Technologies for more information regarding the proper type of antifreeze to use. This technical bulletin can be found at the end of this section. Damage caused by using improper antifreeze IS NOT covered by Carver or the OEM supplier of the boat's sanitation components.

8) If equipped, the engine heat exchanger will also be winterized. A 5/8" heater hose runs from the port engine to the water heater and back to the engine. You must drain this hose prior to winter storage. Remove both heater hose connections from the engine and blow water from the line. Poured antifreeze into the hose.

SPRING COMMISSIONING

Flush the complete water system with fresh water during spring commissioning. Nontoxic antifreeze is colored, so your system is adequately flushed when uncolored water flows from the faucets and shower.

TRANSOM SHOWER - FRESH WATER (OPTIONAL EQUIPMENT)

The transom shower is an integral part of your boat's fresh water system. Winterize the transom shower along with the boat's fresh water system. As you winterize the water system, turn on the transom shower cold water valve until a stream of antifreeze flows from the shower head. Repeat this procedure for the hot water valve.

FRESH WATER WASHDOWN

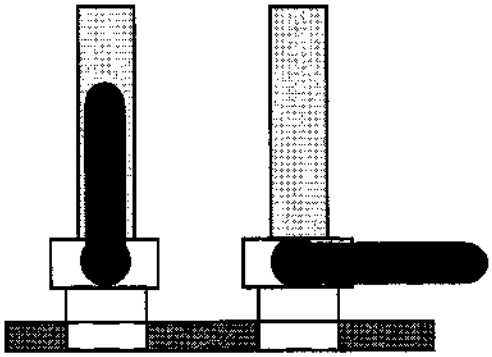
Fresh water washdown is an integral part of the boat's fresh water system. Winterize the fresh water washdown system along with the boat's fresh water system.

Remove the hose and nozzle from the washdown fitting. Turn the washdown pump on until a stream of antifreeze flows from the washdown fitting. Catch this antifreeze in a bucket.

RAW WATER WASHDOWN

NOTE: The boat should be pulled from the water before performing this procedure.

WATER PICKUP VALVE POSITIONS



1) Locate and close the thru-hull valve that supplies the washdown pump with sea water.

2) Remove the hose that is connected to this valve. Put this end of the hose into a bucket that contains about a gallon of antifreeze.

3) Remove the washdown hose from the transom mounted washdown fitting.

4) Place a bucket under the transom mounted washdown fitting. Turn the washdown pump on and leave it on until a stream of antifreeze flows from the washdown fitting.

5) Turn the washdown pump off and re-secure the hose to the washdown supply valve.

⚠ WARNING

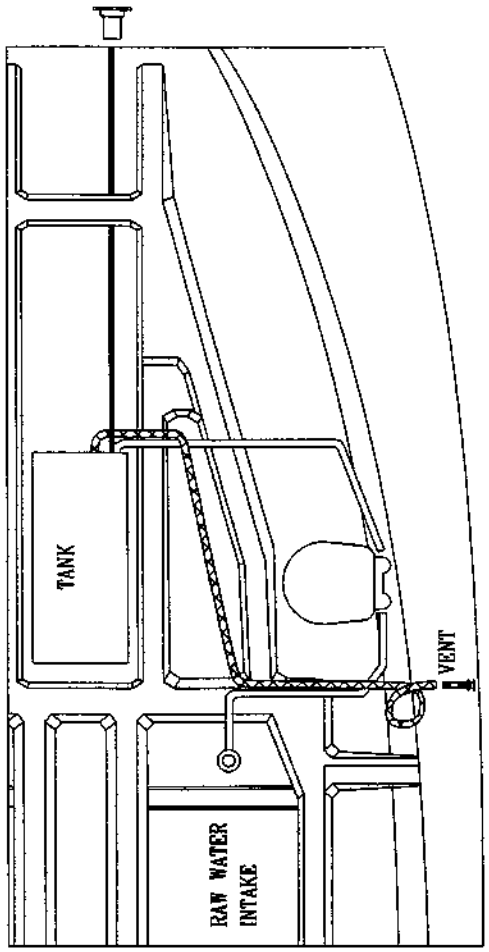
Using the wrong type of antifreeze could damage your boat's sanitation system. Refer to Technical Bulletin #VF-005 supplied by SeaLand Technologies for more information regarding the proper type of antifreeze to use. This technical bulletin can be found at the end of this section. Damage caused by using improper antifreeze IS NOT covered by Carver or the OEM supplier of the boat's sanitation components.

BILGE

1) Open the garboard drain. Leave the drain open throughout the storage period.

2) Clean the bilge, removing all dirt, oil, etc. Remove all water from the bilge.

STANDARD WASTE SYSTEM



SANITATION SYSTEM (STANDARD HEAD)

TO WINTERIZE THE SANITATION SYSTEM:

NOTE: The boat should be pulled from the water before performing this procedure.

1) Empty the contents of the waste holding tank and thoroughly flush the system with FRESH water. Remove as much of the water used in flushing as possible in the final pumping of the tank. Refer to the **SANITATION SYSTEM** portion of **SECTION 4** for information on emptying the waste holding tank.

2) On boats equipped with raw water flushing, shut off the water supply to the head by closing the head water pickup valve.

3) Flush the head until all water is drained from the water pickup hose. Attach the water pickup hose to the valves and leave in the closed position.

4) Purchase at 10 gallons of the proper antifreeze from your Carver Dealer. Refer to Technical Bulletin #VF-005 issued by SeaLand Technology for their recommendations concerning the proper type of antifreeze to use. This technical bulletin can be found at the end of this section. Mix the antifreeze following the instructions on the antifreeze label.

5) Flush 10 gallons of antifreeze through the head and allow it remain in the waste holding tanks during storage.

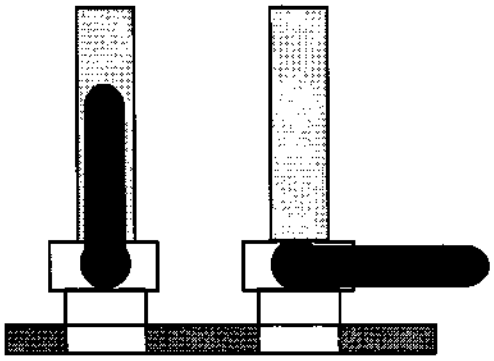
⚠ WARNING

Using the wrong type of antifreeze could damage your boat's sanitation system. Refer to Technical Bulletin #VF-005 supplied by SeaLand Technologies for more information regarding the proper type of antifreeze to use. This technical bulletin can be found at the end of this section. Damage caused by using improper antifreeze IS NOT covered by Carver or the OEM supplier of the boat's sanitation components.

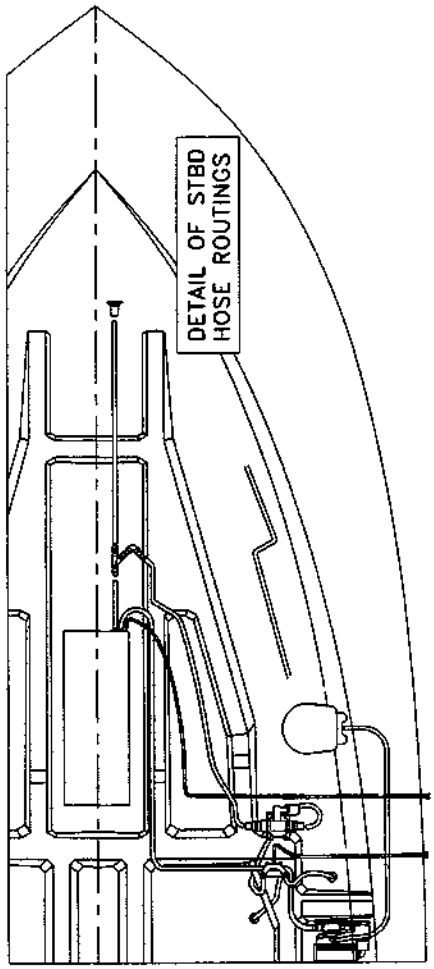
6) In spring pour 5 gallons of fresh water through each head and pump the waste holding tanks. Open the water pickup valves. Flush the head a few times to prime the systems.

7) Charge the waste tank by adding deodorizer. Use the brand of deodorizer recommended by your Carver dealer.

WATER PICKUP VALVE POSITIONS



VACUUM HEAD (OVERBOARD DISCHARGE)



OVERBOARD DISCHARGE

You must winterize the plumbing that runs from the head system to the overboard pump and valve fittings. Follow these procedures to winterize this portion of your direct overboard system.

NOTE: The boat must be pulled from the water and stored on land to perform the following procedure. The following instructions serve as an overview. Please refer to the owner's instructions supplied by the head manufacturer for more information about winterizing the system.

1) Empty the waste holding tank. Flush the tank with FRESH water and empty the tank again. Refer to the **SANITATION SYSTEMS** portion of **SECTION 4** for information on emptying the waste tank.

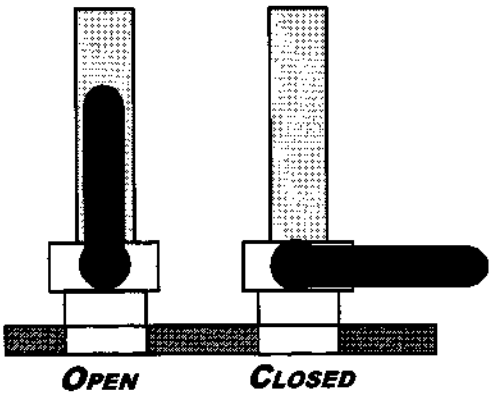
2) On boats equipped with a raw water head, close the raw water pickup valve. Remove the water pickup hose from the valve fitting. Flush the head until all water is removed from the water pickup hose. Reinstall the water pickup hose onto the closed water pickup valve.

3) Below the boat, place a large bucket beneath the overboard discharge fitting to collect antifreeze pumped out later in this procedure. This fitting is located forward the starboard engine.

4) Purchase 10 gallons of nontoxic antifreeze from your Carver Dealer. Follow the recommendations provided in Technical Bulletin #VF-005 by SeaLand Technology regarding the type of antifreeze to use to avoid damaging the lining of the sanitation hose. This technical bulletin can be found at the end of this section.

5) Flush 10 gallons of antifreeze through the forward head and into the holding tanks.

WATER PICKUP VALVE POSITIONS

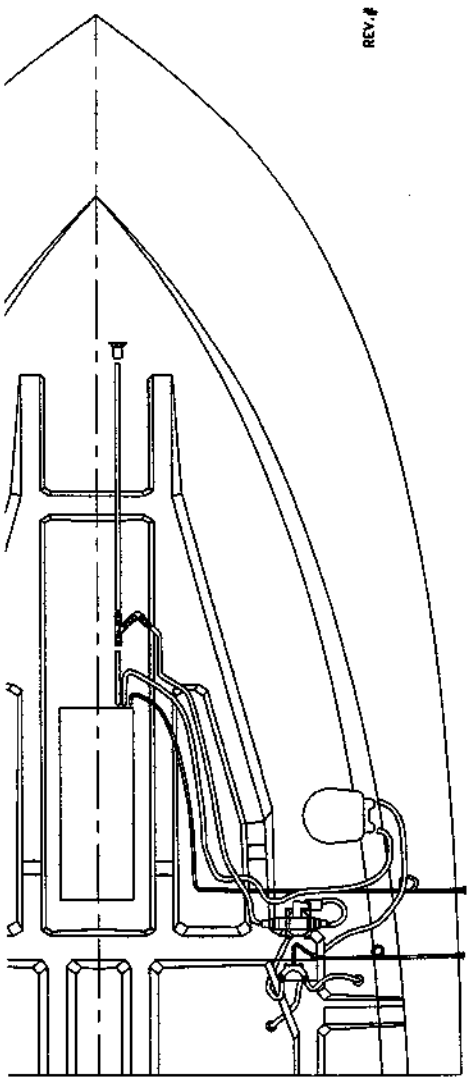


6) Open the thru-hull overboard discharge valve. This fitting is located forward the starboard engine.

7) Turn the 12 volt "WASTE" breaker to the "ON" position. This breaker is located on the salon's 12 volt main distribution panel.

8) Turn "ON" the waste pump ON/OFF switch. This switch is mounted on the engine room's forward bulkhead forward the starboard engine. Let the waste pump run until a stream of antifreeze flows through the overboard discharge fitting.

ELECTRIC HEADS (OVERBOARD DISCHARGE)



9) Turn the waste pump ON/OFF switch to the "OFF" position and close the overboard discharge valve.

10) In spring, flush and pump the holding tanks to remove the antifreeze and continue to use the system in the normal fashion.

⚠ WARNING

Using the wrong type of antifreeze could damage your boat's sanitation system. Refer to Technical Bulletin #VF-005 supplied by SeaLand Technologies for more information regarding the proper type of antifreeze to use. This technical bulletin can be found at the end of this section. Damage caused by using improper antifreeze IS NOT covered by Carver or the OEM supplier of the boat's sanitation components.

WINTERIZING THE DIRECT OVERBOARD

With your direct overboard waste system, you must winterize the plumbing that runs from the head system to the direct overboard discharge fittings. Follow these procedures to winterize this portion of your direct overboard system.

1) Purchase 5 gallons of nontoxic antifreeze from your Carver Dealer. Follow the recommendations provided in Technical Bulletin #VF-005 by SeaLand Technology regarding the type of antifreeze to use to avoid damaging the lining of the sanitation hose. This technical bulletin can be found at the end of this section.

2) Under the boat, place a five gallon bucket beneath the overboard discharge valve. This valve is located mounted forward the starboard engine.

3) Pour 5 gallons of antifreeze through the head and flush until antifreeze pours out into the bucket placed below the overboard discharge fitting.

4) Close the overboard discharge valve and leave it closed until spring commissioning.

5) Now you have completed the winterization the direct overboard waste system on your boat.

⚠ WARNING

Using the wrong type of antifreeze could damage your boat's sanitation system. Refer to Technical Bulletin #VF-005 supplied by SeaLand Technologies for more information regarding the proper type of antifreeze to use. This technical bulletin can be found at the end of this section. Damage caused by using improper antifreeze IS NOT covered by Carver or the OEM supplier of the boat's sanitation components.

EXTERIOR

The boat should be cleaned prior to winter storage. This will make preparing the boat for the next season that much easier. Wash the exterior of the boat, particularly the underwater portions. Remove as much aquatic growth as possible while it is still wet. Once it has dried it will be more difficult to remove.

Check the zinc sacrificial anodes for deterioration. If the zincs shows 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

The boat's interior should be cleaned prior to winter lay-up. Air out the cushions and make sure they are dry. Storing damp cushions will lead to mildew. Position the cushions so air can circulate around them. Purchase and position moisture accumulators throughout the boat. This will help reduce the amount of moisture that accumulates during storage. Remove everything from the boat that could spoil or freeze during winter storage. Also remove all dried food. Food attracts mice and insects.

STORAGE

DRY STORAGE

Carver has designed a cradle made specifically for use with the 374 Voyager . We recommend using this cradle to support the boat during off-season storage. The forward end of the cradle should be slightly elevated to position the boat in a bow high attitude. This will allow water to flow to the back of the aft bilge compartment and drain through the garboard drain. Always store the boat with the garboard drain plug removed.

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. Check on the boat throughout the storage period 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 accumulator packets between the shrink-wrap and your boat's enclosures to help prevent moisture and mildew. Excessive dampness can lead to electrical problems, corrosion and dry rot.

NOTE: Do not use the bridge enclosure, aft deck enclosure, bimini top or convertible top canvas in place of a winter storage cover. These are not designed for long-term storage purposes. The life of these enclosures may be significantly shortened if exposed to harsh weather elements for prolonged periods.

WET STORAGE

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

LIFTING AND DRY STORAGE

LIFTING AND DRY STORAGE

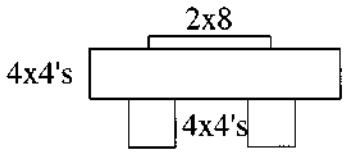
LIFTING

Proper support of the hull during lifting is imperative. Improper lifting can lead to serious and permanent hull deformation. Only people experienced and trained in lifting yachts should perform the lifting operation.

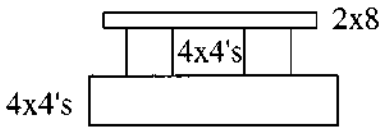
Use proper lifting straps. "SLING" tags have been installed on the sidedeck of the boat. These are the only places where slings should be positioned for lifting. Caution must be taken not to position a lifting sling around the boat's shaft or any other underwater gear component. Never stand, sit or crawl under a boat that is suspended in a lift.

BLOCKING

When storing the boat for the winter it is important to block and support the boat's hull correctly. Failure to block and support your boat properly can cause damage to your boat's hull. You can construct a single blocking support with (4) three-foot 4x4's and one 2' section of 2"x8" (see illustrations below).



Aft View

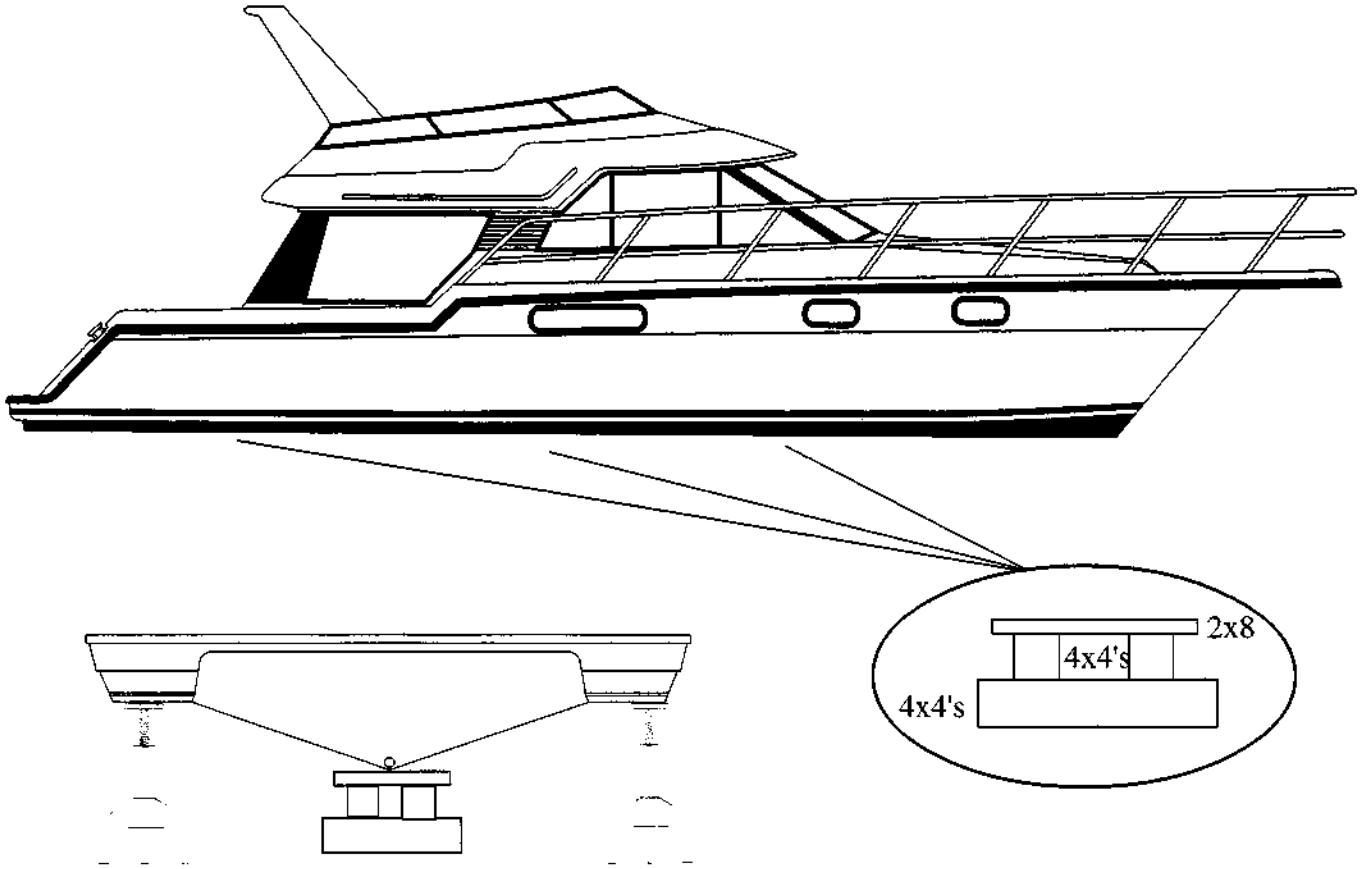


Side View

Position the blocking support under the boat's keel beneath a transverse stringer in three locations: forward, amidships and aft. Position additional side supports on each side of the boat adjacent the keel blocking.

These supports prevent the boat from shifting during storage. Refer to the general illustrations on the following pages.

BLOCKING PROFILE



IMPORTANT ANTIFREEZE BULLETIN

SeaLand TECHNOLOGY, INC. Technical Bulletin

P.O. Box 38, Fourth Street, Big Prairie, Ohio 44611 • Telephone: 216/496-3211 In Ohio • 800/321-9889 • Fax: 216/262-1727

Bulletin Number: VF-005
Effective: February 15, 1990

SANITATION HOSE MALODOR: ALCOHOL ANTIFREEZE

Affected Installations: Any pleasure craft sanitation systems utilizing SeaLand heavy duty, smooth wall hose (identified with "SeaLand" marked in blue on outer surface).

Symptoms: A strong malodor is evident from a non-specific source. No indication of leakage or a loose fitting is present.

Cause: SeaLand heavy duty, smooth wall sanitation hose is especially formulated with a malodor resistant ingredient. This ingredient is designed to prevent malodor molecules from permeating the hose wall. If an alcohol based antifreeze is used, the malodor resistant ingredient in the hose is removed and failure will result sometime later.

One brand which has been found to definitely cause this type of failure is **ARTIC BAN** from Camco Manufacturing Company. This statement is supported by gas chromatography and scanning electron microscopy studies at the Institute of Polymer Science, University of Akron.

Note: Other liquids such as petroleum solvents, fuels and pine oil cleaners will also produce similar results.

Troubleshooting: 1.) Carefully inspect all fittings and joints to assure malodor is not coming from a loose fitting or hose joint. 2.) With a clean paper towel or cloth, rub the outside of the hose. At regular intervals check the cloth to determine if malodor has been transferred to cloth or paper. 3.) Determine if boat has been winterized using antifreeze, and if so, determine the type. SeaLand can verify if the hose has failed due to chemical attack by examination of a small sample.

Corrective Action: Once a hose has been degraded by exposure to an alcohol based antifreeze, it cannot be repaired. The only remedy is to replace the contaminated hose. It is clearly stated in the SeaLand Owner's Manuals that alcohol based products should never be used (see exhibit on reverse side). Hose failure for this reason is considered misuse and is not covered by SeaLand's warranty policy.

The recommended antifreeze is propylene glycol base without alcohol. Brands recommended by SeaLand are listed on the reverse side.

Information concerning proper hose care should be given to all boat owners. An information card with this information is enclosed. Instructions for ordering copies are on the card.

Winterizing

At the end of each boating season, the VacuFlush® system must be winterized for storage. The following procedure should be used:

CAUTION: DO NOT use chlorine, alcohol or alcohol based products in the system.

1. Thoroughly flush system with fresh water.
2. Pump out holding tank.
3. Shut off water supply to toilet(s), remove water line.
4. Press flush lever until all water is drained from toilet.
5. For each toilet, flush 4 gallons of permanent type anti-freeze and water in a 50:50 mixture through toilet. Each installation is different so amounts may vary. User discretion is required to assure adequate protection.
6. Turn off electrical power.

Maintenance

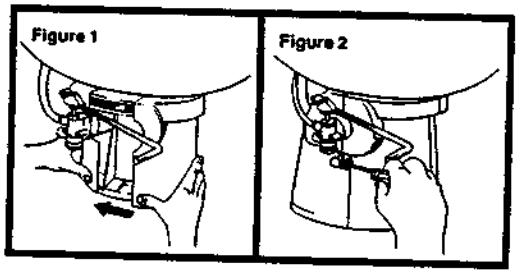
SeaLand Technology has endeavored to provide the boatowner with a toilet system which provides "at home" convenience and reliability. As with any quality product, satisfactory use depends on proper maintenance.

Maintenance intervals and normal parts replacement vary widely depending on numerous factors such as; type of vessel, frequency of system use, quality of flushing water, etc. The chart below is intended strictly as a general guideline. Owner discretion and consideration of actual usage must be the first basis for determining proper maintenance levels.

Pedestal Cover Installation

Before installing pedestal and pedal covers, unit must be mounted to floor flange and water supply line connected.

1. Install pedestal cover around base and snap bottom into place (see Figure 1).
2. **Tall base unit only.** Install (2) mounting screws (see Figure 2).
3. Slide pedal cover onto foot pedal rod (see Figure 3).
4. Attach pedal cover side plate and secure with (2) mounting screws (see Figure 4). For short base units, secure front screw, then press foot pedal down completely to secure second screw.
5. To remove, reverse above procedure.



RECOMMENDED ANTIFREEZE PRODUCTS

"WINTER-PRUF"

CENTURY CHEMICAL PRODUCTS
28790 C.R. 20 W.
P.O. Box 1442
Elkhart, IN 46515

219/293-9521
800/348-3505 (Outside Indiana)

Fax: 219/522-5723

"FREEZE BAN"

CAMCO MANUFACTURING, INC.
121 Landmark Dr.
Greensboro, NC 27409-9626

919/668-7661
800/334-2004

Fax: 919/668-2049

WINTERIZING YOUR BOAT

SPRING RECOMMISSIONING CHECKLIST

PRE-LAUNCH

Hull

- ☐ Remove old antifouling bottom paint
- ☐ Fill nicks and gouges
- ☐ Inspect props, struts, rudders
- ☐ Inspect through hull fittings
- ☐ Apply new antifouling bottom paint
- ☐ Buff out minor hull scratches
- ☐ Remove dirt, stains
- ☐ Apply wax

Deck and Cabin

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

Engines

- ☐ Follow manufacturer's recommissioning guidelines
- ☐ Check crankcase, transmission oil levels
- ☐ Inspect belts, hoses
- ☐ Tune-up engine
- ☐ Replace fuel filters

Electrical System

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

Plumbing

- ☐ Purge antifreeze
- ☐ Replace taste/ odor filters
- ☐ Inspect, lube sea valves
- ☐ Inspect, repair marine head
- ☐ Chemically charge holding tank
- ☐ Fill potable water tanks

Safety equipment

- ☐ Inspect PFDs
- ☐ Replace old distress signals
- ☐ Inspect fire extinguishers
- ☐ Inspect, test bilge pump
- ☐ Inspect mooring lines, fenders

After Launching

- ☐ Check for engine cooling water flow
- ☐ Check propshaft alignment
- ☐ Check stuffing box adjustment
- ☐ Have compass professionally readjusted

NOTES:

Section 9

Warranty & Parts 151

WARRANTY AND SERVICE INFORMATION

CARVER WARRANTY POLICY

Carver warrants every boat we manufacture as detailed in the Carver Limited Warranty Document. Your copy of the Carver Limited Warranty appears at the end of this section. Please review this document carefully.

The warranty on your new Carver is the joint responsibility of the Carver Boat Corporation, your Carver Dealer and yourself. All three parties have certain responsibilities to ensure that the warranty remains in force. Carver's responsibilities are outlined in the limited warranty document that is included within this Owner's Guide.

CARVER DEALER RESPONSIBILITIES

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

The 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. A representative from your Carver Dealership will conduct a review of how your boat and its systems operate.

OWNER'S RESPONSIBILITIES

Make certain the boat's pre-delivery service record has been completed and mailed to Carver. The pre-delivery service record is contained in the preface of this manual. Read and follow all OEM supplied materials. Complete and mail all OEM warranty cards. 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.

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. Read, understand and follow the Carver Owner's Guide and all materials contained within the Captain's Kit.

Contact your dealer if you have any questions. Perform all maintenance in accordance with the operator and service guides.

Many of the complex components (engines, generators, stoves, etc.) within your boat are warranted by their respective manufacturer. These companies have programs designed to resolve problems with their products. Your Carver Dealer can implement these services as required.

WARRANTY REGISTRATION

A Carver Pre-Delivery Service Record is included in the beginning of this Owner's Guide. Registration of your boat and its engines is also 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.

Many of the other complex components installed on your boat must also be registered with their respective manufacturer. Warranty cards have been assembled and are contained in the OEM SUPPLIED MATERIALS packet that is part of your Captain's Kit.

NOTE: ALL WARRANTY CARDS MUST BE COMPLETED AND FORWARDED TO THE APPROPRIATE COMPANY WITHIN 5 DAYS AFTER TAKING DELIVERY OF YOUR CARVER.

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 the Carver Boat Corporation. Registration is accomplished by completing and submitting the Pre-Delivery Service Record to the Carver Boat Corporation, 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.

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 Dealership is staffed with knowledgeable professionals who are familiar with your boat and are capable of providing the highest level of service. The Carver Dealership service personnel will communicate with The Carver Boat Corporation to ensure you fast and satisfactory solutions to any problem that may arise.

SECOND OWNER REGISTRATION

A "Second Owner Registration Card" has been provided in the beginning of this guide. The purchaser of a "pre-owned" Carver should complete this card and submit it to the Carver Boat Corporation, P.O. Box 1010, Pulaski, WI 54162-1010.

Registration of a "pre-owned" Carver does not extend or in any way modify a boat's original limited warranty. However, purchasers of a pre-owned Carver can and should register ownership with Carver. Having this information on file will benefit you should Carver ever need to contact you.

HULL IDENTIFICATION NUMBER (HIN)

The United States Coast Guard has established a universal system of numerically identifying vessels by using a hull identification number or "HIN." This number identifies a boat's make, model, hull number, month, and year of manufacture.

Provide your Carver Dealer with your boat's HIN when contacting them for parts or service.

The HIN consists of 12 alpha or numeric characters.

ORIGINAL EQUIPMENT MANUFACTURER (OEM) MANUALS

Carver Boat Corporation has purchased and installed a variety of equipment which was manufactured by OEM suppliers. Engines, stoves, refrigerators and air conditioners are examples of this type of equipment. The majority of Carver's suppliers have created operators and maintenance manuals for their products. This information has been assembled and supplied to you.

Virtually all of your boat's components have their own limited warranty. Warranty registration cards have been provided for those products. These are your materials. Use a colored highlighter to mark sections of the text that are of special interest. Be sure to supplement your guide with information on wiring or installation of additional equipment that you add to the boat during your period of ownership.

The Carver Owner's Guide and all component manuals are a permanent part of your boat. These materials must remain on the vessel during its operation. These materials must also be transferred to the boat's subsequent owners.

NOTE: Information presented in OEM suppliers literature and manuals takes precedence over information presented in the Carver Owner's Guide. If there is a discrepancy between the Owner's Guide and an OEM supplier's manual, FOLLOW THE INSTRUCTIONS IN THE SUPPLIER'S MANUAL.

Information contained within this Owner's Guide is the most accurate information available at the time of publishing. Carver reserves the right to change without notice materials, part numbers, specifications or system designs.

ORIGINAL EQUIPMENT (OEM) SUPPLIERS

Your Carver Dealer is the best "first source" for answers when you have questions about any of your boat's equipment. If however your dealer is unable to help you, a call to the original manufacturer of the equipment may be in order.

A listing of Carvers OEM suppliers follows. Use this list to contact the manufacturer of a particular component with regard to operation, service and replacement parts. Be prepared to provide the serial number of the component when requesting information. A serial number record sheet for your boat appears after this Section.

ORIGINAL EQUIPMENT SUPPLIERS (OEM)

Use this listing of Carver's OEM suppliers to contact the manufacturer with regard to operation, service and/or replacement of a particular component. Be prepared to provide the serial number of the component when requesting information.

ENGINES

Mercury Marine
3003 N. Perkins Road
Stillwater, OK 74074
(405) 743-6566

Thermo-Electron/Crusader Corporation
7100 E. 15 Mile Road
Sterling Heights, MI 48312
(810) 264-1200

Volvo Penta of North America
1300 Volvo Penta Drive
Chesapeake, VA 23320
(804) 436-5100
Fax (804) 436-5313

Cummins Engine Company
875 Lawrence Drive
DePere, WI 54115
(414) 337-1991

Caterpillar Tractor Company
Attn: Marine Customer Service
Engine Division
P.O. Box 610
Mossville, IL 61552-0610
1-800-447-4986

FUEL FILTERS

Racor Industries, Inc.
P.O. Box 3208
Modesto, CA 95353
(209) 521-7860

DRIVE SYSTEMS

Walters Machine Company
84-98 Cambridge Avenue
Jersey City, NJ 07307
(201) 656-5654

Velvet Drive Transmissions
200 Theadore Rice Blvd.
Newbedford, MA 02745
(508) 979-4800

ZF Industries
Attn: Marine Dept.
777 Hickory Hills Drive
Vernon Hills, IL 60061
(847) 634-3500

GENERATORS

Kohler Generators / Kohler Company
444 Highland Drive
Kohler, WI 53044
(414) 565-3381

Onan Corporation
1350 73rd Avenue N.E.
Minneapolis, MN 55432
(612) 574-5000

Westerbeke Corporation
41 Ledin
Avon, MA 02322
(508) 588- 7700

STEERING SYSTEMS

Hynautic Marine Systems
1579 Barber Rd.
Sarasota, FL 34240
(941) 379-0500

Teleflex Steering Systems
640 N. Lewis Road
Limerick, PA 19468
(610) 948-5100

HEAD

SeaLand Technology, Inc.
P.O. Box 38
4th Street
Big Prairie, OH 44611
(216) 496-3211

Raritan Engineering Corporation
P.O. Box 1157
530 Orange Street
Millville, NJ 08332
(609) 825-4900

WATER HEATERS

SeaWard Products
3721 Capitol Drive
Whittier, CA 90601
(310) 699-7997

AIR CONDITIONERS

Marine Air Systems
2000 N. Andrews Avenue Extension
Pompano Beach, FL 33069
(954) 973-2477

TRIM TABS

Bennett Marine Inc.
550 N.W. 12th Avenue
Deerfield Beach, FL 33442
(305) 427-1350

Boat Leveler Company
7305 Natural Bridge
St. Louis, MO 63121
(314) 385-7470

ENTERTAINMENT EQUIPMENT (110V)

JVC Service & Engineering Company of America - Div. of JCV Corporation
107 Little Falls Rd.
Fairfield, NJ 07004
1-800-537-5722
(110 volt stereo system)

Quasar
Capitol Sales Co.
3110 Neil Armstrong Blvd.
Eagan, MN 55121

1-800-545-2672
(TV)

Clarion - 12V Audio Marine Audio Sales
16137 Westwoods Business Park
Ellisville, MO 63021
(314) 394-2631
(12 volt AM/FM/CD stereo system)

BATTERY CHARGERS

Professional Mariner
2970 Seaborg Ave.
Ventura, CA 93003
(805) 644-1886

Guest Corporation
95 Research Parkway
Meridin, CT 06450
(203) 235-4421

Charles Marine Products
5600 Apollo Drive
Rolling Meadows, IL 60008
(708) 806-6300

REFRIGERATORS & ICE MAKERS

Norcold Inc. (Division of Stolle Co.)
P.O. Box 4248
2655 Cambell Rd.
Sidney, OH 45365
1-800-543-1219

Nova Kool Mfg., Inc.
1457 Barrow St.
North Vancouver, B.C.
Canada V7JIB6
(604) 984-7794

Raritan Engineering Corporation
P.O. Box 1157
530 Orange Street
Millville, NJ 08332
(609) 825-4900

General Electric Company
Consumer Affairs Dept.
Appliance Park
Louisville, KY 40225
1-800-626-2000

RANGES AND MICRO-WAVES

SeaWard Products
3721 Capitol Drive
Whittier, CA 90601
(310) 699-7997

Kenyon Marine
351 New Whitfield St.
Guilford, CT 06437
(203) 453-4374

Origo USA, Inc.
1121 Lewis Avenue
Sarasota, FL 34237
(941) 365-3660

MISCELLANEOUS ACCESSORIES

Teleflex Marine, Inc.
1816 57th Street
Sarasota, FL 34243
(941) 355-7721
(Instruments)

Teleflex Marine
Mechanical Products
640 North Lewis Rd.
Limerick, PA 19468
(610) 948-5100
(Controls)

Teleflex of Canada LTD
3831 No. 6 Road
Richmond, British Columbia
Canada V6V 1P6
(604) 270-6899
(Steering)

VDO Yazaki Corporation
188 Brooke Road
Winchester, VA 22603
(540) 665-0100
(Gauges)

Guest Company, Inc.
95 Research Parkway
Meriden, CT 06450
(203) 235-4421
(Spot Lights)

Morse Controls - IMO
21 Clinton Street
Hudson, OH 44236
(216) 653-7701
(Controls, Throttle & Shift Cables)

ITT Jabsco
152 South West 8th St.
Miami, FL 33130
(7" & 8" Spotlights)

E.S. Ritchie & Sons Inc.
P.O. Box 548
243 Oak Street
Pembroke, MA 02359
(617) 826-5131
(Compass)

Alson Corporation
42 Union Street
Hillsdale, MI 49242
(517) 439-1411
(Shower Controls)

Maxwell Winches, Inc.
1610 Babcock St.
Costa Mesa, CA 92627
(714) 631-2634
(winches)

Sea-Fire
Division of Metalcraft, Inc.
9331-A Philadelphia Road
Baltimore, MD 21237
(410) 687-5500
(Halon System)

MTI Industries - Division of
Marine
Technologies, Inc.
1000 Brown Street
Suite 107
Wauconda, IL 60084
1-800-383-0269
(CO Detector)

Bomar, Inc.
South West Street
P.O. Box W
Charlestown, NH 03603
(603) 826-5791
(Hatches)

Aluminum 2000, Inc.
595 East Oregon Road
Lititz, PA 17543
(717) 569-2300
(Doors)

NOTES

SERIAL NUMBER RECORD SHEET

SERIAL NUMBER RECORD SHEET

SPECIFICATIONS

PHYSICAL MEASUREMENTS

LENGTH OVERALL (LOA) WITH SWIM PLATFORM:

37'1" / 11,30m

LENGTH OVERALL (LOA) W/PLATFORM/PULPIT:

40'1" / 12,22m

BEAM:

13'3" / 4,04 m

BRIDGE CLEARANCE (WATERLINE TO ARCH):

17'6" / 5,33 m

DRAFT:

44" / 1,12 m

WEIGHT (ESTIMATED WEIGHT W/FUEL & WATER):

20,350 lbs / 9230,76 kg

WATER:

83 U.S. gal / 314,18 liters

HOT WATER:

11 gal. / 41,64 liters

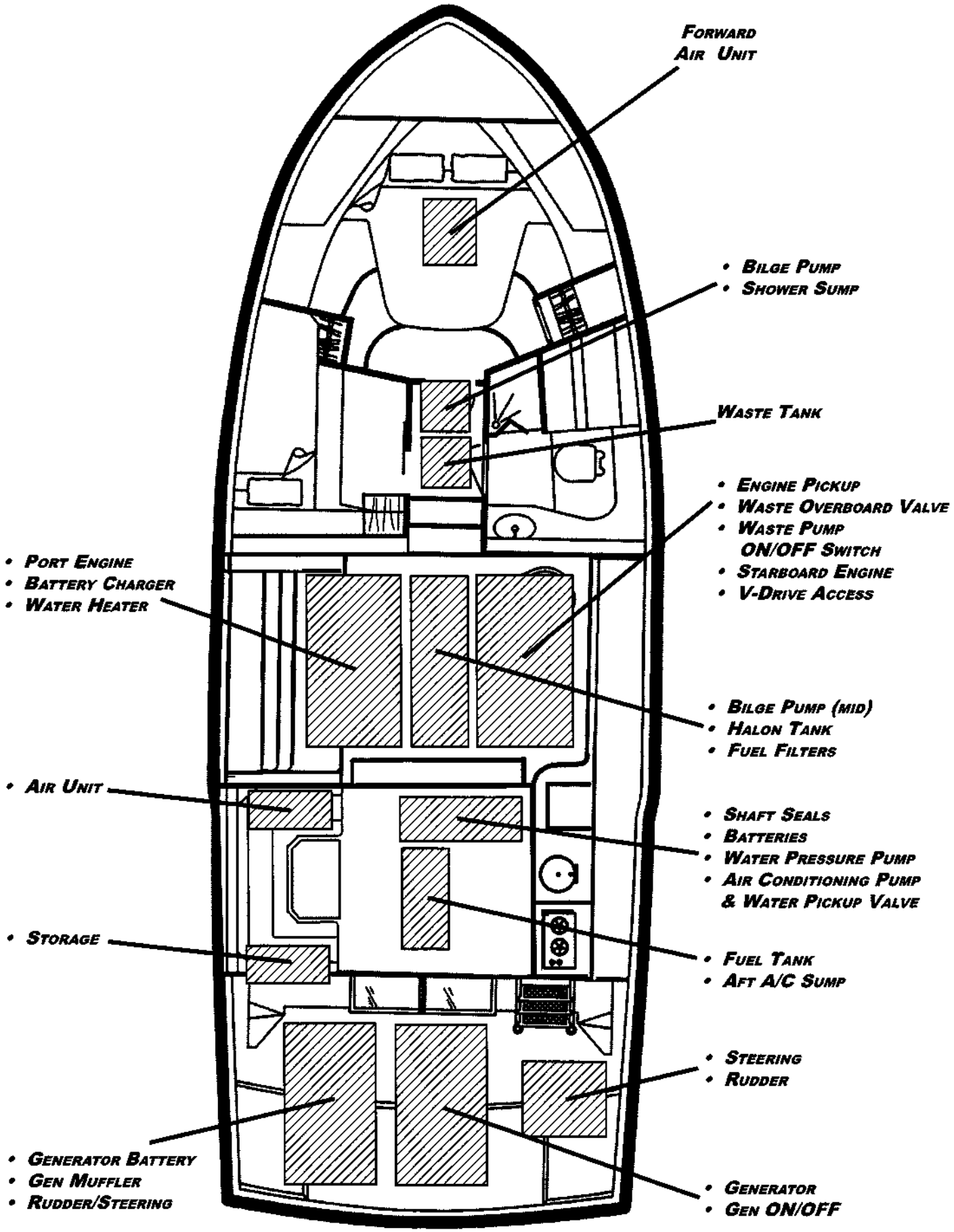
WASTE:

35 U.S. gal / 132,49 liters

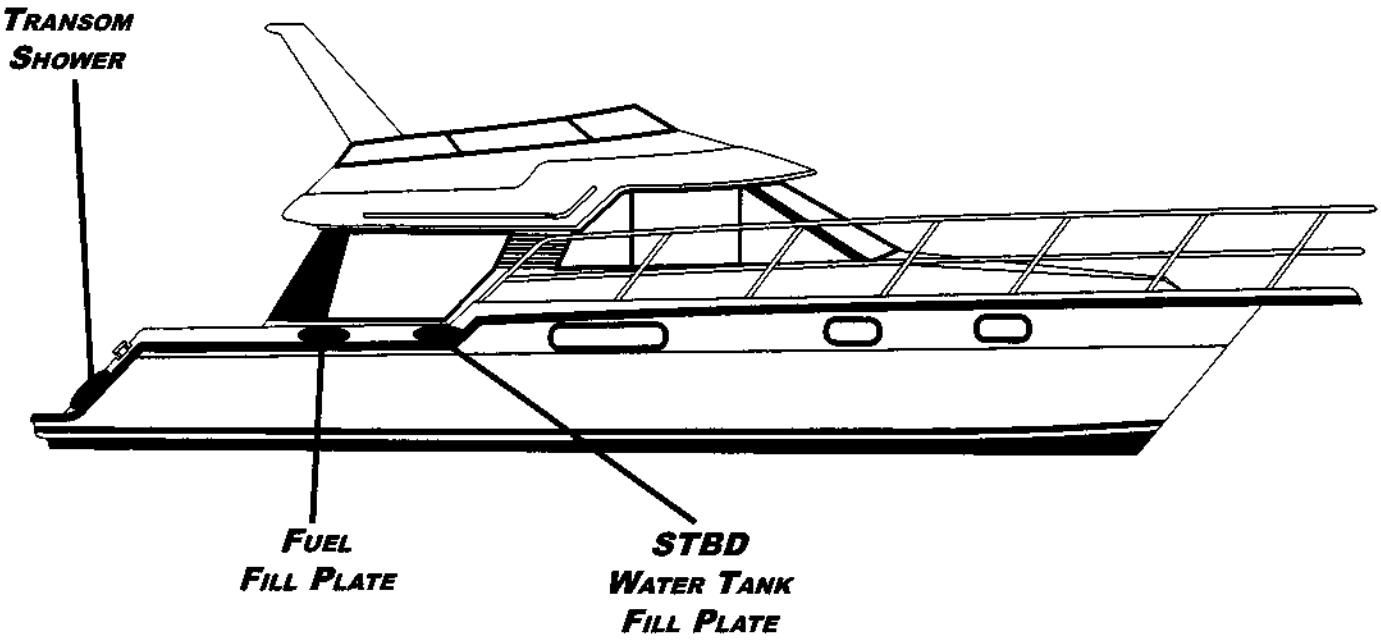
FUEL:

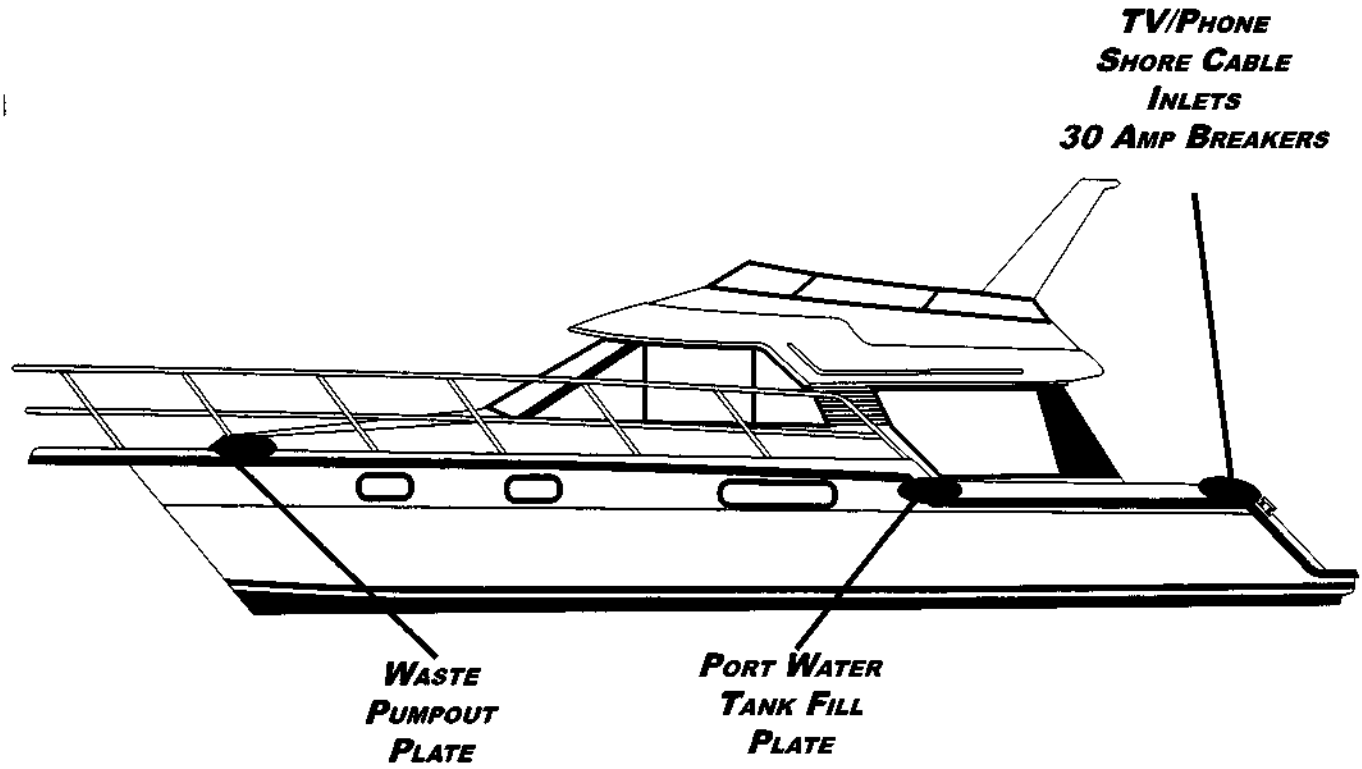
297 gal. / 1124,36 liters

INTERIOR HATCH LOCATIONS

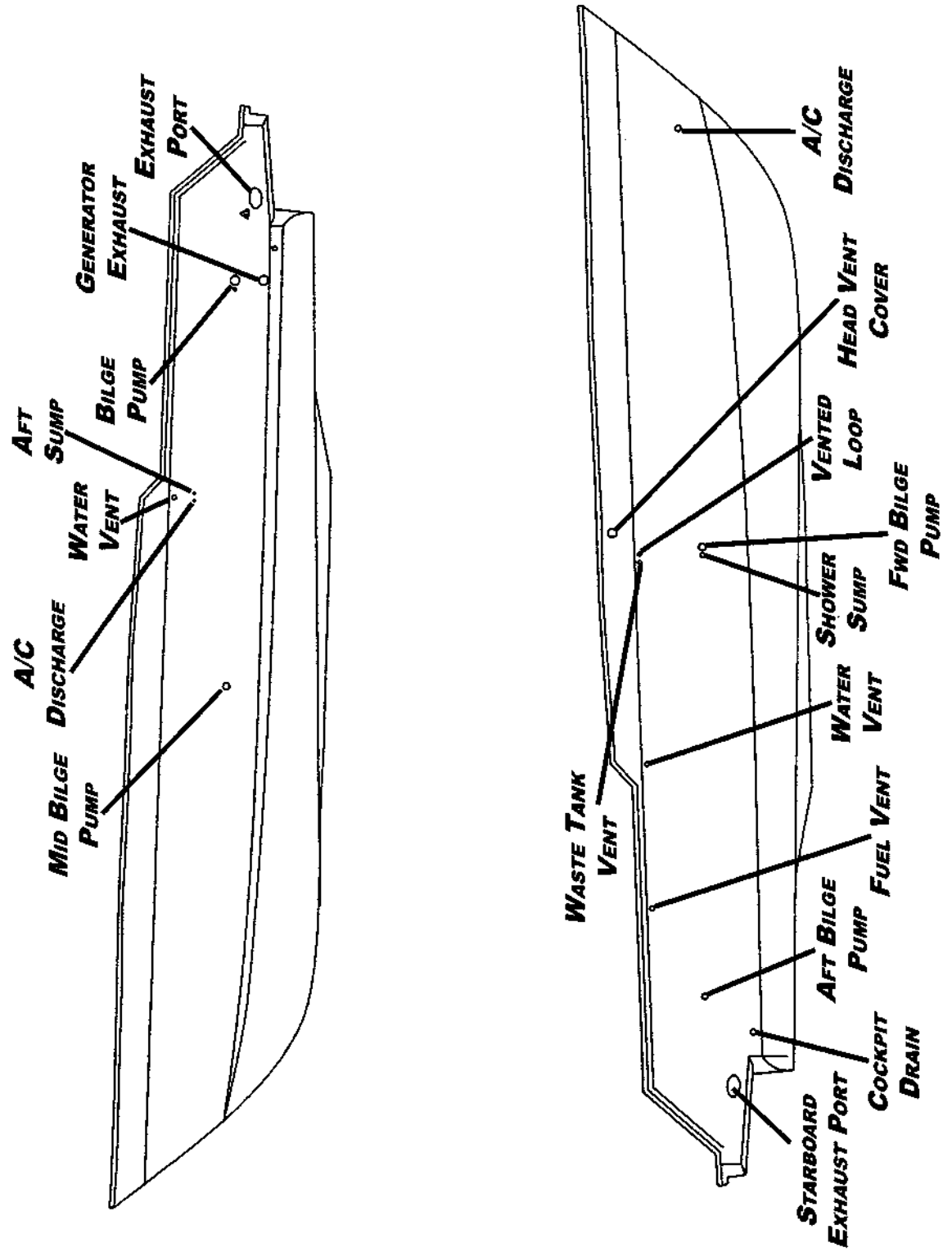


FILL PLATE/PUMPOUT LOCATIONS





THRU-HULL LOCATIONS



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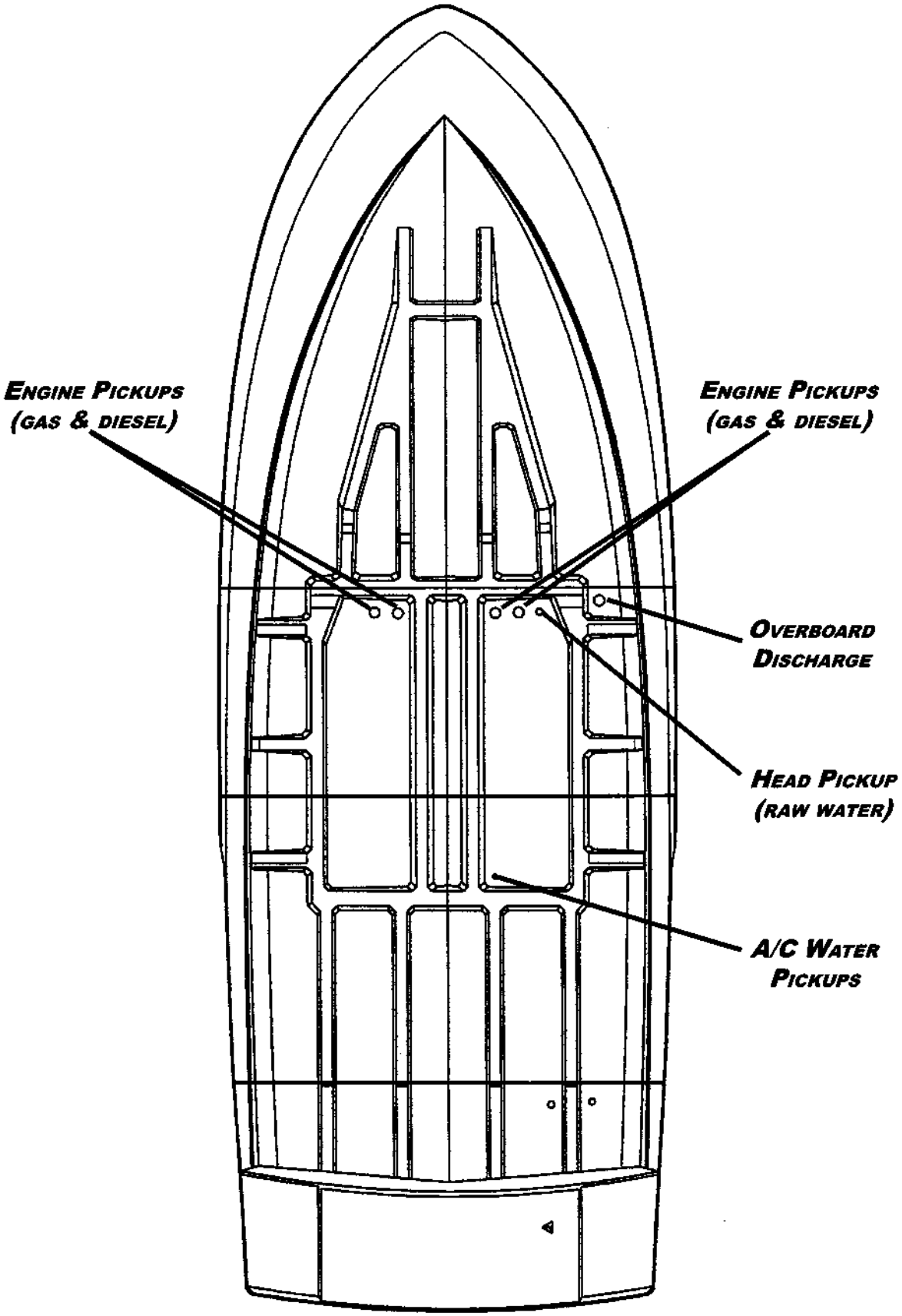
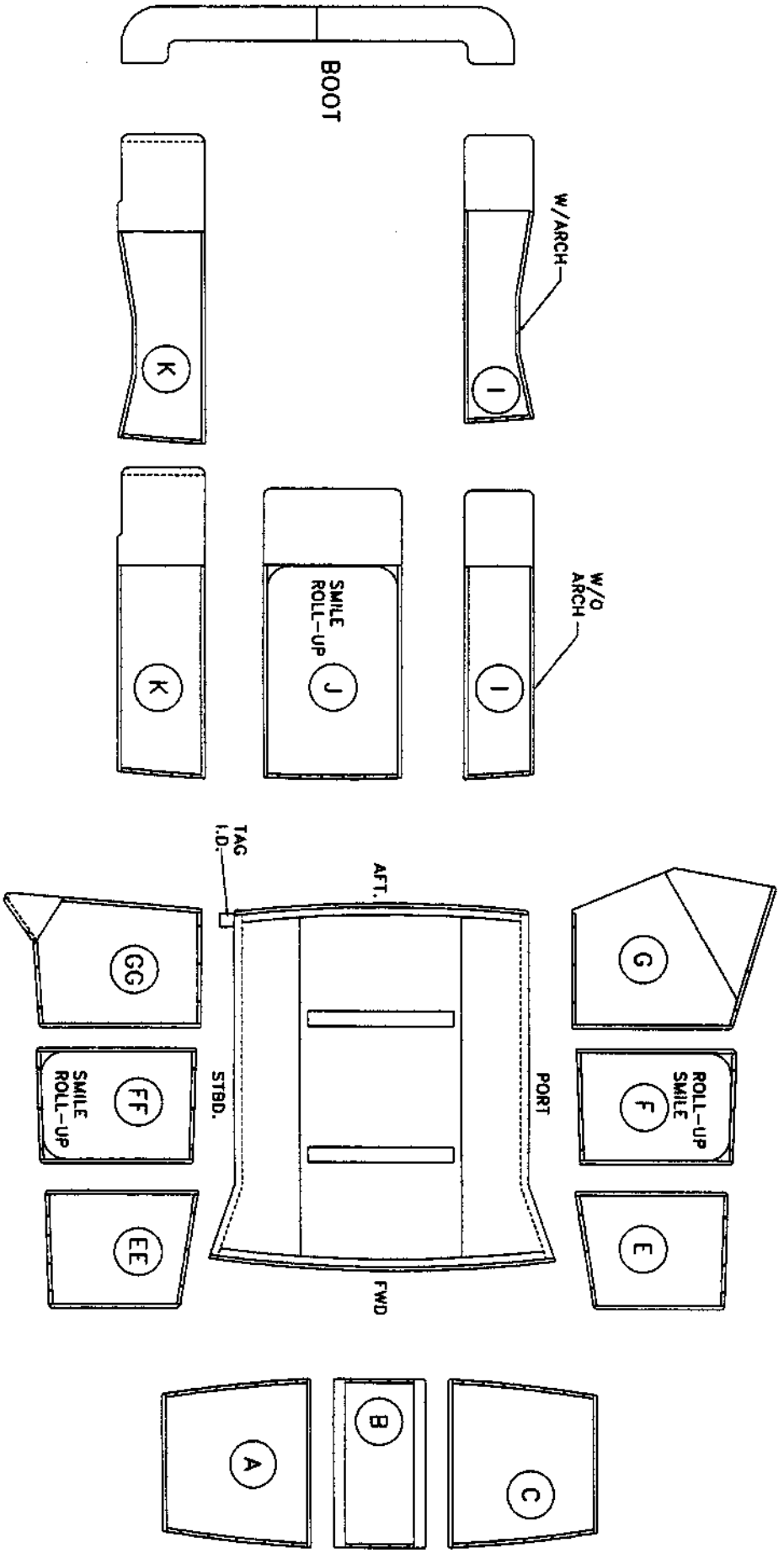
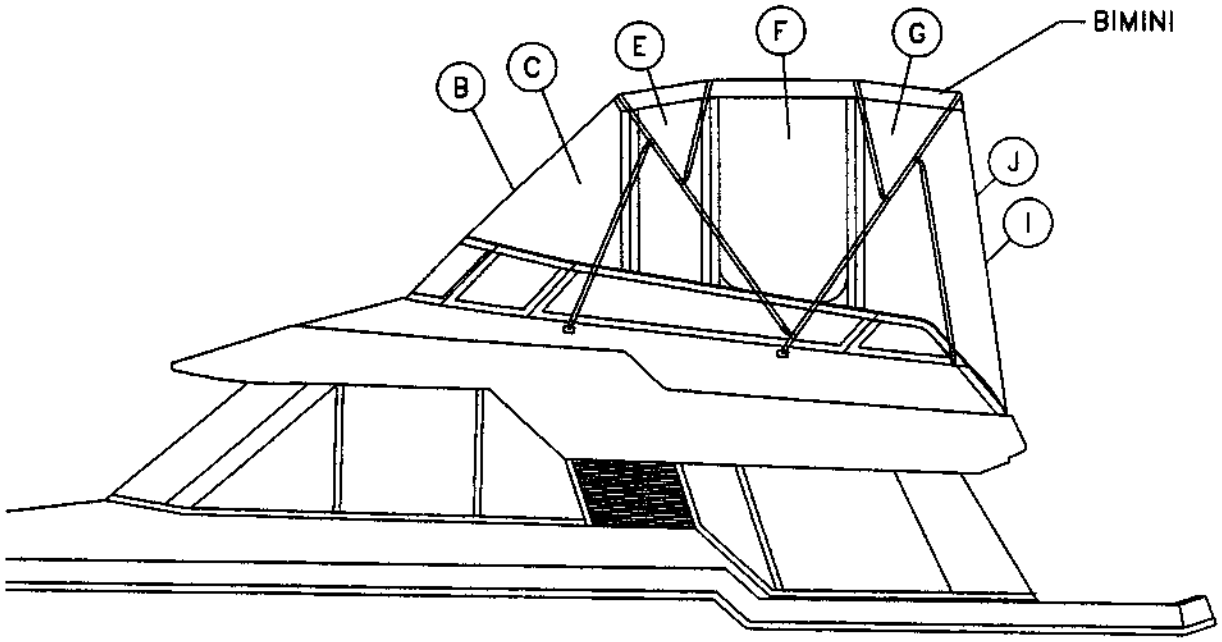
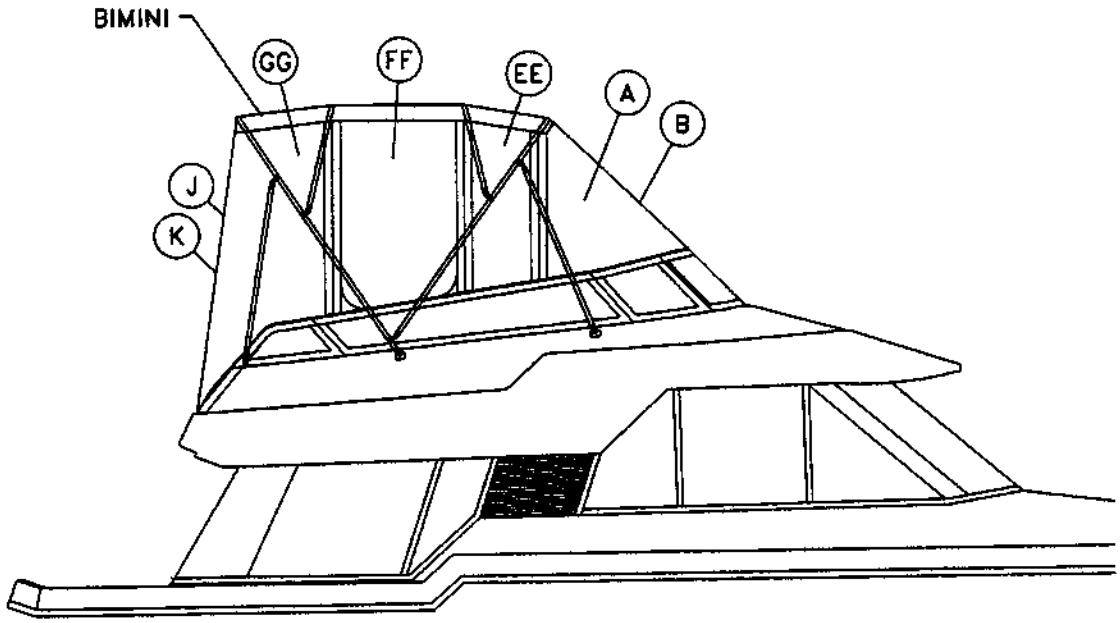


BRIDGE CANVAS LAYOUT



BRIDGE CANVAS LAYOUT





ANY PARTS BEGINNING WITH A LETTER OR HAVE A CATEGORY PRIOR TO "50" ARE MANUFACTURED PARTS AND THEREFORE MAY NOT HAVE ALL PARTS LISTED WHICH MAKE UP THE ASSEMBLY INDICATED.

CATEGORY NO.	PART DESCRIPTION
50	ENGINES & V-DRIVES
51	INBOARD ENGINE EQUIPMENT
52	PROPELLERS
53	STEERING CABLES
54	STEERING HELMS & KITS
55	CONTROL CABLES
56	CONTROLS & KITS
57	INSTRUMENTS & INSTRUMENT ACCESSORIES
58	FRESH WATER COOLING
59	ENGINE EQUIPMENT; BATTERIES
60	FUEL SYSTEM & TANKS
61, 62	GALLEY, HEAD & SHOWER EQUIPMENT & TANKS
63	PRESSURE WATER SYSTEM
64	NAVIGATION & INTERIOR LIGHTING
65	BILGE PUMPS, BLOWERS & VENTILATORS
66	DECK HARDWARE; ARCH
67	RAILS, TAFFRAIL KITS & LADDERS
68	WIRE HARNESSES, DOCKSIDE KITS & PANELS
69	ELECTRICAL EQUIPMENT, GENERATOR, WINDLASS
70	WINDOWS,DOORS,WINDSHIELD SETS,HATCHES & SCREENS
71	HARDWARE, LOGO
72	PILOT SEAT HARDWARE, TABLE LEGS & FOOTRESTS
73	ACCESSORIES;HATCH,HORN,SCREENS,STEREO,TV, VACUUM
74	FITTINGS; PIPE & TUBE
75	CLAMPS, HOSES & TUBING
77	WOOD SCREWS & SHEET METAL SCREWS
78	LAG & MACHINE SCREWS, BOLTS, NUTS & WASHERS
79	NAILS, STAPLES & RIVETS
80	BLINDS,CANVAS,CARPET,CURTAINS&UPHOLSTERY MATERIAL
81	FINISHING MATERIAL & ADHESIVES;LOGOS, PAINT, PLAQUES, STRIPE
82	FIBERGLASS MATERIALS, GEL & PUTTY
83	EXTRUSIONS
84	LUMBER, PLYWOOD, HARDBOARD & BALSA
85	PLASTICS, PLASTIC LAMINATES, DOORS, LIDS & COVERS
89	ELECTRICAL
90	AIR-CONDITIONING & ACCESSORIES
91	FOAM
94	WOODSET

CARVER LIMITED WARRANTY DOCUMENT

CARVER LIMITED WARRANTY DOCUMENT

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INDEX OF TOPICS

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