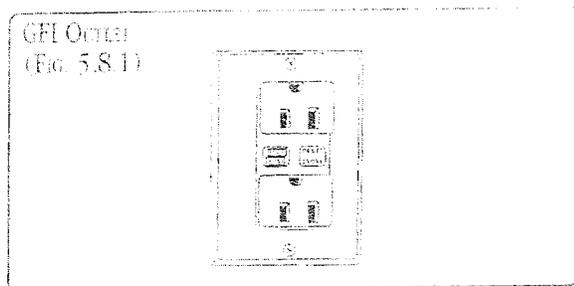


# GROUND FAULT INTERRUPTER OUTLETS

The ground fault interrupter outlet(s) (GFI) is located in the galley and/or head. Each outlet is equipped with a test and reset switch in the center face plate. All exposed 120 volt outlets are protected by this outlet.



**CAUTION**

Persons with heart problems or other conditions which make them susceptible to electric shock may still be injured by ground faults on circuits protected by the GFI receptacle. No safety devices yet designed will protect against all hazards or carelessly handled or misused electrical equipment or wiring.

The GFI receptacle is designed to protect people from the line-to-ground shock hazards which could occur from defective power tools or appliances operating from this device, or from down-line outlets protected by it. It does not prevent line-to-ground electric shock, but does limit the time of exposure to a period considered safe for normally healthy persons. It does not protect persons against line-to-line, or line-to-neutral faults. The GFI receptacle does not protect against short circuits or overloads. This is the function of the circuit breaker.

In the event of power failure which has not affected the fuse or breaker serving these particular outlets, unplug all cord-connected appliances from the GFI protected outlets, and restore power by pressing in the RESET button on the GFI receptacle. To test, press the TEST button. The RESET button will pop out indicating that power is off at all the GFI protected outlets. Push the RESET back in and reconnect the appliances one at a time. A defective appliance which trips the GFI should be repaired at once.

If the RESET button will not stay in after all appliances have been disconnected from the circuit, call a qualified electrician.

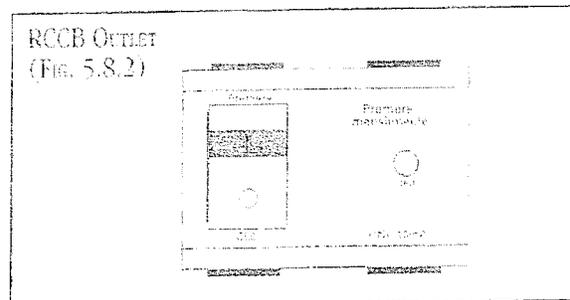
If the RESET button does not pop out when the TEST button is pressed, PROTECTION IS LOST. Do not use any outlets on the circuit. Call a qualified electrician. TEST REMINDER: FOR MAXIMUM PROTECTION AGAINST ELECTRICAL SHOCK HAZARD, TEST YOUR GROUND FAULT CIRCUIT INTERRUPTER AT LEAST ONCE A MONTH.

## TEST PROCEDURE:

1. Push TEST button. The RESET button will pop out. Power is now off at all outlets protected by the GFI, indicating that the device is functioning properly.
2. If RESET does not pop out when testing, do not use any outlets on this circuit. Protection is lost. Call a qualified electrician.
3. To restore power, push RESET button. Enter date on record card.

## INTERNATIONAL RECEPTACLE

All readily accessible 220V outlets are protected by a Residual Current Circuit Breaker (RCCB) (see Fig. 5.8.2). This circuit breaker is mounted in an accessible location such as under a cabinet and includes a test switch to verify proper operation. Its function is similar, but not identical to the 120V GFI.



REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

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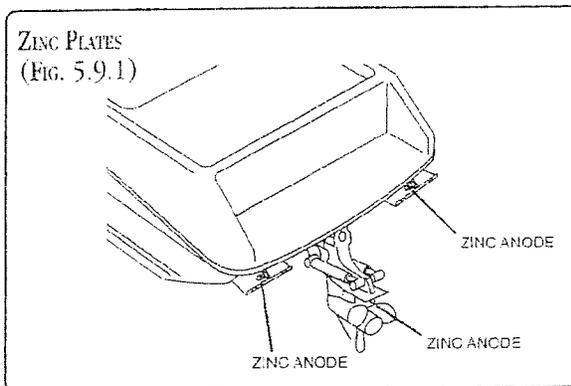
## GALVANIC CORROSION & ZINC ANODES

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Galvanic corrosion of metals on power boats can result in serious deterioration. The boat owner must be aware of the possibilities of galvanic corrosion which is the deterioration of metals due to dissimilar characteristics when placed in water. It is the owner's responsibility to check for and replace damaged parts due to galvanic deterioration. Refer to your Sea Ray® dealer to investigate the source of stray corrosive currents.

### Zinc Anodes

Stern drive and outboard engines are fitted with zinc anodes on their lower units (refer to your Engine Owner's Manual for their locations). If your Sport



Boat is equipped with trim tabs, zinc anodes are installed on each of the trim tabs (see Fig. 5.9.1).

Zinc anodes protect underwater hardware. Zinc, being much less "noble" than copper-based alloys and aluminum used in Sea Ray® underwater fittings, will deteriorate first and protect the more noble parts.

**▲ CAUTION**

Replace zinc sacrificial anodes if they are corroded 50% or more.

Zinc anodes generally require replacement about once a year. (In salt water areas, replace every six months.) The need to replace anodes more frequently may indicate a stray current problem within the boat or at the slip or mooring (This describes the corrosive effects of a DC voltage source through a loose wire or connection lying in bilge water). If zinc anodes do not need replacing after one year, they may not be providing proper protection. Loose anodes or low-grade zinc may be the problem.

**DO NOT PAINT BETWEEN THE ZINC AND THE METAL IT CONTACTS, AND DO NOT PAINT OVER THE ZINC.**

When an AC shore power system is connected to the boat, the underwater metal fittings will, in effect, be connected through the water to grounded metals ashore. The zincs will be consumed at a faster rate unless the marina maintains a protective system to prevent this. In this case, hanging a zinc in the water bonded to the metal outlet box on the dock will reduce zinc loss on the boat. Do not connect this zinc to the boat's ground system.

It is extremely important that all electrically operated DC equipment and accessories be wired so that the ground polarity of each device is the same as that of the battery. Sea Ray® boats have a negative ground system, which is the recommended practice throughout the marine industry. All metal items (fuel tanks, underwater gear, etc.) in the boat are connected to the zinc anode by the green bonding wire.

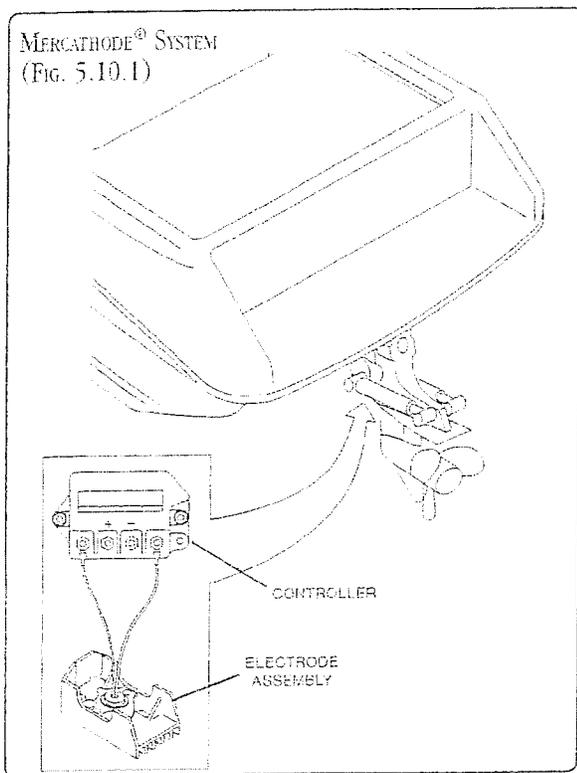
Electrolysis can also be caused by "stray currents" due to a fault in an electrical item, even though correctly grounded. A galvanic current isolator (zinc saver) is standard on all Sea Ray® boats. It is installed between the shore power ground and the boat's AC grounding connection to the DC bonding system. This connection maintains the safety ground from dockside power while stopping the flow of DC corrosive currents.

**▲ CAUTION**

Never disconnect AC green wire (safety ground) from the engine terminal.

## MARINE ELECTRONIC CATHODIC ANTI-CORROSION SYSTEM (MERCATHODE®)

The automatically controlled Cathodic Anti-Corrosion System for marine installation protects underwater metals from the effects of corrosion and electrolysis on stern drives. The system components are designed for trouble-free marine service. Damaged or open connectors are generally the cause of operation difficulties. **DO NOT PAINT THE MERCATHODE® SYSTEM.**



The anode and reference electrode are attached to the electrode assembly under each stern drive unit. The solid state controller is mounted within a plastic housing in the bilge on the transom. The male connector is for the reference electrode and female connector for the anode. The other two leads are for connecting to the 12 volt system.

### MAINTENANCE

The Mercathode® system should be tested to ensure adequate output. This test should be made where the boat is moored, using Quicksilver® Reference Electrode and Test Meter. Contact your authorized Sea Ray® dealer to arrange for this test.

**REFER TO THE ENGINE OWNER'S MANUAL FOR INSTRUCTIONS AND WARRANTY INFORMATION.**

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## SECTION 6 • ACCESSORIES

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NOTE: Not all accessories described here are standard equipment or even available as options. Options and features subject to change without notice. It is advisable to refer to the Owner's Manual Packet and read information provided by individual equipment manufacturers for operation and maintenance of equipment.

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### CANVAS

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 **DANGER**

Exhaust fumes from engines contain deadly Carbon Monoxide gas (CO). Boats with canvas or poor ventilation are most likely to collect fumes. CO sickness symptoms include headache, nausea and dizziness. DO NOT mistake for sea sickness. Ventilate boat. See boat owner's manual for more

Sea Ray® is committed to boating safety. Please refer to Exhaust Emissions and Emergency Procedures (See Section 1 - *General Information*). It is important to read and understand the effects of carbon monoxide and how to ventilate your boat to prevent the build-up of this invisible gas.

Attached to the inside of the Bimini or Convertible Top is a **DANGER** tag for Carbon Monoxide gas (CO) build-up and a **WARNING** tag for excessive speeds while canvas is installed. The Aft Curtain also has a **WARNING** tag stating "The Aft Curtain is not designed to be used while engine is running or boat is underway." If your canvas does not have these tags, or they are lost or are unable to be read, contact your dealer for replacement labels.

The canvas manufacturer has provided the canvas piece name and position on each canvas piece, with a sewn on white label. Do not remove these tags. They will help you with identification and position for easier installation procedures.

It is recommended that you decide which canvas pieces you want to remove or install before you leave the boat slip. Removing or installing canvas on the water could be difficult as not all water conditions allow for your stability while attempting removal or installation.

Components of your canvas set consists of metal frame tubes, sliding adjustable support poles, frame

mounts, zippers, zipper valance, velcro and snaps. If any of these components need replacing, contact your dealer.

### STORAGE

- Do not fold or store any of the canvas set pieces while wet. All canvas should be rolled or folded when dry and stored in a clean, dry place.
- For clear vinyl pieces, the recommended methods for storage are rolling or laying down flat. The clear vinyl should never be folded or creased as cracking will result. To protect the clear vinyl from rubbing against itself while rolled or stored flat, place a piece of very soft, non-abrasive cloth between the pieces. If the surface of the clear vinyl becomes scratched see your dealer.
- When storing the Aft Curtain, fold the canvas over the clear vinyl window (DO NOT FOLD CLEAR VINYL), then roll or store flat.

### CARE AND MAINTENANCE

The fabric should be cleaned regularly before substances such as dirt, pollen, etc. are allowed to accumulate on and become embedded in the fabric. The fabric can be cleaned without being removed from the framework. Simply brush off any loose dirt, pollen, etc.; hose down and clean with a mild solution of a natural soap in lukewarm water (no more the 100° F., 38° C.). Rinse thoroughly to remove soap. DO NOT USE DETERGENTS. Allow to completely air dry.

If you have stubborn cleaning cases, call your dealer for proper procedures. Do not try your own cleaning procedures as they may void any warranties.

After each use, especially in salt water areas, rinse the canvas completely with fresh cold water. Then let the canvas set dry completely before stowing.

All metal components of the canvas set should be rinsed with fresh cold water and exposed components wiped dry to maintain appearance and working order.

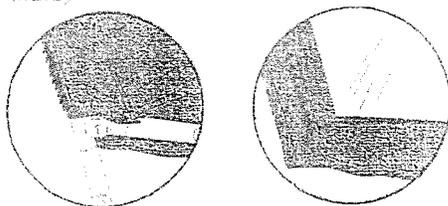
REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

## INSTALLATION TIPS

Zippers are located on each canvas piece. When attaching any canvas piece, make sure canvas is centered on the frame bows and only partially zip the zippers. This helps to hold the piece in place and relieves tension, helping the other sides zip or snap easier. After all the sides of the piece are secure, finish zipping all the zippers. This will ensure a tight fit.

### ZIPPERS

(FIG. 6.2.1)



- Make sure that zippers are fully engaged before zipping them completely. **DO NOT** force them shut.
- The large zippers have locking sliders. Be sure to lift the tabs to release the lock.
- When installing canvas tops start the forward and aft zippers, zipping them only about 12" to 18" before closing them all the way. Be sure the top is centered on the frame.

The frames have center marks engraved in the tubing. Line up the canvas with the mark and pull taut to each side.

Be sure the top canvas is centered after it has been folded or removed for any reason.

- Lubricate zippers and fasteners with pure silicone spray, or a product made especially for this use. **DO NOT USE PETROLEUM BASED PRODUCTS**, as it will stain the canvas.

### CAUTION

Roll the aft cover up for storage to avoid damage to vinyl windows.

- Hang all your curtains to the top.
- Join the down zipper, closing only approximately 3" to 4", you may have to open the top zipper on the corners, and the side to allow enough slack to join the down zippers.
- When installing the aft curtains, engage the top and down zippers as above, leaving them open except for 3" to 4". Pull the curtain back and fasten around the hull. Close all zippers.

## CONVERTIBLE TOP AND BOOT

The convertible top installs over-head above the cockpit seating area.

### INSTALLING:

1. Position top so that main support tube will lean aft and secure support tubes with pins.
2. Unroll and attach front section to windshield frame.
3. Secure straps or tubes behind the center support tubes.

The top should be rolled up when not in use. The boot zips over the top after it is rolled up on the aft support.

### NOTICE

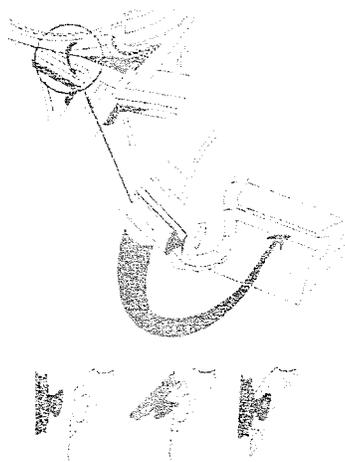
Keep vinyl side curtains from touching stainless steel bows on the convertible or bimini top. Prolonged contact in the hot sun may damage clear vinyl material.

## SEA RAY'S® PATENTED INTERLOCKING CANVAS TOP EXTRUSION

(SNAPLESS WINDSHIELD CANVAS)

The canvas for the convertible top and side curtains is fitted with a rubber strip along the bottom. The strip is designed to be pressed into the groove on the outside of the windshield frame. If installation is difficult, use the lubricant provided in the owners packet.

### INTERLOCKING CANVAS TOP EXTRUSION (FIG. 6.2.2)



#### INSTALLING:

Place the bottom half of the rubber strip into the groove then press the top half into the groove.

#### REMOVING:

Carefully peel the rubber strip out of the groove.

### SIDE CURTAINS

The transparent vinyl side curtains snap to the side of the windshield frame and zip to the underside of the convertible top. There is a port and starboard side curtain, which should be rolled up for storage when not in use. Do not fold the side curtain since permanent damage can occur to the vinyl material.

**NOTE:** Remove vinyl side curtains when boat is not in use. Prolonged time in the hot sun may cause damage to clear vinyl material. Keep vinyl side curtains from touching stainless steel bows on convertible top.

### BIMINI TOP & BOOT

The bimini top installs over the cockpit area on a suspension bow assembly.

#### INSTALLING:

1. Attach the center and aft stanchions with the pins provided. Attach the forward strap.
2. The bimini top can be pivoted on the center stanchion to store in the aft position by removing the forward strap and leaning aft.
3. The top should be rolled up when not in use. The boot zips over the top after it is collapsed together.

### AFT COVER

The aft cover zips to the back of the convertible or bimini top and extends back to the transom. To install, zip to convertible or bimini top and snap along sides, then snap along transom.

**! WARNING !**  
To avoid entrapment of carbon monoxide gas, remove aft cover or camper top canvas before starting engine and operating vessel.

### CAMPER AFT COVER & BOOT

The camper top installs over the cockpit aft of the convertible top. The canvas boot is used as a protective cover over the camper aft cover when rolled up on the support tube.

#### INSTALLING:

1. Insert support tubes into brackets aft of the port and starboard windshield wings.
2. Zip forward section of cover to aft end of convertible top.
3. Unfold canvas moving aft and secure with straps to transom.

**! WARNING !**  
To avoid entrapment of carbon monoxide gas, remove aft cover or camper top canvas before starting engine and operating vessel.

### COCKPIT COVER

The cockpit cover is used as a short term storage cover. To install cover, take down convertible top, snap canvas along windshield frame, snap along sides then along transom.

### HATCH COVERS (SOME CABIN MODELS)

The canvas hatch covers slip in place over the deck hatch and are used to cut down on the amount of sunlight entering the cabin through the hatch.

### MOORING COVER

The mooring cover is used as a long term storage cover. To install cover, spread over entire boat, secure straps under boat and tie at transom.

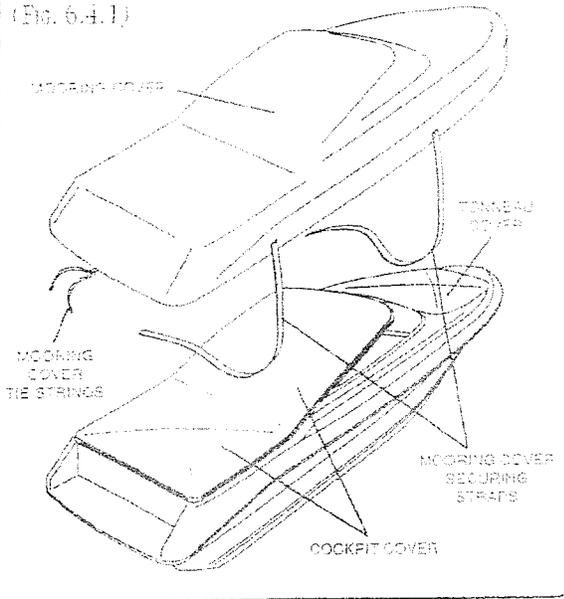
### TONNEAU COVER

The tonneau cover snaps around the open bow of the Bow Riders. The cover may be used while underway or as a storage cover.

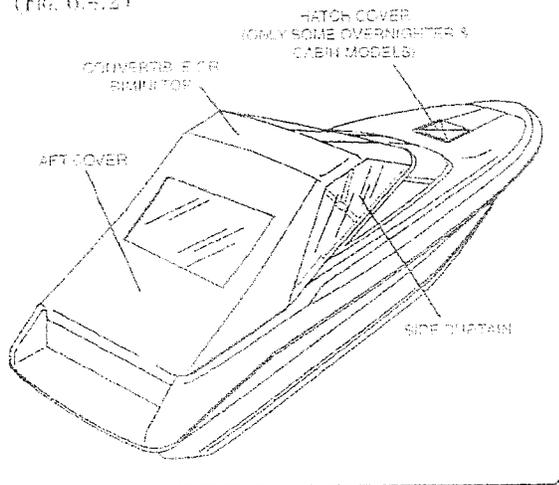
### TRAILERING WITH CANVAS

You may trailer your boat with either cockpit cover or tonneau cover installed, however, the mooring cover must be installed over boat with tie down straps secure. The convertible or bimini top, side curtains

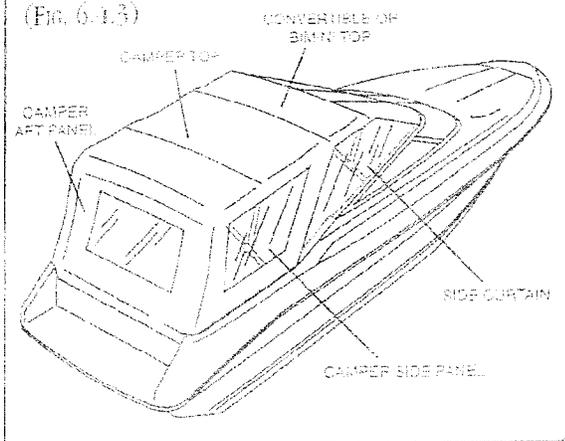
SPORT BOAT CANVAS PLACEMENT  
(FIG. 6.4.1)



SPORT BOAT CANVAS PLACEMENT  
(FIG. 6.4.2)



SPORT BOAT CANVAS PLACEMENT  
(FIG. 6.4.3)



and camper aft cover must be removed when trailering. Damage will occur to canvas and bows or boat if attached to boat while trailering.

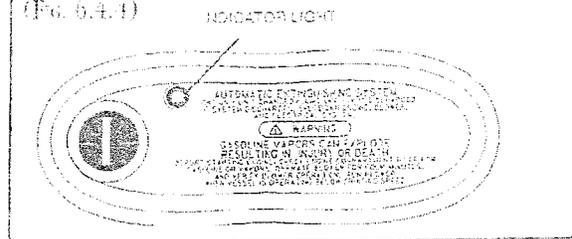
## AUTOMATIC FIRE EXTINGUISHING SYSTEM

(OPTIONAL ON SOME MODELS.  
N/A WITH OUTBOARD ENGINES)

The automatic fire extinguishing system is installed in the bilge. In the event of a fire, the heat sensitive automatic head will release the extinguishant as a vapor, totally flooding the area in firekilling concentrations. The system indicator light is wired to the ignition and is turned ON when the ignition is turned ON.

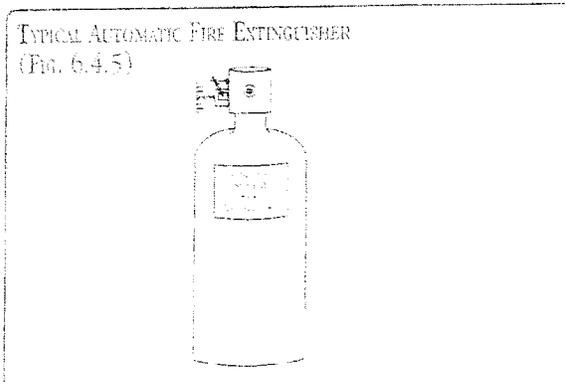
The indicator light is located on the dash panel. Under normal circumstances, when the ignition is ON the indicator light is lit. If the unit discharges, the light will go out.

AUTOMATIC FIRE EXTINGUISHER INDICATOR LIGHT  
(FIG. 6.4.4)



WHEN ACTUATION OCCURS, IMMEDIATELY SHUT DOWN ENGINE, POWERED VENTILATION, ELECTRICAL SYSTEMS AND EXTINGUISH ALL SMOKING MATERIALS. DO NOT OPEN THE ENGINE COMPARTMENT!! THIS FEEDS OXYGEN TO THE FIRE AND FLASHBACK COULD OCCUR.

TYPICAL AUTOMATIC FIRE EXTINGUISHER  
(FIG. 6.4.5)



Allow the extinguishant to "soak" the compartment for at least fifteen (15) minutes and for hot metals or fuels to cool before cautiously inspecting for cause of damage. Have portable extinguishers at hand and ready. Do not breath fumes or vapors caused by the fire.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

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## DEPTH FINDER WITH TRANSDUCER

(OPTIONAL ON SOME MODELS)

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Your Sea Ray® Sport Boat is available with a depth finder and transducer. The digital readout is mounted in the dash and features shallow and deep water alarms. It is turned on and off by a switch on the helm switch panel.

REFER TO THE DEPTH FINDER OWNER'S MANUAL IN THE OWNER'S PACKET FOR OPERATING INSTRUCTIONS.

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## HEAD SYSTEMS

(ONLY AVAILABLE ON SOME MODELS)

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Your Sea Ray® Sport Boat is available with a variety of head system options. Below is a description of each option. You should be aware of which option(s) your boat is equipped with and read the sections pertaining to it. The Owner's Manual Packet in your boat contains information pertaining to your head system that should be carefully read.

### CAUTION

Do not flush facial tissue, paper towels or sanitary napkins in head. Such material can damage waste disposal system and the environment.

### NOTICE

There is a possibility of being fined for having an operable direct overboard discharge in some waters. Close waste discharge seacock and remove handle or take other measures to avoid a fine.

## REQUIREMENTS FOR OPERATORS

The Environmental Protection Agency (EPA) standards state that in freshwater lakes, freshwater reservoirs or other freshwater impoundments whose inlets or outlets are such as to prevent the ingress or egress by vessel traffic subject to this regulation, or in rivers not capable of navigation by interstate vessel traffic subject to this regulation, marine sanitation devices certified by the U.S. Coast Guard installed on all vessels shall be designed and operated to prevent the overboard discharge of sewage, treated or untreated, or of any waste derived from sewage. The EPA standards further state that this shall not be construed to prohibit the carriage of Coast Guard-certified flow-through treatment devices which have been secured so as to prevent such discharges. They also state that waters where a Coast Guard certified marine sanitation device permitting discharge is allowed include coastal waters and estuaries, the Great Lakes and interconnecting waterways, freshwater lakes and impoundments accessible through locks, and other flowing waters that are navigable interstate by vessels subject to this regulation (40 CFR 140.3).

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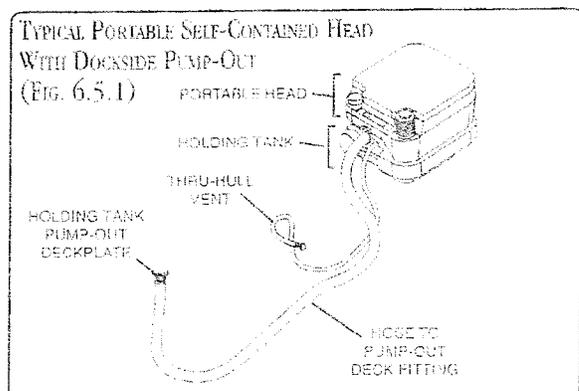
## PORTABLE SELF-CONTAINED HEAD

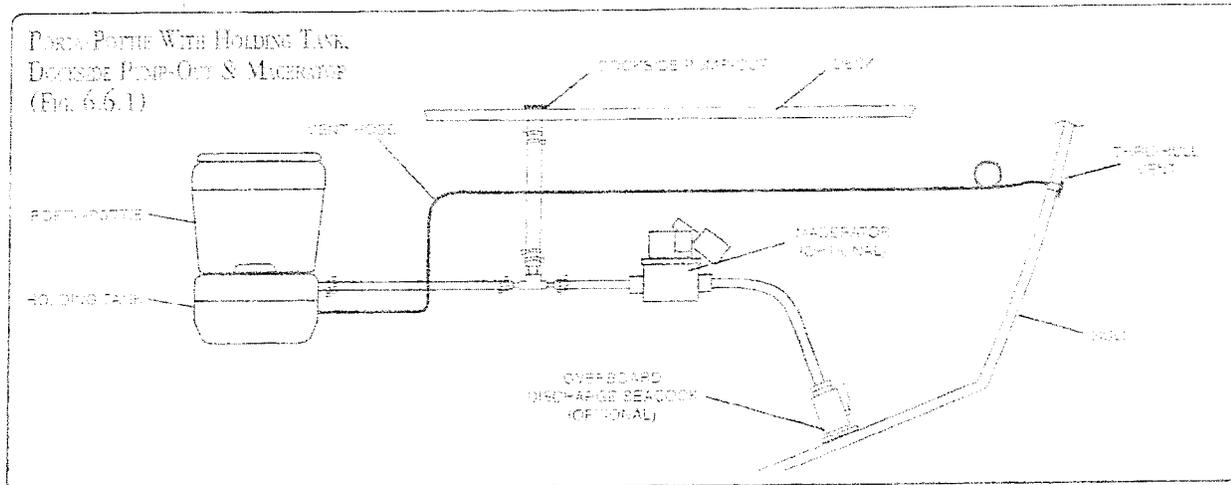
The portable self-contained unit has two individual holding tanks. The top tank is fitted with a hand pump and holds the fresh water and chemicals. The bottom tank holds waste material.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

## PORTABLE SELF-CONTAINED HEAD WITH DOCKSIDE PUMP-OUT

The optional portable head with dockside pump-out is the same head as described above, except that the bottom holding tank has a dockside pump-out





hose attached. The hose leads to a waste plate on the deck. The holding tank can be emptied by a dockside sewage pump-out station (see *Dockside Pump-Out Option* in this section) or pumped directly overboard using the macerator option (see *Macerator* in this section).

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

## VACUFLUSH<sup>®</sup> SYSTEM

The VacuFlush<sup>®</sup> head utilizes a HEAD SYSTEM breaker on the helm switch panel. The foot pedal at the base of the toilet opens a mechanical seal and vacuum forces waste through the opening in the bowl to an accumulator tank, through the vacuum pump and then to the holding tank or treatment tank. To Operate:

1. Turn ON the WATER SYSTEM breaker.
2. Turn ON the HEAD SYSTEM breaker.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

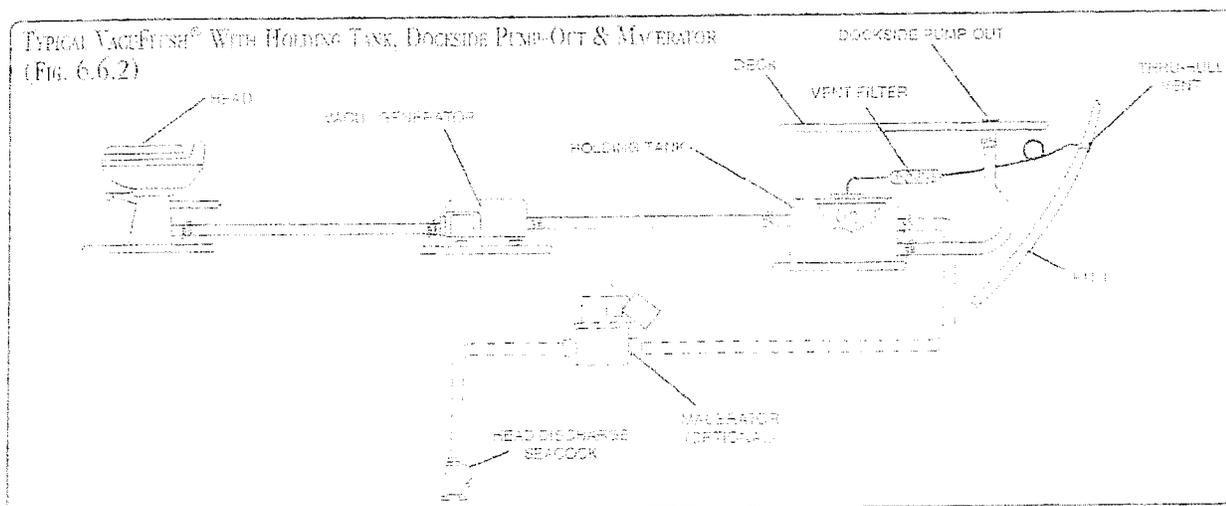
## HOLDING TANK OPERATION

Waste from the head is directed into the holding tank located in the bilge. The holding tank fluid level indicator is located in the head and indicates 1/2 FULL, FULL and DO NOT FLUSH, or on some models may read FULL, 1/2, or EMPTY. WHEN the FULL light is on, the DO NOT FLUSH light will also be on. When these lights are ON, the holding tank must be emptied before the head can be reused.

## DOCKSIDE PUMP-OUT

To empty holding tank, the services of a dockside pump out station will be needed. Follow instructions at the station and make sure pump out station hose is inserted into the deck plate marked WASTE. The holding tank can also be emptied through utilization of the macerator (if supplied) (see *Macerator* in this section).

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.



## MACERATOR

(OPTIONAL WITH DOCKSIDE PUMP-OUT)

The macerator gives the boat operator the means of discharging the holding tank contents directly overboard through a seacock in the bottom of the hull. The seacock minimizes flooding potential and provides a means of opening and closing to maintain hoses. This option is available in conjunction with the dockside pump out.

### NOTICE

There is a possibility of being fined for having an operable direct overboard discharge of waste in some waters. Removing the seacock handle, in the closed position, or other means must be used to avoid fine.

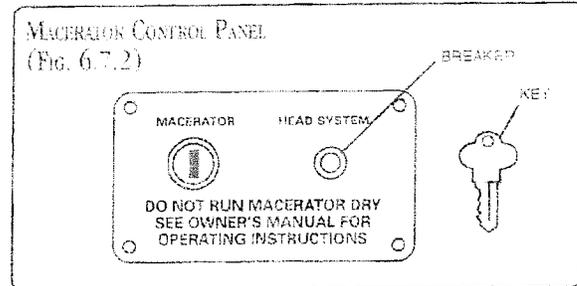
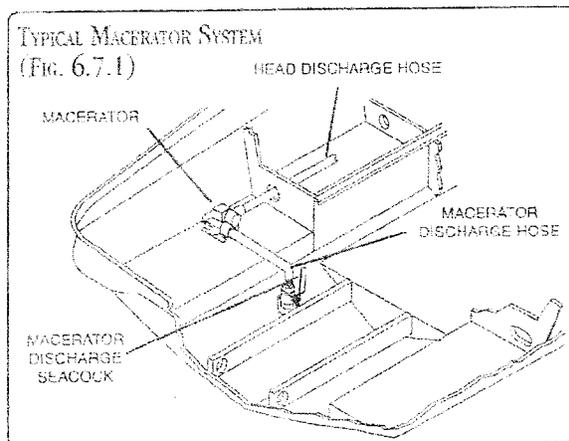
It is illegal for any vessel to dump plastic trash anywhere in the ocean or navigable waters of the United States.

### TO OPERATE THE MACERATOR:

1. Turn the DISCHARGE PUMP breaker ON and open the waste discharge seacock located on the bilge floor.
2. Operate discharge switch located in the head.
3. When tank is empty, release the switch and close waste discharge seacock.

**NOTE:** There is a possibility of being fined for having an operable direct overboard discharge in U.S. waters. **Close waste discharge seacock and remove handle or take other measures to avoid fine.**

**DISCHARGE OF SEWAGE DIRECTLY OVERBOARD IS FOR USE ONLY WHERE APPROVED.**



### MAINTENANCE

Prior to each use and at regularly scheduled intervals (see Section 9 – *Service Guide*), cycle the macerator seacock handle open and shut to ensure proper operation of the seacock.

## VENT FILTER (WITH VACUFLUSH® SYSTEM)

The vent filter is designed to control odors associated with the head system operations. The filter must be changed at the beginning of each boating season to be effective. The vent filter is installed in-line on the holding/treatment tank ventilation hose.

**Note:** Do not overfill the holding/treatment tank as this will flood the vent filter and render it useless. Filter replacement will then be required. Replace the filter with Sealand® Part #315-310-000.

## HORN

The horn is operated by a momentary switch on the dash and is protected by a fuse or breaker at the helm. There is no maintenance required to the horn itself, although it is advisable to avoid spraying water directly into the horn.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

## REFRIGERATOR/FREEZER/

## ICE CHEST (OPTIONAL ON SOME MODELS)

### 12 VOLT DC SYSTEM

The 12 volt system utilizes a REFRIGERATOR switch and breaker located on the dash. To operate the unit on 12 volt power, preferably with engine operating, turn the switch on the refrigerator to ON.

## AC VOLTAGE SYSTEM

The refrigerator operates on the AC voltage shore power system (if applicable). To operate the unit on AC power, connect the shore power system, turn the dash switch ON then turn the REFRIGERATOR breaker ON.

### CAUTION

Do not cover refrigerator vents.

Some models may feature a built-in or removable ice chest.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

## SEATING ACCOMMODATIONS

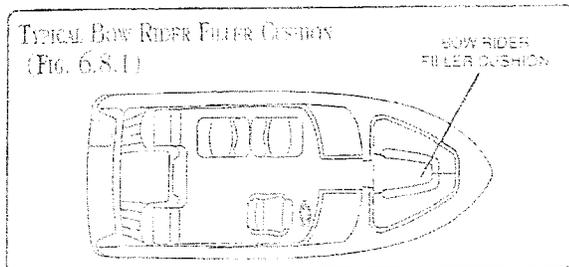
### DANGER

Do not allow anyone to ride on parts of the boat that were not designed for such use. Sitting up on seat backs, bow riding, gunwale riding, transom platform riding, or lounging on aft sundeck while under way is especially hazardous and will cause personal injury or death.

### BOW RIDER FILLER CUSHION (OPTIONAL ON SOME BOW RIDER MODELS)

The bow rider filler cushion is used in the open bow area to form a cushioned platform. To install, simply fit cushion into space between the port and starboard bow seats.

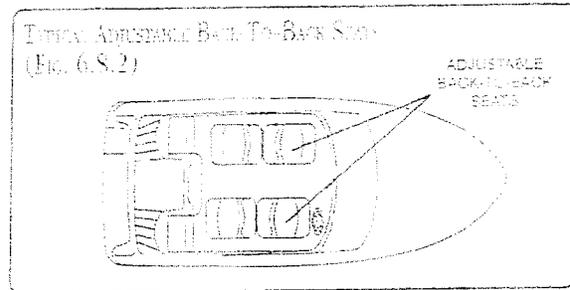
TYPICAL BOW RIDER FILLER CUSHION  
(Fig. 6.8.1)



### ADJUSTABLE BACK-TO-BACK SEATS (SEATING OPTION ON SOME MODELS)

The starboard adjustable back-to-back seats will slide forward and aft by loosening the outboard knobs. The starboard seat can also be adjusted to lay flat by loosening the adjustable knobs on the outboard side and pushing the seats away from each other.

TYPICAL ADJUSTABLE BACK-TO-BACK SEAT  
(Fig. 6.8.2)



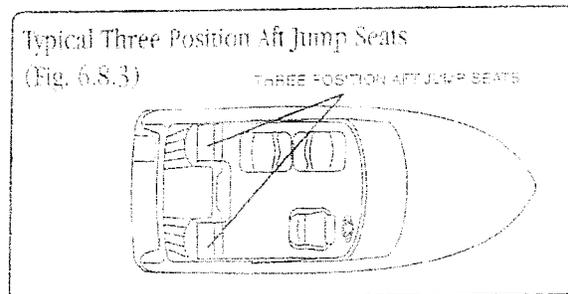
The port back-to-back seat can be adjusted to lay flat by lifting up on the front of each seat and pulling them away from each other.

**NOTE:** Never sit on soft backs or top of seats.

### THREE POSITION AFT JUMP SEATS (SEATING OPTION ON SOME MODELS)

The three position aft jump seats, located on each side of the motor box, can be adjusted from a sitting position to a platform across the back of the cockpit. To change the cushion height simply grasp the front of the cushion and slide out, then reposition the cushion to the upper or lower position. To store cushions slide vertically behind the bottom seat supports.

TYPICAL THREE POSITION AFT JUMP SEATS  
(Fig. 6.8.3)

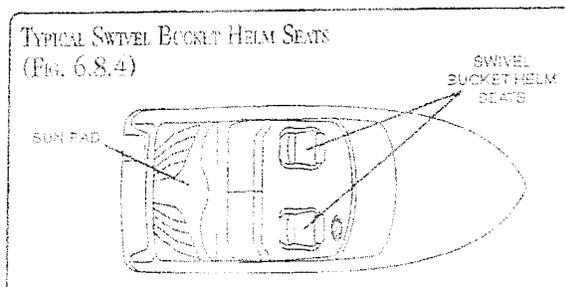


### SWIVEL BUCKET HELM SEAT W/SLIDER (SEATING OPTION ON SOME MODELS)

The adjustable bucket helm seat can swivel left and right and slide forward and aft. The port passenger seat can swivel left and right (see Fig. 6.8.4).

**NOTE:** Never sit on top of seat.

TYPICAL SWIVEL BUCKET HELM SEATS  
(Fig. 6.8.4)



## STEREO

The stereo is protected by the stereo fuse or breaker at the dash. The power for the stereo memory and clock is maintained even if the battery switch is off.

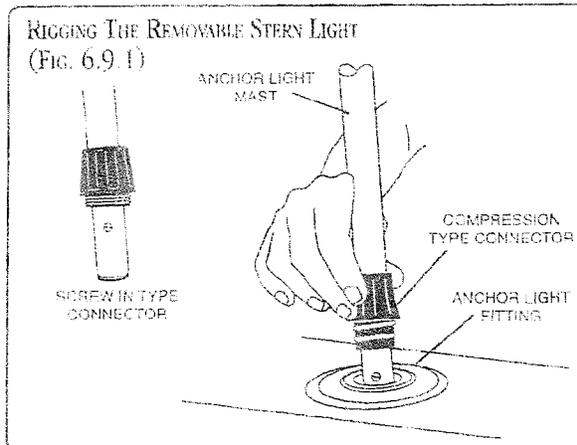
REFER TO THE STEREO OWNER'S MANUAL IN THE OWNER'S PACKET FOR OPERATING INSTRUCTIONS.

## REMOVABLE STERN LIGHT

A white all-around light must be displayed between sunset and sunrise, during periods of reduced visibility and when at anchor (see Section 1 -- *Navigation Lights*). If your boat does not have a permanently installed stern light, then it is equipped with a removable stern light.

It is stowed either under the engine hatch or in one of the outboard side storage compartments. It is installed in a receptacle on the aft gunwale or transom either with a screw-in type connection or a push-in-and-twist compression-type fitting.

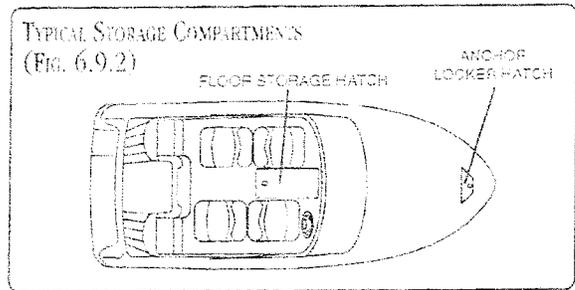
REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.



## STORAGE COMPARTMENTS

### ANCHOR LOCKER & RACK

On the bow of some sport boats is a hinged anchor locker with rack for storage of rope and anchor. To open, turn handle and pull up on hatch. The compartment should be cleaned and dried



thoroughly each time the boat is used to avoid odor and mildew build up.

### Floor Storage Hatch

The cockpit hatch is large enough to hold skis or other fairly large items. The compartment should be cleaned and dried thoroughly each time the boat is used to avoid odor and mildew build up.

## STOVE (OPTIONAL ON SOME MODELS)

The optional butane stove operates on a standard disposable butane cylinder (if applicable).

### **⚠ DANGER**

Open flame cooking appliances consume oxygen. This can cause asphyxiation or death. Maintain open ventilation. Do not use this appliance for comfort heating.

REFER TO THE STOVE OPERATOR'S MANUAL FOUND IN YOUR OWNER'S MANUAL PACKET FOR DETAILED OPERATING INSTRUCTIONS AND WARRANTY.

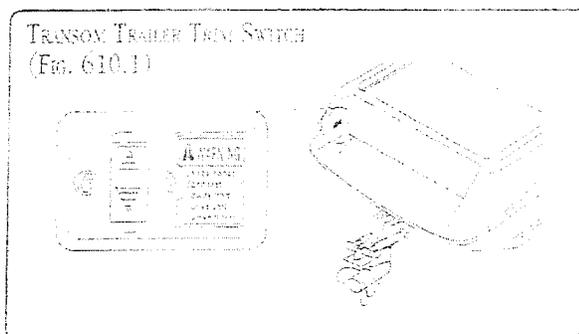
## TRANSOM TRAILER TRIM SWITCH

(OPTIONAL ON SOME MODELS)

A transom-mounted power trim switch is available for the convenience of raising the stern drive lower unit to the TRAILER position while at the aft of the boat.

### **⚠ CAUTION**

If stern drive is equipped with power tilt for trailering, use it only for that purpose. Tilting drive unit into the trailering zone while underway may damage the drive unit or engine.



REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

## WATER SYSTEM

(OPTIONAL ON SOME MODELS)

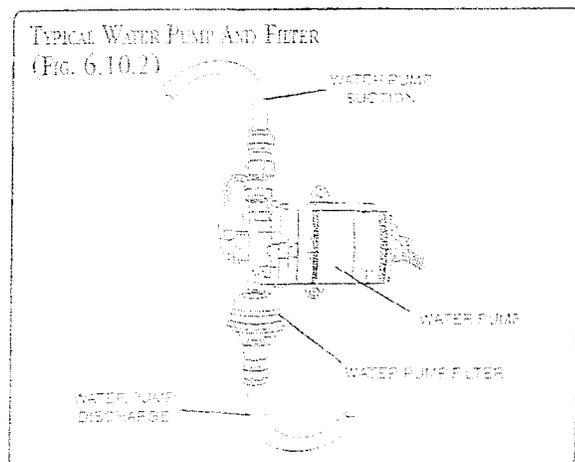
The fresh water system is activated by the WATER SYSTEM or ACCESSORY switch on the dash. The switch must be ON to operate the faucet or transom shower.

### TO BEGIN INITIAL OPERATION:

1. Fill the water tank from a source known to provide safe, pure drinking water.
2. Turn ON the WATER SYSTEM or ACCESSORY switch.
3. Open faucet or turn on shower wand.

Shut faucet and/or wand off as flow becomes steady and free of air. Shutting off the faucet and/or wand will cause the pump to shut off.

To winterize the water system refer to Section 7 – *Winterization Checklist For Boats Stored On Land.*



### WATER PUMP FILTER

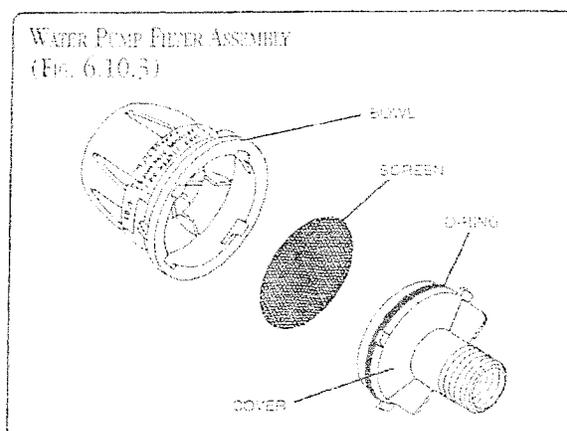
The pump has a filter to prevent particles from entering the pump head. The filter should be checked and cleaned periodically.

Before servicing the system, turn the water system OFF and release pressure on the system by opening a faucet.

To clean filter:

1. Turn cover counterclockwise and pull out.
2. Carefully remove the screen and rinse with clean water.

Replace, making sure the O-ring is in place when replacing the cover.

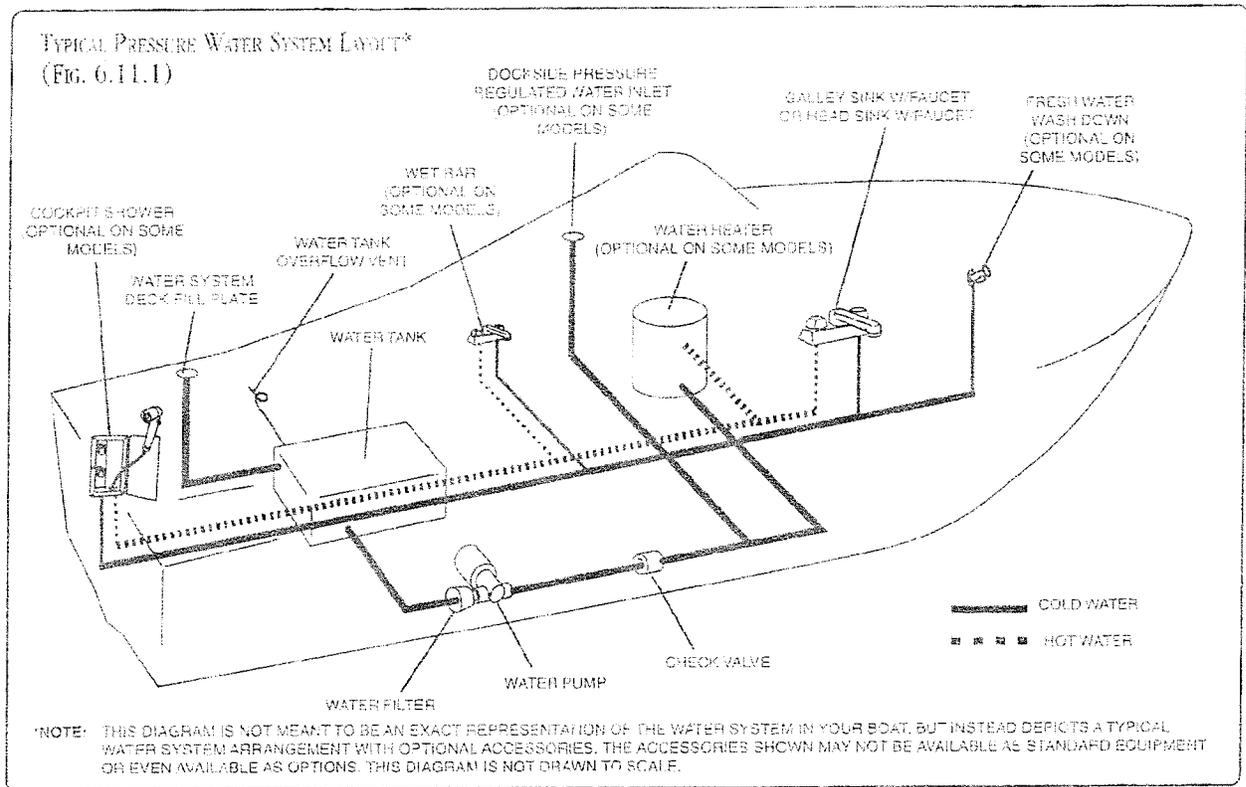


### SANITIZING THE WATER SYSTEM

Although your dealer initially sanitizes the water system, if the system has not been used for a long period of time or you suspect it may be contaminated, use a water treatment additive to sanitize the potable water system. Water treatment additives are available at marine/RV supply stores.

If water treatment additives are not available, adhere to the following procedure for complete sanitation of your potable water system.

1. With tank empty, mix a solution of Clorox or Purex household bleach (5% Hypochlorite solution) using 2 oz. per gallon of tank capacity. Fill tank with water.
2. Turn on faucet(s) until air has been released and the entire system is filled.
3. Allow to stand for three hours.
4. Drain and flush with potable fresh water.
5. To remove excessive chlorine taste or odor which might remain, prepare a solution of one quart vinegar to three gallons water and allow this solution to agitate in the tank for several days by vehicle motion.
6. Drain tank and again flush with potable water.



## GRAY WATER SYSTEM

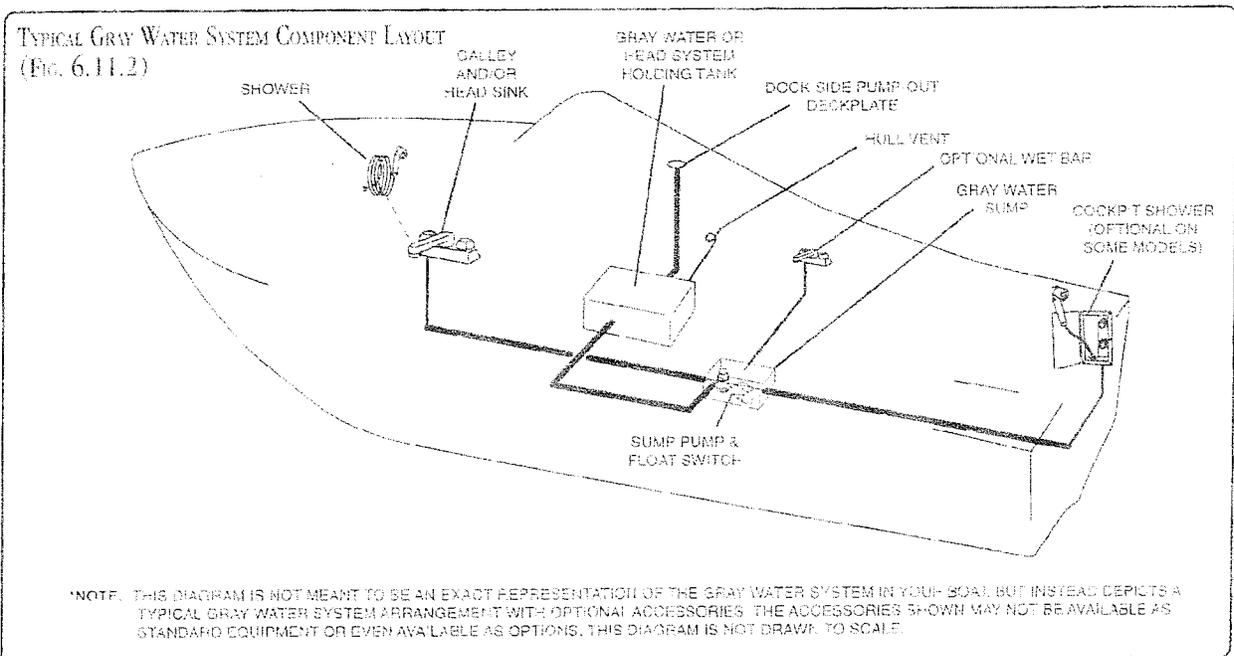
(OPTIONAL ON SOME MODELS)



The gray water system (see Fig. 6.12.1) is designed for boats that are used in areas that restrict overboard water discharge.

The system directs waste water from accessories such as the galley and head sinks and shower to a sump that is fitted with a float switch and pump that pumps the water to the gray water tank. The tank must be emptied when it becomes full.

To empty the gray water system holding tank with the dockside pump out the services of a dockside pump out station will be needed.



Follow instructions at the station and make sure pump out station hose is inserted into the deck plate marked GRAY WATER/WASTE

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## COCKPIT STEP/SEATING

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Some Sport Boats are fitted with cockpit seating which utilize fold down legs with locking pins. Be sure locking pins are securely fastened to provide a solid platform.

## SECTION 7 • STORAGE PROCEDURES

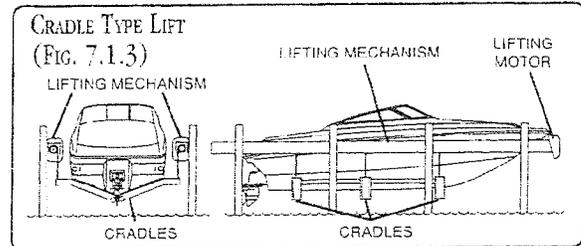
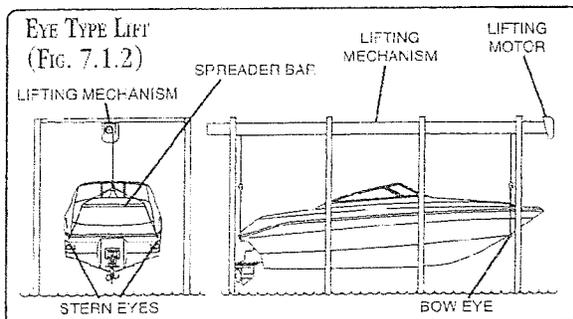
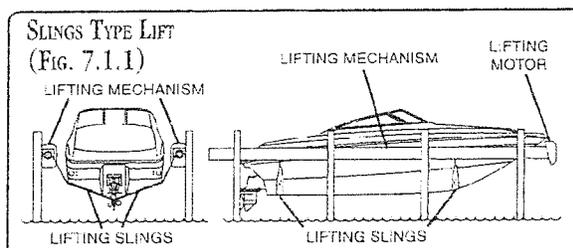
### LAYING-UP INSTRUCTIONS

#### LIFTING THE BOAT

When lifting the boat always keep the bow higher than the stern to drain the exhaust lines and to prevent water from running forward through the manifold and into the engine where it can become trapped. It may seem expedient to lift only the stern when changing a propeller, but this can result in water entering the engine cylinders, causing hydrostatic lock and resulting in possible internal engine damage and quite possibly engine failure. Even a small amount of water in the engine can cause rust and is to be avoided.

With fiberglass boats, severe gelcoat crazing or more serious hull damage can occur during launching and hauling if pressure is created on the gunwales by slings. Flat, wide belting-type slings and spreaders long enough to keep pressure from the gunwales are necessary. Cable-type slings should be avoided. Do not place the slings where they may lift on the underwater fittings.

To lift the boat with lifting hooks attached to the bow and stern eyes, use a spreader bar at the aft hooks to avoid stress cracks in the fiberglass and gel coat.



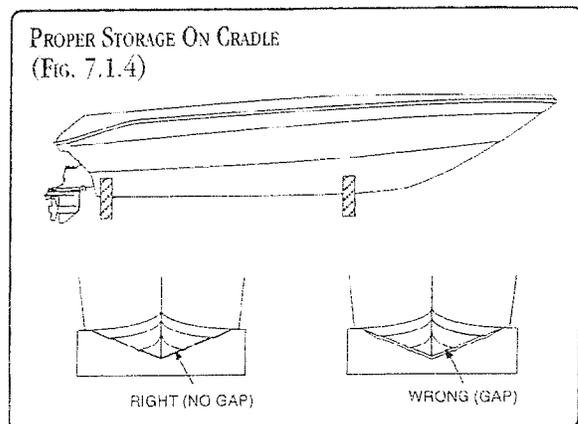
#### CAUTION

Do not use cleats for lifting.

Never hoist the boat with an appreciable amount of water in the bilge. Fuel and water tanks should preferably be empty, especially if of large capacity.

#### SUPPORTING THE BOAT DURING STORAGE

A cradle is the ideal support for the boat whenever it is not in the water. Properly designed and constructed, it will provide support at the proper points, which is essential to avoid stress on the hull. Do not rest boat on underwater fittings.



#### TRAILER

The manufacturer of your trailer has provided you with a vehicle designed for many years of convenient, trouble-free service. Now, it is up to you to give it proper care and maintenance to be sure it will continue to perform safely and satisfactorily.

## BOW AND STERN EYES

The bow eye should be used to haul the boat onto a trailer. The stern eyes should be used as tie down points for trailering the boat. Lifting with the bow and stern eyes may cause stress on the fiber-glass and gel coat.

Because all trailers are not exactly alike, be sure to read and comply with any warnings and information supplied by the trailer manufacturer about your specific model.

## DRAINING THE BOAT

In climates where freezing occurs, it is important that the bilge be completely drained and dried out when the boat is laid up for the winter. Your Sport Boat is equipped with a drain plug for this purpose. Some compartments in the bilge may not drain completely because of the position of the boat. They should be pumped out and sponged until totally free of water.

The boat's fresh water system (if equipped) must be drained. Open faucets in the boat. Open a connection at the lowest point in the fresh water lines to completely drain them. Break the connections on each side of the water pump. Drain the head.

The engine cooling system must be free of water if there is danger of freezing. Drain plugs are provided on the engine for this purpose; these should be reassembled securely immediately after draining is accomplished.

CONSULT YOUR ENGINE OPERATOR'S MANUAL FOR DETAILED INFORMATION ON PREPARING THE ENGINE FOR STORAGE.

## WINTERIZATION CHECKLIST FOR BOATS

### STORED ON LAND

#### 1. BOAT STORAGE

- Store boat in a bow high attitude.
- Remove hull drain plug.
- Pour one (1) pint (half-liter) of 50% water/antifreeze mixture in each bilge pump sump.

#### 2. ENGINE

- Flush engine with fresh water.
- Remove engine drain plugs.

- Refer to your Engine Operator's Manual for detailed information on preparing the engines for storage and winterization.

#### 3. BATTERY(IES)

- Remove from the boat. Remove negative (-) cable first, then positive (+) cable.
- Remove grease and dirt from top surface.
- Grease terminal bolts.
- Store on wooden pallet or thick plastic in a cool dry place. Do not store on concrete.
- Keep under a trickle charge.
- When replacing battery in service, remove excess grease from terminals, recharge as necessary and reinstall in boat.

#### 4. HEAD SYSTEM (IF EQUIPPED)

##### PORTABLE SELF-CONTAINED HEAD

- Empty top tank and holding tank.
- Make sure all water is cleared.

##### HEAD SYSTEMS WITH DOCKSIDE PUMP-OUT

- Flush entire system thoroughly with fresh water.
- Pump out holding tank.
- Shut WATER SYSTEM breaker OFF on the helm switch panel and remove from each side of water pump.
- Remove water line from inlet fitting located on back bottom half of water valve on head.
- Flush one gallon (four liters) antifreeze mixed with one gallon (four liters) of water through toilet and let vacuum pump run for one or two minutes.
- Pump out holding tank.

#### 5. WATER SYSTEM (IF EQUIPPED)

- Turn ON fresh water pump.
- Open all faucets, let system drain completely, leave faucets open.
- Turn OFF fresh water pump.
- Remove hoses from water pump.
- Blow out all lines to clean.

## 6. FUEL SYSTEMS

### GASOLINE:

- Fill fuel tank with gasoline and a gasoline stabilizer and conditioner such as "Stabil," to treat the gasoline.
- Run engines for ten minutes to ensure that all gas in the carburetor and fuel lines are treated.

### DIESEL:

- Diesel fuel must be treated with a biocide, "Biobor," which prevents bacteria and fungi from contaminating diesel fuel that contains some water.
- Diesel fuel should also get a petroleum distillate additive, such as "Stabil" or "Racor RX1000." This will help assimilate water in the fuel and prevent freezing problems.
- Fill fuel tanks with the treated fuel.
- Run engines for ten minutes to ensure that all diesel fuel in injectors and fuel lines are treated.



### CAUTION

Do not overfill. Filling a tank until the fuel flows from vents is dangerous. Allow room for expansion.

REFER TO INDIVIDUAL OWNER'S MANUALS FOR SPECIFIC PROCEDURES.

## Fitting Out After Storage

### FUEL SYSTEM

Check the entire fuel system for loose connections, worn hoses, leaks, etc. and repair. This is a primary safety precaution.

### BATTERY(IES)

Before installing the battery(ies), clean the terminal posts with a wire brush or steel wool and then attach the cables. After the cable clamps are tightened, smear the post and clamps with vaseline or grease to exclude air and acid. Do not apply grease before attaching and tightening the terminal clamps. Examine all wiring.

### MISCELLANEOUS

1. Check all thru-hull fittings for unobstructed water passage. Be alert for any deteriorated hoses and/or fittings below the water line which might fail in service and admit water.
2. Test the navigation lights.
3. Check all wiring for loose connections.
4. Check all switches and equipment for proper operation.
5. Check bilge blowers for proper operation. Turn ON blowers and place hand over hull blower vent to make sure air is coming from vent.
6. Anchor lines and gear should be inspected and replaced if necessary.
7. Make sure the hull drain plug is in place.
8. Clean bilge thoroughly if it was not done at lay-up.
9. Check all engine fluid levels.
10. Check fuel lines for damage and/or leaks. Make sure that they do not come into contact with moving parts.

### SECURITY CONSIDERATIONS

Be conscious of the security of your boat. Always remove the keys from the ignition, lock hatches, lock the cabin door, remove and stow any removable electronic gear (fishfinders, LORAN, etc.) and personal gear (fishing poles, etc.) normally left aboard your boat.

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## SECTION 8 • CARE & REFINISHING

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### MAINTENANCE AND RECONDITIONING

Your new boat has been designed to provide you with years of enjoyment and satisfaction. In order to maintain the factory new appearance of your boat, we recommend the use of 3M™ Marine's one step Maintenance and Reconditioning Products designed specifically for pleasure boats. Following proper fiberglass maintenance guidelines will help maintain your boat's performance, value, and enjoyment.

### FIBERGLASS & GELCOAT

The fiberglass hull, deck and some interior parts consist of the molded shell and exterior gelcoat. The gelcoat is the outer surface, often colored, that presents the shiny smooth appearance which is associated with fiberglass products. In some areas, this gelcoat surface is painted or taped for styling purpose.

Wash the fiberglass regularly with clean, fresh water. Wax gelcoated surfaces to maintain the luster. In northern climates, a semiannual waxing may suffice for the season. In southern climates, a quarterly application of wax will be required for adequate protection.

#### ⚠ WARNING

Gelcoat surfaces are slippery when wet. Use extreme care when walking on wet gelcoat.

Always wear non-slip foot gear while washing and waxing boat.

#### ⚠ WARNING

Care should be utilized in waxing commonly walked upon areas of the boat to ensure that they are not dangerously slippery.

REFER TO 3M ONE STEP MAINTENANCE AND RECONDITIONING PRODUCTS PAMPHLET IN YOUR OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION

### STAINS & SCRATCHES

Gelcoat and painted surfaces are very resistant to deep stains. Common surface stains can be removed with diluted household detergents,

provided these detergents do not contain ammonia or chlorine. Porcelain-cleaning powders are too abrasive and often contain chlorine and ammonia, either of which would permanently discolor the gelcoat and paint. Alcohol or kerosene can be used for difficult stains but should be washed away promptly with a mild detergent and water. **Never use acetone or any ketone solvents.**

Minor scratches and deeper stains which do not penetrate the gelcoat may be removed by light sanding and buffing.

### SPECIAL CARE FOR BOATS THAT ARE MOORED

If permanently moored in salt water or fresh water, your boat will collect marine growth on its bottom. This will detract from the boat's beauty and greatly affect its performance. There are two methods of preventing this:

- Periodically haul the boat out of the water and scrub the bottom with a bristle brush and a solution of soap and water.
- Paint the hull below the waterline with a good grade of antifouling paint. **DO NOT paint the engine drive surfaces.**

**NOTE:** There are EPA regulations regarding bottom paint application. Consult your Sea Ray® dealer for proper application methods.

### CARE FOR BOTTOM PAINT

From time to time a slight algae or slime forms on all vessels. If necessary the bottom painted portion of the hull can be wiped off with a coarse turkish towel or a piece of old rug while the boat is in the water. **DO NOT** use a stiff or abrasive material to clean the bottom paint.

The bottom paint should be inspected monthly. If it needs repainting consult your Sea Ray® dealer.

### BILGE/ENGINE COMPARTMENT

1. Pump the bilges dry and remove all loose dirt. Be sure that all limber holes are open. If there is oil in the bilge and the source is not known, look for leaks in engine oil lines or engine gaskets. Oil stains can be removed by using a bilge cleaner available from your dealer or a

marina. **DO NOT** use flammable solvents.

2. Check all wiring to be sure it is properly supported, that its insulation is intact, and that there are no loose or corroded terminals. If there are corroded terminals, they should be replaced or thoroughly cleaned. Tighten all terminals securely and spray them with light marine preservative oil.
3. Inspect the entire fuel system (including fill lines and vents) for any evidence of leakage. Any stains around joints could indicate a leak. Try a wrench on all fittings to be sure they are not loose, but do not over-tighten them. Clean fuel filters and vent screens.
4. Inspect the entire bottom for evidence of seepage, damage or deterioration, paying particular attention to hull fittings, hoses and clamps. Straighten kinked hoses and replace any that do not feel pliable. Tighten loose hose clamps and replace those that are corroded. Tighten any loose nuts, bolts or screws.
5. Refer to your engine operator's manual for engine maintenance details. Wipe off engine to remove accumulated dust and grease. If a solvent is used, make sure it is nonflammable. Go over the entire engine and tighten nuts, bolts, and screws. Inspect the wiring on the engine and clean and tighten the terminals. Inspect the bolts and tighten them if needed. Clean and lubricate the battery terminals; fill the battery cells with distilled water as needed.

## TOPSIDE AREAS

1. Check grab rails for loose screws, breaks, sharp edges, etc., that might be hazardous in rough weather. Inventory and inspect life jackets for tears and deterioration. Check your first aid kit to make sure it is complete. Check the signaling equipment. Inspect anchor, mooring and towing lines and repair or replace as required. **DO NOT** stow wet lines or they may mildew and rot.
2. Stainless steel and alloy fittings should be cleaned with soap and water or household glass cleaner. Remove rust spots as soon as possible with a brass, silver or chrome cleaner. Irreversible pitting will develop under rust that remains for any period of time. Never use an abrasive like sandpaper or steel wool on stainless. These may actually cause rust. To help protect the stainless, we recommend the use of a good car wax.
3. When instruments are exposed to a saltwater environment, salt crystals may form on the bezel and the plastic covers. These salt crystals should be removed with a soft, damp cloth;

never use abrasives or rough, dirty cloths to wipe plastic parts. Mild household detergents or plastic cleaners can be used to keep the instruments bright and clean.

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

## ACRYLIC PLASTIC SHEETING (Plastic Glass)

**Never use a dry cloth or duster or glass cleaning solutions on acrylic.**

To clean acrylic, first flood it with water to wash off as much dirt as possible. Next, use your bare hand, with plenty of water, to feel and dislodge any caked dirt or mud. A soft, grit-free cloth may then be used with a nonabrasive soap or detergent. A soft sponge, kept clean for this purpose, is excellent. Blot dry with a clean damp chamois.

Grease and oil may be removed from acrylic with kerosene, hexane, white (not aviation or ethyl) gasoline or aliphatic naphtha (no aromatic content).

**Do not use solvents such as acetone, silicone spray, benzene, carbon tetrachloride, fire extinguisher fluid, dry cleaning fluid or lacquer thinner on acrylic, since they attack the surface.**

Remove fine scratches with fine automotive acrylic rubbing and polishing compounds.

## UPHOLSTERIES

Exterior fabrics should be cleaned with a sponge or very soft scrub brush and a mild soap and warm water solution. After scrubbing, rinse with plenty of cold, clean water and allow the fabric to air dry in a well ventilated place, preferably away from direct sunlight.

Mildew can occur if your boat does not have adequate ventilation. Heat alone will not prevent mildew; you must also provide for fresh air circulation.

## CLEANING RECOMMENDATIONS FOR MARINE FABRIC

Cleaning and maintenance information is provided by the material manufacturer.

### NOTICE

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

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.