# BAYLINER®

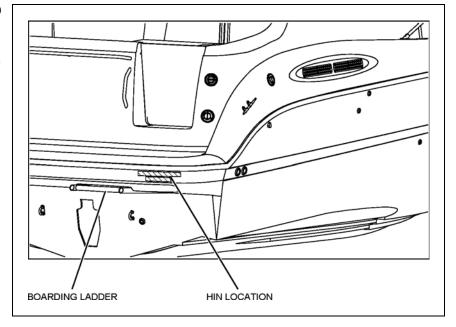
## 245 Cruiser

Owner's Manual Supplement

Engine Serial Number:	
_	
Hull Identification Number:	

#### **Hull Identification Number**

- The Hull Identification Number (HIN) is located just below the deck gunnel at the starboard aft corner of the boat.
- Record the HIN (and the engine serial number) in the space provided above.
- Include the HIN with any correspondence or orders.



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All Bayliner products meet or exceed USCG (United States Coast Guard) and/or NMMA (National Marine Manufacturer's Association) construction standards. Manufactured with 1,1,1 Trichloroethane, a substance which harms public health and environment during the manufacturing process by destroying ozone in the upper atmosphere.

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### **Hazard Boxes & Symbols**

The hazard boxes and symbols shown below are used throughout this supplement to call attention to potentially dangerous situations which could lead to either personal injury or product damage. Read *all* warnings carefully and follow *all* safety instructions.

### A DANGER!

This box alerts you to immediate hazards which WILL cause severe personal injury or death if the warning is ignored.

### WARNING!

This box alerts you to hazards or unsafe practices which *COULD* result in severe personal injury or death if the warning is ignored.

### **⚠** CAUTION

This box alerts you to hazards or unsafe practices which *COULD* result in minor personal injury or cause product or property damage if the warning is ignored.

### NOTICE

This box calls attention to installation, operation or maintenance information, which is important to proper operation but is not hazard related.







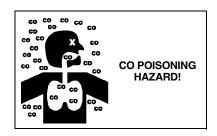












### **Chapter 1: Welcome Aboard!**

- This *Owner's Manual Supplement* provides specific information about your boat that is *not* covered in the *Cruiser* & *Yacht Owner's Manual*.
- The *Cruiser & Yacht Owner's Manual* contains general information about safe operating practices, general boating regulations, and general maintenance techniques. Information that is more specific to your particular boat is found in this *Owner's Manual Supplement*.
- **Before** using your boat, study this *Owner's Manual Supplement*, the *Cruiser & Yacht Owner's Manual*, and **all** engine and accessory literature carefully. If similar instructions are found in more than one manual, **always** refer to the specific manufacturer's manual (such as the engine manual) for the most complete and accurate information.
- Keep this *Owner's Manual Supplement* and the *Cruiser & Yacht Owner's Manual* on your boat in a secure, yet readily available place.

### **Dimensions and Tank Capacities**

Overall Length	Length Rigged	Bridge Clearance	Beam	Draft (Hull)	Draft (Maximum)	Fuel Capacity		Waste Holding Tank Capacity*
24' 1"	25' 7"	6' 9"	8' 5"	1' 5"	2' 9"	65 Gallons	20 Gallons	20 Gallons

#### **Dealer Service**

- Your dealer is your key to service.
- Ask your dealer to explain *all* systems *before* taking delivery of your boat.
- Contact your dealer if you have any problems with your new boat.
- If your dealer cannot help, call our customer service hotline: 360-435-8957 or send us a FAX: 360-403-4235.
- Buy replacement parts from any authorized Bayliner dealer.
- You can access on-line parts catalogs, links to vendor websites, and other helpful features by logging on to <a href="http://www.baylinercustomercare.com">http://www.baylinercustomercare.com</a>.

### **Warranty Information**

- Bayliner offers a Limited Warranty on each new Bayliner purchased through an authorized Bayliner dealer.
- A copy of the Limited Warranty was included in your owner's packet.
- If you did not get a copy of the Limited Warranty, please contact your Bayliner dealer or call 360-435-8957 for a copy.



### **Boating Experience**

### A WARNING!

#### CONTROL HAZARD!

An experienced operator *MUST* be in control of your boat at *ALL* times. Do *NOT* operate your boat while under the influence of alcohol or drugs.

If this is your first boat or if you are changing to a type of boat you are *not* familiar with, for your own comfort and safety, get handling and operating experience *before* assuming command of your boat.

Take one of the boating safety classes offered by the U.S. Power Squadrons or the U.S. Coast Guard Auxiliary. For more course information, including dates and locations of upcoming classes, contact the organizations directly:

- U.S. Power Squadrons: 1-888-FOR-USPS (1-888-367-8777) or on the Internet at: http://www.usps.org
- In Canada, for the CPS courses call 1-888-CPS-BOAT.
- U.S. Coast Guard Auxiliary: 1-800-368-5647 or on the Internet at: http://www.cgaux.org

Outside the United States, your selling dealer, national sailing federation, or local boat club can advise you of local sea schools or competent instructors.

#### **Qualified Maintenance**

### A WARNING!

To maintain the safety of your boat, allow *ONLY* trained personnel to work on, or change, in any way, the:

- Steering system
- Propulsion system
- Engine control system
- Fuel system

- Environmental control system
- Electrical system
- Navigation system

Failure to maintain your boat's systems (listed in the warning above) as designed could violate the laws in your jurisdiction and could expose yourself and others to the danger of bodily injury or accidental death.

Follow the maintenance instructions in:

- This Owner's Manual Supplement
- The Cruiser & Yacht Owner's Manual
- The engine owner's manual, and;
- *All* accessory literature.

### **Special Care for Moored Boats**

#### NOTICE

- Applying an epoxy barrier coating to the hull bottom will help prevent gel coat blistering while your boat is moored.
- Cover the barrier coating with several coats of anti-fouling paint.
- Many states regulate the chemical content of bottom paints in order to meet environmental standards. Your local dealer can recommend bottom paints, and about the laws in effect in your area.
- While moored, your boat's hull bottom will collect marine growth that not only looks bad, but also reduces performance, and could damage the gelcoat.
- As often as needed for your area, haul your boat out of the water and scrub the hull bottom with a bristle brush and soap and water.



### **Engine & Accessory Guidelines & Literature**

### NOTICE

BEFORE starting or working on your engine(s), read the engine manual.

### NOTICE

BEFORE using the accessories on your boat, read the accessory manuals.

#### NOTICE

**BEFORE** storing your boat, refer to your engine and accessory manuals for storage/winterization instructions.

### NOTICE

Certain modifications to your boat *WILL* result in cancellation of your warranty protection. *ALWAYS* check with your dealer *BEFORE* making any modifications to your boat.

- Your boat's engine and accessories were selected to provide optimum performance and service.
- Installing a different engine or adding accessories may affect your boat's running trim.
- If you choose to install a different engine or add accessories that may affect your boat's running trim, have a trained marine technician perform a safety inspection and handling test *before* using your boat again.
- The engine and accessories on your boat have their own manuals. Read these manuals *before* using the engine and accessories.

Unless noted otherwise, *all* engine and accessory literature referred to in this *supplement* is included in your owner's packet.

While the topics listed below may be included in this *supplement* and in the *Cruiser & Yacht Owner's Manual, always* refer to the engine manual first for specific information on these important subjects:

- Engine Break-in Procedure
- Engine Starting and Stopping
- Gear Shifting

- Fuel and Oil Recommendations
- Engine Maintenance
- Engine Storage/Winterization

#### Propeller

### **↑** CAUTION

#### ENGINE DAMAGE HAZARD!

The factory standard propeller may not be the best for your particular boat and load conditions. Refer to the engine manual for engine RPM ratings. The engine should reach, but not exceed its full rated RPM when full-throttle is applied.

Immediately contact your local Bayliner dealer if:

- The engine cannot reach its full rated RPM when full-throttle is applied, or;
- The engine exceeds its full rated RPM when full-throttle is applied.
- Keep the propeller in good repair and at the correct pitch for your particular situation.
- A slightly bent or nicked propeller will adversely affect the performance of your boat.



### **Safety Standards**

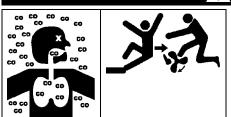
### A DANGER!

#### FALLING and ROTATING PROPELLER HAZARD!

 NEVER allow anyone to ride on parts of your boat NOT designed for such use.

• Sitting on seat-backs, lounging on the forward deck, bow riding, gunwale riding or occupying the transom platform while underway is especially hazardous and WILL cause personal injury or death.

### A DANGER!



## FALLING, ROTATING PROPELLER and CARBON MONOXIDE POISONING HAZARD!

- NEVER allow anyone to occupy, or hang from, the back deck or transom platform while the engine is running.
- Teak surfing, dragging, or water skiing within 20 feet of a moving watercraft can be fatal.

### A DANGER!

#### PERSONAL SAFETY HAZARD!

- ALWAYS secure the anchor and other loose objects BEFORE getting underway.
- The anchor and other items that are *NOT* properly secured can come loose when your boat is moving and cause personal injury or death.

### WARNING!

A wide variety of components used on this vessel contain or emit chemicals known to the State of California to cause cancer and birth defects and other reproductive harm.

#### **Examples Include:**

- Engine and generator exhaust
- Engine and generator fuel, and other liquids such as coolants and oil, especially used motor oil
- Cooking fuels
- Cleaners, paints, and substances used for vessel repair
- Waste materials that result from wear of vessel components
- Lead from battery terminals and from other sources such as ballast or fishing sinkers

#### To Avoid Harm:

- Keep away from engine, generator, and cooking fuel exhaust fumes.
- Wash exposed skin thoroughly with soap and water after handling the substances above.

Your boat's mechanical and electrical systems were designed to meet all safety standards in effect at the time it was built. These standards help insure your safety and the safety of other people, vessels and property.

Read this *supplement*, the *Cruiser & Yacht Owner's Manual*, the engine owner's manual, and *all* accessory instructions for important safety standards and hazard information.



### **Boat Lifting**

### A WARNING!

#### PERSONAL INJURY and/or PRODUCT or PROPERTY DAMAGE HAZARD!

- Lifting slings can slip on the hull, which could cause serious injury or death.
- ALWAYS secure the forward lifting sling to the aft lifting sling BEFORE lifting. This will reduce the risk of sling slippage.

### **A** WARNING!

PERSONAL INJURY and/or PRODUCT or PROPERTY DAMAGE HAZARD!

**NEVER** lift any boat using the cleats, or the bow/stern eyes.

### A WARNING!

#### PERSONAL INJURY and/or PRODUCT or PROPERTY DAMAGE HAZARD!

- Water in the bilge can shift and change the balance of the load.
- If water is present in the bilge, pump or drain the water out of the bilge areas *BEFORE* lifting your boat.

### **⚠** CAUTION

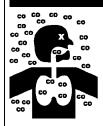
#### PRODUCT or PROPERTY DAMAGE HAZARD!

- When lifting any boat, ALWAYS use a spreader bar.
- The spreader bar MUST be equal to the width of the boat at each lifting point.
- Make sure your boat remains level during lifting. The engine can be damaged by water ingestion if the stern is lifted higher than the bow.
- Always follow the lift equipment's instructions and requirements.
- When lifting your boat, *always* position the lifting slings at the foreward and aft lifting sling label positions.



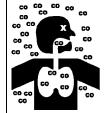
### Carbon Monoxide (CO)

### A DANGER!



- Carbon monoxide gas (CO) is colorless, odorless, tasteless, and extremely dangerous.
- ALL engines, generators, and fuel burning appliances produce CO as exhaust.
- Prolonged exposure to low concentrations or very quick exposure to high concentrations WILL cause BRAIN DAMAGE or DEATH.
- Teak surfing, dragging, or water skiing within 20 feet of a moving watercraft can be fatal.

### A DANGER!



#### CARBON MONOXIDE POISONING HAZARD!

- NEVER use full canvas and vinyl enclosures when the engine or generator is running.
- For proper fresh air circulation, remove forward, aft, and both side enclosure curtains *BEFORE* starting the engine or generator.
- Read the Carbon Monoxide (CO) section in Chapter 1 of this supplement.

#### **CO Facts**

- CO poisoning causes a significant number of boating deaths each year.
- Called the "silent killer", CO is an extremely toxic, colorless, odorless and tasteless gas.
- CO can harm or even kill you inside or outside your boat.
- CO can affect you whether you're underway, moored, or anchored.
- CO symptoms are similar to seasickness or alcohol intoxication.
- CO can make you sick in seconds. In high enough concentrations, even a few breaths can be fatal.
- Breathing CO blocks the ability of your blood to carry oxygen.
- The effects are cumulative. Even low levels of exposure can result in injury or death.

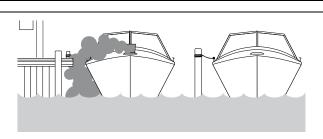
#### Factors that Increase the Effects of CO Poisoning

- Age
- Smokers or people exposed to high concentrations of cigarette smoke
- Consumption of alcohol
- Lung disorders
- Heart problems
- Pregnancy

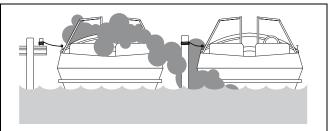


#### Where & How CO Can Accumulate

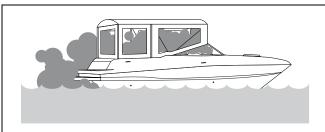
#### Stationary conditions that increase CO accumulations include:



Using engine, generator, or other fuel burning device when boat is moored in a confined space.



Mooring too close to another boat that is using its engine, generator, or other fuel burning device.

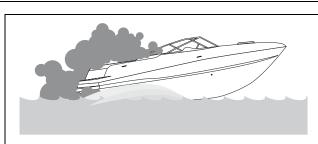


Running your engne or generator with full canvas and vinyl enclosures installed.

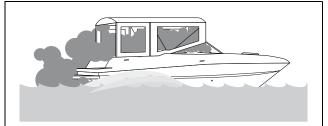
#### To correct these stationary situations:

- Close all windows, portlights and hatches.
- If possible, move your boat away from source of CO.
- Remove forward, aft, and both side enclosure curtains BEFORE starting the engine or generator.

#### Running conditions that increase CO accumulations include:



Running boat with trim angle of bow too high.



Running boat without through ventilation (station wagon effect).

#### To correct these running situations:

- Trim bow down.
- *Open* windows and canvas.
- When possible, run boat so that prevailing winds help dissipate exhaust.

#### How to Protect Yourself & Others From CO

- Know where and how CO may accumulate in and around your boat (see previous page).
- Stay away from the transom while the vessel is idling or underway The transom is where carbon monoxide collects while idling or underway.
- Avoid Other Idling Vessels Idling vessels produce concentrated levels of carbon monoxide.
- Always maintain fresh air circulation throughout your boat.
- Know where your engine and generator exhaust outlets are located and keep everyone away from these areas.
- Never sit on, or hang onto, the back deck or transom platform while the engine is running.
- *Never* enter the areas under transom platforms where exhaust outlets are located.
- Although CO can be present without the smell of exhaust fumes, if exhaust fumes are detected on your boat, take *immediate* action to dissipate these fumes.
- Treat symptoms of seasickness as possible CO poisoning. Get the person into fresh air *immediately*. Seek medical attention—unless you're sure it's *not* CO.
- Maintain the CO monitors that were installed inside your boat. *Never* ignore any alarm. Replace monitors as recommended by the monitor manufacturer.
- Follow the CO checklists provided below.
- Get a Vessel Safety Check.

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

U.S. Coast Guard Auxiliary: 800-368-5647 or online at: http://www.cgaux.org

**U.S. Power Squadrons:** 888-367-8777 or online at: http://www.usps.org

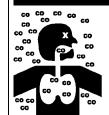
## CO Checklists Trip Checklist

	Make sure you know where the exhaust outlets are located on your boat.
	Educate all passengers about the symptoms of CO poisoning and where CO may accumulate.
	When docked, or rafted with another boat, be aware of exhaust emissions from the other boat.
	Listen for any change in exhaust sound, which could mean an exhaust component failure.
	Test the operation of each CO monitor by pressing the test button.
Mc	onthly Checklist
	Make sure <i>all</i> exhaust clamps are in place and secure.
	Look for exhaust leaking from exhaust system components. Signs include rust and/or black streaking, water leaks, or corroded or cracked fittings.
	Inspect rubber exhaust hoses for burned, cracked, or deteriorated sections. <i>All</i> rubber hoses should be pliable and free of kinks.
An	nual Checklist
На	ve a Trained Marine Technician:
	Replace exhaust hoses if cracking, charring, or deterioration is found.
	Ensure that your engines and generators are properly tuned, and well maintained.
	Inspect each water pump impeller and the water pump housing. Replace if worn. Make sure cooling systems are in working condition.
	Inspect <i>all</i> metallic exhaust components for cracking, rusting, leaking, or loosening. Make sure they check the cylinder head gasket, exhaust manifold, water injection elbow, and the threaded adapter nipple between the manifold and the elbow.
	Clean, inspect, and confirm proper operation of the generator cooling water anti-siphon valve (if equipped).



#### CO Monitor

### DANGER!



#### CARBON MONOXIDE POISONING HAZARD!

CO monitor installation or replacement shall be done by qualified personnel ONLY.

**NEVER** disconnect your CO monitor.

### NOTICE

- The stereo memory and the CO monitor place small but constant drains on the battery.
- If equipped, plug into shore power with the battery charger turned On whenever your boat will be unattended for an extended amount of time.
- Read the manufacturer's instructions for your CO monitor. If you did not receive the manufacturer's instructions, call (800) 383-0269 and they will be mailed to you.

#### End of Life Signal

- Your CO monitor may be equipped with an End Of Life (EOL) signal to alert you when the monitor has reached the end of its service life and must be replaced.
- The EOL signal will be activated by a timer set for 4 years, 11 months from the date of manufacture.
- The alert signal may vary depending on the type of CO monitor you have, so check the unit's operation manual for further information and instructions.

**NOTE:** If the EOL signal activates, and it is not possible to immediately acquire a replacement unit; you can temporarily reset the EOL signal for 72 hours at a time (3 days) for a total of up to 30 days. After this time, the unit will continuously signal EOL and will no longer detect CO and MUST BE REPLACED! DO NOT DISCONNECT THE MONITOR UNTIL YOU HAVE A REPLACEMENT MONITOR READY TO INSTALL! REMOV-ING THE LITHIUM BATTERY WILL CAUSE THE UNIT TO SIGNAL EOL PERMANENTLY!

#### If your CO monitor is not equipped with an EOL signal:

- Replace your CO monitor by the "REPLACE BY DATE" printed on the monitor.
- If no "REPLACE BY DATE" can be found, immediately replace the unit.
- Replacement CO monitors can be purchased from your local Bayliner dealer.

#### More Information

For more information about preventing carbon monoxide poisoning on recreational boats and other boating safety tips, contact:

**United States Coast Guard** Office of Boating Safety (G-OPB-3) Association (NMMA)

2100 Second Street SW Washington, DC 20593 www.uscgboating.org 1-800-368-5647

**National Marine Manufacturers** 

200 East Randolph Drive **Suite 5100** Chicago, IL 60601-9301 www.nmma.org 312-946-6200

American Boat & Yacht Council, Inc. (ABYC)

613 Third Street Suite 10 Annapolis, MD 21403 www.abycinc.org 410-990-4460

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

U.S. Coast Guard Auxiliary: 800-368-5647 or online at: http://www.cgaux.org

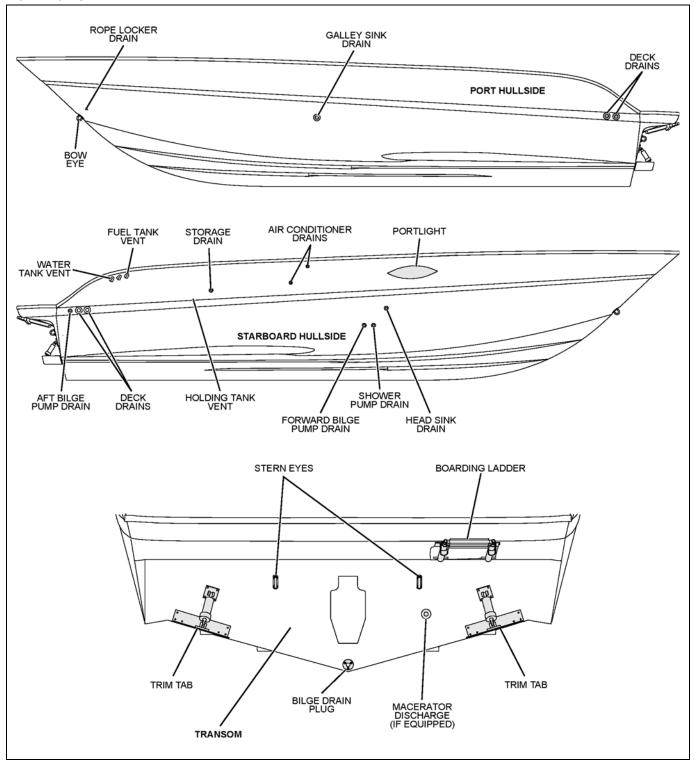
**U.S. Power Squadrons:** 888-367-8777 or online at: http://www.usps.org



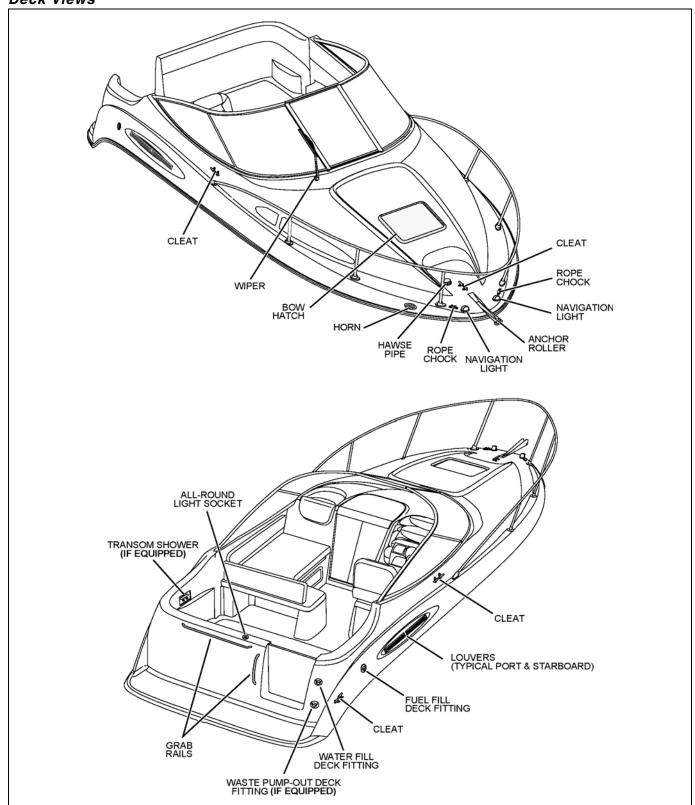
### **Chapter 2: Locations**

### **Exterior Views**

#### **Hull Views**

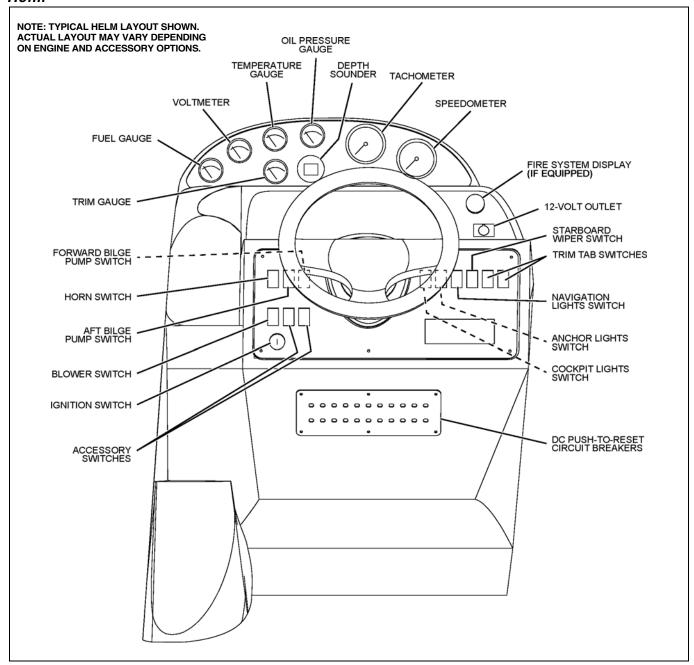


#### **Deck Views**





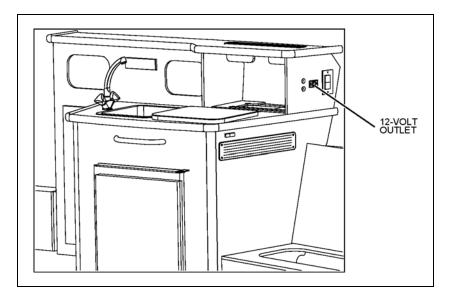
#### Helm



### **Component Locations**

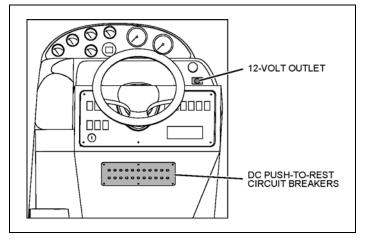
### 12-Volt DC Accessory Outlets (2 Total):

• One is located at the forward end of the galley assembly.

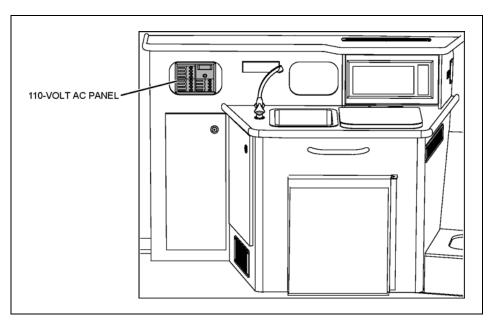


• One is located at the helm.

**12- Volt DC Push-to-Reset Circuit Breakers:** Located at the helm, under the dash.

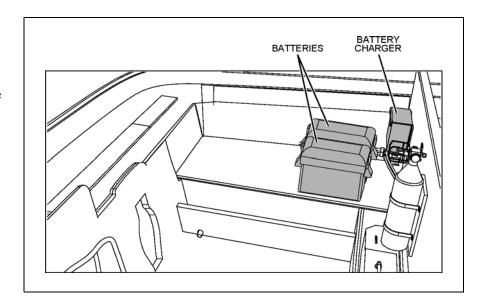


**110-Volt AC Panel (If Equipped):** Located in the cabin, next to the galley sink.

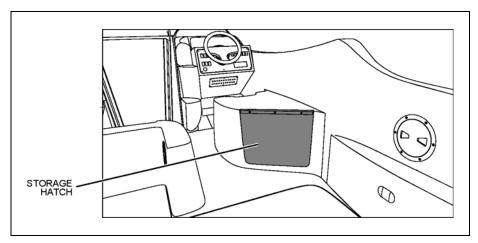


**Battery or Batteries:** Located on the port side of the engine room.

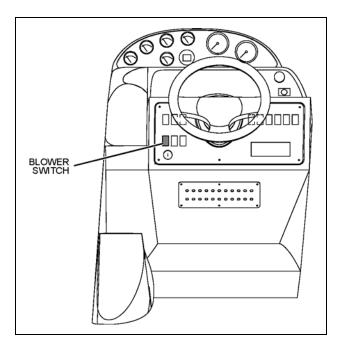
Battery Charger (If Equipped): Located on the port side of the engine room, on the forward wall.



**Battery Switches:** Located in the storage hatch under the helm seat.

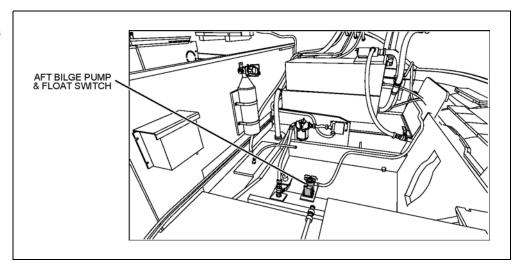


Bilge Blower Switch: Located on the helm switch panel.

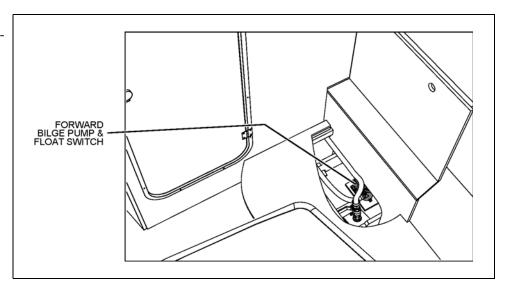


#### **Bilge Pumps (2 Total):**

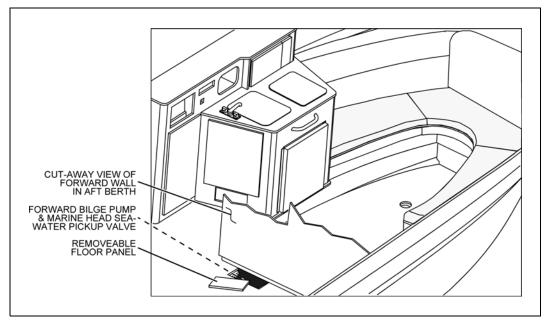
• The aft bilge pump is located in the engine room bilge.



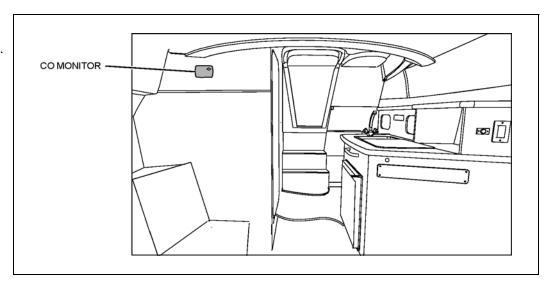
• If your cabin entry steps are removeable; access to the forward bilge pump is through the hatch in the bottom step.



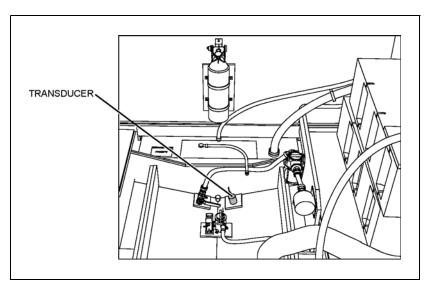
• If your cabin entry steps are not removeable; access to the forward bilge pump is through a floor hatch at the bottom of the forward wall in the aft berth.



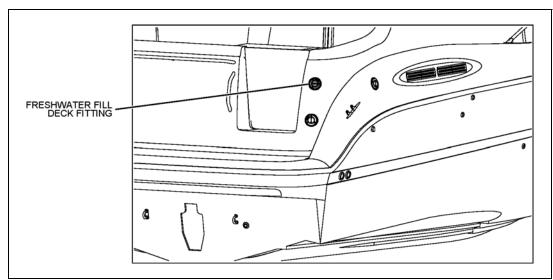
**CO Monitor:** Located on the starboard side of the cabin, on the aft wall.



**Depth Sounder Tranducer:** Located in the engine room bilge.

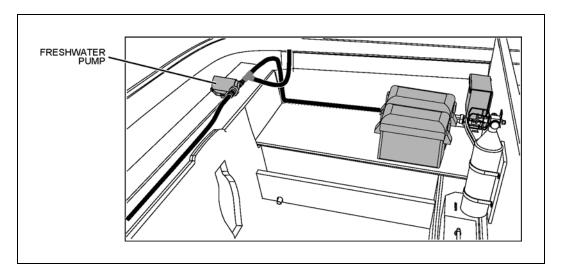


Freshwater Fill Deck Fitting: Located on the starboard aft deck.

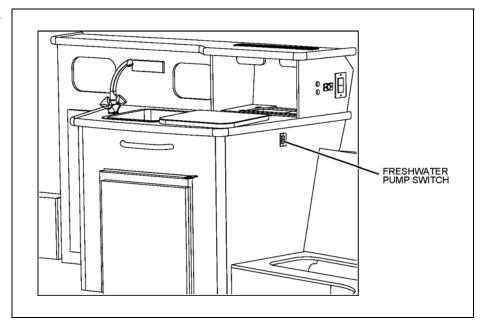


Freshwater Pump: Located above the tran-

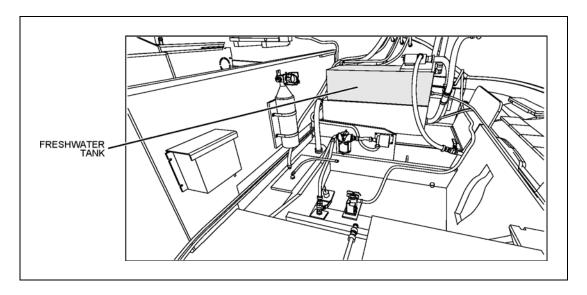
Located above the transom, on the port side of the engine room.



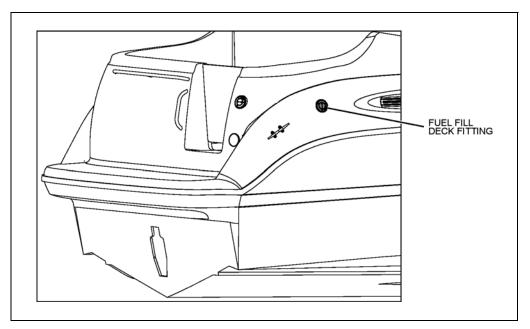
**Freshwater Pump Switch:** Located at the forward end of the galley.



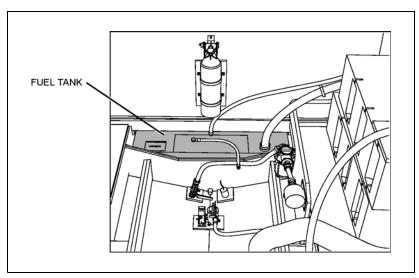
Freshwater Tank: Located on the starboard side of the engine room.



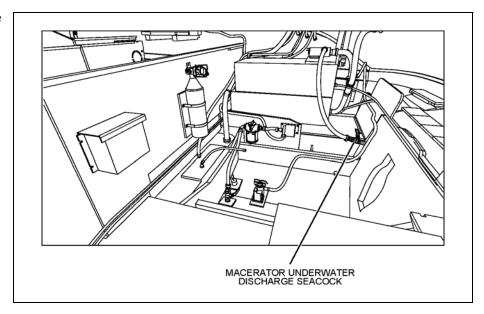
Fuel Fill Deck Fitting: Located on the starboard aft corner of the deck.



**Fuel Tank:** Access to the fuel tank fittings is in the forward area of the engine room bilge.

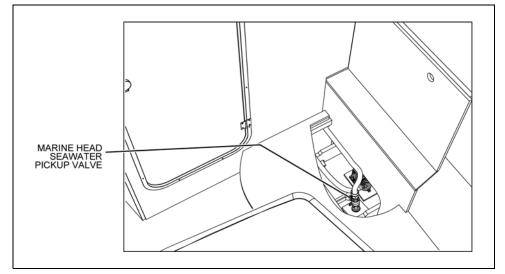


Macerator Underwater Discharge Seacock (If Equipped): Located in the engine room.

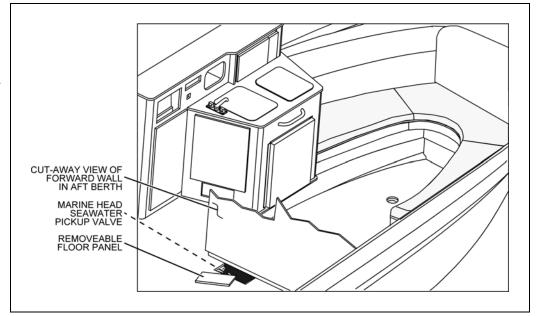


#### Marine Head Seawater Pickup Valve:

• If your cabin entry steps are removeable; access to the marine head seawater pickup valve is through the hatch in the bottom step.

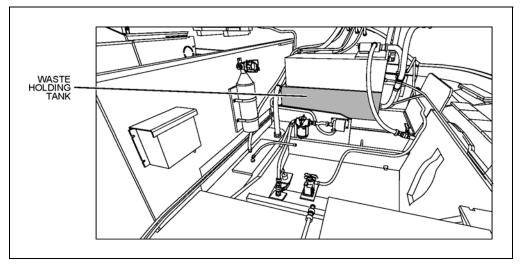


If your cabin entry steps are not removeable; access to the marine head seawater pickup valve is through a floor hatch at the bottom of the forward wall in the aft berth.

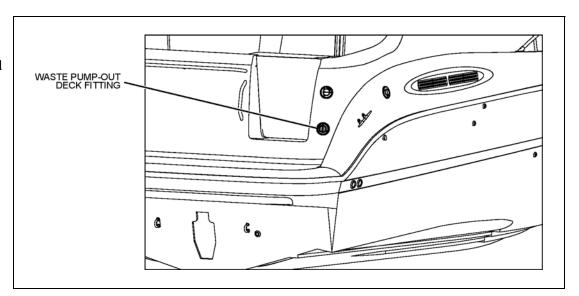


### Marine Head Waste Holding Tank (If Equipped):

Located on the starboard side of the engine room.

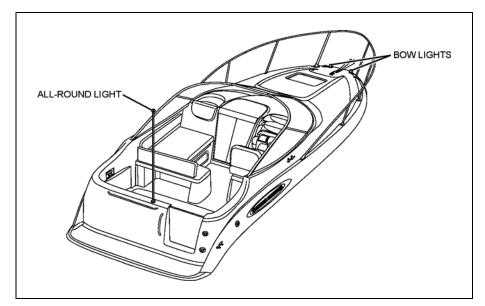


Marine Head Waste Pump-out Deck Fitting (If Equipped): Located on the starboard aft corner of the deck.

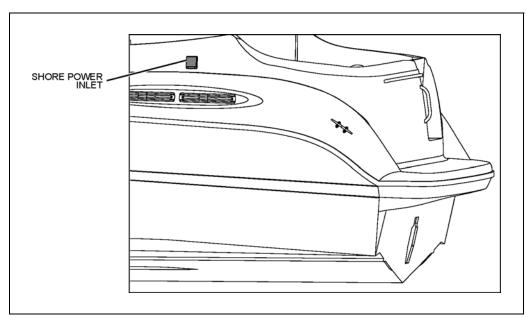


#### **Navigation Lights:**

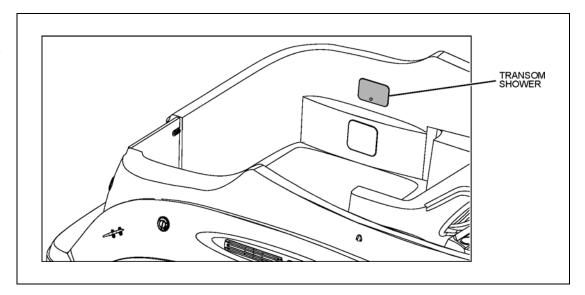
- The red and green bow lights are located on the forward deck.
- The white all-round light is located on the transom.



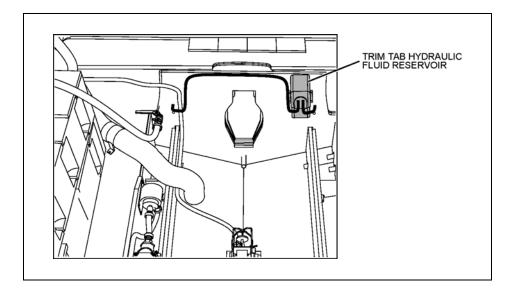
Shore Power Inlet (If Equipped): Located on the port side of the deck, above the louvers.



Transom Shower (If Equipped): Located on the port side of the cockpit.



**Trim Tab Hydraulic Fluid Reservoir:** Located on the aft wall in the engine room.



### Chapter 3: Propulsion & Related Systems

### **Engine**

### NOTICE

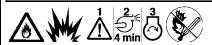
Read the engine manual BEFORE starting or working on your engine.

While the topics listed below may be included in this *supplement* and in the *Cruiser & Yacht Owner's Manual*, *always* refer to the engine manual first for specific information on these important subjects:

- Engine Break-in Procedure
- Engine Starting and Stopping
- Gear Shifting
- Fuel and Oil Recommendations
- Engine Maintenance
- Engine Storage/Winterization

### **Bilge Blower System**

### A WARNING!



#### FIRE and EXPLOSION HAZARD!

Fuel vapors can explode! BEFORE starting the engine:

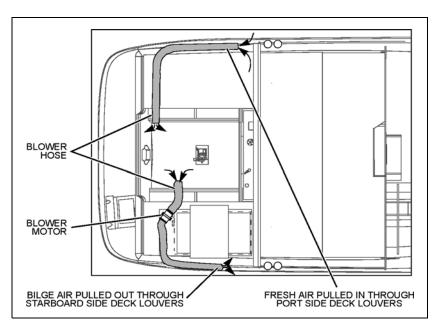
- 1. Check the bilge areas for fuel vapors or leaking fuel. If you see leaking fuel or smell fuel vapors:
  - a. Do NOT start the engine, do NOT turn On any electrical devices, put out ALL cigarettes, cigars, and other sources of flame or ignition.
  - b. Get everyone off your boat.
  - c. Get trained help to find and fix the problem.
- 2. Run the bilge blowers for at least four minutes *BEFORE* engine starting, electrical system work, or turning on electrical devices.
- If you smell fuel vapors and the engine is already running;
  - a. Shut Off the engine and turn Off ALL electrical devices.
  - b. Put out ALL cigarettes, cigars, and other sources of flame or ignition.
  - c. Get trained help to find and fix the problem.
- NEVER obstruct or change the bilge blower system.

#### The bilge blower system:

- Removes explosive vapors from engine and bilge areas.
- Draws fresh air into engine and bilge areas through the vents.

## To make sure engine and bilge areas are properly ventilated:

- Use the "sniff test" to check the engine and bilge areas for fuel vapors *before* starting the engine.
- Run the bilge blower for at least four minutes *before* starting the engine.
- Keep the blower *On* until your boat has reached planing speed.
- *Always* run the blower when running your boat below planing speed.





### **Fuel System**

### **WARNING!**



FIRE, EXPLOSION, and OPEN FLAME HAZARD!

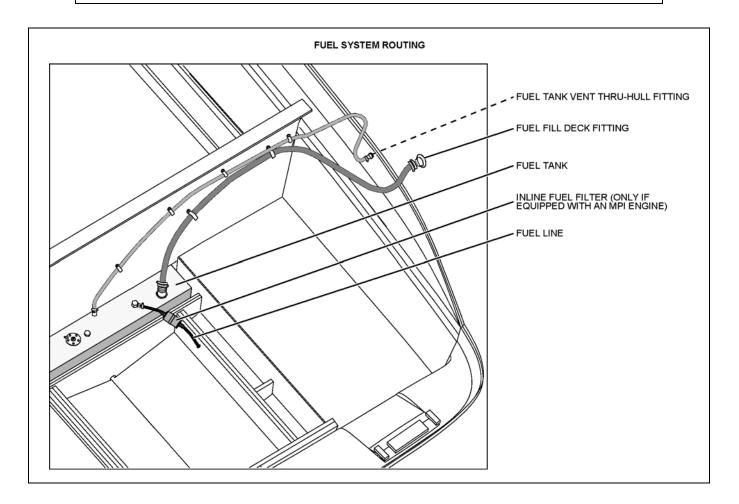
- Thoroughly inspect the fuel system for leaks every time you take on fuel.
- Fueling instructions are provided in the Cruiser & Yacht Owner's Manual, and fuel recommendations are provided in the engine operation manual. Carefully read this information.

### **CAUTION**

Avoid the storage or handling of gear near the fuel lines, fittings and tank.

### NOTICE

- On diesel engine models, air in the diesel supply system can stop an engine or severely restrict performance.
- If you suspect air in the fuel lines, refer to your engine operation manual for detailed instructions on how to bleed the system.





#### Fuel Fill & Vent

- The fuel fill deck fitting is marked "GAS".
- If you have problems filling the fuel tank, see if the fuel fill hose or fuel tank vent hose is kinked or collapsed.
- If there are no visible signs of a problem, contact your local dealer.

#### Anti-siphon Valve

### NOTICE

- If an engine running problem is diagnosed as fuel starvation, check the anti-siphon valve.
- If the valve is stuck or clogged, ONLY change or replace it while the engine is Off.
- NEVER run the engine with the anti-siphon valve removed, except in an emergency.
- The anti-siphon valve is a vital fuel system part.
- If the fuel line ruptures, this valve prevents the siphoning of fuel from the tank.
- The valve is located on the fuel tank, where the fuel feed line attaches to the tank.
- This spring-loaded valve is opened by fuel pump vacuum.

#### Fuel Filters

- The fuel pickup tube, located inside the fuel tank, is equipped with a fine mesh screen filter.
- Also, when supplied by the engine manufacturer, a fuel filter is installed on the engine.
- Periodically replace the fuel filter to make sure it remains clean and free of debris.
- Talk to your selling dealer or local marina about fuel additives that help prevent fungus or other buildup in your fuel tank.



### **Chapter 4: Controls & Gauges**

#### Steering

- Your boat features a power-assisted rack-and-pinion steering system.
- For information about the power-assist fluid reservoir, refer to the engine operation and maintenance manual.
- Boat steering is *not* self-centering.
- Refer to the engine manual for more steering system details.

#### **Shift/Throttle Controls**

### WARNING!

#### LOSS OF CONTROL HAZARD!

Improper maintenance of the shift/throttle hardware may cause a sudden loss of control!

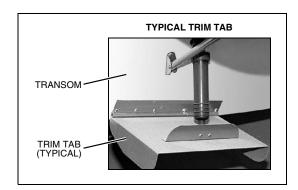
Read *all* of the information about the shift/throttle controls in the shift/throttle manual, the engine operation manual, and the *Cruiser & Yacht Owner's Manual*.

#### **Power Trim & Tilt**

- The stern drive on your boat is equipped with power trim and tilt.
- Trim and tilt instructions are provided in the engine operation manual and the shift/throttle manual.

#### **Trim Tabs**

- *Before* using the trim tabs, read the trim tabs' owner's manual.
- The trim tabs are controlled by two rocker switches at the helm.
- Check and refill the trim tab hydraulic fluid reservoir as directed in the trim tabs' owner's manual.
- For the location of the fluid reservoir, see the *Component Locations* section in *Chapter 2* of this *supplement*.





### Gauges

#### Cleaning the Gauges

### **⚠** CAUTION

#### PRODUCT or PROPERTY DAMAGE HAZARD!

- Use only mild soap and water to clean the gauge lenses and bezels.
- Use of other cleaners, including common window cleaning solutions, may cause the lenses to crack.
- Lenses cracked in this manner will *NOT* be covered by our warranty.

#### Gauge Fogging

- Moisture may occasionally find its way into the gauges causing lens fogging.
- Turning *On* the gauge lights will help dry the lenses.
- Fogging will not harm the gauges.

#### Radio Transmission Interference

VHF or other radio transmissions may cause brief erratic readings on the tachometer. This will not damage the tachometer gauge or affect its accuracy when not transmitting.

#### Fuel Gauge

It is normal for the pointer on your fuel gauge to bounce as fuel sloshes back and forth in the fuel tank.



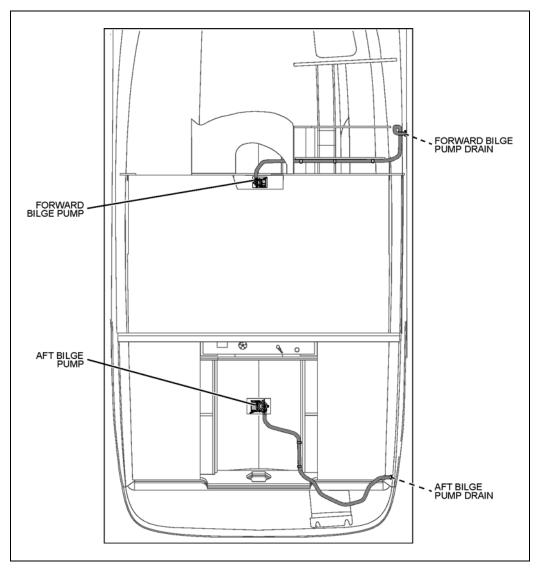
### **Chapter 5: Plumbing**

### **Bilge Pumps**

### NOTICE

Discharge of oil, oil waste, or fuel into navigable waters is prohibited by law. Violators are subject to legal action by the local authorities.

- Your boat has two bilge pumps for pumping water out of the bilge.
- Built-in autofloat switches turn *On* the bilge pumps if bilge water rises above a preset level.
- You can also turn *On* the bilge pumps using the switches at the helm.
- The bilge pumps are wired directly to the batteries. Unless the batteries are dead, the bilge pump system should keep working even when your boat is unattended.





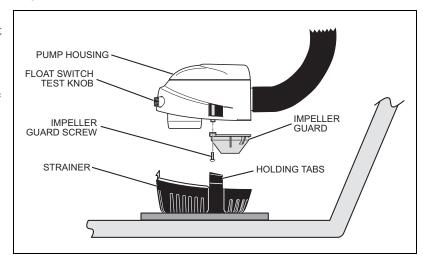
#### Bilge Pump Testing

- The bilge pump is vital to the safety of your boat.
- Test the bilge pump often.
- 1. Turn *On* the bilge pump switch at the helm.
- 2. Make sure that water in the bilge is pumped overboard.
- If there is water in the bilge and the pump motor is running but *not* pumping, inspect the discharge hose for a kink or collapsed area.

If the discharge hose looks okay, check the bilge pump and strainer for clogging debris.

#### Inspecting and clearing debris from the bilge pump:

- 1. Squeeze the holding tabs on each side of the strainer and pull the pump housing out of the strainer.
- 2. Remove debris from the strainer and the bottom of the pump housing.
- 3. Remove the impeller guard screw and the impeller guard.
- 4. Remove all debris from the pump chamber, from around the impeller, and from the tab slots on the sides.
- 5. Make sure the impeller is firmly attached to the shaft and is not cracked or broken.
- Reinstall the impeller guard and screw, and the pump housing on the strainer. Make sure both tabs lock into the slots.



#### **Built-in Autofloat Switch Testing**

- The autofloat switch turns the bilge pump *On* when water rises above a preset level.
- Test the autofloat switch often as follows:

#### Autofloat switch testing:

Twist the float switch test button to turn On the bilge pump.

- If the pump does not turn *On*, check the fuse on the fuse block.
- If the fuse is good, but the switch still does not work, it may mean the switch is bad, or the battery is dead.



### **Seawater Systems**

#### Seacocks

### **A** WARNING!

#### FLOODING and SWAMPING HAZARD!

- Close the seacock(s) when leaving your boat unattended for any length of time.
- If a seacock is left open, a hose failure could flood the bilge, swamp the batteries and the engine, and even sink your boat.

### **↑** CAUTION

#### SYSTEM DAMAGE HAZARD!

- BEFORE using any system that has a seacock, make sure that the system's seacock is Open.
- Inspect and lubricate all seacocks annually.

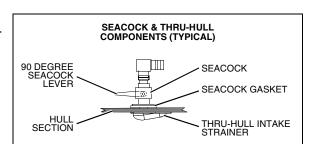
Thru-hull inlet or outlet fittings located near or below the waterline feature seacock valves. You can close a seacock to stop water entry:

- If the hose connected to the seacock fails, or;
- To work on equipment served by the seacock.

Seacocks are used on your boat in seawater intake or liquid-discharge systems including, but not limited to:

- Air conditioner (if equipped)
- Marine head (toilet)

Before using any system with a seacock, make sure the seacock is Open and stays Open until the system is shut Off.



#### Seawater Strainers

### **↑** CAUTION

#### FLOODING HAZARD!

- BEFORE taking apart a seawater strainer for cleaning or other work, Close the seacock that sends seawater to that strainer.
- Failure to close the seacock before taking apart the seawater strainer may allow large amounts of water to flood the bilge, which could swamp the batteries and the engine, and even sink your boat.
- Keep the seacock Closed until the seawater strainer is completely reassembled.

#### SYSTEM DAMAGE HAZARD!

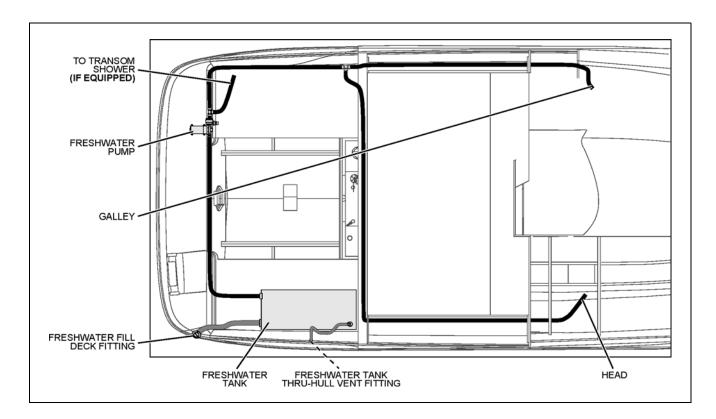
- After putting the seawater strainer back together, make sure that the seacock valve is *Open BEFORE* using the component/system.
- Seawater strainers are used to filter incoming seawater in *some* seawater intake systems. NOTE: Not all seawater intake systems have seawater strainers.
- If equipped, the seawater strainer is located near the seawater intake system's seacock.
- Check the strainers for leaks and/or debris *every time* you use your boat.
- Refer to the seawater strainer instruction sheet for cleaning and maintenance information.



### Freshwater System

### WARNING!

- ONLY use safe drinking (potable) water in your boat's freshwater system.
- ONLY use FDA approved "drinking water safe" hoses when filling the freshwater tank.
- NEVER use common garden hoses for drinking water.



- Read the Freshwater System section in the Cruiser & Yacht Owner's Manual.
- The freshwater fill deck fitting is marked WATER.
- Pressurize the freshwater system by either turning On the freshwater pump switch (the battery switch must also be On).
- For the location of the freshwater pump switch, see the *Component Locations* section in *Chapter 2* of this *supplement*.
- Turn *Off* the freshwater pump switch when your boat is *not* in use or when the freshwater tank is empty.
- Inspect and clean the freshwater filter often (the filter is located on the freshwater pump).
- If your boat is to be left unattended for a long period of time, pump the freshwater tank dry to prevent stored water from becoming stagnant and distasteful.
- If the freshwater system needs to be disinfected, ask your dealer about treatments available for your boat's system.

#### Transom Shower

- Read the manufacturer's instructions *before* using the transom shower for the first time.
- The freshwater pump switch *must* be turned *On before* using the transom shower.



#### Freshwater System Winterization

- 1. Turn *On* the freshwater pump switch.
- 2. *Open all* of the faucets and showers and let the freshwater system drain completely.
- 3. Turn *Off* the freshwater pump switch.

**All** of the remaining water **must** be removed from the water lines. There are two ways to remove the remaining water from the lines:

- Compressed Air
- Gravity Draining

#### **Compressed Air**

# **⚠** CAUTION

#### FRESHWATER SYSTEM DAMAGE HAZARD!

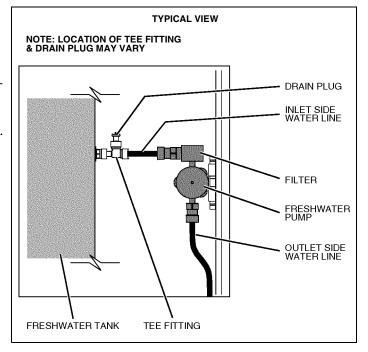
- A faucet MUST be Open when compressed air is blown through the freshwater system.
- NEVER blow compressed air through the water system when ALL of the faucets are Closed.

You *must* have an air compressor with an air hose and an air nozzle.

- 1. Remove the water line from the outlet side of the freshwater pump (opposite side from filter).
- Open the faucet that is furthest away from the freshwater pump.
- 3. Place the air nozzle against the end of the just removed water line and blow air through the system.
- 4. When water stops coming out of the faucet, stop the air and *Close* the faucet.
- 5. One at a time, repeat this process on *all* faucets and showers.

#### **Gravity Draining**

- 1. *Open all* faucets and showers.
- 2. Remove the drain plug from the tee fitting on the freshwater tank.
- 3. When the water has stopped draining from the freshwater tank and the water lines, replace the drain plug.





### Water Heater (If Equipped)

### A WARNING!



#### **SCALDING HAZARD!**

Water heated by the water heater can be hot enough to scald the skin.

### ♠ CAUTION

#### WATER HEATER DAMAGE HAZARD!

- Do *NOT* turn *On* the water heater circuit breaker on the 110-volt AC master panel until the water heater tank is *COMPLETELY* filled with water.
- The tank is full if water flows from the tap when the hot water is turned On in the galley.
- Even brief water heater operation with a dry tank WILL damage the heating elements.
- Warranty replacements will *NOT* be made on elements damaged in this manner.
- Turn the power *Off* and drain the water heater when the chance of freezing exists (see the winterizing instructions on the next page).

#### NOTICE

If 110-volt AC power is being provided by shore power, but the water heater is not working:

- Make sure the water heater circuit breaker on the 110-volt AC master panel is switched On.
- If the circuit breaker is *On*, but the water heater is still not working, ask your dealer how to check the push-to-reset circuit breaker located on the water heater.
- Read the water heater instruction manual and heed the warnings above.
- The water heater is connected to the 110-volt AC power system.
- To heat the water, turn *On* the water heater circuit breaker on the 110-volt AC master panel.



#### Winterizing the Water Heater

# **↑** CAUTION

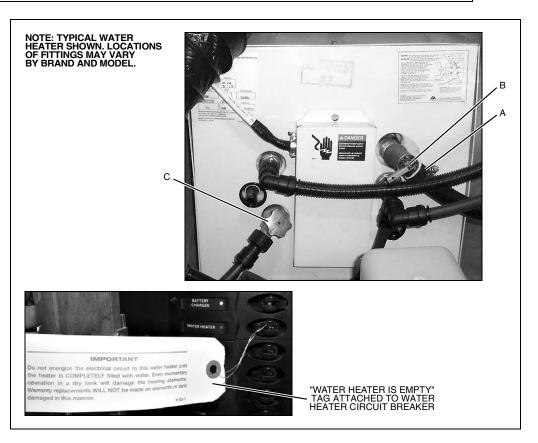
#### WATER HEATER DAMAGE HAZARD!

- *NEVER* turn *On* the water heater breaker on the 110-volt AC master panel while the water heater tank is empty.
- Even brief water heater operation with a dry tank WILL damage the heating elements.
- Warranty replacements will *NOT* be made on elements damaged in this manner.
- To prevent damage to the water heater after winterizing, always label the breaker switch on the 110-volt AC master panel as 'winterized'.

### NOTICE

The freshwater system *MUST* be drained *BEFORE* winterizing the water heater (see the *Freshwater System Winterization Instructions* on the previous page).

- 1. Turn *Off* the water heater breaker.
- 2. Disconnect the hose (A) attached to the pressure relief valve (B), and drain any water from the hose into the bilge or into a bucket.
- 3. *Open* the pressure relief valve (B).
- 4. *Open* the drain valve (C).
- Attach a tag to the water heater breaker to indicate that the tank is empty.
- NOTE: Your boat came with a tag attached to the water heater breaker. It is suggested that you keep this tag and re-use it when winterizing.
- Leave the pressure relief and drain valves *Open* until you fit out your boat after storage.



#### Preparing the Water Heater for Use After Winterizing

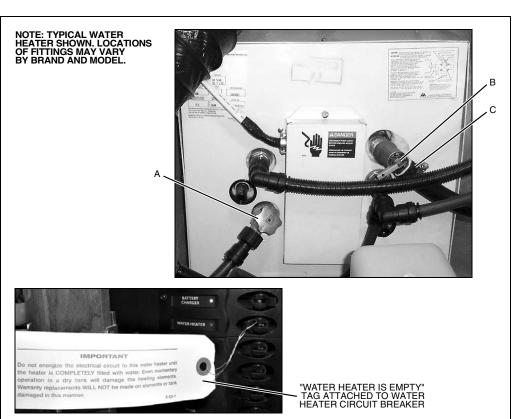
# **⚠** CAUTION

#### WATER HEATER DAMAGE HAZARD!

- Fill the water heater tank *BEFORE* turning *On* the water heater circuit breaker on the 110-volt AC master panel.
- *NEVER* turn *On* the water heater circuit breaker on the 110-volt AC master panel while the water heater tank is empty.
- To make sure the tank is full, turn *On* a hot water faucet. If water flows from the tap, the water heater tank is full.
- Even brief water heater operation with a dry tank WILL damage the heating elements.
- Warranty replacements will *NOT* be made on elements damaged in this manner.

Perform the following steps to put your winterized water heater back in service:

- 1. *Close* the drain valve (A).
- 2. *Close* the pressure relief valve (B).
- 3. Connect the hose (C) to the pressure relief valve (B).
- 4. Fill the water heater tank with freshwater.
- 5. Remove the 'winterized' tag on the water heater breaker on the 110-volt AC master panel *after* the water heater tank is *completely* filled with freshwater.
- 6. Turn *On* the water heater breaker.





### **Drain Systems**

#### **Deck Drains**

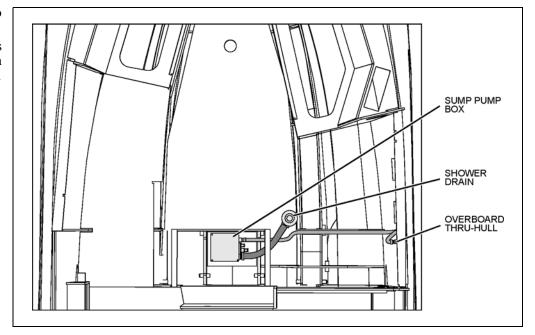
- Water on the deck is gravity drained overboard through the deck drains.
- Keep the deck drains free of debris.

#### Sink Drains

The sinks are above the waterline and are gravity drained overboard.

#### Shower Drain System (If Equipped)

- Shower water drains into a sump pump box.
- An autofloat switch turns *On* the sump pump when the drain water rises to a preset level, and the drain water is pumped overboard.
- Read the sump system instruction sheet, paying special attention to the maintenance and cold weather instructions.





### **Portable Toilet (If Equipped)**

## NOTICE

Check with local authorities for regulations regarding the legal use of marine head systems.

Read the manufacturer's operating instructions *before* using the portable toilet.

### Marine Head & Holding Tank (If Equipped)

### WARNING!

#### FLOODING and SWAMPING HAZARD!

- Close the seawater intake seacock when leaving your boat unattended for any length of time.
- If the seacock is left open, a hose failure could flood the bilge, swamp the batteries and engine, and even sink your boat.

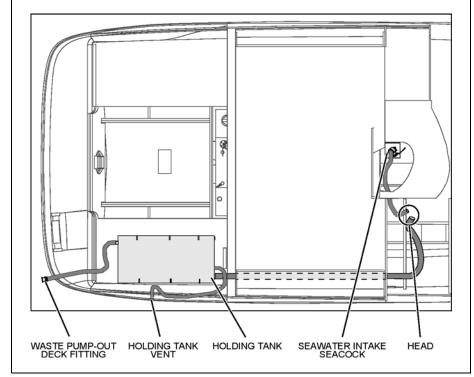
### NOTICE

Check with local authorities about the legal use of marine head systems.

- **Before** using this system, read the marine head's operation and maintenance manual.
- Look at the side of the holding tank to check the content level.
- The dockside pump-out deck fitting is marked WASTE.
- Empty the holding tank at every opportunity.

#### **Using the Marine Head**

- 1. *Open* the head's seawater intake seacock (the location of this seacock is described in the *Component Locations* section of *Chapter 2*).
- 2. **Before** using the head, pump water into the bowl to wet the sides.
- 3. After use, pump until the bowl is clean.
- 4. Pump a few more times to clean the lines.



- 5. If excess waste causes the water to rise in the bowl, stop pumping until the water recedes.
- Close the intake seacock when the system will not be used for long periods of time.

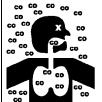
#### Winterizing the System

Read the marine head's operation and maintenance manual for winterizing instructions.



### Air Conditioner (If Equipped)

# A DANGER!



#### CARBON MONOXIDE POISONING HAZARD!

- Dangerous carbon monoxide gas (CO) can be brought into your boat through the air conditioning system.
- Read the Carbon Monoxide (CO) section in Chapter 1 of this supplement.

# **A** WARNING!

#### FLOODING and SWAMPING HAZARD!

- Close the seawater intake seacock before leaving your boat unattended.
- If the seacock is left open, a hose failure could flood the bilge, swamp the battery and engine, and even sink your boat.

# **↑** CAUTION

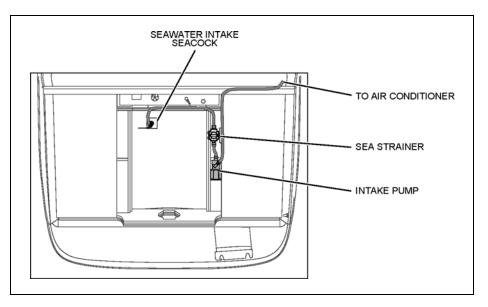
#### SYSTEM DAMAGE HAZARD!

- *Open* the air conditioner system's seawater intake seacock *BEFORE* turning *On* the air conditioner.
- This seacock MUST stay Open until the air conditioner is turned off.

Read the air conditioner manual *before* using the air conditioning system for the first time.

#### **Before Each Use**

- Turn *On* the air conditioner breaker on the 110-volt AC master panel.
- Open the seawater intake seacock. This seacock must remain Open while you're running the air conditioner.
- Check the seawater strainer for debris. If needed, clean the strainer as described in the *Seawater Systems* section of this chapter.





# **Chapter 6: Deck Equipment**

### Cleats & Bow/Stern Eyes

### A WARNING!

PERSONAL INJURY and/or PRODUCT or PROPERTY DAMAGE HAZARD!

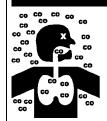
NEVER lift your boat using the bow/stern eyes or the cleats.

Read the section on towing in the Cruiser & Yacht Owner's Manual before:

- Towing anything behind your boat.
- Being towed by another vessel.

### Canvas & Vinyl Tops & Enclosures

### A DANGER!



#### CARBON MONOXIDE POISONING HAZARD!

- NEVER use full canvas and vinyl enclosures when the engine or generator is running..
- For proper fresh air circulation, remove forward, aft, and both side enclosure curtains *BEFORE* starting the engine or generator.
- Read the Carbon Monoxide (CO) section in Chapter 1 of this supplement.

# **↑** CAUTION

#### PRODUCT or PROPERTY DAMAGE HAZARD!

Take down and securely stow ALL canvas & vinyl BEFORE your boat is transported by road.

### NOTICE

BEFORE cleaning and/or stowing your canvas or vinyl, read the sections later in this chapter, Canvas Care and Clear Vinyl Care.

### NOTICE

Two people are needed for most of the tasks listed in this section.

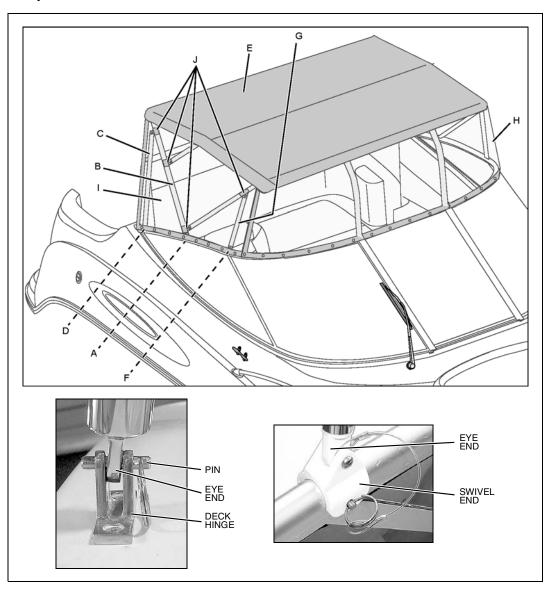
### NOTICE

Some canvas and vinyl options may not be described. Make sure your dealer explains how to install all canvas and vinyl.



#### Installing the Bimini Top & Enclosure Curtains

- 1. Slide the windshield hinges (A) of the main bow (B) onto the windshield frame and secure with the pins.
- 2. Slide the eye ends of the aft legs (C) into the deck hinges (D) and secure with the pins.
- 3. Unfold the canvas top (E) and slide the windshield hinges (F) of the forward legs (G) onto the windshield frame and secure with the pins.
- 4. If equipped, zip the front curtain (H) and the side curtains (I) to the top (E) first and then snap the curtains to the windshield frame.
- The jaw slides (J) should not need to be adjusted.
- If you decide to adjust the jaw slide positions, obtain the correct measurements from your selling dealer.





#### Canvas Care (see also 'Clear Vinyl Care' on next page)

- After each use, especially in saltwater, rinse the canvas with cold freshwater.
- Before stowing, let the canvas air-dry completely.
- The canvas can be rolled or folded for stowage.

#### **Cleaning the Canvas**



*NEVER* use detergents when washing the canvas. Detergents can destroy the water repellency, and mildew/UV resistant finish of your canvas.

Regularly clean the canvas to prevent dirt, pollen, and etc. from embedding in the fabric. Generally, it is easiest to wash the canvas while it is installed on your boat.

- Use a soft-bristled brush to remove all dust and loose dirt.
- 1. Hose down the canvas with freshwater.
- 2. Gently wash the canvas with a solution of lukewarm water (no more than 100° F) and non-detergent mild soap, such as Ivory Snow®, Dreft®, or Woolite®.
- 3. Rinse thoroughly to remove the soap.
- 4. **Before** stowing, let the canvas dry completely.

#### Stubborn Stains

# **⚠** CAUTION

- Soaking in bleach solutions may remove the waterproof finish of the fabric and may also decrease the life of the polyester thread used in the canvas.
- If needed, a water repellent treatment should be reapplied to your canvas. Ask your dealer about the treatments available for your boat's canvas.

Some stubborn stains may resist normal washing and you can try the methods below. However, these methods may remove the waterproof finish of the fabric and may also decrease the life of the polyester thread used in the canvas. Reapply a water repellent treatment as needed.

#### Method 1

- 1. Add 1/8 cup (1 oz.) of **non-chlorine** bleach to one gallon of water and mix thoroughly.
- 2. Thoroughly wet the canvas and then gently scrub the stained area with the weak bleach solution.
- 3. Rinse with cold water to remove all of the solution.

#### Method 2

- 1. Add 1/2 cup (4 oz.) of **non-chlorine** bleach and 1/2 cup (4 oz.) Ivory Snow®, Dreft®, or Woolite® to one gallon of water and mix thoroughly.
- 2. Soak the canvas in this solution for about 20 minutes.
- 3. Rinse with cold water to remove all of the solution.



#### Clear Vinyl Care

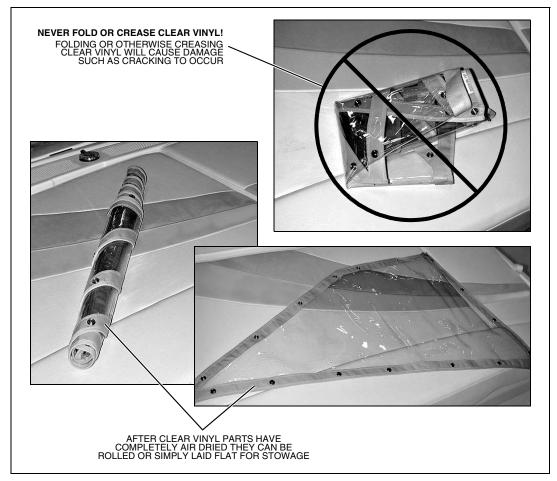
# **⚠** CAUTION

- NEVER store the clear vinyl pieces wet, as this will cause a milky film to develop.
- NEVER fold or crease the clear vinyl pieces as cracking will occur.
- Clear vinyl is NOT intended for use when your boat is in storage or being moored.
- Clear vinyl does NOT hold up well against ultraviolet rays.
- Under direct sunlight conditions, do *NOT* let the clear vinyl touch the framework. The framework radiates heat and can burn the clear vinyl.
- After each use, especially in saltwater, rinse the clear vinyl with cold freshwater.
- *Before* stowing, the clear vinyl must be completely dry. Air-drying is best, but you can also carefully dry the vinyl with a chamois or soft cotton cloth.
- The clear vinyl can be rolled or laid out flat for stowage.
- Never fold or crease the clear vinyl parts as cracking will occur.

# Cleaning Clear Vinyl

Regularly clean the clear vinyl to prevent dirt, pollen, and etc. from marring the surface. Generally, it is easiest to clean the clear vinyl while it is installed on your boat.

- 1. Hose down the clear vinyl with freshwater.
- 2. Using a soft cotton cloth (paper towels are abrasive and must never be used on clear vinyl), gently wash the clear vinyl with soap and water.



- 3. Rinse thoroughly to remove the soap.
- 4. *Before* stowing, the clear vinyl must be completely dry. Air-drying is best, but you can also carefully dry the vinyl with a chamois or soft cotton cloth.
- Ask your dealer about products available to keep the clear vinyl polished and looking new.

# Chapter 7: Appliances & Entertainment Systems

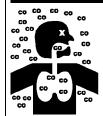
#### NOTICE

ALWAYS keep an approved ABC-type fire extinguisher in galley area.

- All appliances and entertainment systems have their own instruction sheets and/or manuals that contain detailed information and important safeguards.
- Read these instruction sheets and manuals *before* using your boat's appliances and entertainment systems.
- If applicable, make sure the 110-volt AC breaker is turned *On* for the appliance or entertainment system you wish to use.

### Alcohol/110-Volt Electric Stove (If Equipped)

### A DANGER!



#### CARBON MONOXIDE POISONING HAZARD!

- The alcohol stove is a source of dangerous carbon monoxide gas (CO).
- BEFORE using the alcohol stove, Open doors and windows to make sure there is enough fresh air for ventilation.
- Read the Carbon Monoxide (CO) section in Chapter 1 of this supplement.

### A WARNING!

- Open flame cooking appliances consume oxygen. This can cause asphyxiation or death.
- Maintain open ventilation.

# **À** WARNING!



#### BURN/SCALDING and/or FIRE HAZARD!

- Read the stove's instruction manual BEFORE using.
- ALWAYS keep an approved ABC-type fire extinguisher in the galley area.
- Do *NOT* use the stove while underway.
- Any non-cooking devices on or near your stove during use are potential fire hazards!
- Do NOT touch the burners, grates or nearby surfaces as they may be hot even when they are dark in color.
- Areas near the burners and grates may become hot enough to cause burns.
- During and after use, do *NOT* touch or let clothing or other flammable material come in contact with the heated units or the areas near the units (burner tops, main frame sides and back, sea rails and pot holders) until they have had sufficient time to cool.

# **↑** CAUTION

#### PRODUCT DAMAGE HAZARD!

NEVER use alcohol and electric burners at the same time. To do so will cause overheating, which can destroy the electric elements.



# **Refrigerator (If Equipped)**

The refrigerator runs on 12-volt DC power *unless* 110-volt AC power is being supplied by shore power *and* the refrigerator's 110-volt AC master panel circuit breaker is On.

# **Audio Equipment**

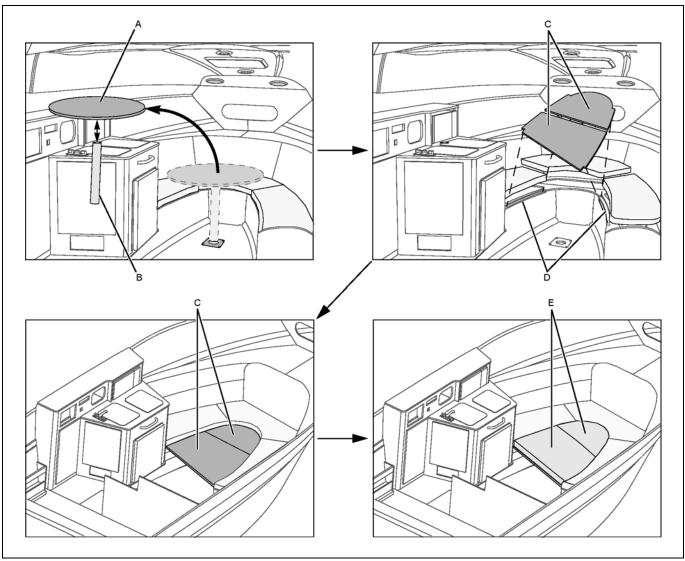
## **NOTICE**

AM radio reception may be impaired anytime the engine is running.



# Chapter 8: Convertible Seats, Beds, & Tables

## **Dinette To V-Berth Conversion**



The dinette table can be removed and the dinette area can be converted into a berth.

- 1. Remove the table (A) and the table leg (B).
- 2. Place the filler boards (C) so that they fit securely into the recessed edges (D) at the edge of the dinette seats.
- 3. Place the filler cushions (E) on top of the filler boards (C).



# **Chapter 9: Lights**

#### **Care & Maintenance**

Although all lights installed on your boat are of top quality, they will occassionally fail. Always carry spare bulbs of the correct size and wattage, but before replacing non functioning lights, check for other common causes, such as:

- There may be a blown fuse replace the fuse.
- A wire may be damaged or may have come loose repair as required.
- The bulb base may be corroded clean the base and coat it with non-conductive electrical lubricant.

### **Interior & Exterior Lights**



- Be conservative in the use of battery power.
- Prolonged use of cabin interior lights (overnight) WILL result in a drained battery.
- The lights are powered by your boat's 12-volt DC system.
- The battery switch *must* be turned *On* for the lights to work.

### **Navigation Lights**

# **↑** CAUTION

Avoid the storage of gear where it would block navigation lights from view.

### NOTICE

Running lights are legally required to show boat direction and right-of-way at night.

### Spotlight (If Equipped)

Read the spotlight operating instructions *before* using the spotlight.



# **Chapter 10: Electrical System**

### A DANGER!



#### EXTREME FIRE, SHOCK and EXPLOSION HAZARD!

- *NEVER* install non-ignition protected switches or other arcing devices in the fuel compartment.
- NEVER substitute automotive parts for marine parts. Marine electrical, ignition, and fuel system parts were designed and manufactured to comply with rules and laws that minimize the risks of fire and explosion.
- NEVER change the electrical systems or relevant drawings.
- Allow ONLY trained personnel to install batteries and/or do electrical system work.
- Make sure that ALL battery switches are turned Off BEFORE working in the engine spaces.

### A WARNING!



#### FIRE and EXPLOSION HAZARD!

Fuel vapors can explode! *BEFORE* turning on electrical devices or working on the electrical system:

- 1. Check the bilge areas for fuel vapors or leaking fuel. If you see leaking fuel or smell fuel vapors:
  - a. Do *NOT* start the engine or generator (if equipped), do *NOT* turn *On* any electrical devices, put out *ALL* cigarettes, cigars, and other sources of flame or ignition.
  - b. Get everyone off your boat.
  - c. Get trained help to find and fix the problem.
- 2. Run the bilge blower(s) for at least four minutes *BEFORE* engine starting, electrical system work, or turning on electrical devices.

# **↑** CAUTION



### SHOCK and ELECTRICAL SYSTEM DAMAGE HAZARD!

When the engine is running, NEVER turn Off the battery switch or disconnect the battery cables. Doing either could cause damage to your boat's engine and/or electrical system.

### NOTICE

Electrical connections are prone to corrosion. To reduce corrosion-caused electrical problems:

- Keep ALL electrical connections clean.
- · Apply a spray-on protectant that is designed to protect connections from corrosion.



### 12-Volt DC System

#### **Batteries**

- The batteries supply electricity for lights, 12-volt accessories and engine starting.
- The *Electrical* section in *Chapter 8* of the *Cruiser & Yacht Owner's Manual* provides battery care and maintenance instructions.

#### Battery Switch (If Equipped with One Battery)





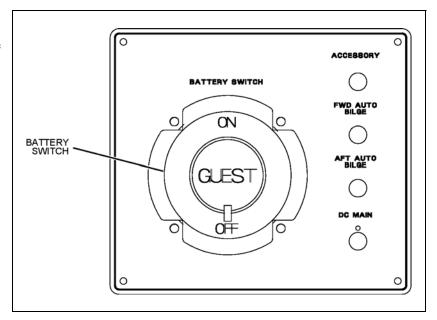
#### SHOCK and ELECTRICAL SYSTEM DAMAGE HAZARD!

When the engine is running, *NEVER* turn *Off* the battery switch or disconnect the battery cables. Doing either could cause damage to your boat's engine and/or electrical system.

### NOTICE

Make sure your selling dealer fully explains how to use the battery switch.

- Standby-loads, such as the automatic bilge pumps and the stereo memory, are not affected by the battery switch because they are wired directly to the battery.
- Turn the battery switch to the *Off* position whenever your boat will be unoccupied for long periods of time.



#### Battery Switch (If Equipped with Two Batteries)

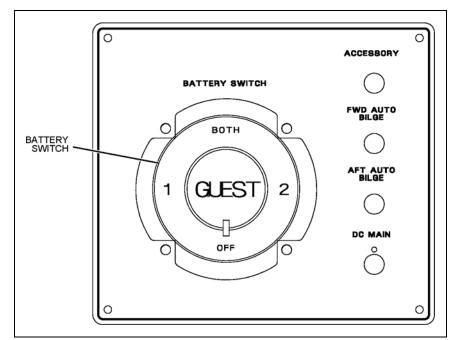
# **⚠** CAUTION



#### SHOCK and ELECTRICAL SYSTEM DAMAGE HAZARD!

When the engine is running, *NEVER* turn *Off* the battery switch or disconnect the battery cables. Doing either could cause damage to your boat's engine and/or electrical system components.

- Standby-loads, such as the automatic bilge pumps and the stereo memory, are not affected by the battery switch since they are wired directly to the batteries.
- Turn the battery switch to the *Off* position whenever your boat will be unoccupied for long periods of time.



#### **Battery Switch Positions**

### NOTICE

Since your boat's batteries were installed by your dealer, the battery switch positions listed below may vary. Make sure your selling dealer fully explains how to use the battery switches.

BATTERY SWITCH POSITIONS	ENGINE STARTING	ACCESSORIES & LIGHTS	ENGINE ALTERNATOR	BATTERY CHARGER
POSITION 1	Battery <u>1</u> provides start- ing power	Battery <u>1</u> provides power for accessories and lights	Charges battery <u>1</u>	Charges BOTH batteries
POSITION 2	Battery <u>2</u> provides start- ing power	Battery <u>2</u> provides power for accessories and lights	Charges battery <u>2</u>	Charges BOTH batteries
POSITION BOTH or 1 & 2	BOTH batteries Provide starting power	BOTH batteries provide power for accessories and lights (not advised unless engine is running)	Charges BOTH batteries	Charges BOTH batteries



#### Fuses & Circuit Breakers

- Circuit breakers for the engine and main accessory power are on the 12-volt DC push-to-reset circuit breaker panel and on the battery switch panel.
- See the *Component Locations* section in *Chapter 2* for the locations of the battery switch panel and the 12-volt DC push-to-reset circuit breakers.

NOTE: Some equipment may have secondary fuse protection at the unit, or behind the battery switch panel, or at the batteries.

#### 12-Volt DC Accessory Outlets

# **↑** CAUTION

Do NOT use the 12-volt DC accessory outlet with a cigarette or cigar lighter. High temperatures may melt the outlet.

- These accessory outlets can be used with any 12-volt device that draws 15-amps or less.
- The 12-volt DC accessory outlets are protected by a 15-amp breaker on the 12-volt DC push-to-reset circuit breaker panel.
- See the Component Locations section in Chapter 2 for the location of the 12-volt DC accessory outlets.

#### Alternator

The alternator charges the battery when the engine is running at, or above, cruising speeds.

#### Battery Charger (If Equipped)

# **↑** CAUTION

ENGINE and ELECTRICAL SYSTEM DAMAGE HAZARD!

NEVER run your boat's engine and the battery charger at the same time.

### **⚠** CAUTION

- The battery charging systems (alternator and battery charger) installed on your boat are designed to charge conventional lead-acid batteries.
- *BEFORE* installing gel-cell or other new technology batteries, consult with the battery manufacturer about charging system requirements.
- **Before** using the battery charger, read **all** instructions and warnings: (1) on the battery charger, (2) on the batteries, and (3) in the battery charger manual.
- The battery charger will automatically charge your boat's batteries when 110-volt AC power is being provided by shore power, *and* the battery charger circuit breaker on the 110-volt AC master panel is *On*.
- The battery switch(es) can be in any position during charging.
- During battery charging you may use 12-volt accessories, such as the lights and stereo, but battery charging will take longer.



### 110-Volt AC System (If Equipped)

# **∴** CAUTION

#### WATER HEATER DAMAGE HAZARD!

- Do *NOT* turn *On* the water heater circuit breaker on the 110-volt AC master panel until the water heater tank is *COMPLETELY* filled with water.
- The tank is full if water flows from the tap when the hot water is turned On in the galley.
- Even brief water heater operation with a dry tank WILL damage the heating elements.
- Warranty replacements will NOT be made on elements damaged in this manner.

### **NOTICE**

- When using shore power, the use of several 110-volt AC accessories at the same time can result in an overloaded circuit.
- You may have to turn Off one or more accessories to use another accessory.
- To gain a basic understanding of your boat's 110-volt AC system, read the handbook, *A Boater's Guide To AC Electrical Systems*. If this handbook is not in your owner's packet, call 360-435-8957 and the handbook will be mailed to you.
- The 110-volt AC system is energized by shore power.
- Individual breakers on the 110-volt AC master panel *must* be turned *On* to supply power to the accessories you wish to use.
- The 110-volt AC master panel may contain circuit breakers for accessories that are *not* available for your boat.



#### Shore Power

### A DANGER!



### FIRE, EXPLOSION and SHOCK HAZARD!

- Use ONLY compatible shore power connectors and NEVER alter the connectors.
- Turn Off ALL breakers and switches on the 110-volt AC master panel BEFORE plugging in or unplugging the shore power cord.
- To prevent shock or injury from dropping a "hot" cord into the water:
  - a. ALWAYS plug the shore power cord into the boat inlet first, and then into the dockside outlet.
  - b. When unplugging from shore power, ALWAYS unplug the shore power cord from the dockside outlet first.
- NEVER leave the shore power cord plugged into the dockside outlet ONLY.
- ONLY use shore power cords approved for marine use. NEVER use ordinary indoor or outdoor extension cords.

### A WARNING!



#### SHOCK and ELECTRICAL SYSTEM DAMAGE HAZARD!

- Monitor the polarity indicator lights *EVERY TIME* you connect to shore power.
- If a reversed polarity light turns *On* when you are connecting to shore power, do *NOT* turn *On* the main breaker switches.
- Instead, *IMMEDIATELY* unplug the shore power cord (*ALWAYS* from the dockside outlet first) and alert marina management.

### A WARNING!



#### SHOCK and ELECTRICAL SYSTEM DAMAGE HAZARD!

- BEFORE each use, check the shore power cord for defects or damage.
- NEVER use a damaged or faulty cord since the danger of fire and electrical shock exists.
- Do *NOT* pinch the shore power cord in doors or hatches, or coil the shore power cord too tightly, since these situations can generate enough heat to result in a fire.
- If a shore power cord is dropped into the water, *COMPLETELY* dry the blades and contact slots *BEFORE* using.

# **↑** CAUTION



#### ELECTRICAL SYSTEM DAMAGE HAZARD!

- NEVER connect to dockside power outside of North America unless you have the international electrical conversion option.
- Using several 110-volt AC accessories at the same time can result in an overloaded circuit. You may have to turn *Off* one or more accessories to use another accessory.
- Use double insulated or three-wire protected electrical appliances whenever possible.

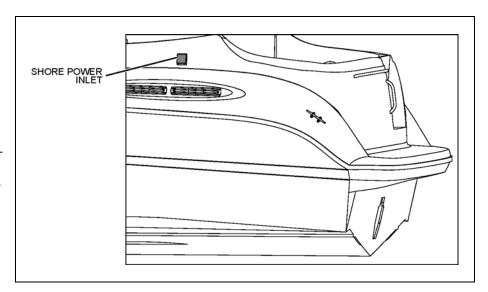
#### Connecting to Shore Power

# 🛕 WARNING!



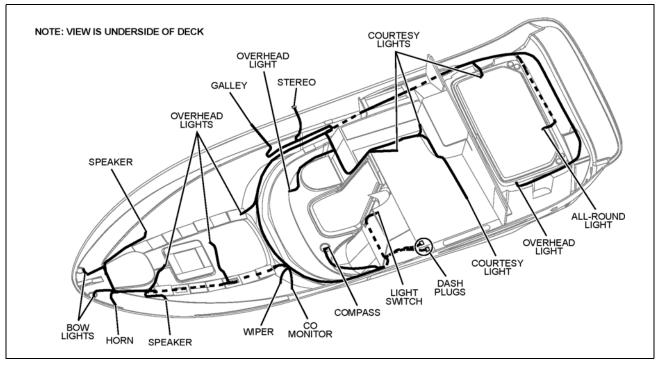
#### SHOCK and ELECTRICAL SYSTEM DAMAGE HAZARD!

- Monitor the polarity indicator lights *EVERY TIME* you connect to shore power.
- If a reversed polarity light turns *On* when you connect to shore power, do *NOT* turn *On* the main breaker switches.
- Instead, *IMMEDIATELY* unplug the shore power cord (*ALWAYS* from the dockside outlet first) and alert marina management.
- 1. Review *all* hazard information on the previous page.
- Turn *Off all* breakers and switches on the 110-volt AC master panel.
- Attach the shore power cord to the boat inlet first, then to the dockside outlet.
- 4. Turn the SHORE POWER master breaker *On*.
- 5. As needed, turn *On* the individual component breakers on the 110-volt AC master panel.

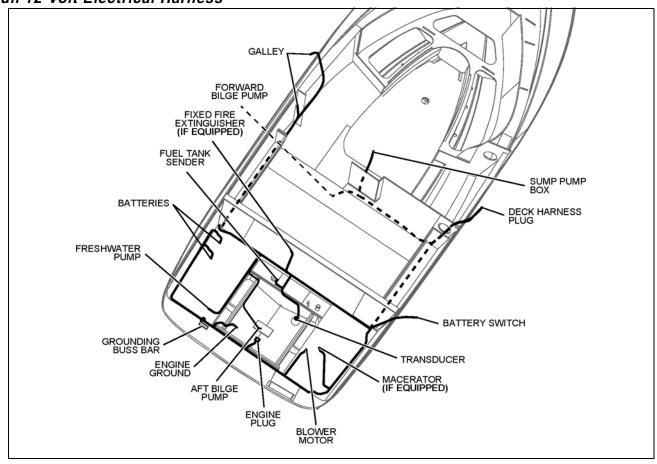


# **Electrical Routings**

Deck 12-Volt Electrical Harness

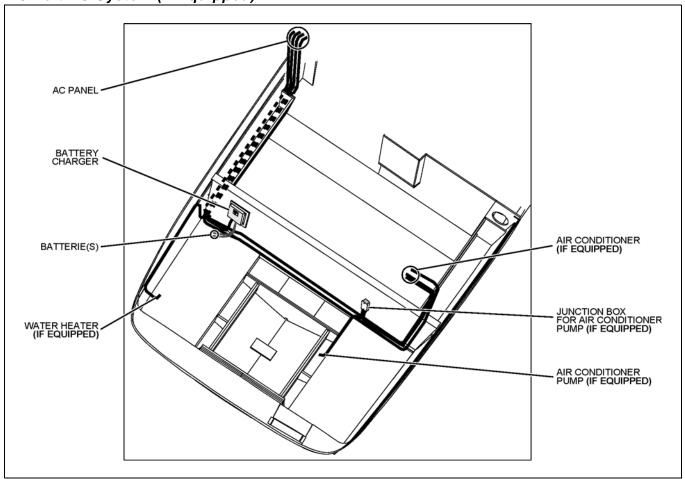


Hull 12-Volt Electrical Harness





## 120-Volt AC System (If Equipped)



# **Important Records**

Selling Dealer		Key Numbers		
	Name Of Dealership		Ignition	Other
	Address			
	Phone/FAX/E-mail		Electronics	
	Sales Manager		Manufacturer	Model Name/Number
	Service Manager		Serial	l Number
Engine			Manufacturer	Model Name/Number
			Serial	l Number
Manufacturer	Mode	el Name/Number		
	Engine Serial Number		Manufacturer	Model Name/Number
Oil Type/SAE	Quarts per Engine	Filter Type	Serial	Number
Propeller			Manufacturer	Model Name/Number
Manufacturer	<del></del>	Pitch	Serial	l Number
	Model Number		Manufacturer	Model Name/Number
			Serial	l Number
			Manufacturer	Model Name/Number
			Serial	Number
			Manufacturer	Model Name/Number
			Serial	l Number



# Float Plan

Before going boating, fill out a copy of this float plan (or similar) and leave it with a *reliable* person whom you can depend on to contact the Coast Guard or other rescue organization, if you do not return as scheduled.

### **Description of Boat**

Registration/Documentation Number					
Length	Make	Туре	Age	Health	Phone Number
Hull Color		Trim Color			
				Full Name	
Fuel Capacity	Engine Type	Number of Engines			
			Age	Health	Phone Number
	Distinguishing Features				
	Distinguishing Foots	<u> </u>		Full Name	
	Distinguishing Features				
		-	Age	Health	Phone Number
Operator of	Boat				
	2001	-		Full Name	
	Full Name				
			Age	Health	Phone Number
Male or Female	Age	Health			
		-		Full Name	
	Address				
		<u> </u>	Age	Health	Phone Number
	Address				
	Phone/FAX/E-mail			Full Name	
	Operator's Experience		Age	Health	Phone Number
D	L	-		Full Name	
Persons On	iboard				
		<u> </u>	Age	Health	Phone Number
	Full Name				
Age	Health	Phone Number		Full Name	
<b>3</b> -					
		-	Age	Health	Phone Number
	Full Name				
Age	Health	Phone Number			



# **Survival Equipment**

Marine Radio (Yes/No)	Туре	Frequencies	Departir	ng From
Number of PFDs	Flares (Yes/No)	Mirror (Yes/No)	Departure Date	Departure Time
Smoke Signals (Yes/No)	Flashlight (Yes/No)	Food (Yes/No)	Stopo	over 1
\M+- :: (\/ /N -)	A (V (N - )	D-#/Dia-shor ()/ (NI-)		
Water (Yes/No)	Anchor (Yes/No)	Raft/Dinghy (Yes/No)	Arrive No Later Than: Date	Arrive No Later Than: Time
Paddles (Yes/No)	EPIRB (Yes/No)	Other		
Other	Other	Other	Stopo	over 2
			Arrive No Later Than: Date	Arrive No Later Than: Time
Vehicle Desc	cription		Stone	over 3
			Зюрс	vei 3
Make		Model	Arrive No Later Than: Date	Arrive No Later Than: Time
Color	L	icense Number		
10	/here is the Vehicle Parked	2	Stopo	over 4
***	nere is the vehicle i alked	•	Arrive No Later Than: Date	Arrive No Later Than: Time
			Stopo	over 5
			Arrive No Later Than: Date	Arrive No Later Than: Time
			Stopo	over 6
			Arrive No Later Than: Date	Arrive No Later Than: Time
			Final Destination Port (If I	Different Than Home Port)
			Arrive No Later Than: Date	Arrive No Later Than: Time
			If not returned by the date the Coast Guard or other	and time listed above, call ocal authority.
			Coast Guard F	Phone Number
			Local Authority	Phone Number

**Trip Expectations** 



# **Owner's Notes**

# **Owner's Notes**

# **Owner's Notes**

**Part Number 2016133** (r1)