

RECAP[®]

OWNER'S MANUAL

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WELCOME TO REGAL !



I know I speak for everyone at REGAL when I welcome you to the ever-growing fraternity of REGAL boat owners. You've chosen a craft that is recognized worldwide for its standard of excellence. Each step in construction has been carefully scrutinized to assure comfort, performance, reliability and safety for both your passenger and yourself.

Your boat is certified by the National Marine Manufacturers Association. It also complies with the applicable standards set by the United States Coast Guard and the American Boat and Yacht Council. Of course, your REGAL boat was built with the same attention to detail and quality of construction that we would expect in a boat we would purchase ourselves.

Whether you're a veteran boater or a newcomer, we strongly urge you to read this boat owner's manual thoroughly. Familiarize yourself with the various components of your boat, and heed the safety precautions noted herein.

If you have any questions that are not covered in this manual, please consult your authorized REGAL dealer for assistance.

Thank you, and welcome to the "World of REGAL!"

Sincerely,



Paul Kuck
President and Founder

 **REGAL**
BOATS®

SECTION I GENERAL INFORMATION

This manual contains details on many different and important aspects of all Regal models. It also contains general information including navigational aids, warranty, safety tips etc. Please read all WARNING and CAUTION statements since these pertain to the safety of yourself and your passengers along with the safe operation of your boat.

Your boat does not feature all the items described in this manual. Consult your dealer regarding after market installation opportunities.

BOAT SPECIFICATIONS:

SPECIFICATIONS	COMMODORE 400	COMMODORE 300	COMMODORE 276	COMMODORE 272	VENTURA 9.8	VENTURA 8.3
Length Overall	42' (12.80 m)	32' 5" (9.88 m)	29' 5" (8.96 m)	28' 6" (8.68 m)	32' 0" (9.8 m)	27' 6" (8.38 m)
Centerline Length	39' 5" (12.01m)	30' 5" (9.27 m)	26' 10" (8.17 m)	26' 7" (8.10 m)	32' 0" (9.8 m)	27' 6" (8.38 m)
Beam	13' 1" (3.98 m)	10' 0" (3.0 m)	9' 6" (2.90 m)	9' 2" (2.79 m)	11' 2" (3.4 m)	9' 1" (2.76 m)
Deadrise	17 Degrees	16 Degrees	19 Degrees	21 Degrees	19 Degrees	21 Degrees
Approximate Dry Weight	16,000 lbs (7257 kg) W/TW 7.4 L	9200 lbs (4173 kg) w/ TW 5.0 LX	6500 lbs (2948 kg) W/7.4 L	6200 lbs (2812 kg) W/7.4 L	11,000 lbs (4989 kg) W/TW 5.7 L	5800 lbs (2631 kg) W/7.4 L
Depth Keel to Top of Windshield	8' 4" (2.53 m)	8' 2" (2.49 m)	8' 7" (2.62 m)	9' 0" (2.53 m)	9' 0" (2.74 m)	6' 10" (2.08 m)
Bridge Clearance	9' 9" (2.97 m)	9' 3" (2.82 m)	9' 8" (2.94 m)	6' 9" (2.05 m)	8' 6" (2.59 m)	5' 6" (1.67 m)
Fuel Capacity (Approximate)	280 gal (1060 L)	140 gal (530 L)	110 gal (416.4 L)	105 gal (397 L)	178 gal (673 L)	105 gal (397 L)
Cockpit Depth	35" (.88 m)	28" (.71 m)	29" (.74 m)	2' 8" (.81 m)	29" (.73 m)	32" (.81 m)
Draft	36" (.91 m)	38" (.97 m)	32" (.81 m)	42" (1.06 m)	38" (.97 m)	34" (.86 m)
Waste Holding Tank (Approximate)	65 gal (246 L)	21 gal (79 L)	21 gal (79.4 M)	17 gal (64 L)	30 gal (114 L)	12 gal (45 L)
Freshwater Capacity (Approximate)	125 gal (473 L)	35 gal (132L)	35 gal (132.5 L)	27 gal (102 L)	50 gal (189 L)	24 gal (90 L)
Cabin Headroom	6' 9" (2.05 m)	6' 5" (1.96 m)	6' 2" (1.88 m)	6' 1" (1.85 m)	6' 4" (1.93 m)	58"
Sleeping Capacity	6 Adults	6 Adults	4 Adults	4 Adults	6 Adults	2 Adults

BLANK SPACE - DOES NOT APPLY TO THIS MODEL
 N/A - INFORMATION NOT AVAILABLE AT TIME OF PRINTING
 TW - TWIN ENGINE INSTALLATION

BOAT SPECIFICATIONS:

SPECIFICATIONS	VENTURA 6.8	VALANTI 256	VALANTI 233	VALANTI 230 SC	VALANTI 230 SE	VALANTI 222 SE/ SEL	VALANTI 206 SC
Length Overall	22' 7" (6.88 m)	26' 0" (7.92 m)	26' 6" (8.07 m)	23' 10" (7.26 m)	22' 7" (6.88 m)	21' 9" (6.63 m)	20' 2" (6.1 m)
Centerline Length	22' 7" (6.88 m)	24' 2" (7.36 m)	23' (7.01 m)	22' 5" (6.83 m)	22' 7" (6.88 m)	21' 9" (6.63 m)	20' 2" (6.1 m)
Beam	8' 6" (2.60 m)	8' 6" (2.59 m)	8' 4" (2.54 m)	8' 6" (2.60 m)	8' 6" (2.60 m)	8' 2" (2.49 m)	7' 10" (2.39 m)
Deadrise	21 Degrees	21 Degrees	21 Degrees	21 Degrees	21 Degrees	Variable Deadrise	18 Degrees
Approximate Dry Weight	4000 lbs (1814 kg) W/5.0 L	4800 lbs (2181 kg) w/5.7 L	4500 lbs (2050 kg) W/5.0 L	4500 lbs (2041 kg) W/5.7 L	3675 lbs (1667 kg) W/5.7 LX	3191 lbs (1447 kg) w/5.0 L	2960 lbs (1343 kg) W/4.3 LX
Depth Keel to Top of Windshield	6' 0" (1.82 m)	8' 1" (2.46 m)	7' 10" (2.39 m)	6' 8" (2.03 m)	6' 0" (1.82 m)	N/A	5' 4" (1.62 m)
Fuel Capacity (Approximate)	56 gal (212 L)	65 gal (246 L)	57 gal (215.7 L)	58 gal (219.5 L)	56 gal (212 L)	50 gal (189 L)	46 gal (174 L)
Cockpit Depth	30" (.76 m)	32" (.81 m)	26" (.66 m)	35" (.89 m)	32" (.81 m)	N/A	30" (.74 m)
Draft	31" (.79 m)	34" (.86 m)	36" (.91 m)	31" (.79 m)	31" (.79 m)	N/A	31" (.79 m)
Freshwater Capacity (Approximate)	10 gal (38 L)	27 gal (102 L)	26 gal (98 L)	11 gal (41.6 L)			
Cabin Headroom (Approximate)	51" (130 m)	6' 1" (1.85 m)	6' 0" (1.83 m)	N/A			
Sleeping Capacity	2 Adults	4 Adults	4 Adults	2 Adults	2 Adults	N/A	2 Adults

BLANK SPACE - DOES NOT APPLY TO THIS MODEL

N/A - INFORMATION NOT AVAILABLE AT TIME OF PRINTING

BOAT SPECIFICATIONS:

SPECIFICATIONS	VALANTI 206 SE	VALANTI 202 SE	VALANTI 202 SC	VALANTI 196 SE/SC I/O	VALANTI 196 SE/SC O/B	VALANTI 182 SE	VALANTI 176 SE/SC/ I/O	VALANTI 176 SE/SC O/B	LEISURE CAT
Length Overall	20' 2" (6.1 m)	19' 10" (6.04 m)	19' 9" (6.01 m)	19' 6" (5.94 m)	19' 4" (5.89 m)	18' 2" (5.54 m)	17' 3" (5.25 m)	17' 1" (5.21 m)	26' 0" (7.92 m)
Centerline Length	20' 2" (6.1 m)	19' 10" (6.04 m)	19' 9" (6.01 m)	19' 6" (5.94 m)	19' 4" (5.89 m)	18' 2" (5.54 m)	17' 3" (5.25 m)	17' 1" (5.21 m)	26' 0" (7.92 m)
Beam	7' 10" (2.39 m)	8' 2" (2.48 m)	8' 2" (2.48 m)	7' 4" (2.23 m)	7' 4" (2.23 m)	8' 2" (2.49 m)	7' 4" (2.23 m)	7' 4" (2.23 m)	8' 3" (2.5 m)
Deadrise	18 Degrees	Variable Deadrise	Variable Deadrise	16 Degrees	16 Degrees	Variable Deadrise	16 Degrees	16 Degrees	
Approximate Dry Weight	2960 lbs (1343 kg) W/4.3 LX	2727 lbs (1237 kg) W/4.3 LX	2727 lbs (1237 kg) w/4.3 LX	2570 lbs (1165 kg) W/3.0 L	2000 lbs (907 kg) NO ENGINE	2575 lbs (1168 kg) W/3.0L	2250 lbs (1020 kg) W/3.0 L	1670 lbs (759 kg) NO ENGINE	3200 lbs (1451 kg) NO ENGINE
Depth Keel to Top of Windshield	5' 4" (1.62 m)	4' 10" (1.47 m)	N/A	4' 7" (1.39 m)	4' 7" (1.39 m)		4' 7" (1.39 m)	5' 0" (1.52 m)	
Fuel Capacity (Approximate)	50 gal (189 L)	40 gal (151 L)	40 gal (151 L)	30 gal (114 L)	30 gal (113 L)	27 gal (102 L)	20 gal (.76 L)	20 gal (.76 L)	44 gals (166 L)
Cockpit Depth	30" (.74 m)	36" (.91 m)	N/A	31" (.79 m)	31" (.79 m)	N/A	30" (.76 m)	28" (.71 m)	
Draft	31" (.79 m)	17.5" (.44 m)	N/A	31" (.79 m)	31" (.79 m)	N/A	31" (.79 m)	27" (.68 m)	Eng. Up 10" (.20m) ENG. DWN 18" (.46 m)
Freshwater Capacity (Approximate)									11 gals (41.6 L)
Cabin Headroom									
Sleeping Capacity	2 Adults								

BLANK SPACE - DOES NOT APPLY TO THIS MODEL

N/A - INFORMATION NOT AVAILABLE AT TIME OF PRINTING

CHAPTER 1. GENERAL INFORMATION

The upkeep and safe maintenance of your boat is an important responsibility. Therefore, it is helpful for you, the boat owner, to understand where our responsibilities end and yours begin. We encourage you to communicate with your authorized Regal dealer whenever you have questions or encounter problems. Our customer service department is available in instances where your local dealer is unable to assist you.

A. DEALER RESPONSIBILITIES

Your boat has undergone rigid quality assurance inspections before leaving the factory. However, your dealer has been trained to perform final pre-delivery checks and to service your Regal boat prior to your pick up. You have the right to be assured that these preparations have been made.

Your dealer's responsibilities to you also include:

- A complete orientation in the operation of your Regal boat, including matters relating to the safe operation of your craft.
- Completion and mailing of your boat registration warranty form to REGAL.
- Provision of an owner's manual pertaining to your REGAL boat as well as warranties, registration materials, operation, installation and maintenance instructions for all auxiliary equipment supplied with, or installed on your REGAL boat.
- Providing instructions on obtaining both local and out-of-area service while under warranty or not.

B. OWNER'S RESPONSIBILITIES

You are entitled to all the benefits and services outlined in your Regal boat warranty. However, you have certain responsibilities to ensure warranty satisfaction. These are:

- To carefully read the warranty materials and understand them fully.
- To examine the boat carefully at the time of delivery to assure yourself that all systems are properly operating.
- To read thoroughly all literature supplied with your boat, including this owner's manual, in order to familiarize yourself with your boat. Not only must you be familiar with this literature, it is very important that you follow the recommendations in the literature.
- To return the boat after the recommended hours of engine operation for the proper dealer service inspection.
- To provide proper maintenance and periodic servicing of your boat and equipment as set forth in the various manuals supplied.

NOTE: ALWAYS refer to "Hull Identification Number" (H.I.N.) on all correspondence to REGAL relating to your boat. **Refer to page 10 for more information.**

C. WARRANTY

WHAT IS COVERED:

Subject to all limitations and conditions contained below, boats manufactured by REGAL MARINE INDUSTRIES, INC., (hereinafter "REGAL"), are warranted to the original purchaser to be free of defects in materials or workmanship for a period of one (1) year from the date of delivery. The HULL on any boat manufactured by REGAL is similarly warranted for an additional ****four (4)** years. The hull is defined as the single fiberglass casting which rests on the water. HULL warranties are fully transferable from original buyer to the second owner. REGAL will repair any defect in material or workmanship during the warranty period at its Orlando, Florida factory or other location authorized by Regional Customer Service Manager when it is established to REGAL's satisfaction that there is a defect in material or workmanship.

WHAT IS NOT COVERED:

THIS LIMITED WARRANTY does not cover and the following are not warranted: (a) Engines, paints, blisters, gelcoat finish, discoloration of gelcoat, metal plating or finishes, windshield breakage, leakage, fading and deterioration of canvas, upholstery and fabrics, consequential damages, steering or any other assemblies or mechanical items purchased by REGAL from other suppliers; (b) Accessories and items which were not part of the boat when shipped from the REGAL factory, and/or any damage caused thereby; (c) Damage caused by misuse, accident, galvanic corrosion, negligence, lack of proper maintenance, improper trailering; (d) Any boat used for racing, used for rental or commercial purposes; (e) Any boat operated contrary to any instructions furnished by REGAL, or operated in violation of any federal, state, Coast Guard or other governmental agency laws, rules, or regulations; (f) The limited warranty is void if alterations have been made to the boat; (g) Transportation of boat or parts to and/or from the REGAL Factory or service location; (h) Travel time or haul outs, loss of time or inconvenience; (i) Any published or announced catalog performance characteristics of speed, fuel and oil consumption, and static or dynamic transportation in the water; (j) Any boat that has been repowered beyond REGAL's power recommendations.

GENERAL PROVISIONS:

ALL INCIDENTAL AND/OR CONSEQUENTIAL DAMAGES ARE EXCLUDED FROM THIS WARRANTY AND ARE TOTALLY DISCLAIMED BY REGAL. Some states do not allow the exclusion of incidental or consequential

**** Four years for models of 1991 and later (sold after Jan 1, 1991).**

damages so the foregoing may not apply to you. **THIS IS A LIMITED WARRANTY; REGAL MAKES NO WARRANTY, OTHER THAN CONTAINED HEREIN; ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARISING IN STATE LAW IS LIMITED TO THE PERIOD OF THIS LIMITED WARRANTY. ALL OBLIGATIONS OF REGAL ARE SPECIFICALLY SET FORTH HEREIN. REGAL DOES NOT AUTHORIZE ANY PERSON OR DEALER TO ASSUME ANY LIABILITY IN CONNECTION WITH REGAL BOATS.** Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. REGAL's obligation with respect to this warranty is limited to making the required repairs or replacement of parts. This limited warranty gives you specific legal rights, and you may also have other rights which may vary from state to state. REGAL shall in no way be responsible for any repairs not PRE-AUTHORIZED by a Regional Customer Service Manager or repairs performed by a repair shop not PRE-AUTHORIZED by a Regional Customer Service Manager.

CUSTOMER OBLIGATIONS:

The following procedures and customer obligations are a condition precedent to the availability of any benefits of this limited warranty: (a) The purchaser must sign and the dealer must submit the "OWNER REGISTRATION AND SYSTEMS CHECKLIST FORM" within thirty (30) days of the date of delivery and such information must be on file at REGAL; (b) The purchaser must give the dealer from whom the boat was purchased written notice of any claim under this warranty within the applicable warranty period and within a reasonable period of time (not to exceed thirty (30) days) after the defect is or should have been discovered. REGAL will not repair any condition or replace any part if a claim is not made in a timely manner. REGAL will not repair any condition or replace any part if the boat continues to be used after the discovery of a defect. (c) Only the dealer should write or call the "warrantor" REGAL MARINE INDUSTRIES, INC., Attn: Regional Customer Service Manager, 2300 Jetport Drive, Orlando, Florida 32809-7895; (d) REGAL will then determine whether the claim is covered by this limited warranty and will advise the dealer; (e) Dealer will contact the REGAL boat owner regarding instructions for delivery of boat or part for warranty repair if it is covered by the limited warranty. **TRANSPORTATION COST IS THE BOAT OWNER'S RESPONSIBILITY.** (f) If REGAL rejects the claim for warranty repair, the REGAL boat owner can then resort to an "informal dispute settlement procedure" in an attempt to settle claim without civil proceedings. "Dispute settlement procedure" information is available by writing the warrantor at the address listed in section (c) above.

CHAPTER 2. SAFETY TIPS

We understand that you're eager to get your new boat on the water! However, we *strongly suggest* that you thoroughly familiarize yourself and other friends or members of your family with the safe boating precautions listed here before setting out. The safety of your passengers is YOUR responsibility. Boating regulations vary from state to state. Check with your state and local authorities for the regulations pertaining to your area. .

A. GENERAL BOATING SAFETY

- **Make sure your boat and equipment are in top condition.** Do this by frequently inspecting the hull, engine and all gear.
- **You must provide a Coast Guard approved personal flotation device for every person onboard.** These PFDs should be in good condition and easily accessible to everyone.
- **It's the law.** Insist that non-swimmers and children on board wear a PFD at all times. Any time you encounter rough weather conditions, make sure everyone onboard is wearing a PFD, including yourself. Instruct your passengers in how to put on their PFDs and be sure they know their storage location on the boat. Remember in an emergency, a PFD that cannot be quickly located and worn is useless.

(CAUTION): Do not leave a new boat unattended for the first eight hours after the initial launching. Loose hardware or a faulty fitting could result in the vessel sinking.

WARNING:

ONLY ALLOW PERSONS WITH PROPER TRAINING OR EXPERIENCE TO OPERATE THE VESSEL.

- Never allow anyone to sit anywhere on the boat not specifically designated for sitting. While underway, ALWAYS insist passengers sit in the provided seating and set an example by doing this yourself.
- **Use maximum caution when fueling.** Never allow any smoke or flame nearby while you are fueling. ALWAYS check for fuel leaks and fumes when fueling is completed. **Refer to page 11 for more information.**

WARNING:

GASOLINE VAPORS CAN EXPLODE. BEFORE STARTING ENGINES OR GENERATOR:

- CHECK ENGINE COMPARTMENT FOR GASOLINE VAPORS.
- OPERATE BLOWER FOR AT LEAST 5 MINUTES BEFORE STARTING ENGINE(S) AND RUN BLOWER BELOW CRUISING SPEEDS.

WARNING:

USE OF ALCOHOL ENHANCED FUEL, OR ANY FUEL OTHER THAN GASOLINE, CAN LEAD TO DETERIORATION OF THE FUEL SYSTEM COMPONENTS AND CREATE AN EXTREMELY HAZARDOUS CONDITION, RESULTING IN FIRE AND POSSIBLE EXPLOSION.

- **Never drink and drive!** As captain, you are responsible for the safety of your passengers and yourself. Alcohol and boating can be a dangerous combination. DO NOT mix them!
- **Never overload your boat!** An overloaded boat, or one with uneven weight distribution, can be difficult to steer.
- **Be certain there is enough fuel aboard for your cruising needs.** Include any reserve that might be needed should you change your plans due to weather or emergency.
- **Always check weather before departure.** Be particularly cautious of electrical storms and high winds.
- **Always have up-to-date navigational charts aboard.** You'll need current charts of the area you'll be cruising in order to stay on proper course.
- **Always file a float plan.** Leave details of your trip with someone responsible who will be remaining on shore. Include expected return, plus name and phone number of a contact person in case of emergency.
- **Use care, courtesy and common sense when launching, docking or operating your boat.**
- **Learn and obey the "Rules of the Road".** A copy of the "Rules of the Road" can be obtained from the Coast Guard Auxiliary or local Power Squadron.
- **In case of emergency:** Know the international distress signals if you have a ship-to-shore radio telephone aboard. The spoken word "MAYDAY" is the

international signal of distress. **Under no circumstances** should this word be used, unless there is danger close at hand. It is *for emergency use only*.

- **Posted speed limits, swimming areas, "no wake" zones** and other restrictions should be red-flagged. They are so noted for good reason. Sensible boat use, plus courtesy, equals enjoyable and safe boating.

In addition to the above safety points, we recommend you stay abreast of all state and local rules, as some laws may differ from state to state or change at times. Contact your local Coast Guard Auxiliary or Power Squadron for further information. The Coast Guard also offers safe boating classes which will prepare you for safe boat handling and knowledge of critical boating rules. We highly recommend that you enroll in these classes.

WARNING:

TO PREVENT POSSIBLE INJURY, KEEP THE TRANSOM DOOR SHUT AND LOCKED, EXCEPT WHEN ACTUALLY ENTERING OR LEAVING THE COCKPIT. DRIVING WHILE STANDING UP IS HAZARDOUS AND MAY RESULT IN INJURY.

We cannot stress safety enough! **Remember** there are no brakes on your boat, and the water current and wind velocity all affect your ability to respond. The driver must use caution at all times to maintain control of his boat and especially to maintain a safe distance from other boats and obstacles.

WARNING:

ABRUPT TURNS ABOVE 60 MPH/37 KPH MAY RESULT IN LOSS OF CONTROL. STEERING RESPONSE, AT HIGH SPEEDS CAN BE VERY SUDDEN. ALSO, ABRUPT TURNS MAY CAUSE YOU TO CROSS YOUR OWN WAKE. JUMPING A BOAT WAKE AT HIGH SPEEDS MAY CAUSE INJURY TO PASSENGERS AND DAMAGE TO YOUR BOAT. SUDDEN INCREASES OR DECREASES IN SPEEDS MAY CAUSE INJURY TO PASSENGERS. THE DRIVER MUST MAKE SURE THAT ALL PASSENGERS ARE SECURE BEFORE MAKING SUDDEN CHANGES IN SPEEDS.

B. CARBON MONOXIDE

Carbon monoxide is a by-product of combustion. Carbon monoxide (CO) can be especially dangerous on boats. The first symptoms of CO poisoning are headaches and nausea. Both symptoms can be confused with seasickness. Carbon monoxide fumes can accumulate in and around your boat at dockside and during idle and slow cruising conditions.

The following conditions can lead to a build-up of carbon monoxide gases:

- Operating at slow cruising speeds or running engines while motionless in the water.
- Operating with an extreme bow high attitude.
- Operating with the canvas in the up position.
- Blocked exhaust outlets.
- Fumes can accumulate in and around your boat while docked in a marina.

WARNING:

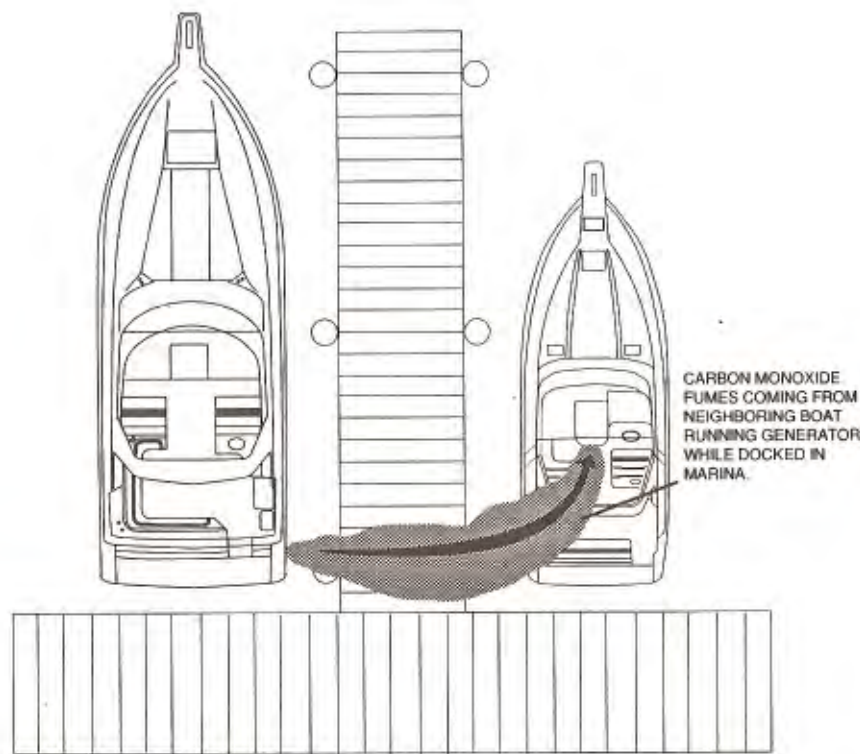
CARBON MONOXIDE (CO) IS A TASTELESS, ODORLESS AND INVISIBLE POISONOUS GAS THAT CAN CAUSE DISCOMFORT, SEVERE ILLNESS AND EVEN DEATH. EXERCISE EXTREME CAUTION WHILE OPERATING THE ENGINE(S) AT ANCHOR, AT DOCKSIDE OR WITH FULL CANVAS INSTALLED. DO NOT ALLOW EXHAUST FUMES TO BECOME TRAPPED IN AND AROUND YOUR BOAT. DURING IDLE AND BELOW CRUISING SPEEDS, BILGE BLOWER(S) SHOULD BE USED.

WARNING:

USE CARE IN RUNNING THE ENGINE WHEN THE BOAT IS NOT IN MOTION. BE AWARE THAT EXHAUST FUMES AND CARBON MONOXIDE MAY ACCUMULATE IN THE PASSENGER AREAS.

CONDITIONS THAT COULD LEAD TO THE ACCUMULATION OF HAZARDOUS CARBON MONOXIDE FUMES

CARBON MONOXIDE FUMES BEING DRAWN INTO COCKPIT WHEN THE BOAT IS RUNNING AT LOW SPEEDS AND WITHOUT PROPER VENTILATION.



CARBON MONOXIDE FUMES COMING FROM NEIGHBORING BOAT RUNNING GENERATOR WHILE DOCKED IN MARINA.

CHAPTER 3. GOVERNMENT REGULATIONS AND RULES OF THE ROAD

Not only should you be familiar with safe boating practices, you should also know and understand the safe boating regulations required by law. The applicable federal regulations are discussed here. State and local governments may impose additional requirements. Therefore, it is important to become familiar with state and local laws. The following is a list of safety equipment required by the Coast Guard to be carried on all boats 26 to 40 feet.

WARNING:

DO NOT OPERATE YOUR BOAT AT NIGHT WITHOUT COAST GUARD APPROVED OPERATING LIGHTS.

A. SAFETY EQUIPMENT

- **Fire Extinguishers.** Boats 26 feet but less than 40 feet require at least two type B-1 or at least one type B-2 U.S. Coast Guard approved hand portable extinguishers. When a U.S. Coast Guard approved fixed fire extinguishing system is installed, one less type B-1 is required.
- **Personal Flotation Devices (PFDs).**
One type I, II or III PFD for each person aboard plus one flotation cushion or ring buoy (Type IV PFD).
- **Small Signalling Device.** A means of making "an efficient sound signal", i.e. horn, whistle, etc.
- **Sight Signalling Device.** Boats operating in coastal waters on the Great Lakes are required to carry appropriate visual distress signals (i.e. flares for night time use or flags for daytime use). Check with the Coast Guard or your Regal dealer for specific requirements for your boat.
- **Navigation Lights.** Boats operating between sunset and sunrise are required to display appropriate navigation lights. It is also recommended that you carry an anchor and line, tie-up lines, fenders, first aid kit, waterproof flashlight, spare fuses and light bulbs, electrical tape and enough tools to make necessary repairs.

B. DISCHARGE OF OIL

Federal Water Pollution Control Act prohibits the discharge of oil or oily waste into or upon the navigable waters and contiguous zones 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.**

C. CAPACITY PLATE OR YACHT CERTIFICATION PLATE

Depending upon size, your boat will display either a capacity plate or a yacht certification plate. Manufacturers such as Regal who are participating in the NMMA Certification Program, submit their boats to rigid inspections from recognized independent agencies or NMMA staff personnel. Each model is inspected and must meet applicable standards and U.S.

Coast Guard safety requirements. These standards include fuel and electrical systems, bilge pumps, international navigation lights and compartment ventilation.

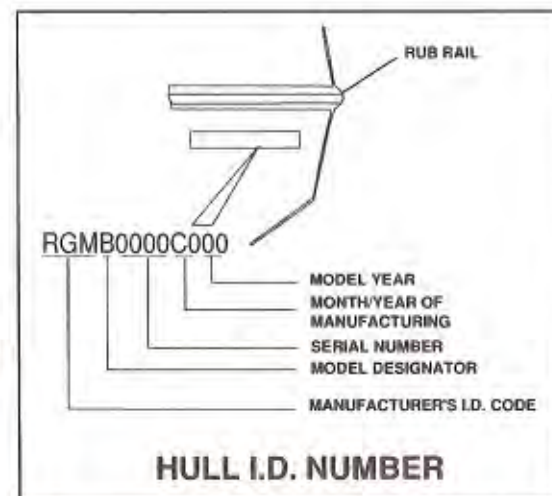
WARNING:

DO NOT EXCEED THE DESIGNATED OPERATING CAPACITY FOR YOUR BOAT.

D. HULL IDENTIFICATION NUMBER

The hull identification number (H.I.N.) is a U.S. Coast Guard requirement for boat manufacturers. The Coast Guard has established a standardized system that assigns a specific sequence of numbers and letters to a specific boat. These numbers and letters indicate the manufacturer, serial number and date of manufacture for a particular boat. You should always include the H.I.N. on all correspondence or inquiries relating to your boat.

The H.I.N. is molded into the hull, on the upper right-hand corner of the transom, just below the rubrail.



CHAPTER 4. BOATING TIPS

A. FUELING

Certain precautions must be carefully and completely observed every time a boat is fueled.

Before Fueling:

- Make sure your boat is tied securely to the fuel dock.
- Stop engine(s), fan(s) and other devices which might produce a spark.
- Close all windows, doors and hatches to prevent fumes from entering the boat.
- Disembark crew for the fueling operation.
- **PROHIBIT ALL SMOKING ON BOARD OR IN BOAT PROXIMITY.**
- Have a fire extinguisher close at hand.

WARNING:

LEAKING FUEL IS A FIRE AND EXPLOSION HAZARD. THE USE OF ALCOHOL MODIFIED FUELS CAN CAUSE DETERIORATION OF THE FUEL SYSTEM. DO NOT USE ANY GASOLINE WHICH CONTAINS METHANOL (METHYL ALCOHOL). EXAMINE FUEL SYSTEM BEFORE EACH OUTING AND PERIODICALLY HAVE THE FUEL SYSTEM INSPECTED BY A QUALIFIED SERVICE TECHNICIAN. CHECK FUEL SYSTEM COMPONENTS OFTEN.

WARNING:

DO NOT USE FUEL OR FLAMMABLE LIQUIDS IN CLOSED AREAS WITHOUT PROPER VENTILATION.

WHILE FUELING:

- Keep nozzle or can spout in contact with the fill opening to guard against static sparks.
- Do not spill fuel.
- Do not over-fill. Filling a tank until fuel flows from the vent is dangerous. Allow room for expansion of the fuel due to temperature changes.

AFTER FUELING:

- Tightly close fill opening.
- Wipe up any spilled fuel. Safely dispose of gas and saturated rags on shore.

- Open all windows, doors and hatches.
- Turn on the bilge blower for at least five minutes to ventilate bilge. The bilge blower is controlled by a labeled dash-mounted switch. This operation is absolutely vital to remove hazardous fumes. Run the blower continuously below cruising speeds.
- Check for fuel fumes in the bilge; continue ventilation until odor can no longer be detected.
- Check for any drips of liquid fuel.

WARNING:

AFTER A TRIP, IT IS A GOOD IDEA TO TOP OFF THE GASOLINE TANK TO PREVENT THE BUILD-UP OF GAS VAPORS WITHIN THE FUEL TANK.

B. BOAT WEIGHT DISTRIBUTION

Gear Storage

The personal gear and equipment carried on any boat can accumulate excessive weight, with the result being lack of stability and a loss of performance. Also, overloading is a very significant cause of accidents in boating. Please keep this in mind when loading your boat. Consider the weight of your gear in relation to the desired trim of your boat forward, aft and athwartships.

NOTE: If you're considering the addition of major weight to your boat, we strongly suggest you contact your authorized Regal dealer or Regal Marine Industries for advice on how best to accomplish your objectives.

C. BASIC BOAT OPERATIONS

Docking

Learning to safely and correctly dock your new boat is as important as learning how to properly start it. If you have no experience with a boat of this size, we strongly recommend you obtain a copy of the book: **Chapman: Piloting, Seamanship and Small Boat Handling** by Elbert S. Maloney, published by Hearst Marine Books, New York. Chapter Seven covers docking your boat.

Some general precautions for docking include:

- When possible, approach the dock from downwind as this is usually safest. When heading into the wind, a miscalculation will allow the wind to blow you away from the dock instead of toward it.
- Do not be in a rush to dock. If there is someone else docking, stand off and allow him to finish.

- Never place your body between the boat and the dock or permit any passenger to do so.
- Never try to fend off your boat from the dock when it's approaching too rapidly. Back off and try again, being sure to check behind you for oncoming traffic.
- Always have your dock (mooring) lines and fenders ready.
- After docking, shut off your engine before your passengers disembark.

WARNING:

DO NOT USE DECK HARDWARE FOR TOWING OR FREEING A BOAT THAT HAS BEEN GROUNDED.

Towing

In case you find yourself aground or in need of a tow, or should you want to tow another vessel, keep in mind that you should **NEVER** use deck hardware to secure lines for towing! Rather than tie the line to your cleats on deck, it is suggested that you form a bridle by passing a line completely around the hull of your boat, to avoid structural damage.

When towing, remember to move slowly and cautiously. **Always** stand clear of a taut line, as any type of line breaking under stress can be extremely dangerous. **Always** keep an eye on the lines to avoid being struck if a line should snap.

WARNING:

ALWAYS STAND CLEAR OF ANY TIGHT OR STRETCHED LINES.

Anchoring

Anchoring, as in docking, is easier with another person on board. First be certain that the line for the anchor is properly attached, to avoid losing the anchor and anchor line overboard.

Contrary to common belief, you do not throw the anchor over while your boat is making headway, or moving forward. In fact, the boat should be moving slowly backward, while easing the anchor slowly over the side of the boat until it hits the bottom. **Remember**, do not stand on or in the coils of the anchor line on the boat.

To "set" your anchor, some general rules apply. First, reverse slowly, "paying out" or letting line out equally slow. Once set, turn the line around a

cleat. When a sufficient length of anchor line is let out, snub the line and the anchor will bite into the bottom. To "snub" the line means to stop its outward pay or movement. Usually the length of anchor line used should be 5 to 10 times the depth of the water.

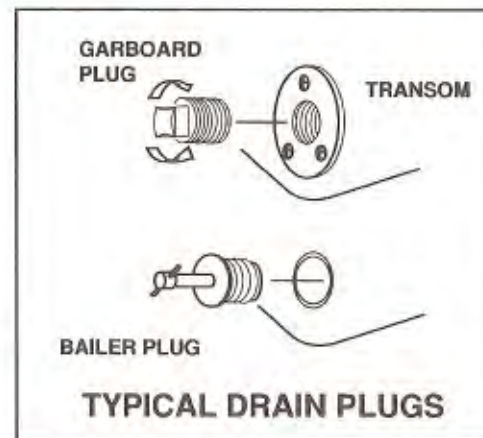
WARNING:

BEFORE LAUNCHING, INSTALL YOUR DRAIN PLUG! THE DRAIN PLUG IS LOCATED IN THE BOTTOM CENTER AREA OF THE TRANSOM.

(CAUTION): Before starting engine, be sure water intake seacock is open (Inboard only).

D. STARTING PROCEDURES

Before Starting Your Engine
Consult your engine operations manual for cold and warm starting procedures.



WARNING:

TO PREVENT A POSSIBLE EXPLOSION, OPERATE YOUR BILGE BLOWER FOR AT LEAST FIVE (5) MINUTES PRIOR TO STARTING YOUR ENGINE. ALSO, RUN YOUR BILGE BLOWER BELOW CRUISING SPEEDS AS THESE PROCEDURES WILL HELP ELIMINATE ANY DANGEROUS GASOLINE VAPORS.

E. BOAT RUNNING OPERATIONS

Use of Trim Tabs:

The trim tabs provide several benefits. These include the following:

- Increase speed and fuel economy.
- Eliminate stern squatting.
- Maintain boat on plane at reduced throttle settings.
- Maximize visibility.

- Provide a smoother ride in choppy water.
- Compensate for any unbalanced load.

It is a way of fine-tuning the ride of your boat and will enable you to achieve the most efficient and comfortable ride possible, whatever the conditions.

To operate the trim tabs, find the rocker switch control panel on the dash. Notice the two individual rocker switches. The left, or port rocker switch, controls the starboard trim tab. The right, or starboard rocker switch, controls the port trim tab. The trim tabs are located under the swim platform on the outermost section of the transom (stern).

Press the upper section of both rocker switches together and both trim tabs are activated, causing the bow to go "down". Press the lower section of both rocker switches together and the bow will come up.

(CAUTION): Accidentally pressing a "bow down" and "bow up" rocker switch at the same moment will blow the 20 amp fuse located behind the rocker switch panel, or the breaker located on the main switch panel. Both solenoids cannot operate at the same time.

WARNING:

AT WIDE OPEN THROTTLE, MOST BOATS DO NOT NEED ANY TRIM UNLESS HEAVILY LOADED. OVER-TRIMMING THE BOAT AT WIDE OPEN THROTTLE MAY CAUSE THE BOW TO DIG AND THE BOAT TO VEE, CAUSING AN UNSAFE STEERING CONDITION.

It is wise to depress the rocker switches in "half second bursts" until the operator becomes accustomed to the trim tabs reaction characteristics. The reaction is not immediate and requires several seconds for the boat to respond. If the rocker switches are held in the "bow down" position, the tabs may over trim and the bow may dig in excessively. In a rough following sea, best handling is obtained with a bow high attitude.

A port list in a "bow up" position can be corrected by pushing the starboard "bow down" (upper) rocker switch in quick bursts. The port trim tab will activate and cause the boat to level itself. A starboard list can be corrected by pushing the port "bow down" (upper) rocker switch in quick bursts. The starboard trim tab will activate and "level out" the boat.

NOTE: Anytime the tabs move "up" the reaction time is faster than moving "down". This is due to increased water pressure against the bottom of the trim tabs while the tabs are moving up.

NOTE: Do not paint the zinc anodes attached to the trim tabs (planes) as their effectiveness in galvanic corrosion protection could be greatly reduced.

Use of Power Trim/Tilt:

The purpose of the power trim/tilt is to enable the operator to change the angle of the outdrives, providing benefits similar to those found when using trim tabs.

Your trim/tilt switches are located either on the remote control handles or mounted on the dash.

Trim Operation:

The power trim is normally used prior to accelerating onto a plane, after reaching the desired RPM or boat speed and when there is a change in water or boating conditions. Position passengers and equipment in the boat so that the weight is balanced correctly fore and aft as well as port to starboard. Trimming *will not* compensate for an unbalanced load.

To operate the trim, push the switches until the desired bow position is reached. The trim may be operated at any boat speed or at rest. Avoid operating the trim system when running in reverse. Observe the trim/tilt gauges which indicate the boat's bow position achieved by the trim angle of the vertical drive units. "Bow-Up" corresponds to the upper portion of the trim range on the gauges while "Bow-Down" corresponds to the lower portion of the trim range on the gauges.

To determine the proper trim angle, experiment until you are familiar with the changes in your boat. The boat will be properly trimmed when the trim angle provides the best performance for the particular operating conditions. A trim position that provides a balanced steering load is desirable.

To familiarize yourself with the power trim, make test runs at slower speeds and at various trim positions to see the effect of trimming. Note the time it takes for the boat to plane. Watch the tachometer and speedometer readings as well as the ride action of the boat. Read the information on Operating in "Bow-Up" and "Bow-Down" position.

Operating in "Bow-Up" position:

The "Bow-Up" or "out" position is normally used for cruising, running with a choppy wave condition, or running at full speed. Excessive "Bow-Up" trim can cause propeller ventilation resulting in propeller slippage or a hull porpoising effect. Use caution when operating in rough water or crossing another boat's wake. Excessive "Bow-Up" trim may result in the boat's bow rising rapidly, creating a hazardous condition.

(CAUTION): Do not run engines above 1000 RPM with the stern drives trimmed for shallow water maneuvering since the stern drives are out beyond the gimbal ring side support brackets. Operating in the above manner could

produce a dangerous steering condition or could damage the stern drive components.

NOTE: Make sure the drive unit(s) are trimmed completely "in" before accelerating from a stopped position.

Operating in "Bow-Down" position:

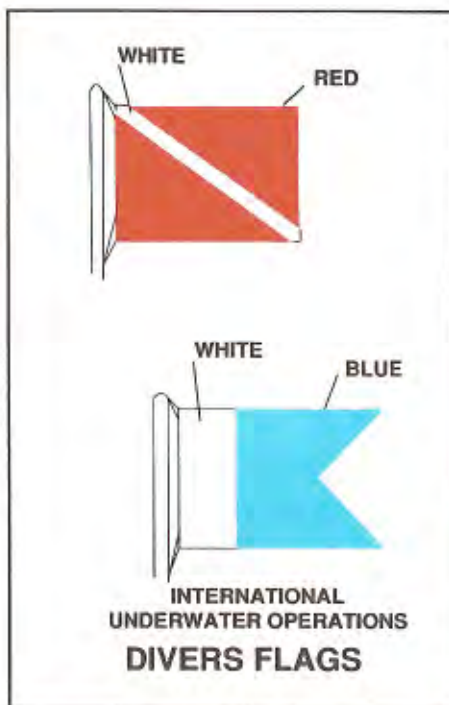
The "Bow-Down" or "in" position is normally used for acceleration onto a plane, operating at slow planing speeds and running against a choppy wave condition. It is also used when towing water skiers, tubers, kneeboarders, etc. In this position the boat's bow will want to go deeper into the water. If the boat is operated at high speed and/or against high waves, the bow of the boat will plow into the water.

(CAUTION): With twin engine installations, trim each stern drive as uniformly as possible to provide a balanced steering condition. This condition should be accomplished as soon as possible each time you get underway.

Some boat/motor/propeller combinations may create boat instability and/or high steering torque when operated at or near the limits of the "bow-up" or "bow-down" positions. Boat stability and steering torque can also vary due to changing water conditions. If you experience boat instability and/or high steering torque, see your authorized Regal dealer. Consult your engine operation and maintenance manual for more information regarding the use of power trim/lift.

F. WATER SPORTS

Besides learning the safety precautions for safe boating, as well as knowing and understanding required rules and regulations, you are also obligated to be particularly careful around other water sportsmen, such as scuba divers, water skiers and fishermen.



Skin and Scuba Divers

Whenever you see a "Diver Down" flag, such as the one illustrated, maintain a distance of at least 200 feet. The flag indicates that a diver is in the water in this area. If a diver is operating from your own boat, be certain to use this flag and post a lookout on board. Also, be sure that your engine is turned off!

Water Skiing

It takes three people to ski safely: the skier, the driver and an observer. Ski boats should be equipped with a rear view mirror. Make sure all persons involved in skiing understand and use the proper hand signals.

WARNING:

ALWAYS TURN OFF YOUR ENGINE WHEN USING THE SWIM PLATFORM OR BOARDING LADDER. DO NOT RUN THE ENGINE WHEN THE SWIM PLATFORM AND BOARDING LADDER ARE IN USE. IT IS ADVISABLE TO REMOVE YOUR IGNITION KEY TO AVOID INADVERTENT ENGINE OPERATION WHENEVER THE SWIM PLATFORM OR LADDER ARE IN USE.

WARNING:

DO NOT USE THE LOWER DRIVE UNIT AS A STEP WHEN ENTERING OR LEAVING THE BOAT.

WARNING:

MOST STATES REQUIRE THAT AN OBSERVER BE ONBOARD WHEN PULLING A SKIER. THE JOB OF THE OBSERVER IS TO RELAY SIGNALS FROM THE SKIER TO THE BOAT DRIVER AND TO NOTIFY THE DRIVER IMMEDIATELY IF THE SKIER FALLS.

SECTION II INSTRUMENTS & CONTROLS

CHAPTER 1. DASH FEATURES

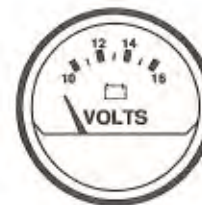
Following are descriptions of the onboard dash instruments and controls. **Your boat may not feature all the items described in this manual.** Consult your dealer as to the after market installation of any desired items. Use the following illustrations to become familiar with your dash functions.

NOTE: Read and understand any Warning labels affixed to your dash and the surrounding dash area.

NOTE: Unless you are familiar with marine wiring, it is wise to have additional accessories installed by your dealer.

A. INSTRUMENTS

The dash features lighted gauges for operating after dark. Dash switches are protected by their own individual circuit breaker. If the button in the center of the breaker has "popped out", the breaker has been "tripped". Try to determine what caused the breaker to "trip" before resetting the breaker by pushing the white button to the "in" position.



BATTERY GAUGE: The battery gauge indicates the condition of the engine batteries. Normal voltage is between 12.0 and 15.0 volts when your alternator is charging. Readings not within the above range indicate the battery or alternator may be malfunctioning.



OIL PRESSURE GAUGE: The oil pressure gauge indicates the oil pressure within your engine and displays that information in pounds per square inch (psi).

(CAUTION): Running an engine for a prolonged period with low oil pressure will damage internal engine parts. If a loss of oil pressure occurs, immediately shut down the engine and determine the cause.

FUEL GAUGE: The fuel gauge indicates the amount of fuel remaining in your fuel tank. As a matter of convenience and safety, it is always a good idea to fill your fuel tank after each trip. Keeping the fuel tank or tanks full helps eliminate fumes and minimizes the build-up of condensation in the tanks.

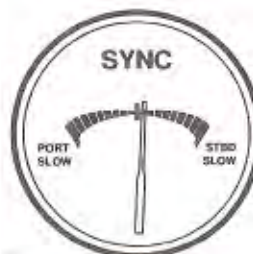
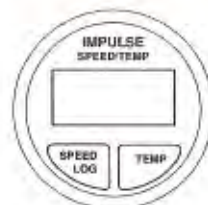
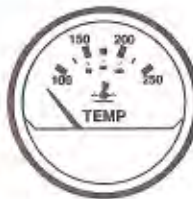
NOTE: It is a good idea, after each trip, to turn off the fuel shut off valves (if installed) to the engine(s) and generator. The fuel shut off valves are located amidships in the sump area.

(CAUTION): Fuel gauge indications can be affected by the boat attitude in the water especially at low fuel levels.

TEMPERATURE GAUGE: The temperature gauge indicates the relative operating temperature of your engine. If the temperature goes above normal, shut down the engine at once and investigate the problem. Consult your engine manual for allowable limits.

SPEEDOMETER: The speedometer indicates the relative speed of your boat. The speedometer is made up of several components: a pick-up tube mounted on the transom and extending below the water line; a hose line; and a speedometer gauge. As the boat moves forward, a column of water is forced up the hose creating pressure on a diaphragm within the speedometer gauge. This pressure, in turn, creates a reading on the speedometer gauge.

NOTE: If you fail to get a reading or if the speedometer gives a reading while the boat is stopped, check the pick-up tube or air hose for obstructions or air leaks.



TACHOMETER: The tachometer records the revolutions per minute (RPM) of the engine from idle to full throttle. On twin engine installations, the tachometers are useful in determining that both engines are running at the same speed.

SUMLOG: The sumlog features speed over water, time run and temperature readings. These features are useful when dead reckoning. For more information, refer to the manufacturers literature.

NOTE: The sumlog features a paddlewheel located on the hull bottom. If your boat is moored for extended periods of time, be sure to replace the paddlewheel with the dummy plug provided.

ENGINE SYNCHRONIZER: The engine synchronizer allows you to adjust the revolutions per minute between the port and starboard engines. When the engines are in synchronization, the needle will read zero. If the needle drops off the zero mark, adjust the corresponding engine to bring the needle back to zero. Use the engine synchronizer along with the tachometers to achieve a fine adjustment between the port and starboard engines.

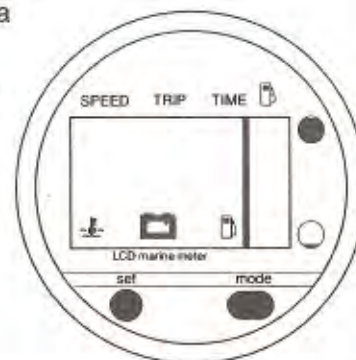
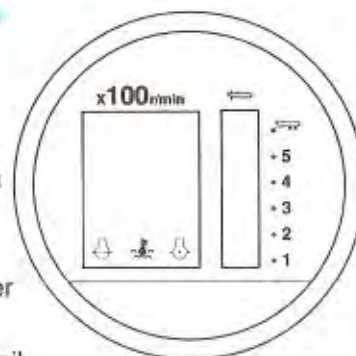
DEPTH GAUGE: The depth gauge displays the distance between the bottom of your boat and the earth surface directly below the transducer. The depth gauge features an alarm which allows you to set a depth and receive a warning if you enter water that is more shallow than your depth setting.

GAS VAPOR DETECTOR: This device detects the presence of gasoline vapors in the bilge area. Check for gasoline vapors before starting the engine(s). This device should not replace the act of physically checking the bilge area for gasoline vapors.

POWER TRIM/TILT GAUGE: This gauge reveals the angle of your outdrive in relation to the boat bottom. Trim the drive unit down when taking off from a stop position. The power trim is normally used prior to accelerating onto a plane, after reaching the desired RPM or boat speed and when there is a change in water or boating conditions. Position passengers and equipment in the boat so that the weight is balanced correctly fore and aft as well as port to starboard. **Trimming will not compensate for an unbalanced load.**

(CAUTION): Do not run engines above 1000 rpm with the stern drives trimmed for shallow water maneuvering (trimmed out) since operating in the above manner could produce a dangerous steering condition or damage the stern drive components.

MULTI-METERS: Boats equipped with Yamaha engines come with two multi-function meters (multi-meters). These meters indicate speed, trip meter, clock, fuel, tachometer and trim meter readings along with signals for voltage, overheat, low seawater level, low fuel and low oil warnings. The various functions should light up and be accompanied by a buzzer sound; then after a few seconds return to normal operation. For more detailed information, refer to your engine operation manual supplied with your Yamaha engine.



HALON FIRE EXTINGUISHER WARNING LIGHT: The green light indicates the Halon fire extinguisher system is ready for operation. Each time the ignition is "on", the green light should be lit. If the green light does not come "on" when the ignition is turned "on", the system may have discharged. When the Halon fire extinguisher system activates, a loud "bang" may be heard followed by the sound of rushing air.



WARNING:

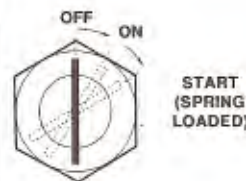
IF THE HALON FIRE EXTINGUISHER ACTIVATES, IMMEDIATELY SHUT DOWN ALL ENGINE(S), POWERED VENTILATION, ELECTRICAL SYSTEMS AND EXTINGUISH ALL SMOKING MATERIALS. DO NOT IMMEDIATELY OPEN THE ENGINE COMPARTMENT.

B. SWITCHES

IGNITION SWITCH: The ignition system is activated by a three position switch. The straight up position is "off". The first position as you turn the key clockwise is the ignition "on". The momentary spring loaded full right position engages the starter. Be sure to turn the key to the "off" position when the engine is not running to prevent the battery from discharging and the ignition coil from overheating.

Some engine models feature an audible warning system connected to the ignition switch with a warning buzzer under the dash. If the buzzer sounds while operating your boat, observe the oil and temperature gauge readings, then stop the engines immediately. The buzzer indicates low oil pressure and/or high water temperature.

NOTE: If the ignition key is left in the "run" position for 7 to 14 seconds and the engine isn't started, the warning buzzer will sound. This is a test procedure for the alarm system.



SPOTLIGHT: The spotlight is a single element light activated with a simple "on"/"off" toggle switch with its own breaker button located next to the switch. The buttons with the arrows control the "up", "down", "left", "right" movement of the light. The light may be rotated without the lamp being "on". For additional information, refer to the manufacturers literature located in the owners information packet.

BILGE PUMP: The bilge pump is located under or slightly forward of the engine in the bilge (sump) area. The bilge pump can be manually activated with the switch located on the dash panel. With the bilge pump switch in the "off" position, the pump can be activated through the automatic float switch located next to the bilge pump.

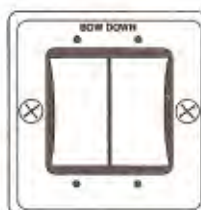
The bilge pump float switch is wired directly to the battery and will operate independent of the bilge pump switch. This feature is especially useful when your boat is unattended for long periods of time.

WARNING:

THE AUTOMATIC FLOAT SWITCH MAY NOT OPERATE IF THE BATTERY IS NOT SUFFICIENTLY CHARGED.

(NOTE): Not all of the boat models are equipped with a bilge pump float switch as standard equipment.

TRIM TAB SWITCH: This switch controls the up and down movement of the the trim tabs located on the boat transom. Refer to section IV for more detailed information on the operation of the trim tabs.



BLOWER SWITCH: The bilge blower should be run while operating below cruising speed. Use of the bilge blower should NEVER take the place of checking the bilge visually and "smelling" for fumes. Read and understand the following information located on your dash.

GASOLINE VAPORS CAN EXPLODE

BEFORE STARTING ENGINE:

- CHECK ENGINE COMPARTMENT FOR GASOLINE OR VAPORS
- OPERATE BLOWER FOR AT LEAST 5 MINUTES
- RUN BLOWER BELOW CRUISING SPEEDS

BATTERY PARALLEL SWITCH: The purpose of the battery parallel switch is to allow emergency starting of either engine by allowing you to draw power from the opposite engine battery. To start the engine, push the momentary toggle switch as you turn the port ignition key to the start position. When the engine starts, release the battery parallel toggle switch. It will automatically return to the "off" position.

ANCHOR LIGHT SWITCH: When you turn the anchor light switch to the on position, the masthead light (forward and aft sections) is lit for 360 degree visibility. Smaller boats feature the stern pole light which is lit for 360 degree visibility. The anchor light is required after dusk while moored, but not underway.

Turning on the navigation lights, activates the red and green running lights, the forward section of the masthead light and the stern light. On smaller boats, the navigation light switch activates the red and green running lights and the stern pole light.

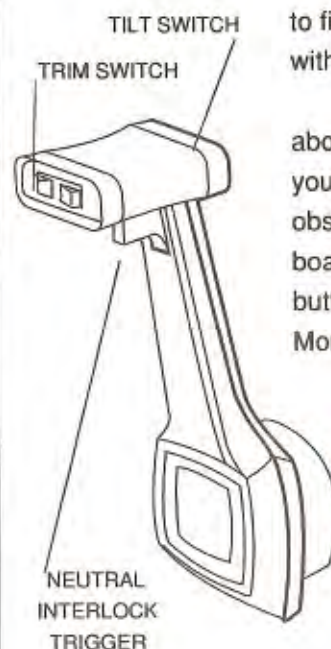
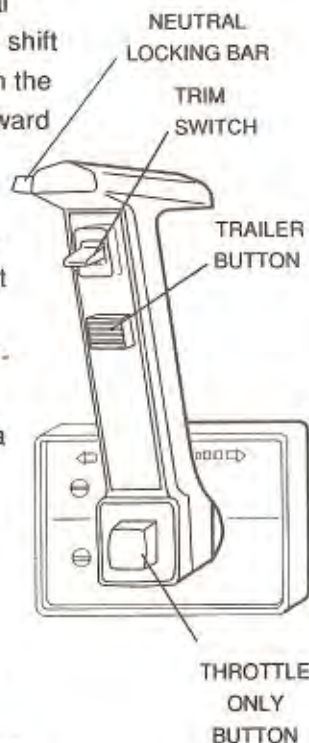


C. REMOTE CONTROLS

Your boat may feature a MerCruiser or Morse shift/throttle control unit depending upon the type of engine installed in your boat. Both models have very similar features. You must first depress the "neutral locking bar" or "neutral interlock trigger" before the shift lever can be moved from the neutral position. Push the throttle lever forward and the engine shifts into forward gear and engine RPMs are increased. Pull the throttle back from neutral and the engine shifts into reverse and engine RPMs are increased. The throttle lever must be in the neutral position to start the engine.

The "throttle only" feature allows you to advance the throttle without engaging the gear shift. This feature is useful when you are trying to start a cold engine. The "throttle only" feature can be engaged by pressing the "throttle only button" on the MerCruiser control lever. To engage the "throttle only" feature on the Morse control lever, the control lever itself must be pulled "out".

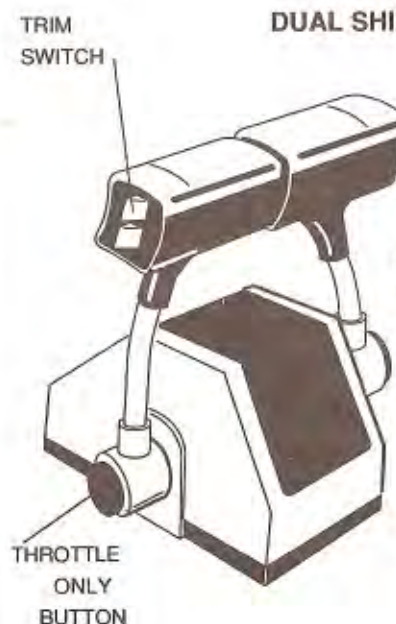
The power trim/tilt features mentioned in Section I are controlled by the trim/tilt switches mounted in the control handle and when used along with the trim/tilt gauge mounted in the dash, allows you



to fine tune the trim of your boat. Do not confuse this with trim tabs.

The trailer button is used to raise the outdrive above its normal operating range. This feature allows you to raise the drive unit to avoid hitting any road obstructions. Operate the trailer button only when the boat is stopped in the water or on the trailer. The trailer button is located in the shift lever on the MerCruiser and Morse model shift/throttle controls.

WARNING:
THE THROTTLE CONTROL WILL NOT
AUTOMATICALLY RETURN TO THE
IDLE POSITION.



DUAL SHIFT/THROTTLE CONTROL: The dual shift/throttle controls operate similar to the single remote control. Press the control levers forward and the transmission shifts to forward and the RPMs increase. Pull the control levers aft and the transmission shifts to reverse and RPMs are increased. The "throttle only button" is useful for warming up a cold engine by allowing you to press the control levers forward, increasing the RPMs without shifting the transmission into gear.

WARNING:

DO NOT SHIFT TRANSMISSION AT ENGINE SPEEDS ABOVE 1000 RPM.

DUAL SHIFT CONTROLS (400): The shift levers are identified by their black handles. Press the levers forward to shift the transmission to forward. Pull the levers aft to shift into reverse. The center position is neutral. The shift mechanism features a shift interlock switch which requires the shift levers to be in neutral for the engines to start. The controls can be operated independently of each other to allow for tight maneuvering.

DUAL THROTTLE CONTROLS (inboard): The dual throttle controls are identified by their red handles. Push the levers forward for full throttle. Pull the levers all the way to aft for idle.



REVERSE



IDLE

SECTION III - SYSTEMS

(FRESHWATER)
(WASTE)
(ELECTRICAL)

CHAPTER 1. FRESHWATER SYSTEMS

The freshwater system allows most household uses of water on board the boat. The fresh water system includes several main components which will be explained in more detail.

NOTE: Some of the features mentioned in this section may be offered as options only.

A. FRESHWATER PUMP

The freshwater pump allows water to be pumped to the appropriate faucet or equipment for immediate use. Connected to the top of the fresh water pump is a pressure switch. The purpose of the pressure switch is to build up and maintain a constant water system pressure. A water filter is located on the input side of the water pump.

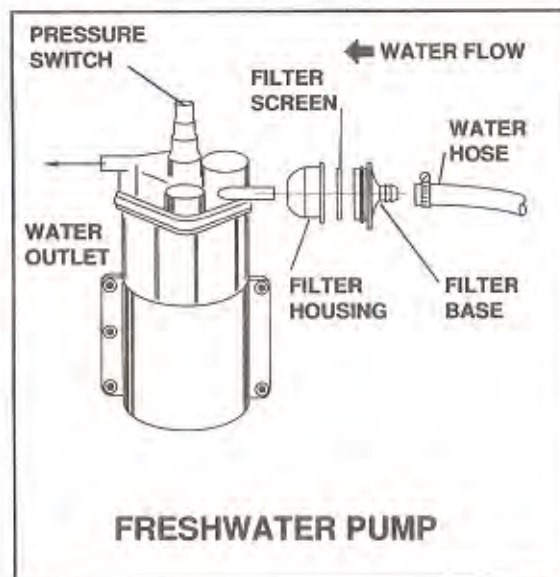
NOTE: The water pump filter screen should be periodically inspected for debris and mineral buildup.

B. ACCUMULATOR TANK

Some boat models feature an accumulator tank which provides a more uniform water flow and acts as a water reservoir (one gallon capacity). The reservoir feature allows the use of small amounts of water without causing the water pump to begin cycling. There is a tire type air valve located on the accumulator tank for pressurizing. The recommended air pressure is 20 p.s.i. (pounds per square inch).

C. FRESHWATER WASHDOWN (COMMODORE 400 ONLY)

A freshwater washdown system allows the option of cleaning the boat using the on-board fresh water. This feature is especially useful on extended trips.



NOTE: Be sure to flip "on" the water pump breaker at the ship's service panel to use the washdown system. The main freshwater pump supplies water for the fresh water washdown.

WARNING:

DO NOT CONNECT TO THE DOCKSIDE PRESSURIZED WATER SYSTEM WHILE THE BOAT IS UNATTENDED. WATER LINES COULD BREAK AND ALLOW AN UNINTERRUPTED SOURCE OF MARINA WATER TO ENTER THE BOAT AND POSSIBLY SINK THE VESSEL.

D. DOCKSIDE WATER INLET

The dockside water inlet allows marina water to be connected through a garden hose to the pressure regulator fitting. The purpose of the pressure regulator is to allow only water at pressures up to 35 p.s.i. to enter the boat. This feature eliminates excessive city water pressure from bursting water lines and causing leaks in the ship's water system. At dockside, all water-related functions can be performed with a maximum, safe water pressure.

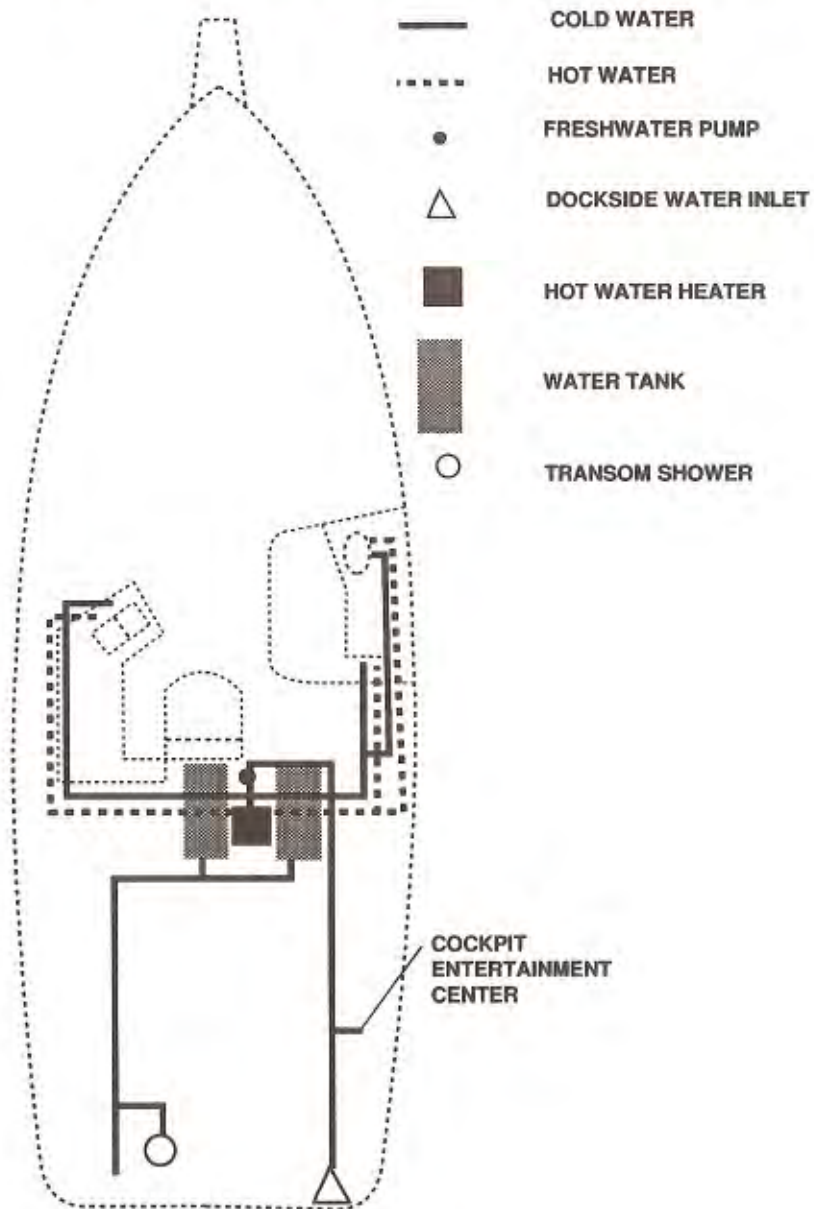
E. WATER HEATER

The water heater features the ability to keep water warm while underway. This is accomplished by a set of recirculating hoses connected between the water heater and the circulating water pump on the engine block. Engine coolant runs through a heat exchanger which keeps the water warm. The water heater also runs off of the boat's 110 volt dockside electrical system. To use your hot water heater follow these steps.

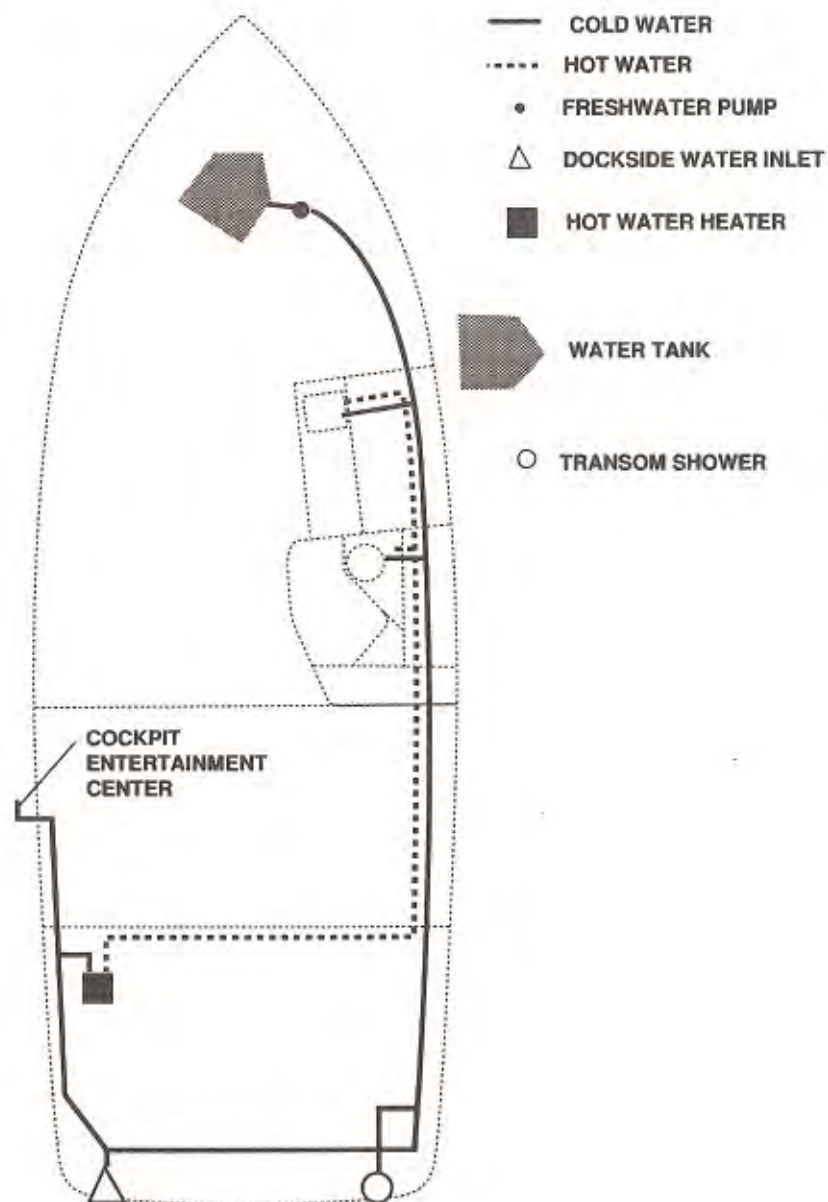
Fill the water heater tank with water, by filling the freshwater tank(s) and turning on the pressure pump. **Do not flip the water heater breaker to the "on" position until the water level is high enough to cover the heating elements in the water heater.** There is a manual reset high temperature limit switch located on the water heater. Should the switch "activate", it will require resetting. To reset, flip the hot water heater breaker to the "off" position. Remove the access cover. Simply depress the red button. Replace the access cover and insulation. Flip the hot water heater circuit breaker to the "on" position. The water will heat to approximately 140-degrees and be ready for use.

NOTE: The thermostat is factory set and is not adjustable.

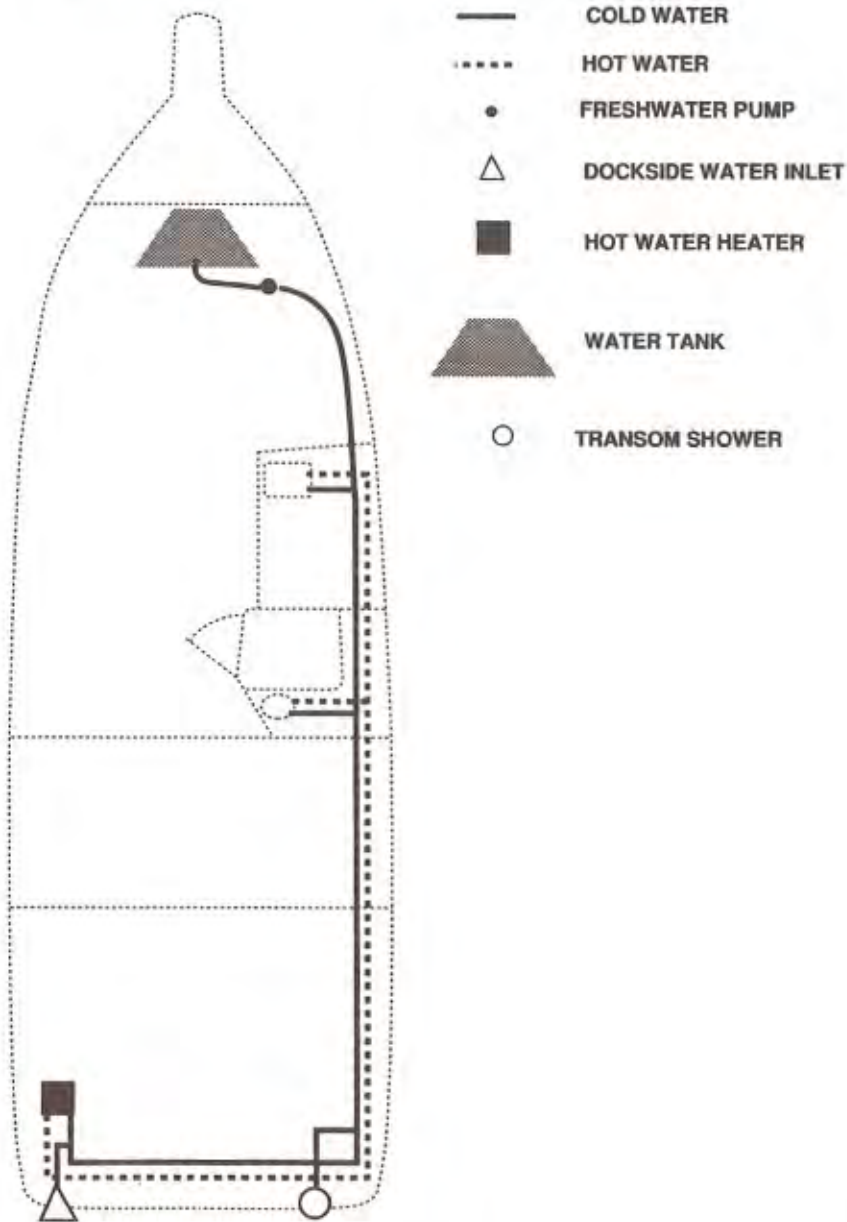
COMMODORE 400 FRESHWATER SYSTEM



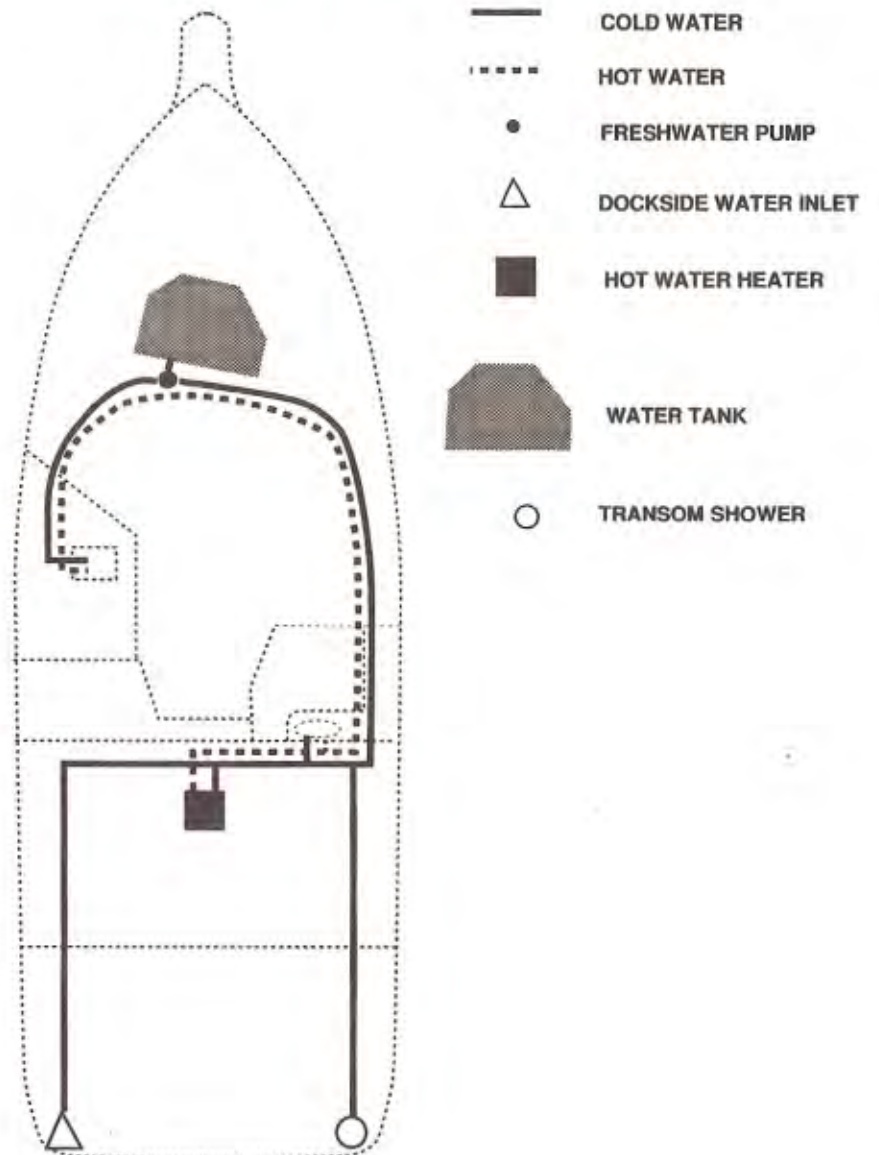
VENTURA 9.8 FRESHWATER SYSTEM



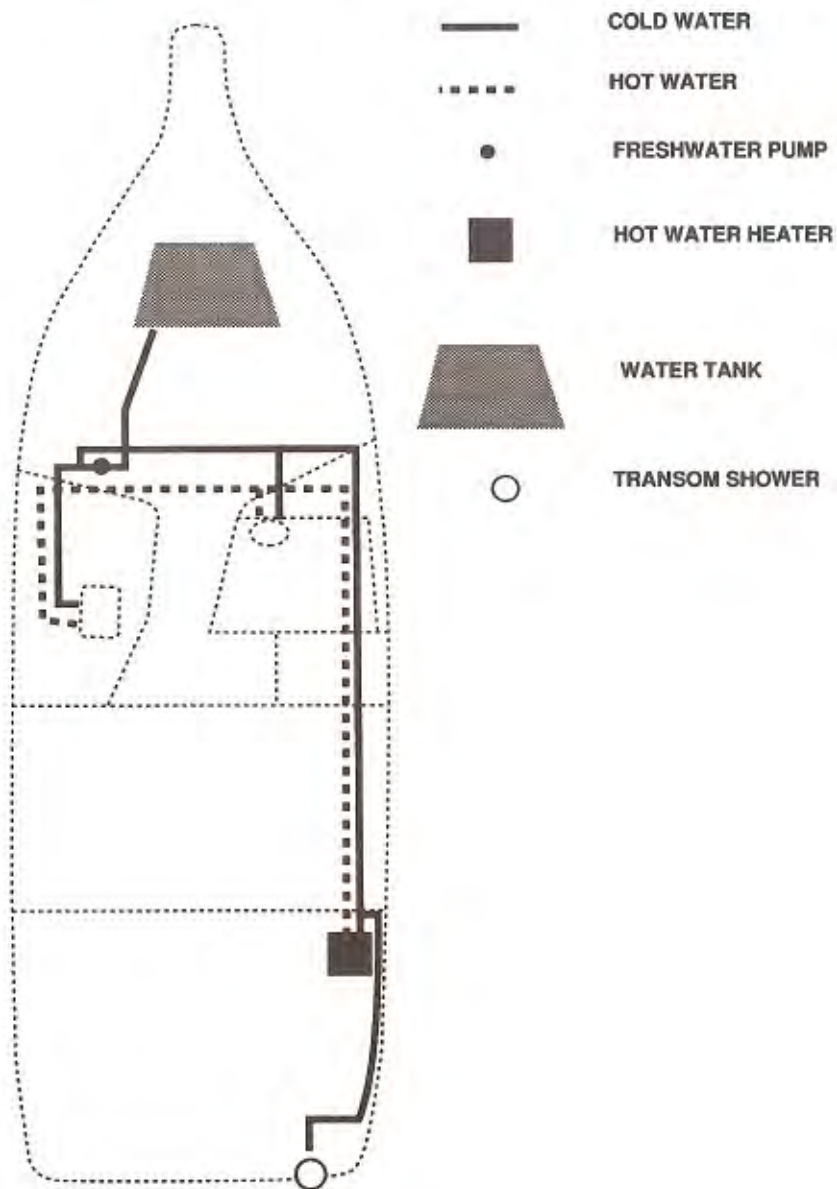
COMMODORE 300 FRESHWATER SYSTEM



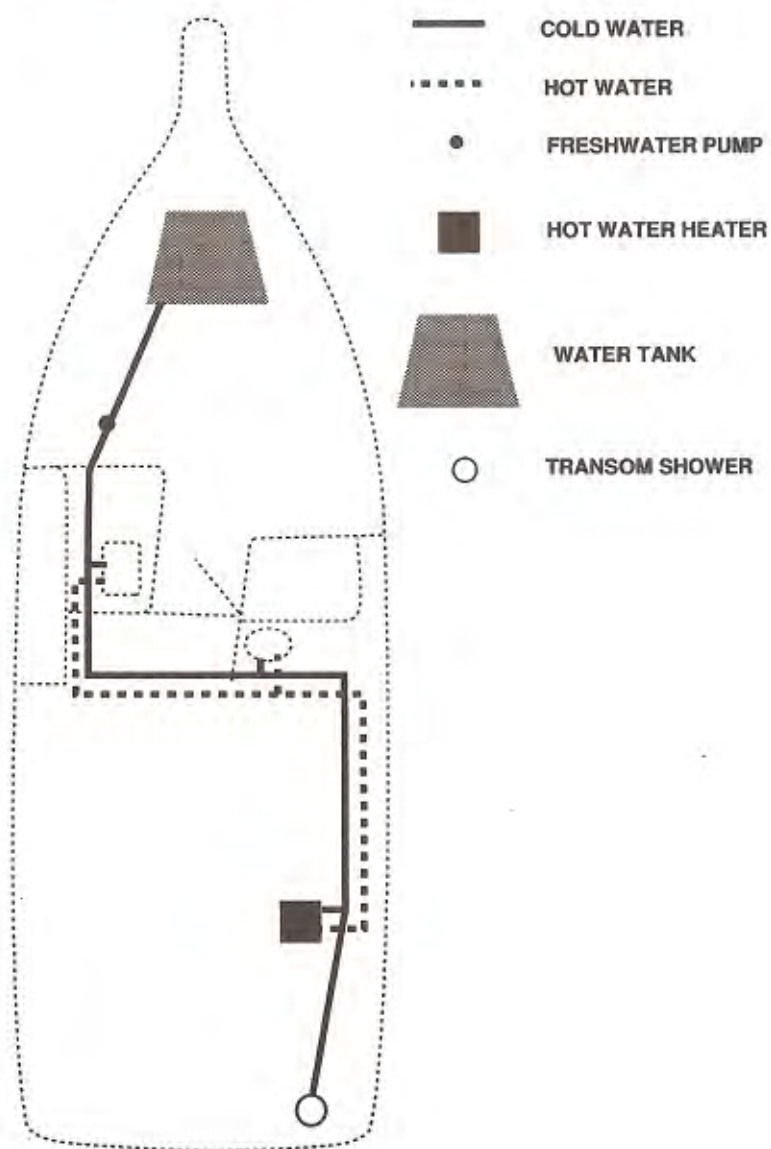
COMMODORE 276 FRESHWATER SYSTEM



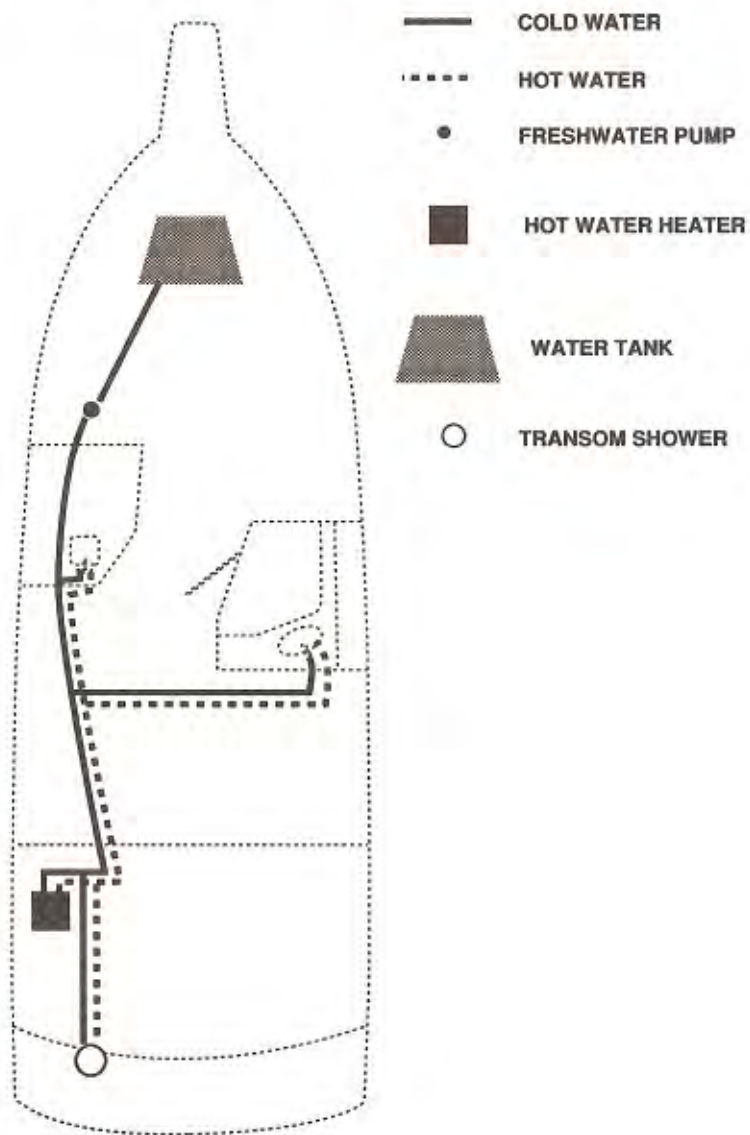
COMMODORE 272 FRESHWATER SYSTEM



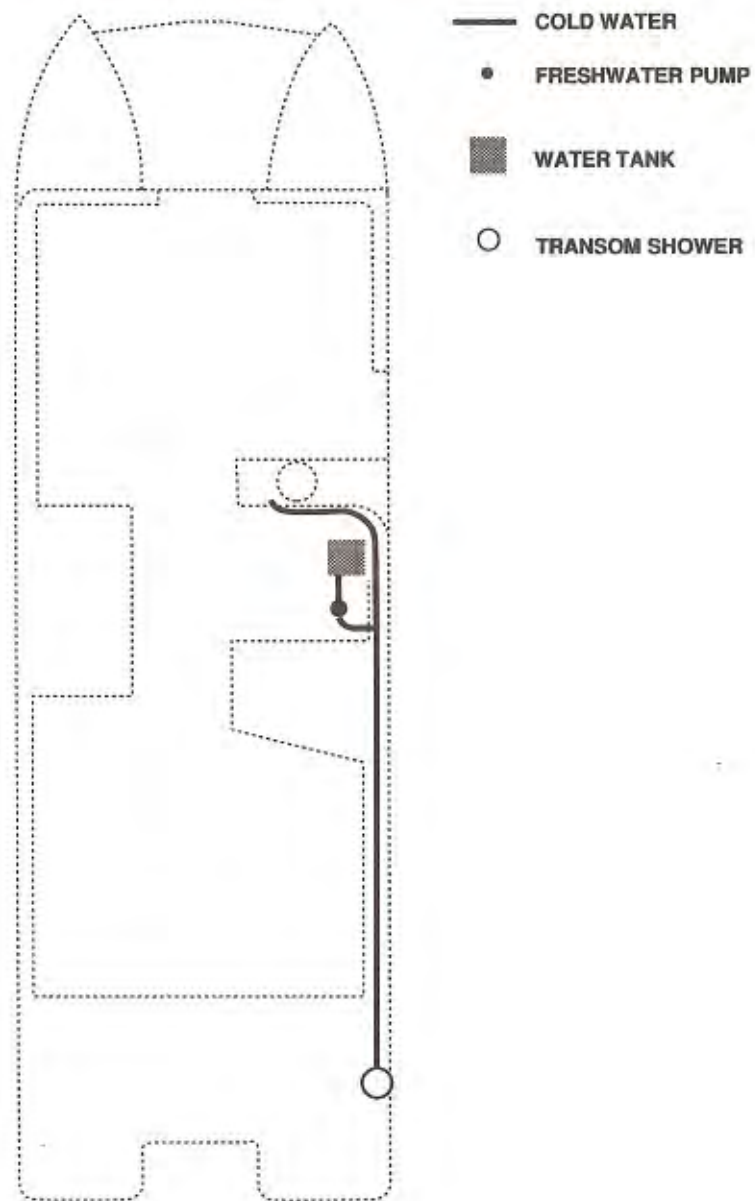
VALANTI 252 FRESHWATER SYSTEM



VALANTI 233 FRESHWATER SYSTEM



LEISURE CAT FRESHWATER SYSTEM



CHAPTER 2. WASTE SYSTEMS

The waste system includes the toilet, waste holding tank, and overboard discharge pump. Each component will be explained in more detail.

A. WASTE HOLDING TANK

To empty the holding tank, the marina simply connects their vacuum hose to the waste fitting and pumps the tank dry.

NOTE: It is a good idea to empty the waste tank between the 3/4 and full levels. Allowing the tank to fill completely may cut off the vent and prevent the escape of gases which in turn may result in the holding tank rupturing.

B. MACERATOR (OVERBOARD DISCHARGE PUMP)

The macerator pump (sometimes referred to as the overboard discharge pump) may be located under the aft cabin or in the bilge.

WARNING:

DISCHARGING WASTE WITHIN THE THREE MILE COASTAL LIMIT OF THE UNITED STATES IS PROHIBITED BY FEDERAL REGULATIONS. FAILURE TO COMPLY WITH THE FEDERAL REGULATIONS REGARDING WASTE DISCHARGE MAY RESULT IN FINES OR PENALTIES.

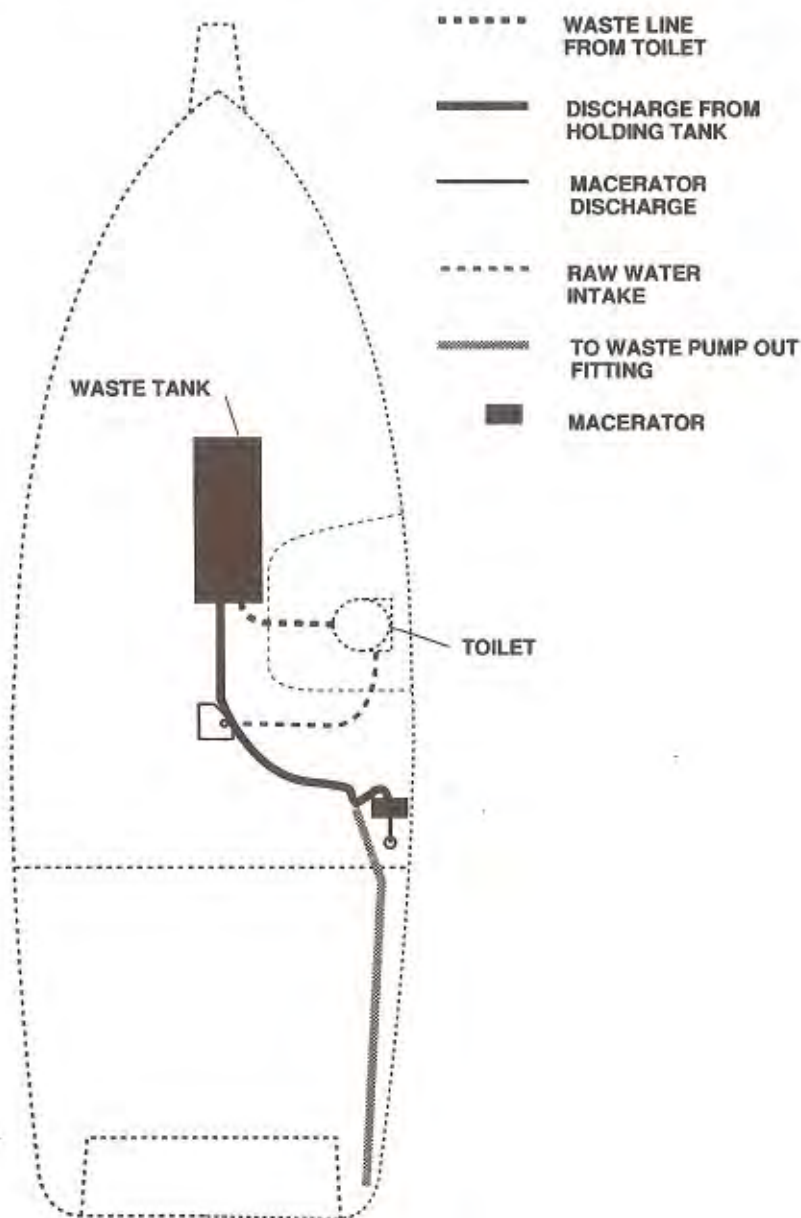
The following are helpful tips in operating the overboard discharge pump:

- The macerator will handle waste, toilet tissue and facial tissue.
- Do not try to flush solid objects or items that won't rapidly break down in water through the toilet.
- Flush the waste tank and pump with fresh water after each pump-out.
- Do not run the pump dry since the impeller can be damaged. Do not run the macerator pump motor for more than 15 minutes continuously.

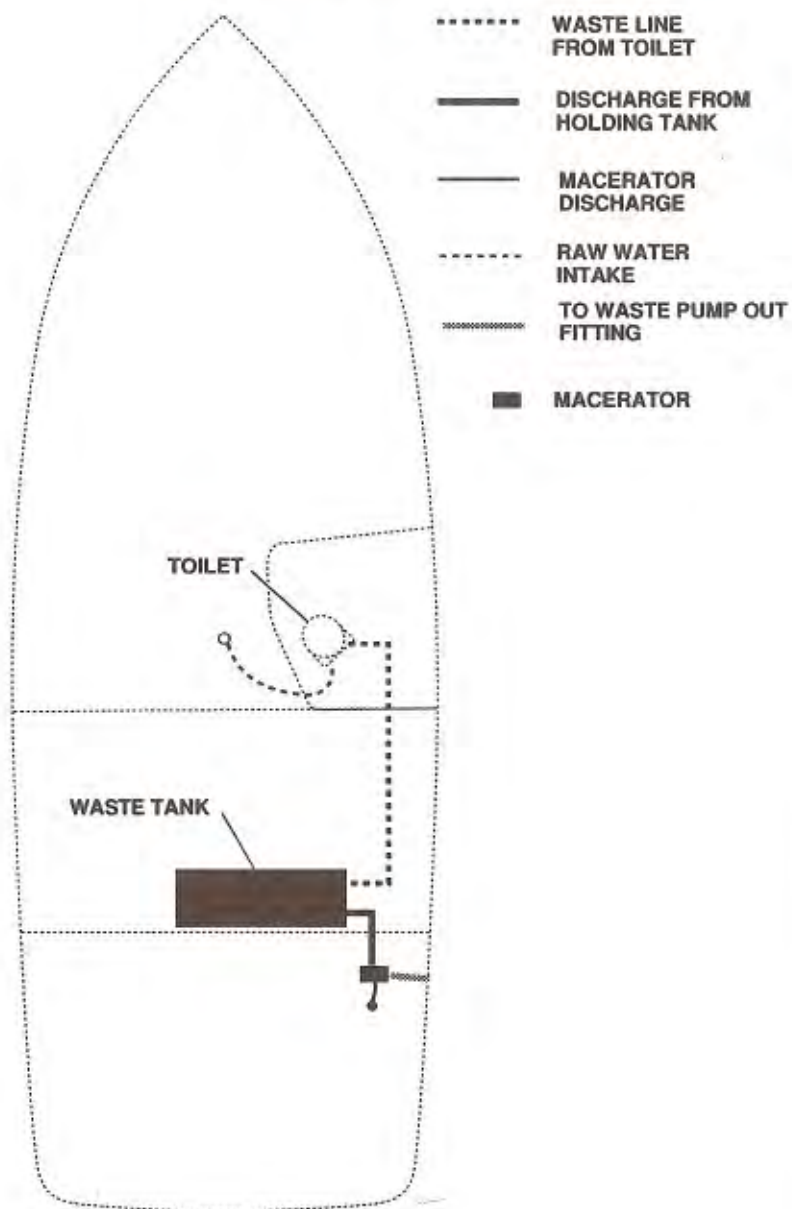
WARNING:

DO NOT USE AUTOMOTIVE ANTI-FREEZE IN THE HOLDING TANK.

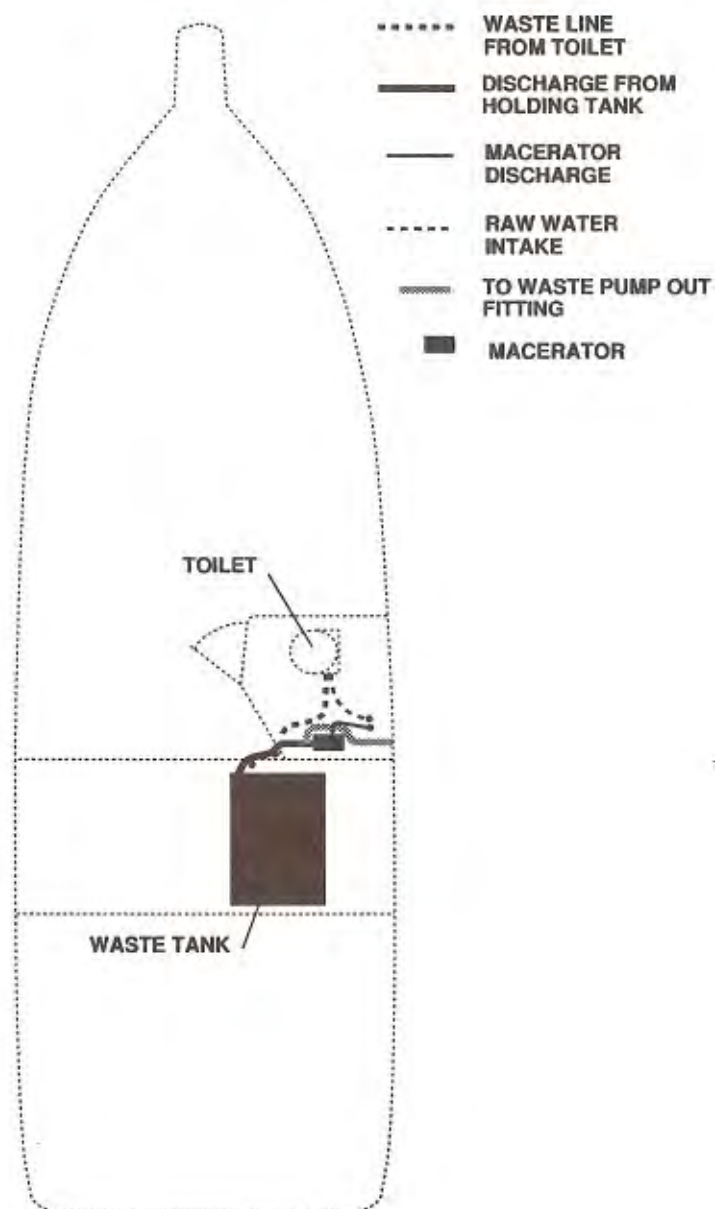
COMMODORE 400 WASTE SYSTEM



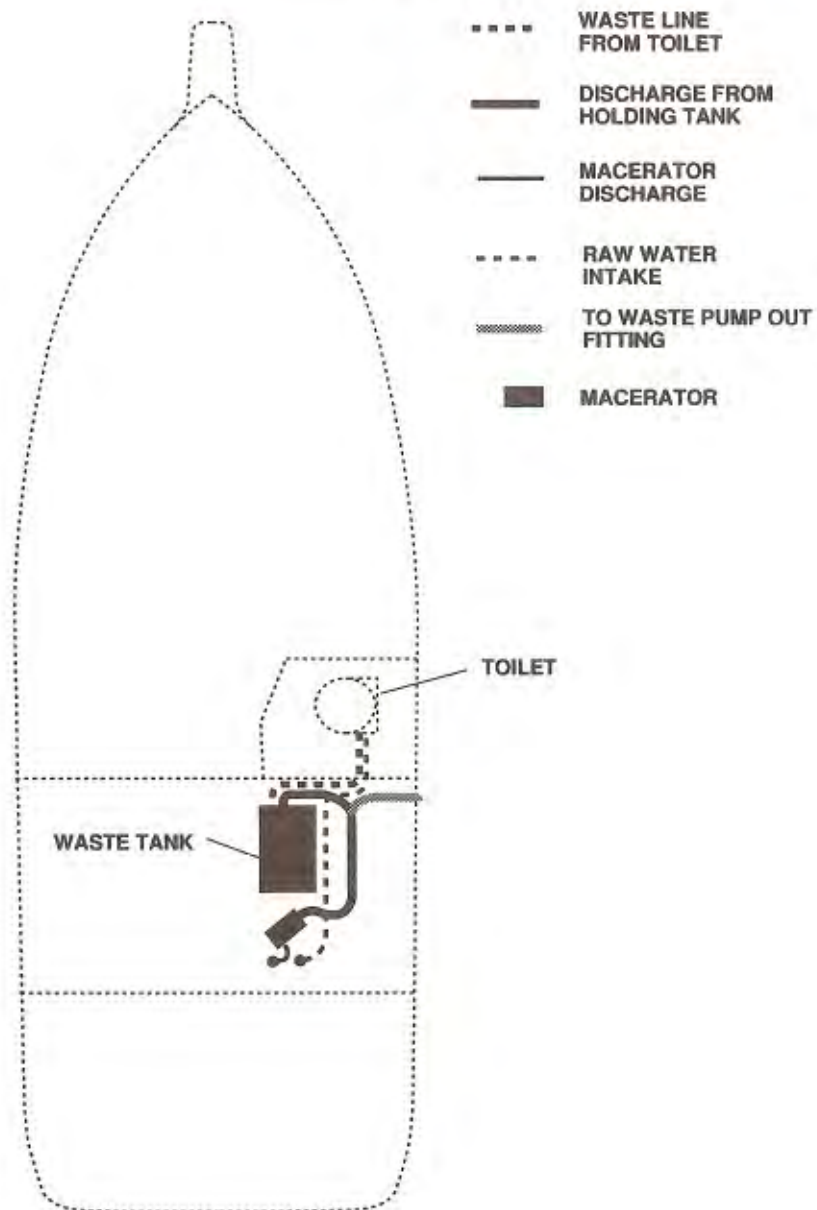
VENTURA 9.8 WASTE SYSTEM



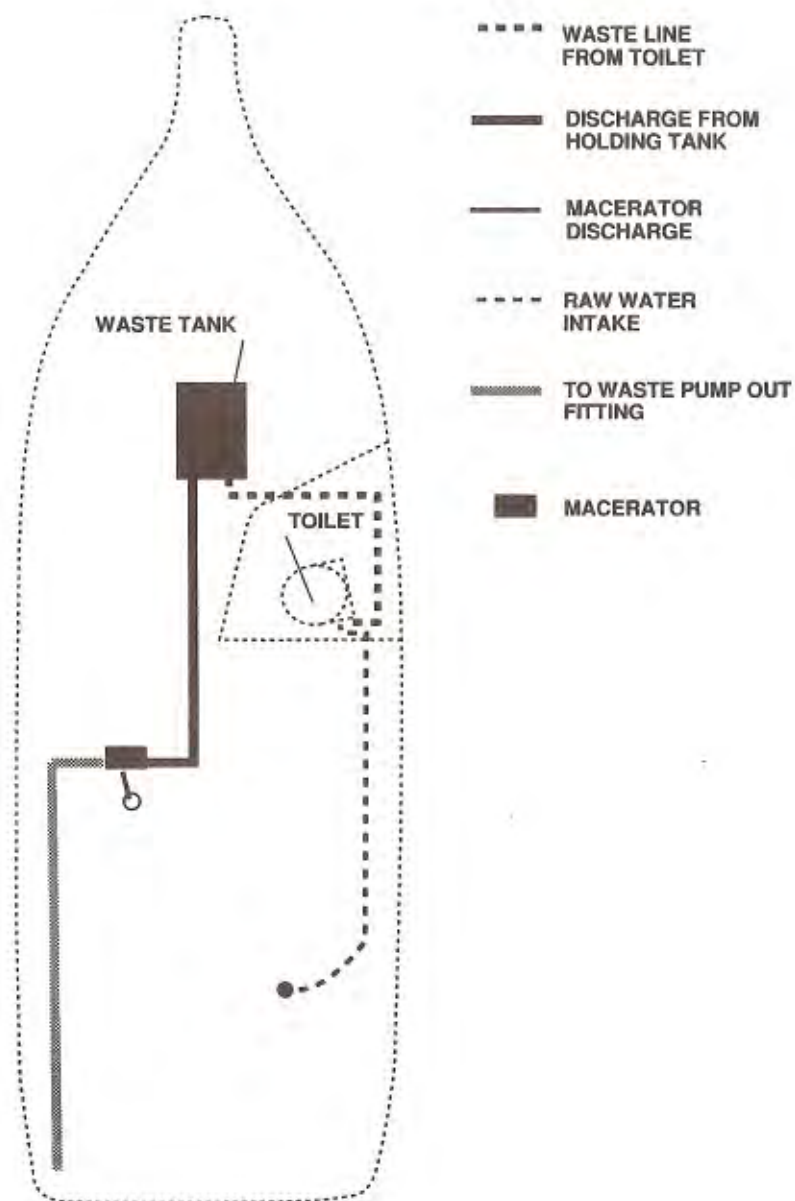
COMMODORE 300 WASTE SYSTEM



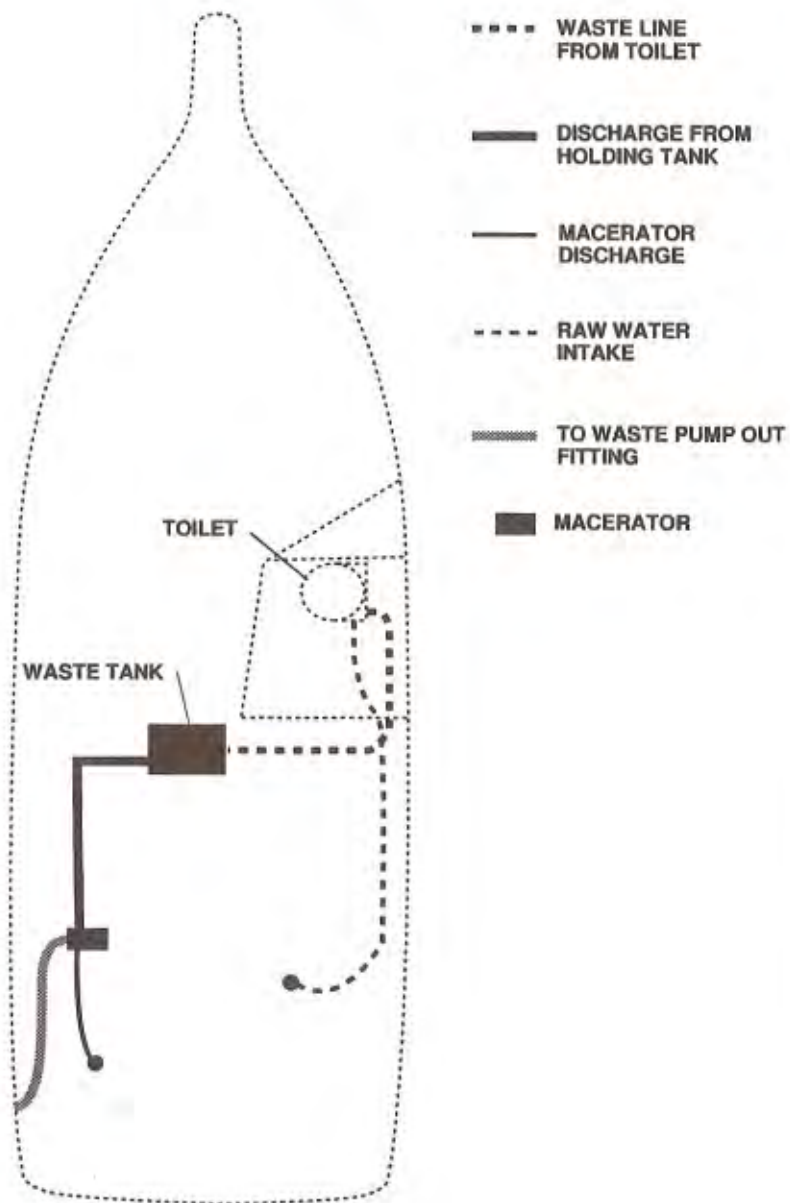
COMMODORE 276 WASTE SYSTEM



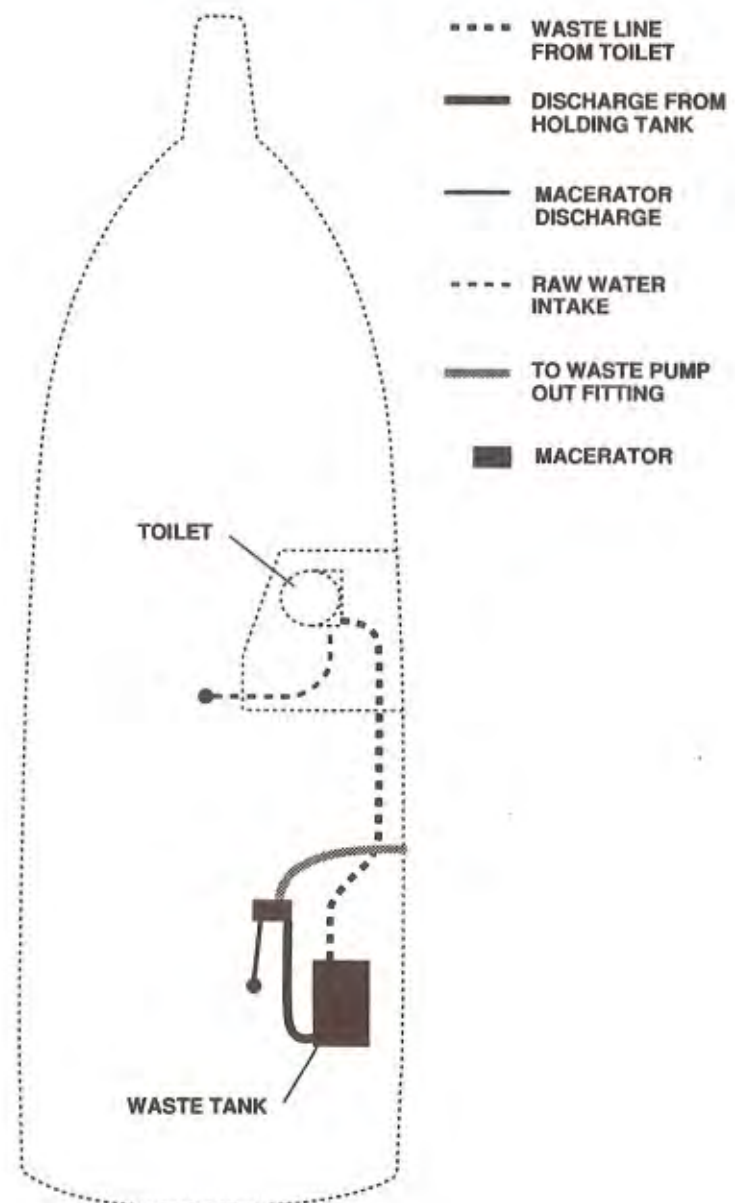
COMMODORE 272 WASTE SYSTEM



VALANTI 252 WASTE SYSTEM



VALANTI 233 WASTE SYSTEM



CHAPTER 3. INTRODUCTION TO THE ELECTRICAL SYSTEM

The ship's service panel serves as the distribution panel for A.C. (alternating current) and D.C. (direct current) electrical equipment. A.C. equipment operates at 110 to 120 volts and D.C. equipment operates at 12 volts.

A. SHORE POWER - CONNECTING & DISCONNECTING

ALWAYS flip all breakers to the "off" position before connecting or disconnecting shore power components. The ship's service panel is supplied by 110 volt, 60 cycle standard dockside service.

WARNING:

WIRING ADDITIONS OR CHANGES SHOULD BE DONE BY A CERTIFIED ELECTRICAL TECHNICIAN. IMPROPER WIRING COULD CAUSE AN EXPLOSION OR FIRE.

WARNING:

BEFORE CONNECTING OR DISCONNECTING THE SHORE POWER CORD(S), BE SURE ALL A.C. BREAKERS ARE IN THE "OFF" POSITION.

WARNING:

CONNECT THE SHORE POWER CORD TO THE BOAT BEFORE CONNECTING IT TO THE DOCKSIDE SOURCE OF POWER, AND DISCONNECT IN REVERSE ORDER. CHECK THE SHORE POWER GROUND CIRCUIT TO BE SURE IT IS CONTINUOUS.

Install the shore power plug into the boat's shore power inlet. Next, install the opposite end of the cord into the marina dockside power box.

NOTE: If your boat is equipped with dual shore power, it is recommended that both shore power cords are used at the same time. If necessary, the ship's service panel can be operated with only one cord.

The reversed polarity light on the ship's service panel. If the marina should have the receptacle "hot" and "neutral" wires reversed, the reversed polarity light will glow. Disconnect the above power cords from the marina shore power box. Contact the marina at once. **Do not** attempt to alter any wiring yourself. **Do not** attempt to turn any breakers "on" at the ship's service panel. Once correct polarity is established, you are ready to activate the ship's service panel.

To **disconnect** the shore power cord(s), make sure all breakers are in the "off" position. Disconnect the shore power cords from the marina power source. Next, disconnect the shore power cords from your boat's shore power inlets. After removing the cords, be sure to close the covers to provide a tight seal around the inlets.

B. SHIP'S SERVICE PANEL

D.C. Ship's Service Panel

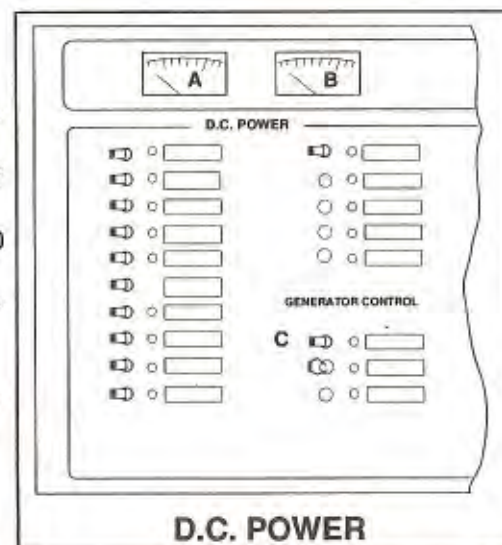
The battery voltmeter (A) is located at the upper left side of the ship's service panel. The D.C. voltmeter indicates the condition of the boat's service battery only. Normal battery voltage is from 12.0 to 15.0 volts.

The engine volt meters are located on the dash.

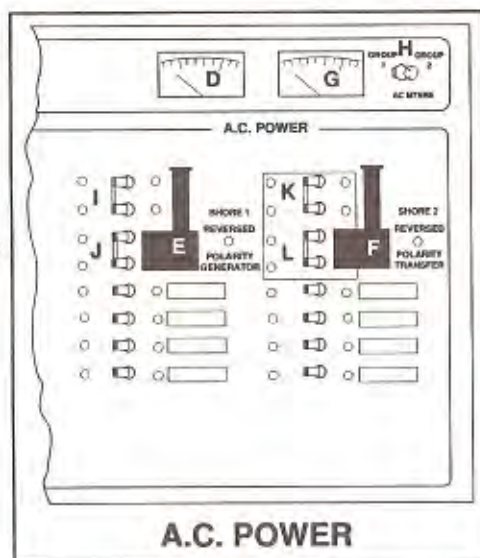
Amp meter L indicates current draw as D.C. equipment is activated.

A.C. Ship's Service Panel

- **ALWAYS** move breakers to the "off" position before connecting or disconnecting shore power components. Locate the A.C. voltmeter (D) and the two-position load switch (H).
- To read available shore power voltage on Group 1, turn the Group 1 main breaker (I) to the "on" position. Push load switch (H) "LEFT" to the Group 1 position. The voltmeter (D) should read between 110 and 120 volts.
- To read the available shore power voltage on Group 2, turn the Group 2 main breaker (K) to the "on" position. Push the load switch (H) "right" to the Group 2 position. Again, voltmeter (D) should read between 110 and 120 volts.



• Locate the sliding lockout bar (E) on Group 1 and (F) on Group 2. The purpose of the sliding lockout bar is to prevent the shore power and the generator from being switched on at the same time. This could result in damage to the generator. The normal position for the sliding lockout bar is "down" for dual shore power operation. In the "down" position, both Group 1 and 2 are ready for service. With the load switch (H) in the Group 1 position, observe ammeter (G). The ammeter allows you to monitor the current drawn as the Group 1 breakers are moved to the "on" position. To monitor the current drawn on Group 2, turn the load switch (H) to the Group 2 position. Group 1 and Group 2 breakers feature red indicator lights to signal that the breaker is in the "on" position.



Both Group 1 and 2 can be operated from a single power cord plugged into the Group 1 shore power inlet. To operate, make sure all equipment breakers are in the "off" position. Next, flip the Group 1 main breaker (I) to the "on" position. Push the Group 2 sliding lockout bar (F) up and flip the transfer breaker (L) to the "on" position. Both A.C. equipment breaker banks are ready for service.

NOTE: When using one shore power cord, only 30 amps of power is available on Group 1. In order to have full power available for operation of all on board equipment, it is recommended that both shore power cords be used at the same time.

C. GENERATOR (SOMETIMES REFERRED TO AS THE GEN-SET)

Refer to section IV for information on starting the generator. With the generator running, push sliding lockout bar (E) on the A.C. side of the service panel, to the "up" position. Flip the generator breaker (J) to the "on" position. Ship's electrical current is now available for Group 1 breaker bank. Next, push the Group 2 sliding lockout bar (F) "up". Flip the transfer breaker (L) to the "on" position. Ship's electrical current is now available for the Group 2 breaker bank. Voltage can be read by pushing load switch (H) to the Group 1 position. The voltmeter should register between 110 and 120 volts. As each individual circuit breaker is flipped to the "on" position, the red indicator lights will glow.

With each breaker in the "on" position, that piece of equipment can be activated. The A.C. amp meter will register a current draw as the equipment related to the appropriate circuit breaker bank is activated.

D. GROUND-FAULT INTERRUPTER OUTLET (G.F.I.)

The ground-fault interrupter (G.F.I.) outlet is identified by the red test/reset button located in the center of the receptacle. The G.F. I. furnishes protection against dangerous ground-fault currents that can result in serious injury or death. An example of ground-fault current is the current which could flow through an individual who is using an electrical appliance with faulty insulation. At the same time, that individual could be standing on a wet floor. These combined circumstances could create a potentially high risk shock situation. The G.F.I. senses any current flow and shuts off power to the outlet. If the G.F.I. should activate, it must be reset. To reset the system, press the red reset button.

The G.F.I. outlet should be tested at least monthly. To test, push the "test" button. The "reset" button should extend and expose a red band. Should the "reset" button not extend properly, the electrical shock protection has been lost. If the G.F.I. does not test properly, call a licensed electrician or your dealer to replace the G.F.I.

(CAUTION): Even with the G.F.I. outlet protection, an electrical shock could be felt. The shock results should be of less than a normally dangerous duration. There is no device known that can offer complete protection regarding the hazards of electrical accidents under all conditions. The ground-fault interrupter outlet will not protect against overload circuits.

F. WIRE COLOR CODES

COLOR (solid color/stripe)	GAUGE	FUNCTION
RED	2	BATTERY CABLE TO GENERATOR
RED	00	BATTERY CABLE TO ENGINE
BLACK	16,14,12,10,8,4,2	ALL GROUNDS
BLACK/WHITE	16	HALON
BROWN	12	PRESSURE WATER PUMP
BROWN	16	BILGE PUMP AFT
BROWN/BLUE	16	BILGE PUMP FWD
BROWN/BLACK	16	SHOWER SUMP PUMP
BROWN/BLACK	12	MACERATOR PUMP
BROWN/WHITE	16	BILGE PUMP AUTO (FWD & AFT)
BROWN/PINK	16	CO DETECTOR
YELLOW	12	BLOWER
YELLOW/WHITE	16	HEAD BLOWER
YELLOW/BLACK	15	STEREO
ORANGE	12	ELECTRIC HEAD
ORANGE	10	REFRIGERATOR
ORANGE	16	WINDSHIELD WIPER RUN
ORANGE/WHITE	16	WINDSHIELD WIPER PARK
ORANGE/BLACK	10*	HORN
ORANGE	10	SPOTLIGHT
BLUE	14	INTERIOR LIGHTS
BLUE/WHITE	14	COCKPIT LIGHTS
BLUE/BLACK	16	SOFT LIGHTS COCKPIT
BLUE/RED	16	ENGINE ROOM LIGHTS
BLUE/GREEN	16	SOFT LIGHTS INTERIOR
BLUE/YELLOW	16	ARCH LIGHTS
BLUE/WHITE	16	TRANSOM COURTESY LIGHTS
GRAY	16	BOW NAV LIGHTS
GRAY	16	TRANSOM NAV LIGHT
GRAY/WHITE	16	MAST LIGHT (FWD. NAV)
GRAY/BLACK	16	MAST LIGHT (AFT ANCHOR)
RED/BLACK	16	WINDLASS (UP)
RED/WHITE	16	WINDLASS (DN)
RED	4	12 VOLT DC. PANEL FEED
RED	4	INSTRUMENT PANEL FEED
RED	2	WINDLASS MAIN FEED
RED	10	HATCH RAM
RED/BLACK	16	STEREO MEMORY
RED	16	VHF RADIO
RED	16	GAS VAPOR DETECTOR
RED	16	DEPTH SOUNDER
RED	16	LORAN
RED	12	RADAR
RED/WHITE	14	BATTERY PARALLEL
PURPLE	16	HOUR METER STB.
PURPLE/WHITE	16	HOUR METER PORT
GREEN/WHITE	16	TANK LEVEL MONITOR
PINK	16	FUEL SENDER STB.
PINK/BLACK	16	FUEL SENDER PORT

* 176, 196, 202, 206, 230, 252, 272, 8.3 - 16 GAUGE

SECTION IV - MACHINERY

CHAPTER 1. ENGINE ROOM

The engines in your Regal boat are specifically engineered for the harsh marine environment and require a regularly scheduled maintenance program. Your engine operation and maintenance manual serves as the main reference guide in determining periodic maintenance schedules and specifications. Procedures outlined in the Regal owner's manual may be used to further enhance the engine operation and maintenance manual. Another source of additional information is your nearest authorized Regal dealer.

WARNING:

ONLY USE REPLACEMENT PARTS MANUFACTURED FOR THE MARINE ENVIRONMENT. MARINE ENGINE ELECTRICAL PARTS HAVE BEEN DESIGNED TO AVOID IGNITION OF FLAMMABLE FUMES. DO NOT SUBSTITUTE AUTOMOTIVE PARTS.

A. ENGINE CIRCUIT BREAKERS

A circuit breaker is located on the engine block. The circuit breaker provides protection for the engine wiring harness and the instrument main feed. If an overload develops, the circuit breaker will open. After determining the cause of the overload, the engine circuit breaker can be reset by pushing "in" on the red button.

B. REMOVING ENGINES

We highly recommend that all engine removal be completed by an authorized Regal dealer. Engines are heavy and require special equipment to safely remove the engines and prevent damage.

C. ENGINE MOUNTS

The engine mounts are factory adjusted. If the mounts should need adjusting, contact your nearest Regal dealer. It is a good idea to inspect the mount adjusting nuts for tightness at least twice a season.

WARNING:

LIFT BOATS BY SLINGS ONLY. IMPROPERLY POSITIONED SLINGS COULD RESULT IN DAMAGED OR MISALIGNED PARTS.

D. ENGINE ALIGNMENT

The engines require an alignment check at least twice per year on inboards and annually on sterndrive units. **The alignment check is critical to the longevity of the engine-sterndrive or inboard V-drive package.**

Misalignment can result in the following:

- Propeller shaft breakage (Inboard)
- Stuffing box damage (Inboard).
- V-drive transmission damage (Inboard).
- Noise.
- Vibration.
- Stern drive seal leakage.
- Engine coupler/bearing damage.

NOTE: Contact your authorized Regal dealer for more information regarding alignment.

WARNING:

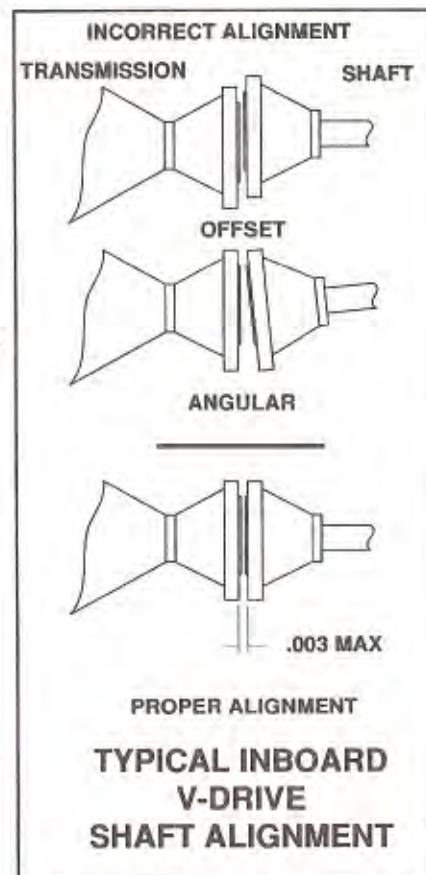
INBOARD SHAFT MISALIGNMENT CAN CAUSE VIBRATION, EXCESSIVE PROPSHAFT AND/OR STRUT BEARING WEAR. CHECK ALIGNMENT AFTER THE FIRST 20 HOURS AND AT LEAST TWICE EACH YEAR THEREAFTER. CHECK ALIGNMENT WHENEVER BOAT IS HOISTED OUT OF WATER OR WHEN VIBRATIONS ARE DETECTED.

E. STRAINERS

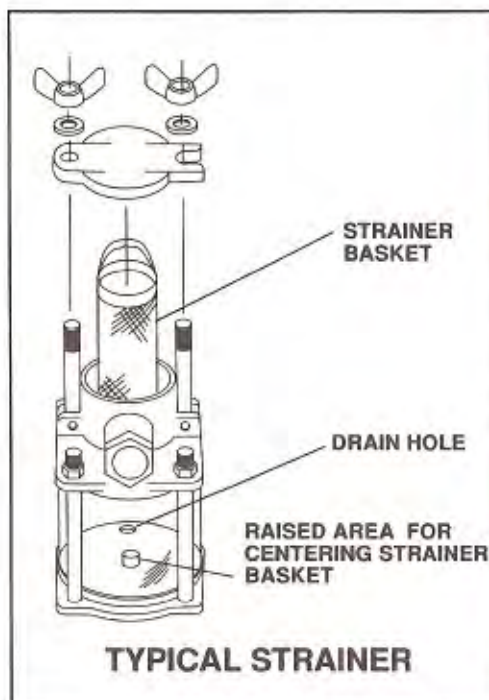
Sea water strainers act as filtering devices for engine, generator and air conditioner water flow.

NOTE: Inspect the sea water strainers periodically for accumulated debris. To clean the sea water strainer:

- Turn off the related equipment (engine, generator, air conditioner, etc.).
- Turn the appropriate seacock to the "closed" position.
- Unscrew the wing nuts counter-clockwise to loosen the cover.
- Remove the top cover.



- Grasp the strainer basket handle and pull the strainer basket out of the strainer body.
- Clean the strainer basket and strainer body.
- Reinstall the strainer basket. Make sure the strainer basket is centered over the raised portion of the lower strainer casting. The cover will not tighten down if the basket isn't properly positioned.
- Install the cover.
- Tighten down the wing nuts evenly until the cover is secure. Do not over tighten.
- Turn the seacock to the "open" position.
- Restart the related equipment.
- Check for leaks.



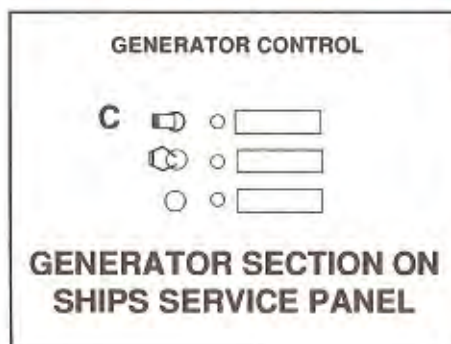
F. GENERATOR

The generator (gen-set) operation is primarily controlled by the generator section (C) on the ship's load center panel. **See the illustration below.** Auxiliary starting is also available at the generator.

(CAUTION): Before starting the generator, operate the sump blower for at least 5 minutes. When your boat is at rest with the generator running, be sure to run the blowers. This procedure must be followed for the safe operation of your boat. Use of the sump blowers should **NEVER** take the place of checking the sump visually and smelling for fumes.

Before starting the generator, check the following:

- Be sure the generator seacock located in the bilge is turned to the "open" position.
- Visually check the generator strainer for debris.
- Check the generator oil level.



- Check the generator coolant level.
- Turn "on" the generator fuel feed valve if supplied.
- Set all breakers on the load center panel to the "off" position.

(CAUTION): Failure to keep all breakers "off" could result in generator damage.

TO START THE GENERATOR:

- Turn "on" blower switch and let run for a minimum of 5 minutes.
- Push momentary switch to the start position. When the generator starts, release the switch.

NOTE: Don't crank the generator for more than a 15 second period since the starter motor can overheat.

WARNING:

ALWAYS DISCONNECT THE BATTERY CABLES FROM ALL BATTERIES BEFORE PERFORMING MAINTENANCE ON THE ENGINE ELECTRICAL OR THE FUEL SYSTEMS. DO NOT USE JUMPER CABLES TO START MARINE BATTERIES. REMOVE THE BATTERY FROM THE BOAT AND RECHARGE ON SHORE.

WARNING:

STAND CLEAR OF BATTERIES WHILE CHARGING. A BATTERY CAN EXPLODE IF A FLAME OR SPARK IGNITES THE FREE HYDROGEN GIVEN OFF DURING CHARGING. BATTERY ACID CAN BE HARMFUL TO EYES OR SKIN. IF ACID COMES IN CONTACT WITH EYES, FLUSH EYES IMMEDIATELY WITH CLEAN WATER AND SEE A DOCTOR.

G. MARINE BATTERIES

There are basically two types of marine batteries. First is the cranking battery which is designed to provide a sudden surge of energy for starting the engine. The second type is a deep cycle battery designed to provide a steady source of energy over a sustained period of time to run cabin appliances. All batteries are charged through the engine alternator(s). The specific gravity for a fully charged battery at 70 degrees Fahrenheit (21 degrees Centigrade) is 1.260. Check your batteries periodically for correct water level and specific gravity.

NOTE: Marine batteries are designed to withstand the harsh marine environment; do not substitute automobile batteries for marine use.

WARNING:

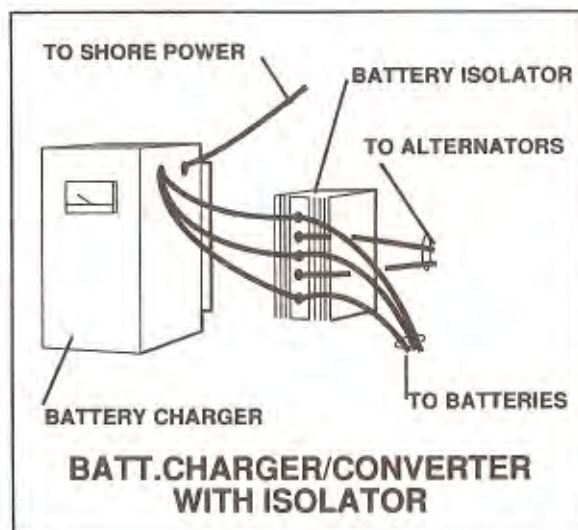
A LOOSE BATTERY AND/OR BATTERY CABLES CAN BE A SERIOUS HAZARD. UNPROTECTED TERMINALS CAN SHORT AND CAUSE SPARKS, IGNITING FUEL VAPORS IN THE ENGINE COMPARTMENT.

H. BATTERY CHARGER/CONVERTER

The battery charger/converter, mounted in the sump, operates from the shore power or generator systems. It converts 110 volts A.C. to 12 volts D.C. to charge the batteries. On deeply discharged batteries, the charger will deliver full output and will automatically decrease as the batteries are charged. On fully charged batteries, a "trickle" or minimal charge is continued as needed.

NOTE: When leaving the boat for an extended period of time while connected to shore power, leave the main breaker and battery charger breaker on to keep the batteries charged. Notice the ammeter on the battery charger face. It indicates the charger's total output to all batteries. Internal self-resetting circuit breakers protect the battery charger from shorted outputs. Be sure the battery charger/converter is "on" when connected to shore power. This assures that your batteries will remain charged.

NOTE: It is normal to hear a humming sound as the battery charger operates.



I. BATTERY SWITCHES

The battery switch operates as an (on) and (off) device for each of the onboard batteries. Its purpose is to be able to shut off current between the engine battery and the engine or between the house battery and the on-board electrical system. On boats with battery selector switches, you have the ability to switch from one battery to the other, or to the "all" position where both batteries are being used to power the boat's electrical systems. It is a good idea to have the switch in the "all" position whenever the engine is running. It is a good idea to set the switch in either the (1) or (2) position when the engine is not running and 12 volt power is being used onboard. When leaving the boat, it is also a good idea to turn each battery switch to the (off) position.

NOTE: NEVER turn the battery switch to the (off) position while running the engine(s).

J. HOUR METER

Hour meters allow you to monitor the running time on engines for scheduling maintenance and service.

NOTE: Leaving the ignition switches "on" with the engines not running will allow the hour meter to continue running and log a false reading of the engine running time.

Some hour meters are located in a box. Where applicable, on the lower half of the hour meter box, you will find the following circuit breaker reset buttons:

- Aft bilge pump
- forward bilge pump
- shower bilge pump
- accessory

The breakers protect the affected circuits from overloads. Should an overload condition occur, the reset button will "pop" out and will require resetting before the affected equipment can be reactivated.

(CAUTION): The cause of the overload must be corrected before resetting the circuit breaker.

Unused accessory circuit breakers may be available to allow the installation of additional electronics or options. See your nearest Regal dealer for additional information.

WARNING:

ONLY USE MARINE-APPROVED FIRE EXTINGUISHERS.

WARNING:

IF THE HALON FIRE EXTINGUISHER SHOULD ACTIVATE, IMMEDIATELY SHUT DOWN ALL ENGINES, POWERED VENTILATION, ELECTRICAL SYSTEMS AND EXTINGUISH ALL SMOKING MATERIALS. DO NOT IMMEDIATELY OPEN THE ENGINE HATCH AS THIS COULD FEED OXYGEN TO THE FIRE AND CAUSE A FLASHBACK.

K. HALON FIRE EXTINGUISHER SYSTEM

Some boats are equipped with an on-board automatic halon fire extinguisher system. This system is superior to dry chemical extinguishers because it leaves no residue that can cause electrical or mechanical damage. The system features a green visual charge/discharge indicator lamp mounted in the dash. When the ignition key is turned to the "on" position the green light should be "on" showing a fully charged system. If the green light does not come on, your system could have discharged and should be checked immediately. Periodically weighing the extinguisher bottle is recommended by the manufacturer to assure a fully charged and reliable system. If weight is below that shown on the unit's name plate the unit should be replaced or recharged.

CHAPTER 2. UNDERWATER GEAR

A. PROPELLERS

Your propellers have been selected for optimum engine and hull performance. The propellers allow the engine to operate near or at the top of the recommended rpm range with a normal load, at full throttle.

Some boat models feature engine packages that may combine a clockwise rotating propeller with a counterclockwise rotating propeller. When changing propellers, it is important to match these propellers with their proper stern drive. We recommend removing and installing these propellers one at a time to avoid a possible mismatch.

(CAUTION): If the opposite rotating propeller is installed incorrectly, a malfunction could develop which would propel the boat in reverse when the remote control is in the forward position and vice versa.

It is recommended that an extra set of propellers be carried on board with the proper propeller changing tools. **Refer to the engine operation and**

maintenance manual or contact your nearest Regal dealer for more information.

B. SACRIFICIAL TRIM TAB/ ANODE

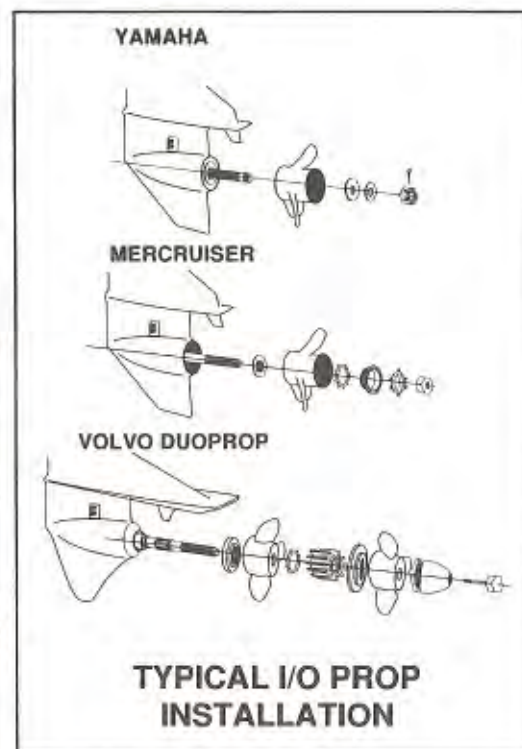
Stern drives are equipped with a sacrificial zinc alloy trim tab. Some models include anodes which, when combined with the trim tab, help protect underwater metal parts from galvanic corrosion. When the trim tab and/or anodes are 50% eroded, replace them. On inboard models, anodes may be attached to the rudder and propeller shaft.

NOTE: Do not paint over sacrificial anodes as this will decrease their effectiveness. **Refer to the engine operation and maintenance manual for replacement instructions and anode location information or contact your nearest Regal dealer.**

C. VIBRATION

Some boat vibration is to be expected because of the engine and propeller action. Excessive vibration, however, typically indicates conditions which must be promptly corrected to avoid damage. The following are some of the conditions which may cause vibration:

- Foreign objects such as weeds, ropes, fishing lines or nets wrapped around the propeller and/or prop shaft. **ALWAYS** stop and reverse the propeller after leaving a weedy area to unwrap and clear away any debris which may have accumulated. (Although reversing will sometimes help to unwrap lines and nets, it may be necessary to shut down the engines and conduct a visual inspection.)
- **ALWAYS** check for trailing dock or ski lines **before** getting underway. When towing **remember** that a long line may easily become entangled with the propeller.
- Bent prop and/or propeller shaft: A badly damaged or distorted prop or propshaft is an obvious cause of vibration.



- Engine coupler misalignment (Inboards): Consult your nearest authorized Regal dealer for more information.

WARNING:

ON A MONTHLY BASIS, CHECK THE INBOARD SHAFT LOG PACKING GLAND FOR PROPER ADJUSTMENT AND WEAR. EXCESSIVE WATER ENTRY, IF LEFT UNATTENDED, COULD RESULT IN THE BOAT SINKING.

STUFFING BOX AND PACKING GLANDS (INBOARD ONLY)

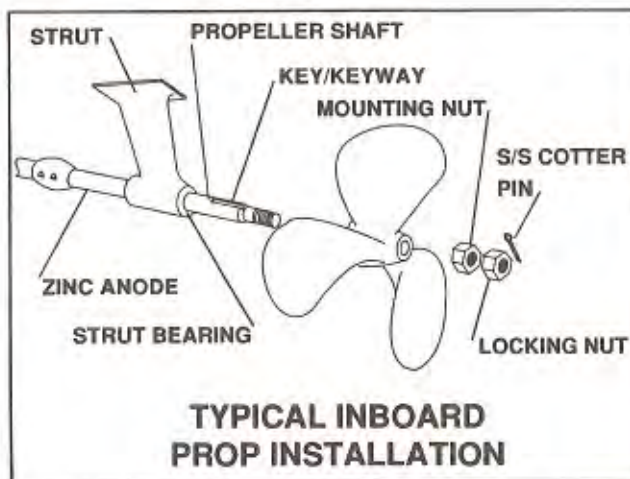
The stuffing box is connected to the shaft log through a flexible hose. Along with the stuffing box, the packing prevents the propshaft from leaking water into the boat. The packing consists of a woven flax material with a Teflon coating. Under normal conditions, the surrounding water will keep the packing at a safe operating temperature.

(CAUTION): It is normal for the stuffing box to drip 2 to 5 drops of water per minute for correct operation. Do not over tighten!

To periodically adjust the packing, proceed as follows:

- Be sure the engine is not running.
- Remove the 2 cotter keys in the packing retainer.
- Hand turn the packing retainer counter-clockwise until the packing retainer is tight and the holes are lined up on the packing retainer and its matching part.
- Do not over-tighten the packing retainer as it may cause shaft damage or the packing to overheat.

NOTE: On Regal inboards use 1/4" square packing in the packing gland. Recommended brands are John Crane (style 1335) or Chesterton (style 1774).



D. RUDDERS (INBOARD ONLY)

The rudder is tied into the steering system and changes the direction of the boat as the steering wheel is turned. The rudder contains a stuffing box similar to that of the shaft stuffing box. Inside the stuffing box is the packing. The packing should be tightened just to the point that the rudder post **does not** leak as the rudder is being turned from port to starboard or vice versa. The non-drip specification is used since the rudders only turn a fractional amount compared to the propshafts.

To tighten the rudder packing, follow these steps:

- Loosen the jam nut by turning it clockwise.
- Tighten the packing nut clockwise until the leak stops.
- Turn the rudders port and starboard. Check for any leaks.

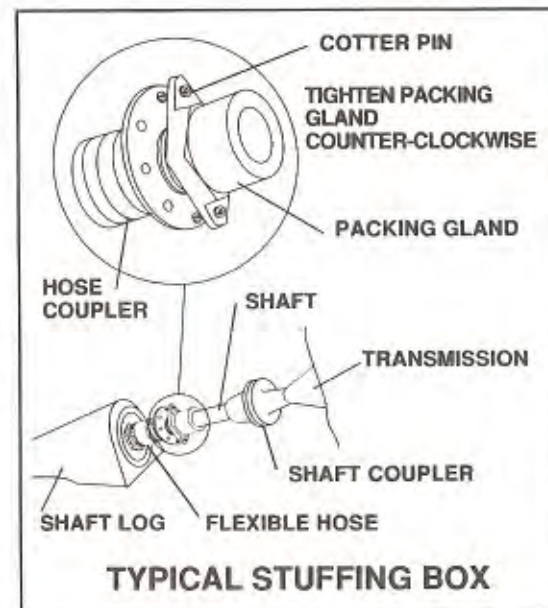
NOTE: Do not over tighten the packing nut. The correct tightness is reached when the rudder post just stops dripping. If the packing adjustment fails to eliminate the leak, contact your nearest authorized Regal dealer for more information.

E. SEACOCKS

Seacocks allow water to enter the boat through the hull bottom and flow to the appropriate equipment. A few pointers on seacocks:

- Be sure to turn the seacock handle to a full "open" position for complete water flow.
- Check all seacocks, along with related fittings, hoses and clamps periodically for tightness.
- Where scoops are used, check for debris obstructing the scoop inlet.

(CAUTION): Turn all seacocks to the "off" position when leaving the boat for extended periods.

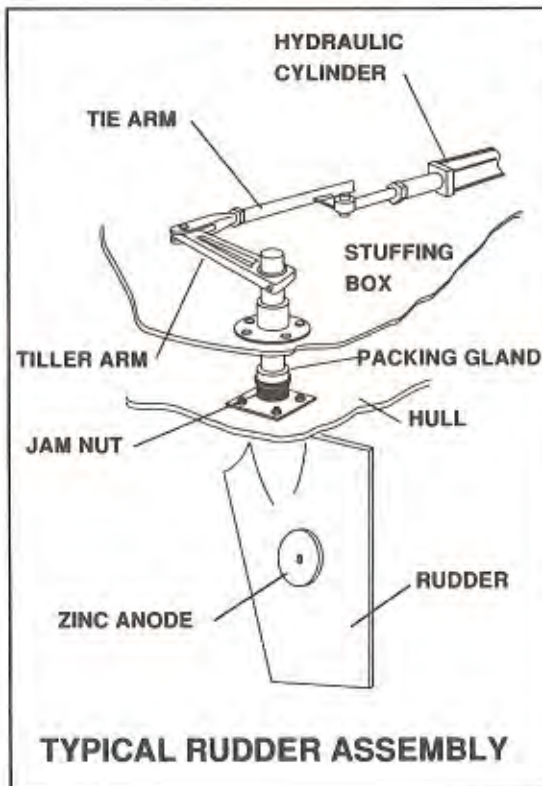
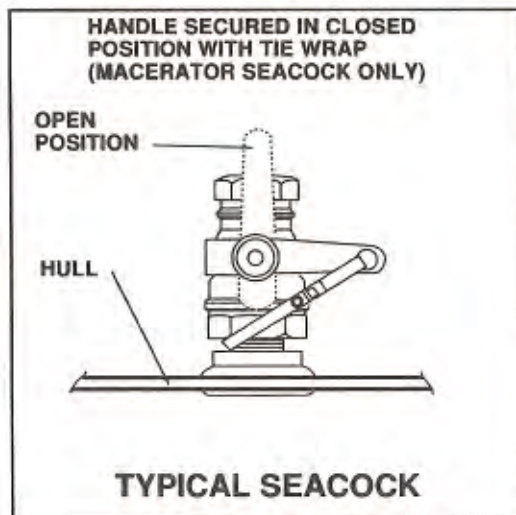


WARNING:

WHILE IN U.S. WATERS, THE MACERATOR SEACOCK MUST BE SECURED AS SHOWN IN THE SEACOCK ILLUSTRATION. FAILURE TO DO SO MAY SUBJECT YOU TO A FINE BY THE U.S. COAST GUARD.

CHAPTER 3. STEERING COMPONENTS

The steering system includes the steering wheel, cable and connections to the stern drives or inboard transmissions. Steering effort is reduced through the use of a power steering system somewhat similar to types found on automobiles. The system requires periodic maintenance as described in the operation and maintenance manual. Consult your nearest Regal dealer for more service information.



CHAPTER 4. FUEL TANK

WARNING:

LEAKING FUEL IS A FIRE AND EXPLOSION HAZARD. THE USE OF ALCOHOL MODIFIED FUELS CAN CAUSE DETERIORATION OF THE FUEL SYSTEM.

WARNING:

A FAULTY FUEL TANK OR FUEL HOSE SHOULD BE REPLACED BY A QUALIFIED MARINE MECHANIC.

The fuel tank vent may be located on the hull side or the transom. The vent will evacuate accumulated air as the tank is being filled with fuel. In addition, the vent helps equalize fuel tank pressure related to temperature changes.

NOTE: Check the vent periodically for debris, especially insects that settle in the vent. Signs of vent plugging could be a slow fuel filling process or the fuel fill blowing the fuel back out. While fueling, check the vent function by listening or putting your finger near the vent hole. You will feel the air being pushed out the vent as the fuel tank is being filled.

NOTE: When fueling, be aware of the maximum fuel tank capacity to avoid overfilling. This will prevent fuel spillage into the water via the fuel tank vents. Fuel spillage into the water is prohibited according to the Federal Water Pollution Control Act.

(CAUTION): Fuel tank sender accuracy can be effected by the boat attitude in the water especially when the fuel tank level is low.

Connected between the fuel tank and the supply line is an anti-siphon valve. Its purpose is to prevent fuel from leaking into the boat in case a fuel line would rupture. Periodically, check the condition of this and other fuel tank components. Some boats may feature individual shut-off valves for the port and starboard tanks along with a shut-off to the generator. The engine fuel valves allow the operator several options. You can fuel both engines from the port tank or both engines from the starboard tank. Also, the port engine can be fueled from the starboard tank and the starboard engine from the port tank. The generator can be fueled separately from the port and starboard tanks.

NOTE: An engine fuel flow valve operation decal should be located near the fuel tanks on boats where the fuel shut-off valves are installed. Some tips on

fuel systems:

- In rough seas operation, reserve an-additional 10-20% for reserve fuel consumption.
- Periodically inspect the fuel system hoses, clamps, valves and connectors for leaks, abrasion, etc.
- Do not use any fuels containing methyl alcohol as they tend to deteriorate fuel system components.

WARNING:

DO NOT DRAIN FUEL INTO BILGE. THIS ACTION COULD RESULT IN FIRE OR EXPLOSION.

CHAPTER 5. THROUGH-HULL FITTINGS

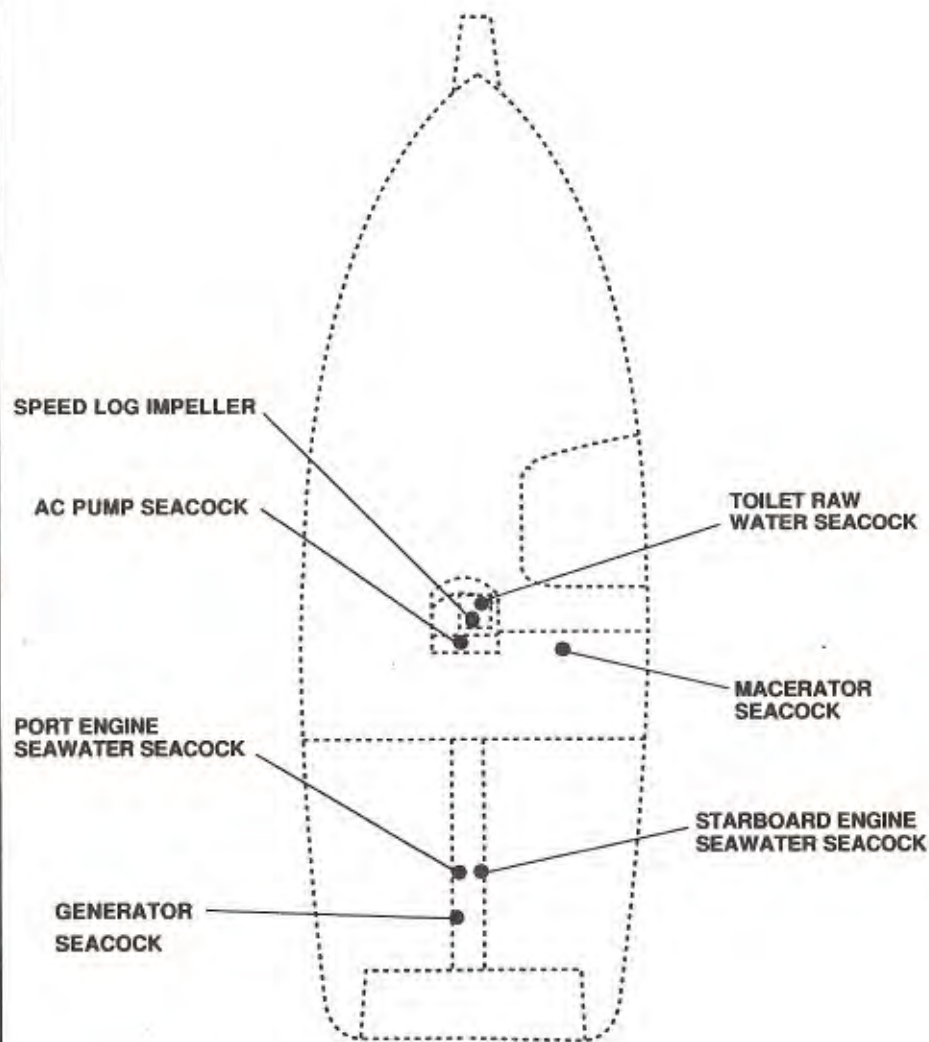
The following drawings illustrate the location of various through-hull fittings that are controlled through seacocks.

Note: Some Commodore 400's feature an optional speed log impeller under the main cabin step. If you leave your boat unattended for an extended period of time, replace the impeller with the dummy plug.

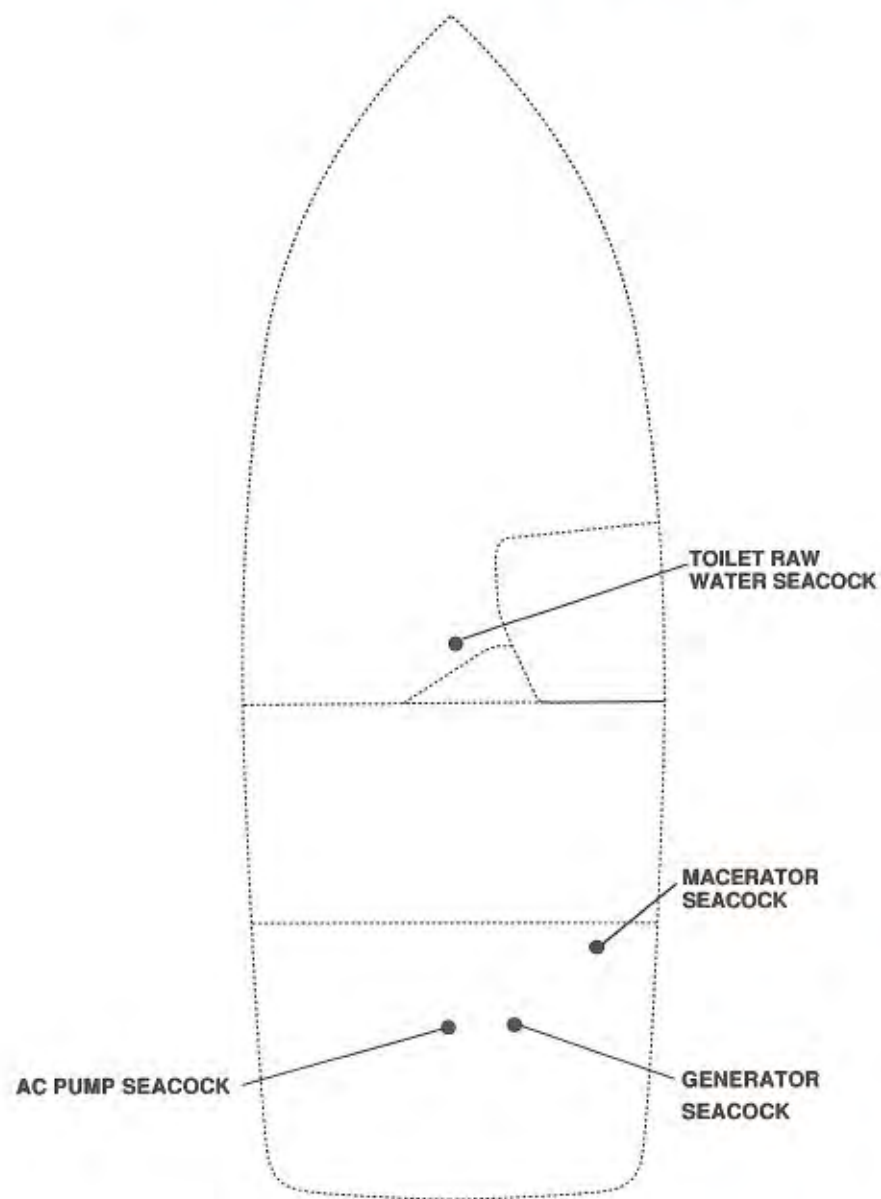
WARNING:

BE SURE TO CLOSE ALL SEACOCKS IF YOU ARE GOING TO LEAVE YOUR BOAT IN THE WATER AND UNATTENDED FOR AN EXTENDED PERIOD OF TIME.

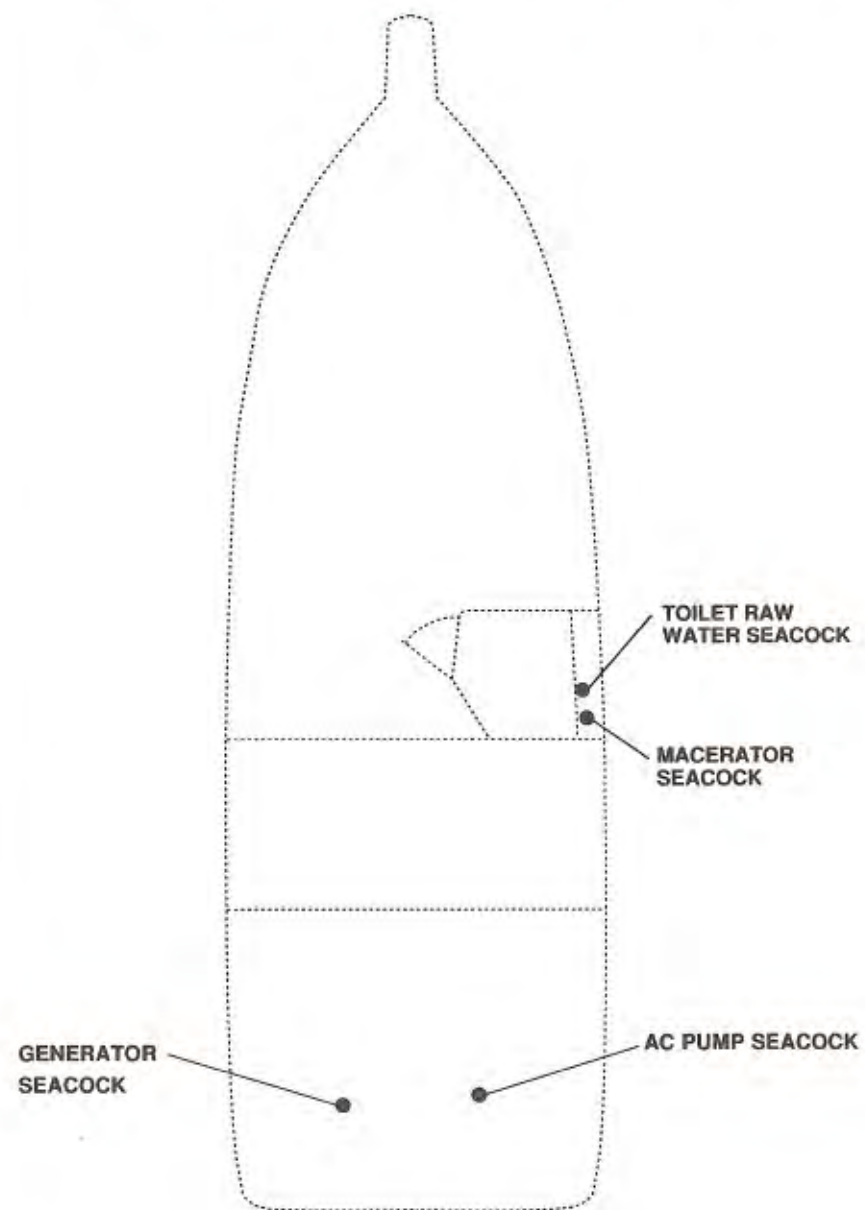
COMMODORE 400 SEACOCK LOCATIONS



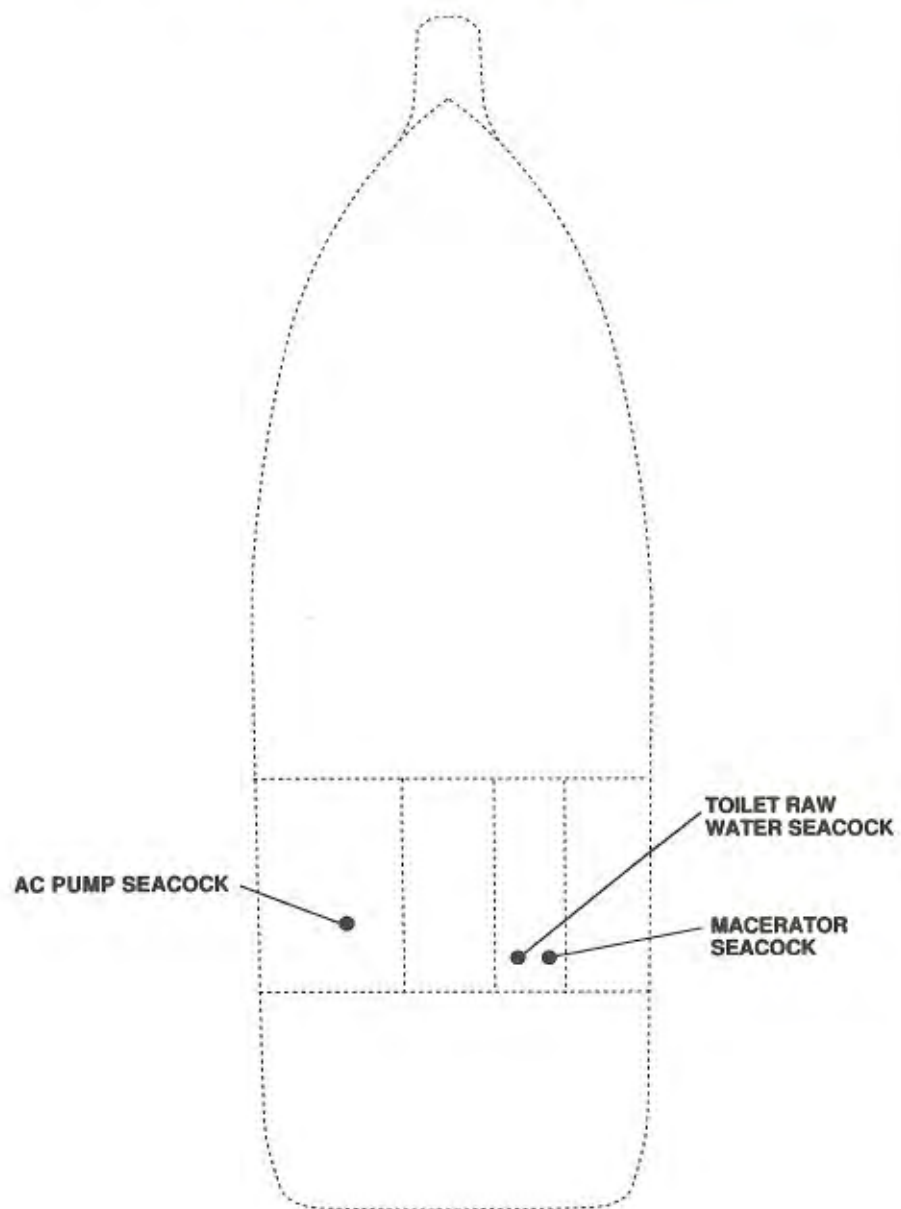
COMMODORE 9.8 SEACOCK LOCATIONS



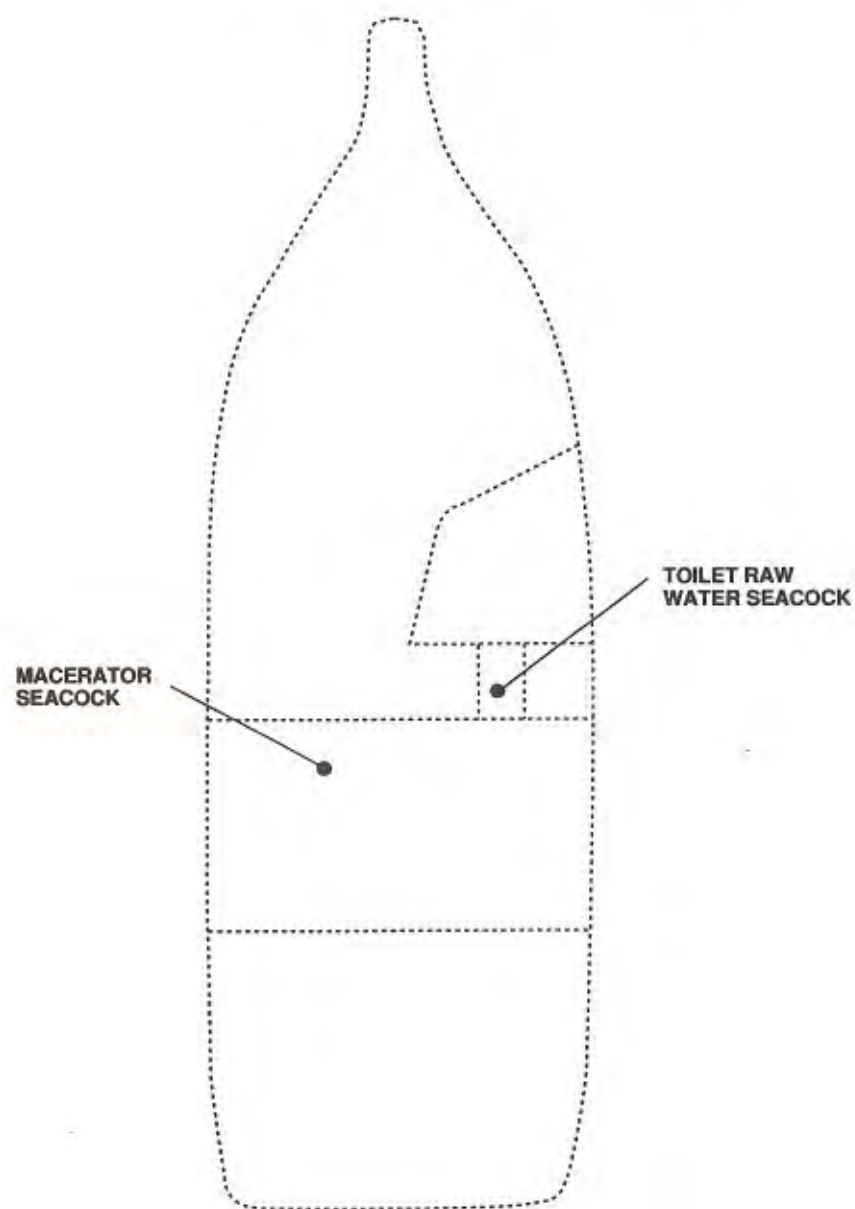
COMMODORE 300 SEACOCK LOCATIONS



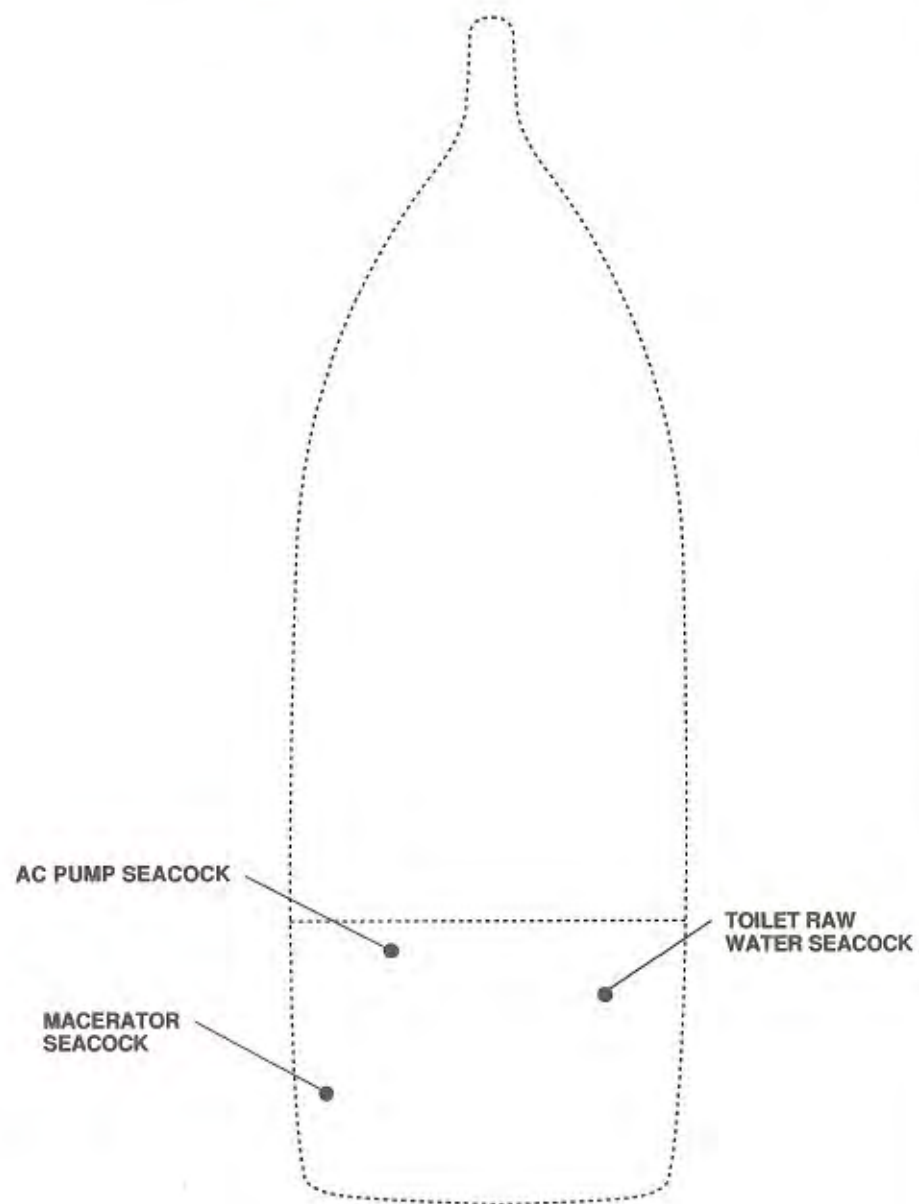
COMMODORE 276 SEACOCK LOCATIONS



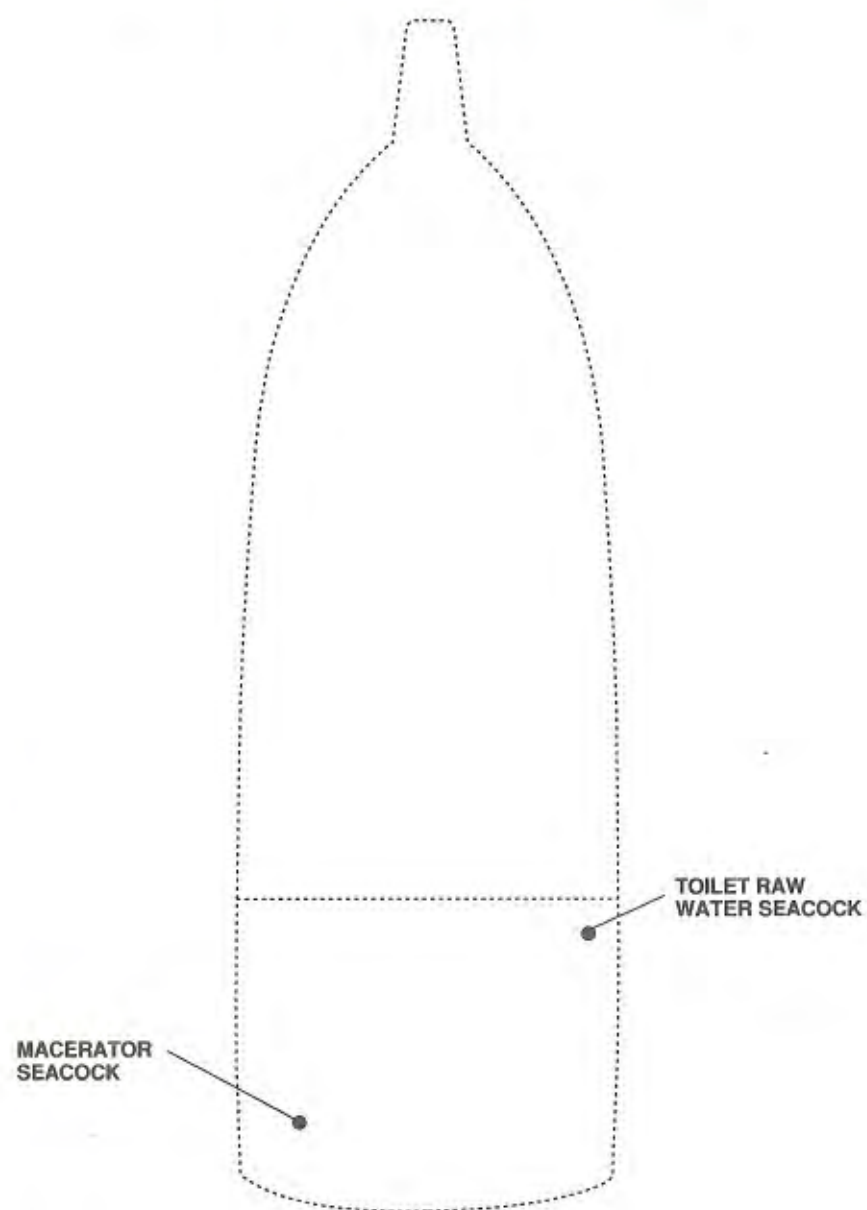
COMMODORE 272 SEACOCK LOCATIONS



VALANTI 256 SEACOCK LOCATIONS



VALANTI 233 SEACOCK LOCATIONS



SECTION V MAINTENANCE & COSMETIC CARE

CHAPTER 1. MAINTENANCE

A. ENGINES AND TRANSMISSIONS

The engine and transmission packages require regular maintenance checks. The basic maintenance checks are listed below. Consult your engine operation and maintenance manual for specific maintenance details and specifications.

WARNING:

ALWAYS DISCONNECT THE BATTERY CABLES FROM ALL BATTERIES BEFORE PERFORMING MAINTENANCE ON THE ENGINE, ELECTRICAL OR FUEL SYSTEMS.

Before each trip check the following:

- Engine coolant level.
- Engine crankcase oil level.
- Engine power steering pump fluid level.
- Transmission fluid level.
- Engine, transmission and generator for leaking fuel, oil, water and exhaust.
- Remote control and steering system components for proper operation.

Periodically check the following:

- Drive belt condition and tension.
- Engine alignment.
- All battery cables for tightness and corrosion.
- All hoses for evidence of cracking and general deterioration.
- Shift and throttle cables plus all connected linkages.
- Check the carburetor flame arrester for debris.
- Check all fuel lines, connectors and mounting fasteners.
- Check the packing gland nut for proper drip.
- Check all related steering system components for loose or damaged parts.
- Consult the engine operation and maintenance manual for additional inspection and maintenance scheduling.

B. GENERATOR (GEN-SET)

Periodic generator maintenance is recommended for optimum generator life and service.

Listed below are a few of the basic maintenance points.

- The output voltage under a full load can be periodically checked by monitoring the panel voltmeter on the ship's service panel. The output voltage should fall within the 110 to 120 volt range. The amperage full load should be 54 amps at 1800 revolutions per minute (rpm's).

- Check the fuel filter located under the fuel pump at least twice a season.
- Clean the flame arrester at least twice a season.
- Check the generator coolant level before each outing. The coolant recovery tank should be filled with a 50/50 mixture of ethylene glycol base antifreeze. Replace the antifreeze every 100 hours of operation.

WARNING:

NEVER REMOVE THE GENERATOR FILLER CAP WHEN THE ENGINE IS HOT. COOLANT SHOULD BE ADDED TO THE REMOTE COOLANT RECOVERY TANK ONLY.

C. PROPELLERS

Propellers should be free of nicks, excessive pitting and any distortions that alter the original blade design. Badly damaged props should be replaced, but those that are chipped or bent can usually be reconditioned by a marine dealer or a propeller repair station. When cruising long distances, it is advisable to carry extra propellers aboard. Replace propellers only as a matched set.

WARNING:

NEVER USE AN OPEN FLAME IN ANY ENCLOSED AREA CONTAINING BATTERIES.

D. BATTERIES

The batteries are very important to the operation of your boat. Here are several suggestions for their care and cleaning.

THINGS TO DO:

- Wear eye and hand protection when working on or around batteries.
- Frequently check your battery terminals for corrosion build-up. If you find a greenish, powdery substance, remove the cable connections and clean both the terminals and the connectors with a wire brush. A brush designed for this purpose is available from most auto parts stores. When the cleaning is done, reconnect the battery cables and coat the terminals with grease or petroleum jelly to prevent further corrosion.
- Use a hydrometer to check battery charge condition.
- Reinstall any battery boots if they were removed for battery service.
- Keep your batteries clean. Wash down the battery case with a baking soda solution to neutralize any acid, then flush with fresh water. Keep the fill/vent caps tight so the neutralizing solution doesn't leak into the battery cells.

- Check the electrolyte level at least every 30 days, more often in hot weather. The level should be maintained between the top of the plates and the bottom of the fill/vent cap opening by adding distilled water.

DO NOT:

- **Do not** overfill and remember that batteries contain sulfuric acid which CAN CAUSE SEVERE BURNS.
- **Do not** position yourself directly above a battery when making or breaking an electrical connection.
- **Do not** use a metal object to spark between battery posts to check for charge conditions; instead use a hydrometer or voltmeter.
- **Do not** make or break live electrical circuits at the battery terminals; a spark usually occurs when a live circuit is opened or made.

WARNING:

CHECK STEERING SYSTEM COMPONENTS SUCH AS CABLES AND LINKAGES FOR SIGNS OF WEAR OR DAMAGE. BENT OR FRAYED PARTS SHOULD BE REPLACED. FAILURE TO DO SO COULD LEAD TO LOSS OF STEERING CONTROL.

E. STEERING SYSTEM

The steering system components should be periodically checked since a safety hazard could develop from using corroded or improperly maintained parts. The following are some maintenance tips:

- Check all inboard rudder parts for tightness. This includes all related tie bars and rudder collar connections. Also, inspect related packing nuts, cotter keys, nuts and bolts for tightness.
- On Commodore 400's, check the steering fluid level. Refill to specifications using the appropriate viscosity hydraulic fluid.
- Inspect the steering hose connections for tightness.
- Inspect the helm unit for tightness, especially the nuts holding the steering cables and the wheel to the helm.

F. REMOTE CONTROL CABLES

It is a good idea to check the throttle and shift control cables often for proper hardware tightness. Also, make sure the clips are holding the cable tight in the adapter.

G. AIR CONDITIONER

Periodically clean the air conditioner filter with a hose and soapy water. Let dry. You will notice a tray on the bottom of the air conditioner. A

hose is attached to the tray and drains into the bilge. The tray drains excess water from the system. Periodically, pour a quart of water into the tray and make sure it drains into the bilge. If it drains slowly or not at all, the hose may need to be blown out with compressed air.

H. HALON FIRE EXTINGUISHER SYSTEM

Periodic weighing of the extinguisher is recommended by the manufacturer to assure a fully charged, reliable system. If weight is below that shown on the unit's name plate, the unit should be removed and replaced or recharged.

I. WATER HEATER

The following are a few maintenance tips for your water heater:

- Inspect all lines and clamps from the heat exchanger at regular intervals. Any heat exchanger hose leaks can directly effect the engine coolant level and subsequent engine temperature.
- Manually operate the pressure temperature relief valve located behind the water heater once a season. When performing the relief valve operation, make sure only cool water is in the water heater.
- Flush out the water heater once a year. A drain plug is found at the rear panel of the water heater for this purpose. Winterize the water heater if stored in freezing environments to prevent heat exchanger damage.

J. BILGE (SUMP) PUMPS

Periodically check the bilge pump inlet screens for debris. Foreign materials can clog the screen or become lodged in the bilge pump impeller. This condition can cause the bilge pump to malfunction. It is a good idea to inspect all clamps and hoses for tightness on a regular basis.

K. BILGE (SUMP)

The bilge (sump) is a very important area to keep clean; check it before each outing for debris. Remove any debris you find in the bilge and wash it down with a good household detergent or a bilge cleaner, available at marine supply stores, to prevent grease and scum build-up. With your bilge pump running, rinse with clear water. Do not discharge oily water.

L. CARBON MONOXIDE DETECTOR

The carbon monoxide (CO) detector requires little maintenance. Should the (CO) detector fail to operate, make sure the 2-volt main D.C. breaker is turned to the "on" position. Open the main ship's service panel to gain access to the fuse.

(CAUTION): Be sure all pump power cords are disconnected from the main power inlet before opening the ship's service panel.

M. GAS VAPOR DETECTOR

The gas vapor detector requires little maintenance. Be sure to test the sensor's performance periodically. Consult the manufacturer's owner's manual for testing procedures. The gas vapor detector head contains a 2 amp in-line fuse located behind the dash panel. Should the sensor be submerged, it should be replaced. The sensor is located in the bilge area.

N. GROUND-FAULT INTERRUPTER OUTLET

The ground-fault interrupter outlet should be tested at least monthly. If the G.F.I. fails the test, it should be replaced by a qualified electrician or see your Regal dealer.

O. HARDWARE

All hardware requires a periodic check for tightness and deteriorated fasteners. The basic hardware includes: cleats, chocks, stern eyes, snaps, bow rail, all installed deck equipment and fasteners and all underwater gear and fasteners.

WARNING:

USE NUTS AND BOLTS WITH A BACKING PLATE TO INSTALL ADDITIONAL DECK HARDWARE.

P. TRIM TABS (PLANES)

The trim tab pump located at the transom needs periodic filling. Use automatic transmission fluid (ATF). To fill the reservoir do the following:

- Remove the screw holding the lexan reservoir cover.
- Remove the lexan cover.
- Locate the filler plug and remove it.
- Fill to the full level with automatic transmission fluid.
- Replace the filler plug.

Periodically check the trim tabs (planes) for loose fasteners, leaking cylinders and tight harness connections.

NOTE: Do not paint the zinc anodes attached to the trim tabs (planes) as their effectiveness in galvanic corrosion protection could be greatly reduced.

Should the rocker switches not activate the trim tabs (Planes), you should first check the circuit breaker on the DC panel, then check to see if the 20 amp in-line fuse behind the dash panel has blown. To replace the fuse, simply remove the four screws holding the starboard dash switch panel.

Q. TOILET

Basic maintenance on the toilet involves the following:

- Use a non-abrasive cleaner for keeping the bowl clean.
 - A light coating of a general purpose marine lubricant on the pump rods and slides will add life to the moving parts and reduce friction.
 - A deodorant and a lubricant is available for the internal parts of the head.
- See your authorized Regal dealer for more information.**

R. ANCHOR WINDLASS

A few tips on maintenance are:

- Wash down the exterior portion of the windlass with fresh water, especially after salt water usage.
- Lubricate the main shaft where it enters the case with a waterproof grease.
- If used in salt water keep the faces of cones and inside faces of the gypsy free from salt build-up.
- Check the chain for excessive corrosion.

S. TOOLS AND SPARE PARTS

Your Regal boat engines and auxiliary equipment are designed specifically for the marine environment. If you need a replacement part, contact your authorized Regal dealer or a mechanic with expertise in marine engines. **UNDER NO CIRCUMSTANCES SHOULD YOU USE NON-MARINE APPROVED REPLACEMENT PARTS. THE USE OF PARTS NOT SPECIFICALLY DESIGNED FOR THE MARINE ENVIRONMENT CAN LEAD TO POTENTIALLY HAZARDOUS CONDITIONS AND VOID YOUR WARRANTY.**

Suggested Tool Kit

Occasionally, you may need to perform minor on board adjustments and general maintenance. The following is a list of suggested items to be included in an on board tool kit to aid you in performing these minor adjustments and general maintenance.

TOOLS

Allen wrenches	Hammer
Jack knife	Feeler gauges (Inboards)
Phillips head screwdriver set	Water pump pliers
Regular pliers	Vise grip pliers
Combination box and end wrenches	Flashlight
Slotted screwdriver set	Electrical crimpers
Ratchet and socket set	Lubricating oil

SPARE PARTS

Spark plugs	Fuses
Alternator/water pump belt	WD-40
Anti-siphon valve	Distributor cap
Propellers (matched set only)	Gear lubricant
Propeller nuts and hardware	Water pump
Light bulbs	impeller
(for cabin & navigation lights)	Hull drain plug

OTHER HANDY ITEMS

Duct tape (repairing coolant hoses)	Hose clamps
Assorted screws, bolts, nuts, washers	Penetrating oil
Silicone spray	Electrical tape
Spare anchor	Various electrical
Spare lines	connectors

CHAPTER 2. COSMETIC CARE

A. UPHOLSTERY

To maintain its original appearance, the vinyl upholstery on your Regal boat requires periodic attention. Vinyl can become dry and brittle when exposed to natural body oils, suntan lotion, dirt and sunlight. Keep your seats as clean and dry as possible at all times. Avoid undue exposure to harsh sunlight when not in use. Regal recommends the use of "Fantastik" cleaner or its equivalent to properly clean the upholstery. Test a small area before applying a cleaner to the entire upholstered piece.

B. METAL

Keep all metal work rinsed and wiped dry; polish periodically. Use commercially available metal polishes and read the labels thoroughly before use.

Stainless Steel

Stainless steel forms a protective chromium oxide film on its surface which gives stainless its superior corrosion-resistant property. The following steps should be used to maintain your stainless steel hardware:

- Always clean stainless frequently with soap and water. Any cleaner safe for glass is usually safe for stainless.
- Always remove rust spots as soon as possible with a brass, silver, or chrome cleaner. Irreversible pitting will develop under rust that remains on stainless for any period of time.
- Always use a cleaner, like a good car wax, for added beauty and protection.
- Never use coarse abrasives like sandpaper or steel wool on stainless. These may actually cause rusting.
- Never clean with mineral acids or bleaches.
- Never leave stainless in contact with iron, steel or other metals which cause contamination leading to rust or corrosion.*

C. ACRYLIC PARTS

NEVER use a dry cloth or glass cleaning solution on acrylic. NEVER use acetone, silicone spray, benzene, carbon tetrachloride, dry cleaning fluid or lacquer thinner. NEVER USE ETHYL GASOLINE. NEVER wipe the plexiglass with anything abrasive. ALWAYS use a soft rag and wash the plexiglass with clean lukewarm water to avoid scratching the surface. To remove grease, oil or tar, use a good grade of hexane, aliphatic naphtha, or kerosene. These solvents can be obtained from your local paint or hardware store. When using solvents, follow the manufacturer's recommended instructions.

* Romac Metals Incorporated

D. GLASS

Use commercially available glass cleaners or a mixture of vinegar and water to clean the glass components. Do not use abrasives or metal scrapers as this can damage the safety glass.

E. WINDOW CHANNELS

A nylon pile is incorporated in any sliding window channel. **Never** use any products that contain bleaching solutions in this area. Use only mild detergent. If windows stick, spray the channels with silicone spray while working the window back and forth.

WARNING:

FABRIC CLEANERS CAN PRODUCE STRONG VAPORS AND SHOULD BE USED ONLY IN AREAS WITH GOOD VENTILATION.

F. BOTTOM MAINTENANCE

Never use rough brushes or scouring pads on the bottom of your boat, as this can cause small scratches that actually trap dirt.

NOTE: If your boat is left in the water continuously for a period of time exceeding two weeks, **Regal recommends the application of a good quality barrier coating system and bottom paint.**

The bottom of your boat is an especially important area to keep clean, since any build up of natural coating from water or marine life can potentially create drag and affect the boat's efficiency.

Always hose down your hull after each use. Hosing the boat is especially important if the boat is used or moored in a salt water environment, since the salt damage potential is increased. Wash your boat regularly with a mild detergent such as dishwashing liquid or a boat washing formula available at a marine supply store. Fiberglass waxes and polishes are available at marine supply stores. **Always** follow the instructions on the labels.

G. INTERIOR FABRIC

Clean interior fabrics with dry cleaning fluid approved for use with soft fabrics. Use a soft cleanser (one with feldspar) to clean stubborn marks or stains on wallpaper. These will usually come off with soap and water. Lightly rub with a sponge or soft cloth.

H. FIBERGLASS & GELCOAT

Routine, periodic maintenance is the only practical way to keep the surface of your boat looking shiny and new! Most things left outdoors will gradually deteriorate from exposure to sunlight, water, dust and chemicals in the air. Such outdoor exposure may cause your boat's surface to show a variety of changes, including:

- Chalking (fine, powdery whiteness on the surface)
- Fading (gradual loss of color)
- Yellowing
- Loss of Gloss

Darker colors tend to exhibit these changes more rapidly than light colors because they absorb more of the sun's rays (ultraviolet and infrared).

Basic Maintenance

Keep your boat covered when not in use. Use heavy duck or canvas (tarpaulin). DO NOT use sheet-plastic or other non-porous materials which can trap moisture between the cover and the boat's surface.

Each Month:

Wash the boat's surface to remove normal accumulation of soil and stain. Use a mild detergent such as dishwashing powder or liquid but not automatic dishwasher detergent. Avoid any kind of alkaline cleaners such as tri-sodium phosphate (TSP) and abrasives, bleaches and ammonia. For best results, use cleaners recommended for fiberglass and follow label directions.

Twice Yearly:

Wax your boat's gelcoat surface to prevent loss of gloss and protect the finish. Use only wax recommended for use on fiberglass and follow instructions carefully. Apply only a thin coat of wax to a small area (3 feet by 3 feet) at a time using clean applicator cloths. If you use a power buffer, apply light pressure at low speed (1200-2000 rpm) and keep the buffer moving slowly to avoid heat build-up. NEVER wax a gelcoat surface in direct sunlight.

CORRECTIVE PROCEDURES

Weathering and Chalking:

When the washing and waxing as recommended does not restore the shine it may be necessary to use a fine rubbing compound and follow label directions carefully. Do not apply rubbing compound in direct sunlight. Use clean pads to apply compound and work on small areas (3 feet by 3 feet). When using a power buffer, set at low speed (1200-2000rpm) with light pressure and keep the buffer moving to avoid scratching the surface. Re-wax after compounding as described under routine maintenance.

Scratches, Nicks and Dents:

Most minor scratches, nicks and dents will be removed by using rubbing compound followed by waxing as described above. Very deep marks or gouges can best be repaired by a professional.

NOTE: Unless you have expertise in the repair of gelcoat, do not attempt to fix cracks or holes yourself. Make sure fiberglass repairs are done as soon as you find the damage.

Stains:

Most water-soluble stains will be removed by washing with a mild detergent as described for monthly maintenance. An occasional stubborn stain will require a fine abrasive household cleanser (test in a small area) followed by waxing to restore original luster.

Non water-soluble stains such as grease and oil, rubber heel marks, etc. can usually be removed with a solvent such as acetone, rubbing alcohol, toluene or xylene. Wash the solvent off thoroughly with mild detergent. **Never** use gasoline for removing stains. If none of these solvents are effective, try rubbing compound or fine sanding followed by waxing. Always consult your boat dealer or marina operator if you have questions. Never use solvents on graphics.**

Yellowing:

The yellowing found in fiberglass non-skid areas is usually caused by wax build-up. Yellowing may be prevented by periodic preventative maintenance.

NOTE: For best results, the following procedures should be carried out in the sun light to allow the sun's rays to aid the chemical reaction and improve results.

Remove any vinyl or canvas parts on the deck since some chemicals may damage the fabrics.

Hose down the deck. Sprinkle a chlorine bleach cleanser such as "Comet" over the non-skid surfaces. Next, mix one cup of liquid chlorine bleach per gallon of water into a plastic bucket. Dip a brush in the container and scrub the surfaces carefully to mix both the liquid and the powdered bleaches completely. Let the mixture set for a period of time. Rinse all surfaces thoroughly. After rinsing, apply a silicone based liquid wash and wax solution. Brush and rinse completely.

On smooth hull and deck surfaces, use an abrasive such as Ditzler #55 buffing compound and machine buff. In extreme cases, the use of #1000 wet dry sandpaper may aid in removing yellowing. Follow-up with the buffing procedure described above. Contact your nearest authorized Regal dealer for further information.

** Cook Paint and Varnish Company, Kansas City, Mo.

NOTE: Use rubber gloves and safety glasses to protect yourself from chemical splashes and flying particles of buffing compound.

NOTE: Unless you have expertise in the repair of gelcoat, **never** attempt to fix cracks or holes yourself. Make sure fiberglass repairs are done as soon as you find the damage.

I. CANVAS

In most cases, boat canvas is subjected to more severe punishment than practically any other type of canvas or fabric item. Moisture, dirt and chemicals from industrial fallout, heat, ultraviolet rays and salt water are all factors which accelerate the deterioration of your boat top. These elements can cause serious damage if left unchecked.

Fabric should be cleaned regularly before substances such as dirt, roof particles, etc., are allowed to accumulate on and become embedded in the fabric. The fabric can be cleaned without being removed from the installation. Simply brush off any loose dirt, roof particles, etc.; hose down and clean with a mild solution of natural soap such as Lux or Ivory in lukewarm water (no more than 100 degrees Fahrenheit). Rinse thoroughly to remove soap. **Do not use detergents.**

Shrinkage can occur anytime canvas is allowed to dry while loose, typically during the first few months after initial installation. When canvas items are erected on the boat and properly adjusted, shrinkage can only occur in areas of looseness. Stern curtains, cockpit covers or other similar items should be installed to allow for some degree of shrinkage.

The best method of mildew prevention is to allow all canvas items to dry thoroughly while installed on the boat. Dirt creates a starting point for mildew when moisture is present. Cleaning periodically with a mild detergent and water while canvas is erected on the boat will extend the canvas life and provide a better appearance. Cleaning can be accomplished with a sponge or soft scrub brush. Canvas units should **always** be set-up and adjusted to a tight, smooth appearance before washing. Allow canvas to air thoroughly before removing or loosening.

Chemicals can cause decay of vinyls and fabrics if allowed to accumulate for long periods of time. There are so many different types of chemicals involved, it would not be practical to try to describe them here. Keeping your unit clean is the answer.

Any vinyl coated fabric, when enclosed in a polyethylene container and subjected to sunlight, is susceptible to potential problems. This may result in cracks appearing in the vinyl component and a stiffening effect on the fabric. Polyethylene bags or tubes are meant only for protection during shipping and handling. **DO NOT USE THEM FOR STORAGE.**

Most synthetic fabrics or fabricated parts today are U.V. treated to resist ultraviolet effects. The best protection, however, is to avoid long periods of storage in areas exposed to direct sunlight.

Corrosive effects of saltwater can attack brass, aluminum, or stainless fittings and fasteners. Your canvas has fittings and fasteners made of these materials. Keep them clean, occasionally lubricating and waxing the chromed brass or stainless fittings and bow with an appropriate wax. Protect your canvas for extended years of enjoyment by:

- Keeping canvas clean. **Do not** use harsh cleaners. **Never** use any form of bleach.
- Clear vinyl curtains and windows demand extra care to prevent scratching. Ideally, they should be washed with clear water, preferably hosed off, wiping the plastic with your hand at the same time. **Do not** attempt to use a cloth or chamois skin. Any dirt or grit in the cloth may cause scratches. **Never** fold any canvas parts; they should only be rolled to prevent cracking.
- Be sure that canvas is completely dry before storing.
- Keep canvas well ventilated when stored. **Do not use polyethylene bags.**
- Keep fittings and fasteners clean and lubricated.
- **Never** trailer your boat with the canvas up, or expose the canvas to severe winds.

SERVICE INFORMATION

SECTION VI - SERVICE

BOAT OWNER _____

HOME PORT _____

BOAT NAME _____

REGISTRATION# _____

DELIVERY DATE _____

HULL IDENTIFICATION RGM _ _ _ _ _

ENGINE MAKE _____ MODEL _____

ENGINE SERIAL # _____

PROP SIZE _____

GENERATOR SERIAL # _____

MODEL# _____ KILOWATTS _____

RECOMMENDED MAINTENANCE SCHEDULE

THIS SCHEDULE IS BASED ON NORMAL OPERATING CONDITIONS. OPERATING UNDER SEVERE CONDITIONS MAY REQUIRE THAT YOU INSPECT OR REPLACE COMPONENTS MORE OFTEN THAN INDICATED IN THIS SCHEDULE.

	BEFORE EACH TRIP	AFTER FIRST 20 HRS.	EVERY 50 HRS	EVERY 100 HRS	ANNUALLY
CHECK SEA WATER STRAINERS & SEACOCKS	X	X	X		X
LUBRICATE SEACOCKS					X
CHECK EXHAUST SYSTEM FOR LEAKS	X	X	X		X
CHECK FUEL SYSTEM, CONNECTIONS & FITTINGS	X	X	X		X
CHANGE WATER SEPARATING FUEL FILTER		X	X		X
LUBRICATE THROTTLE & SHIFT LINKAGE PIVOT POINTS		X		X	X
CHECK BATTERY ELECTROLYTE LEVEL	X	X	X		
CHECK ALL ELECTRICAL CONNECTIONS		X			X
INSPECT FOR PROP DAMAGE	X (EXCEPT INBOARDS)	X	X		
CHECK FRESH WATER PUMP FILTER		X	X		X
CHECK WATER PUMP & FRESHWATER SYSTEM		X		X	
CHECK TRIM TAB PUMP FLUID		X			X
TEST GFI OUTLET	X				
ENGINE ALIGNMENT		X	X		X
CHECK STEERING SYSTEM COMPONENTS	X	X	X		X

NOTE: Your vessel may not contain all the equipment mentioned in this chart.

FLOAT PLAN

FILL OUT THIS FORM BEFORE DEPARTURE. LEAVE IT WITH A RESPONSIBLE PERSON WHO WILL NOTIFY THE COAST GUARD OR POLICE IF YOU DON'T RETURN AS PLANNED. IF YOU CHANGE YOUR PLAN BE SURE TO NOTIFY THIS PERSON.

MAKE COPIES OF THE FLOAT PLAN AND USE ONE EACH TIME YOU GO ON A TRIP. THIS WILL HELP PEOPLE KNOW WHERE TO FIND YOU IF YOU SHOULD EVER NEED HELP.

1. OWNER NAME _____

ADDRESS _____

TELEPHONE # _____

2. PERSON FILLING OVERDUE

VESSEL REPORT

NAME _____

TELEPHONE # _____

3. DESCRIPTION OF BOAT _____

REGISTRATION # _____

LENGTH _____ BOAT NAME _____

COLOR _____ TRIM _____ HP _____

INBOARD _____ OUTBOARD _____ FUEL CAPACITY _____

OTHER (VBR, CUDDY ECT.) _____

4. NUMBER OF PEOPLE ABOARD (LIST NAME, CHILD OR ADULT,

ADDRESS, PHONE #) _____

5. SAFETY EQUIPMENT ABOARD:

LIFE JACKETS _____ FIRST AID KIT _____

FLARES _____ NAV. LIGHTS _____

FLASH LIGHT _____ RADIO CB VHF _____

FOOD _____ DINGHY _____

WATER _____ *EPIRB _____

ANCHOR _____ PADDLE _____

6. TRAILER:

TYPE _____

LIC. NO _____

LOCATION _____

MAKE _____

LIC NO. _____ LOCATION _____

7. TRIP PLAN:

LEAVE FROM _____ AT _____ O'CLOCK

GOING TO _____ AND _____

RETURNING TO _____ BY _____ O'CLOCK

IF NOT BACK BY _____ O'CLOCK CALL COAST GUARD,

OR LOCAL SEARCH & RESCUE TELE. NO. _____

*EMERGENCY POSITION INDICATION RADIO BEACON